

The Biennial Report of the President
of the University of Minnesota
to the Board of Regents
1932-1934

CONTENTS

	Page
The president's report.....	1-164
Reduction in expenditures.....	1
The maintenance of standards.....	2
An era of competing philosophies.....	3
Freedom and the University.....	3
The meaning of academic freedom.....	4
University training and public life.....	6
The responsibilities of higher education.....	8
Leadership and education.....	9
Can youth be neglected?.....	10
The youth of Minnesota.....	12
Youth in the local community.....	13
Youth's quest for understanding.....	14
Community education.....	15
The intellectual needs of adults.....	16
The university as a center of adult education.....	17
The penalties of neglect.....	19
Youth and present day issues.....	19
Why school costs have mounted.....	20
The nature of "fads and frills".....	21
Youth's faith in education.....	22
Social changes and higher education.....	24
Some changes that lie ahead.....	24
The new educational situation.....	26
The trend toward consolidation.....	27
Inter-institutional co-operation.....	30
The need for regional universities.....	31
The interdependence of human knowledge.....	32
The advancement of learning through confederation.....	34
Youth must be served.....	36
Administrative events of general interest.....	37-63
The establishment of junior colleges.....	39
Fraternities.....	50
Dormitories.....	54
Military training.....	58
University life.....	65-90
Builders of the Name.....	67
Address by President L. D. Coffman.....	67
William Watts Folwell, address by Charles L. Sommers.....	70
Cyrus Northrop, address by Thomas F. Wallace.....	72
William Sullivan Pattee, address by William H. Oppenheimer.....	74
Maria L. Sanford, address by Gratia A. Countryman.....	76
Henry Turner Eddy, address by Henry A. Erikson.....	79

CONTENTS

iii

	Page
FIDAC Medal award	81
Special university lectures.....	82
Convocations, 1932-33	85
Convocations, 1933-34	89
The University's external relations.....	91-96
Experimental ore roasting plant.....	93
Cast iron pavements	93
Dr. Diehl's patent	94
The university radio station, WLB	94
The admission of non-accredited students.....	95
The University's cultural progress.....	97-101
Fine arts developments	99
The pipe organ	100
University Concert Courses.....	100
The Newsreel Theatre	101
Gifts	103-22
Gift from the Mayo Properties Association.....	105
Salary savings by staff.....	108
Gifts, 1932-33	109
Gifts, 1933-34	116
University personnel	123-39
Changes in the Board of Regents.....	125
Retirement of Professor Paige.....	125
Changes in the faculties.....	126
Appointments	126
Leaves of absence	126
Resignations	130
Promotions	131
Deaths	133
Staff honors	141-55
Educational, scientific, and research awards.....	143
Public service	150
Buildings and grounds	157-64
Conclusion	164
Report of the registrar.....	165-79
Report of the comptroller	181-85
College reports	187-282
College of Science, Literature, and the Arts.....	189
Department of Agriculture	196
College of Engineering and Architecture and the School of Chemistry	215
School of Mines and Metallurgy	218
Law School	223
Medical School	226
School of Dentistry	243
College of Pharmacy	245

	Page
College of Education	250
School of Business Administration	263
Graduate School and Mayo Foundation	266
General College	275
University College Committee	282
Special educational units	283-323
General Extension Division	285
Summer quarter	293
Division of Library Instruction	295
Institute of Child Welfare	296
Committee on Educational Research	300
Employment Stabilization Research Institute	302
University work-relief program	305
Special units in behalf of students	325-64
Students' Health Service	327
Dean of student affairs	331
Interfraternity Council	335
Dean of women	337
Vocational counselor for women	342
University Testing Bureau	343
Board of Admissions	352
Department of Physical Education and Athletics	355
Department of Physical Education for Women	359
Employment Bureau	363
Administrative and service units	365-82
University Library	367
Geological Survey	369
Museum of Natural History	372
Field secretary and General Alumni Association	374
University Press	377
Minnesota Union	379
Bureau for Research in Government	381
Department of Military Science and Tactics	381
Publications of the faculties	383
Index	385-94

WHAT THIS REPORT CONTAINS

Every two years the president of the University of Minnesota submits to the Board of Regents a detailed report covering activities in the many colleges and departments. The organization of a large university is necessarily complex. It would be impossible to summarize all of the data contained in this report for the biennium, 1932-34, and no such condensation has been attempted. Those who are interested in the life of the University, its activities, the needs it tries to meet, and its attempts to be of service to the people of the state, should read the complete report with care. It indicates the many ways in which the University of Minnesota is alert to the economic, social, and educational changes that have characterized the past two years.

The first section contains President Coffman's own discussion and observations on the subject of the University and higher education. The central theme is "Youth and Tomorrow's Education." Here is a realistic presentation of some of the problems which confront this and other universities. He also includes some of the significant events in the life of the University and puts before the reader an analysis of several important university matters.

The remaining pages contain reports of the colleges and various administrative units.

MALCOLM M. WILLEY,

University Dean and Assistant to the President

THE PRESIDENT'S REPORT

THE PRESIDENT'S REPORT

*To the Honorable Board of Regents
University of Minnesota*

GENTLEMEN: I have the honor to submit herewith my report of the University of Minnesota for the biennium 1932-34.

In some respects it has been a difficult, and in some respects a most interesting, period. The difficulties arose, of course, out of the economic distress that prevailed throughout America. Every public institution felt its effects. Public schools suffered more than most institutions; their attendance increased while their revenues declined. The colleges and universities, in general, lost both in registration and revenue, but the decline in revenue far exceeded the decline in students. It became necessary, therefore, for them to eliminate positions, to decline to fill vacancies, to refuse to buy equipment and books, to increase the size of classes, and to curtail expenses in every possible way.

REDUCTION IN EXPENDITURES

The University of Minnesota suffered along with all other universities. Its revenues declined \$803,069 during the year 1933-34 under those of 1931-32. It reduced salaries \$251,164; it eliminated or failed to fill positions costing \$342,407; it used \$132,484 of its reserve accumulated in the biennium 1931-33 in accordance with the program submitted to the Legislature in 1933; and it reduced current allotments for supplies, expense, and equipment sufficient to balance with its reduced income.

In addition to these losses, the Legislature appropriated \$2,800,000 for the support of the University for each year of the biennium instead of \$3,275,000, which it had appropriated for each year of the preceding biennium. The university maintenance and mill tax appropriations for 1933-34 were \$571,386 less than they were two years ago. And in view of the discussions now under way about state taxes, attention is called to the fact that appropriations for the University are now less than they were in 1921. There has, in the meantime, been a marked increase in attendance. In 1921-22 the collegiate enrolment was 10,425; the peak, 17,756, was reached in 1931-32; the attendance for 1933-34 was 15,141.

The University has tried in every way to co-operate with the state in the present emergency. Its officials have recognized that these are unusual times. They are fully aware that the war, the depression, and the drouth are calamities such as no preceding generation ever experienced. The University reduced the amount it requested the Legislature to appropriate for its maintenance; it reduced its expenses; it cheerfully assumed increasingly heavier burdens in the hope that a brighter day is not far distant.

THE MAINTENANCE OF STANDARDS

Confronted by similar circumstances some educational institutions have boasted that they are operating without loss of efficiency. Such statements cannot possibly be true. When a staff is overburdened, important positions unfilled, necessary equipment unprovided, and classes increased in size, it must be clear that a university has been weakened. It is better to face facts squarely than to delude ourselves by fictions of imagination. The competency of a university is measured by the competency of its staff, the quality of its instruction, the opportunities for research; if these are curtailed the efficiency of the institution is in some measure crippled. The University of Minnesota has done its best to maintain standards during the biennium, but it cannot be claimed that it has fulfilled its hopes or realized its dreams.

If ever there is need of maintaining universities as nearly at full strength as possible, surely that need is great in such a crisis as we are passing through. It seems clear that the future welfare of the human race will not be achieved by seeking cheap substitutes for brains, nor by curtailing the creative powers of talented persons. Every time talent and ability are forced into seclusion and replaced by mediocrity, cultural demoralization begins. At such times we soon fall prey to emotion and become victims of unreasoned speech. How few there are who build plans upon facts, who are searching for the principles that underlie and govern human action! We are yet unwilling to rely fully upon knowledge as a guide for action. Even social experimentation sometimes discredits experience and accumulated wisdom. The barriers that must be surmounted to insure economic and political stability in the future are ignorance, selfishness, greed, and demagogic politics. We need to hurry if we are to surmount these barriers, for the sands of time are running fast and many destructive influences are at work.

AN ERA OF COMPETING PHILOSOPHIES

The forces of life are engaged in a gigantic struggle which is expressing itself in many forms. In the world at large we see it in dominant nationalistic philosophies—communism in Russia, fascism in Italy, nazism in Germany, militarism in Japan, democracy in America—each contending in its own way for world supremacy. In many countries the struggle between the masses and the classes, between capital and labor, has become intense. The eternal battle between liberalism and conservatism is never ended; it flares up, becomes more severe at times, and then subsides for a period. This struggle, whenever and however it manifests itself, is a struggle for existence and for growth.

For two or more years we have been experiencing such a struggle in America. Co-operative action and social welfare, rather than individualism and personal initiative, are slogans around which discussion centers. Indeed the New Deal has been described as a struggle between individualism, on the one hand, and collective action, chiefly through the Government, on the other. The Government now controls or regulates banks, insurance companies, stock markets, packing houses, railroads, business of all kinds, and agriculture. This is not the time nor the place to discuss these sweeping changes. It may be said, however, that it is doubtful if we can become prosperous by losing the spirit which built America. It would be a misfortune for government to become tyrannical, for tyranny is a mockery to a free people. On the other hand, unbridled individualism must never be permitted again. We have paid a heavy toll to it through the loss of our savings, the machinations of unscrupulous manipulators of industry and finance, and the corruption of political leaders. In uttering this indictment, I do not mean to imply that there were no socially minded industrial or political leaders in the past; there were many who saw clearly what was ahead, but we refused to listen to them.

FREEDOM AND THE UNIVERSITY

It must be obvious that no institution can remain untouched by the contemporary changes in our political and social structure. That the universities have not escaped them has already been intimated; there are certain positive dangers and benefits to which especial attention should be called. The one thing that a university cherishes more than all else is its freedom. With the advent of militant nationalistic philosophies and new national programs of recovery, universities have been

in danger of losing their freedom. It is a notorious fact that there is little or no intellectual liberty in many foreign countries. Academic proscription has existed in Italy since Mussolini came into power, in Russia since Stalin and the Communist party rose to eminence, and in Germany since Hitler assumed control. Thousands of European scholars are living in exile. The political theories of the ruling powers must be taught in the schools. Scholars and teachers must become proponents of special philosophies. Under such circumstances scholars who prize their intellectual liberty may be driven from their homes; certainly they have no future, for the opportunity to contribute to human learning is denied them.

It has been well said that when teachers and professors become serfs to the dominant political opinion, then the foundation of civilization rests upon insecure footing. But it may be asked, Why spend time discussing this matter when we are in no danger in America of making the schools the agents of a political doctrine? It will be said that efforts of the dominant political party to control education in a number of states in recent years are mere effervescences. It will be maintained that the hysterical days of the late war are gone and that there is no disposition to restrict educational freedom today. When we make such statements we speak without a knowledge of the facts. Intellectual liberty in America is in danger of falling prey to party ambitions, to the interests of special groups, and to new political pressures flowing from certain aspects of the national program.

There are two facts of which the public schools and the universities should never lose sight, viz., that their full responsibility is discharged only when their students are taught to be free-thinking, free-acting, independent persons, and that every movement calculated to indoctrinate youth with special social theories or with a special kind of political philosophy is subversive of the needs of a democratic society. There can be no intelligence when there is no self-direction. In a world turning black through the spread of dictatorships and other forms of militant nationalism, liberty and human rights are in danger. Civilization advances only when the search for truth is unhampered and when human action is based upon co-operation rather than upon compulsion.

THE MEANING OF ACADEMIC FREEDOM

There are, of course, certain traditional limitations resting upon universities and university professors, and these are not always clearly understood. When one advocates freedom as necessary to the very life

and existence of a university and as the very breath of life of a scholar, he means that a university should limit its demands for freedom to the right to study any and every question that pertains to human welfare and that the scholar should limit his demands for freedom to matters upon which he is an acknowledged scholar.

That these views are not always held, especially by the lay public, has been impressed upon me recently by two criticisms I have received of the University. The criticisms were uttered by men who have been supporters and well-wishers of the University and yet their respective views are diametrically opposed. The first declared emphatically that university professors should confine their activities to the campus, that they should spend no time studying taxation, relief, state government, land use, conservation. The other insisted with equal vigor that university professors should devote more time to the study of such problems; indeed, he was especially critical of university professors because they do not participate more actively in the administration of public affairs. It was his opinion that they should have programs, that they should publicly advocate these programs, and that the programs should be of a "liberal" nature.

It will be observed that each of these men would restrict the activities of the University within the limits of his own point of view. Both points of view are equally dangerous. The man who would bound the thought and interests of members of the staff by the campus would create a provincial institution wholly out of step with the needs of the times. The man who would have the University assume partisan leadership in public affairs would destroy the very thing that he desires by making the University equally narrow and illiberal.

The second of these critics, the man who would have the University branch out into all sorts of public matters, declared that he believed it is not done because of a limitation placed upon the freedom of the professors. There is a limitation but it is not what he has in mind. It is a limitation that is not prescribed by the board of regents, president, or deans. It is a limitation that arises from the traditions of the scholarly life. It is the limitation of the academic mind, the very quality we often make sport of and caricature, but nevertheless the very quality that constitutes the saving grace of the teaching profession. Every professor who understands what his professorship really means historically, traditionally, and professionally, will be animated by a desire to learn more rather than by a desire to run the social order. Just what do we mean by the "academic mind"? An academic mind is one constantly acquiring

more knowledge, constantly seeking more truth, and hesitating to speak for fear its statements will be only partially true. It is a "mind" that is amassing data, weighing evidence, testing opinion; it is the mind of the student in a genuine sense.

To turn the administration of government over to university professors is no matter for jest. If we did so we should ruin the government, for many professors have no better knowledge of how government should be administered than has the average citizen. Not only should we ruin the government, we should also ruin the professors as professors, for by this action we should break down and destroy the academic spirit essential to their intellectual existence. It is this academic spirit which must be preserved at all hazards. In the interest of learning, therefore, it is highly important that professors shall do the things they are qualified to do and not allow themselves to be drawn off into fields for which they have no qualifications.

UNIVERSITY TRAINING AND PUBLIC LIFE

It must not be inferred that I believe that there are no university men capable of administering departments of government. Such an assumption would be absurd. There are many university men who are especially competent to do so. Indeed, there is more need for university men in public affairs than there was a few years ago, and there are more opportunities for them. The expansion of government into all manner of fields is calling for many new types of service. As a matter of fact public service is becoming and should become a skilled profession. The regulation of the complicated and technical processes of industry, the construction of public works, the direction of commerce, the promotion of trade, the supervision of the nation's system of credit and banking, the building of highways, the care of health, all call for a trained personnel of the highest competence. Whatever confidence may repose eventually in a government that lays the slightest claim to democratic ideals and principles will depend in the long run upon the competency and the disinterested quality of service given by its leaders.

England long ago learned the importance of this. Seven hundred years of self-government have taught the English people the importance of taking graft out of politics and of insuring competency and efficiency in public administration. In America we still use patronage to pay political debts. We choose men for public office largely because they belong to a given political party. We often choose men with little re-

gard to their fitness for the offices they are to hold. We still tend to think that everyone is qualified for every public office.

There are certain lessons that we might learn from England. One relates to municipal government and the other to the national government. The city governments of England are really administered by the town clerks. A town clerk is a well-educated person who has spent a long period as an apprentice in city government studying and preparing himself to be a town clerk. Once appointed he has in effect a life appointment although he may be called to another city or to a higher government service. No matter how the town council may shift as to membership, the town clerk remains. It is he who prepares the city budgets, determines the rates (taxes), apportions the funds, advises the council. He is really a city manager although the term is not used in England.

The strength of the national government in England inheres largely in the undersecretaries in the various departments of government. These men are chosen from the highest honor rolls of Oxford, Cambridge, and the other universities of the country. They then serve as apprentices in important government offices. Those who show aptitude and have the judgment and personality needed for public administration are chosen for further tests. One such test is to be appointed secretary of some important committee, for example, a committee on marketing, electricity, or housing. The secretary makes a study and prepares a report. If he shows ability to gather materials, to organize them, to think constructively, and to write clearly, keeping the public interest in mind at all times, he is then appointed to one of the important undersecretaryships of some department of government. The appointment is permanent; the position is well paid; the man has a career. Nothing like this exists in America. This accounts, in a large measure, for the steadiness and the stability of the British Government.

I cite these illustrations to emphasize that men must be trained for public service. The more complicated it becomes the more the training is necessary. Herein lies a new opportunity as well as a new responsibility for the colleges and universities of this country. If such training is to be successful it will require the co-operation of the government, for men cannot be trained satisfactorily apart from the work they are expected to do.

The schools and universities of this country must modify themselves in the light of the changing conditions of the world to which they are expected to minister. Academic though they are and must be, they are not

cloistered. Students must be taught about the world in which they are to live. They must know about money, exchange, tariffs, trade quotas, commerce, foreign politics, international relations, communism, fascism, nazism, constitutionalism, democracy. At every turn we find the youth of this country, impelled by the pressures of necessity and the shifting scenes of social action, demanding information. Surely these are demands which cannot be ignored. They offer, in fact, an unparalleled opportunity to capture the imagination of youth and to lead it through the processes of education to a decision of issues and a solution of problems in the light of facts and tested opinions.

THE RESPONSIBILITIES OF HIGHER EDUCATION

In a time of flux and when economic foundations are insecure, men are likely to grasp at expedients in their efforts at recovery and to ignore fundamentals. At such times we call upon the schools, and particularly upon the colleges and universities, to deal with a multitude of things near at hand. We ask for researches today to solve our problems for us tomorrow. We are impatient at delay and critical of prophecy.

What responsibility does higher education have in stabilizing this situation? The responsibility it has always had—that of remaining calm and unemotional in its consideration of the various problems. A study of other depressions has shown that generally the men in higher educational circles who have devoted themselves to researches of a fundamental nature were the men who made the distinctive contributions to recovery and to human learning. Now is the time, if there ever was a time, when we should encourage pure research for its own sake, research that is conducted solely to discover the truth. I do not mean to imply that universities should give no attention to studies of immediate value, but I wish to emphasize that they should not now allow themselves to be diverted from their main tasks. Universities, furthermore, are essentially fact-finding institutions. They should avoid administrative responsibilities and regulatory functions with all the power that they possess. It is the business of a university to ascertain the facts bearing upon important problems, to hold theories up to close scrutiny, to test and examine every conclusion, to weigh evidence, and to state the truth. As long as universities hold steadfastly to these purposes they will be discharging their responsibility and fulfilling their function in the social economy of the times.

Not long ago I heard a distinguished Scotchman pride himself on the fact that the university with which he is associated had remained

unchanged for nearly four hundred years. There it sat on top of the hill, a beacon light, so to speak, to all of the wayfarers in the valley below. It had a fine conception of scholarship of a traditional type. Its atmosphere breathed the spirit of learning—a spirit of learning, however, that was dedicated largely to the past. I do not feel that we should lose sight of the picture which this Scotchman drew. On the other hand, I am of the opinion that American universities will fail tragically if they keep their faces turned to the past. Surely they cannot ignore the sweeping changes that are going on all about them, or set themselves apart from the life that sustains them. They may guide that life to some extent, but it should be the guidance of men saturated with the spirit of scholarship and learning.

LEADERSHIP AND EDUCATION

The controls of democracy are to be found not in armies, not in emperors nor dictators, not in coercion, but in popular government, intelligently and disinterestedly administered, and this in turn depends upon a broad program of education. Unless democracy is willing to spend generously for the training of its own leaders, it is doomed both as a matter of theory and as a form of political control.

Much that is said about training for leadership is half or less than half true. Not all persons are capable of becoming leaders and not all will respond to training. A mediocre student cannot be made a leader through education; he may be able to render more service than he would otherwise have rendered, but education cannot create ability. Many highly educated persons display no leadership; many highly intelligent persons exhibit no leadership. Only those can become leaders in a conspicuous sense who possess high intelligence, sound character, sound judgment, and forceful personalities.

One should equip himself to become a useful member of society before trying to lead it. This means that he must possess something more than conviction; he must have wide general knowledge. There are few beardless experts among the genuine leaders. There is wisdom in experience, in power to marshal knowledge. Never have I been more conscious of these truths than during the last year or two. I have seen youths in their freshman and sophomore years who know nothing about government or about a university advising experienced administrators and thoughtful students of government how the government or the university should be administered. These young people are sometimes en-

couraged to do this by the "youth movement" and by those who advocate it for various reasons. I have profound faith in the ultimate possibilities of youth; I know full well that genius and talent do not wait until old age to display themselves. I know, too, the evil effects of trying to profit by the unwisdom of inexperience and ignorance. Leadership, however, is something which should be achieved, and then it should be respected and supported because of its inherent worth.

Leadership will undertake to supply a country with the things and conditions it wants. President Roosevelt recently declared that men want security for their homes, security of livelihood, and security in their old age, and that the government should undertake to provide these. These aims are great humanitarian goals to which every government should aspire. With home, work, and old age secure, much of the fear and despair that haunt the minds of men would disappear. One's heart grows warm in quickening response to the generous impulses that motivate a government that seeks to achieve these ends.

In this country at least we must remember, however, that it is possible to make home and work and old age secure, and still forfeit our democracy. The badge of citizenship in a democratic society should be the open-minded, intelligent consideration of problems affecting human welfare; few, if any, can be more important than security of home, of work, and of old age. To these I should add assurance of education for every citizen to the full extent of his capabilities. This is the only sure guarantee of civil liberty, the precious life-blood of a democratic society. The achievement of liberty represents the supreme triumph of the human race.

CAN YOUTH BE NEGLECTED?

The necessity of rededicating ourselves to the preservation and extension of the schools, in the interest of preserving our political liberty, is revealed by the fact that of the youth between sixteen and twenty-five years of age 1,000,000 are in college, 2,000,000 are in secondary schools, 2,000,000 are at work, while 16,500,000 are out of school and out of work. If society neglects them, if it allows them to grow up in ignorance and in idleness, then no plans which it may make now will be workable a few years hence. We shall gain nothing if we restore prosperity by destroying the educational birthrights of our children. Any apparent gain would soon appear as a permanent loss.

In the past we have solved the unemployment problem for youth by sending them to school. As long as it was possible for society to profit

by the labor of children, it hired them to work. When, as a result of changes in industrial life, work was no longer available, the school day and the school year were lengthened, the entire educational program was greatly expanded, compulsory education laws were enacted, and increasing thousands of children were sent to school.

Now the young people of America face a new unemployment situation. It arises partly out of the fact that the number of adults per one thousand children has been steadily increasing, partly from the industrialization of society, and partly as a consequence of the world-wide depression. Millions are out of employment in this country; tens of millions more throughout the world. How these people shall be returned to work is a problem of the gravest importance.

What has the future in store for the several million young people who now have nothing to do? Some of them have already broken away from the moorings of home and become aimless drifters. I have seen hundreds of them this summer in empty boxcars, riding freight trains across the country. Every highway is lined with hitchhikers. Every urban community has its quota of idle young men and young women. Every rural community has its share of youth who find it unprofitable to labor on the farm. All of these are looking for some break in the cloud of their despair.

Unemployment for any age group is always serious, but unemployment of youth is the most serious of all. It means that the right character traits are not being developed in young people. It is serious because the training of future leaders is neglected. It is serious because it engenders false notions and bad habits unless the proper correctives are provided.

These statements are made without any thought of criticizing what the state and federal governments are now doing. The Federal Government is experimenting with new and untried measures of relief. Public officials and private agencies are co-operating to the utmost with the Federal Government in promoting these experiments. That is as it should be. If we are to succeed in the struggle for recovery we must find a moral equivalent to war to hold us together. Perhaps the moral equivalent lies in the new recovery acts. We must remember that we are literally engaged in a war—a war which calls for the exercise of all the resourcefulness the nation possesses and co-operation as unflinching and faithful as that which gripped the nation during the World War.

But our success will be only temporary if we neglect our obligation to youth. Something has been accomplished by placing 300,000 young men at work in forestry and erosion camps. Valuable as a temporary expedient, this does not solve the problem we are called upon to consider. The number of young men in this state drawn off into the forestry and erosion camps is comparatively small and the plan fails wholly to give consideration to young women.

THE YOUTH OF MINNESOTA

We have in the state of Minnesota alone approximately 225,000 young men and women between seventeen and twenty-four years of age. If we include the sixteen-year-old group, the total will approximate 275,000 or 300,000. Nearly 50 per cent of all the applications for jobs are made by persons between sixteen and twenty-four. About 80,000 young people of those ages have finished high school, and of the 80,000 probably 25,000 or 30,000 have been or are in college. A few have returned to high school for post-high school work. A vast majority of them are not in school, many of them do not see how they can attend school, and few of them can find work to do.

What can we do? We should not pauperize youth; we should not assume, in outlining programs for unemployed youth, that our mission is to furnish relief to distressed institutions; we should not advocate an educational plan which permits the employment of superannuated or incompetent teachers, even though they are out of work; we should not think in terms of the amount of money we can obtain; nor should we think of any personal gain that may accrue to any or to all of us. We should keep our eyes fastened steadfastly upon the youth of our state. At no time should we lose sight of them and of their problems in the present emergency. We need the wisdom of a sage and the enthusiasm of aspiring youth itself as we consider these problems.

The youth of the state fall roughly into two classes: those who have the means of going forward with their education or who have jobs, and those who have no means and no jobs. We are concerned with the latter. How many there are who need help we do not know, but the facts now in our possession show that the number is considerable and is now augmented by the drouth.

The group that is without employment and without resources may be divided into those who desire more schooling and those who do not desire to attend school at all. Some of those who desire to attend school wish to return to some near-by high school or to the college at which

they have been registered. If possible, both moral and financial provision should be made for those whose achievement and ability justify their wish to return to school.

Last year the high schools of the state graduated nearly 22,000 seniors. Their appeals and those coming from the graduating class of the preceding year are, so it seems, more numerous and more insistent than those coming from any other group. If the Federal Government feels that it is sound social policy to place 300,000 young men in forestry and erosion camps, why should it not feel that it is even sounder—I should say—for it to provide aid for deserving and competent youth to attend college? Why should not both the state and federal governments participate in this important matter in the present emergency? Money devoted to this end will not be charity nor relief; it will be an investment in future leadership.

The plan which the Federal Government evolved to aid these students is highly beneficial and constructive. How it operated at Minnesota is stated in an illuminating report prepared by Dean Malcolm M. Willey, who had charge of its administration at the University. (See pages 305 to 323.)

YOUTH IN THE LOCAL COMMUNITY

Many communities in this state and elsewhere already have made provision for students who desire to return to high school. More consideration must be given to this possibility. It is far better to encourage young people to return to high school for a course or two than to permit them to run the streets. Some of the youngsters whom we wish to serve will desire and should be allowed to carry high school or college work of the conventional kind, but others need something else. I ran hastily through a hundred replies from young people who needed help and had been asked to state their needs. Some of them would choose medicine, law, dentistry, teaching, pharmacy, and the like; others would choose stage work, the R.O.T.C., cartooning, piloting, baking, beauty culture, broadcasting, orchestra and band, mechanical refrigeration, aeronautics, advertising—subjects that were not included in the school curriculum a few years ago and are not often included now. Any program of service we may outline should include special work along these and other lines—lines that represent the shifting needs of the times.

A heavy responsibility for the program so far outlined rests upon the public school and college authorities in the respective communities of the state. This program represents a call to service—to community

service. It involves co-operation of a high order. In so far as any feature of it can be carried on without funds it should be done. The chief work of the more formal educational program will be in the local communities. This is a time when school superintendents and principals and college authorities need to dedicate themselves with renewed vigor to the call of their profession. It is a time when they can help the schools develop a broad and inspiring social policy which will in turn develop for the schools a new enthusiasm and devotion.

Large as is the number who wish to attend high school or college, there is a larger number who do not desire to attend either. Many of them should not be encouraged to do so. Most of them want a job, and would accept employment at once if it were available. With no job in sight many of them would like some kind of technical or vocational course. The usual high school or college is not equipped to provide this training. If it is to be provided at all it must come through the introduction of new courses (which would be difficult in these times), or by the use of private educational institutions equipped to do such work, or through some tie-up with industry itself.

YOUTH'S QUEST FOR UNDERSTANDING

Practically all of those who do not wish to attend school in the usual sense have some interest that may be kindled. Nearly all of them want to know how we came to be in this depression; they want to know how we are going to get out. They hear terms used that they do not understand. They may be able to spell the word *tariff*, but they do not comprehend how tariffs affect world commerce. They have heard people use the term *gold standard*, but they do not understand what it means, and they have less knowledge of what *managed currency* means. They know little about intergovernmental debts and the part they play in world recovery. They know that revolutionary legislation has been enacted for agricultural relief, but they cannot describe that legislation. They have heard the NRA referred to repeatedly, but they are not familiar with its provisions. They have heard of these and of a hundred other problems, all of which have some relation to their present situation.

Herein lies a fertile field for education that has no traffic with credits, courses, or degrees. It is education that is intended to make people intelligent about those problems that affect their welfare most vitally. Everyone, and especially young people, should be interested in this type of education. It will give a fuller understanding of our complex world;

it may help to prevent future disaster. It is, in fact, education for citizenship of the best kind.

COMMUNITY EDUCATION

I would not confine my program of community education solely to citizenship problems. I would have it cover education for the wholesome use of time. May I give an illustration of what I have in mind? I am acquainted with a community of about three or four hundred that has been hard hit. The farmers have had no crops for two years; many of them received federal aid; the local banks failed, leaving every family in the community in need. There was no money to oil the streets or to meet the public bills. Distress was visible on every hand. Yet that community has done something that I should like to see emulated by every community in the state. Realizing that there would be nothing for the high school students to do in the summer, the school board employed one of the high school teachers to teach band music to the unemployed boys and girls. Every Saturday night the band gives a concert. I have seen fifteen hundred people come in from the countryside to listen to this music. The band does not play as well as some bands I have heard but it plays well enough to arouse strong community pride. It keeps the boys and girls interested in something that is wholesome. Associated with it this last year there was a local flower and a local industries show. Flowers, rugs, bedquilts, handwork, art—all prepared by individuals—were brought in for display. The winners received ribbons for prizes. Next year there will be local township sings and a competitive sing at the end of the season. I venture the assertion that the streets will be oiled, and that the people will be happier than they would have been had they spent their time brooding over misfortune; the children will be happier because they have been engaged in worth-while living.

If a community were not interested in music, I would encourage dramatic clubs, debating societies, reading clubs. I would encourage the Scouts and the Camp Fire Girls. I would have someone who understands nature take groups into the fields and woods on nature study trips. I would interest the young people in everything that would contribute to the moral, the intellectual, and the spiritual life of the community.

So far as possible, I would have this community education draw upon the community leaders for its direction and inspiration: the local ministers, doctors, lawyers—in fact, everyone who has a genuine interest in his community, in the welfare of his state and of his country,

and especially in the welfare of the children round about him. We need to develop volunteer service of such professional groups far more than we have in the past. A director and a staff may be necessary, but a volunteer staff should be relied upon for the most part. If money is needed, the community should supply at least part of it. We do not need money for this type of education so much as we need enthusiasm. The success of this plan of informal community education—that great interstitial area between education in the humanities and education for a vocation—the success of this plan of continuing education for people of all ages, depends largely upon having it locally organized and directed. The directors and assistants may seek advice from the university, the colleges, and the libraries of the state, but they should not rely upon them.

In the organization of projects both by and for unemployed rural youth, use also should be made of traveling libraries, of open forums, of lecture courses, of the radio, and of many other devices that naturally come to mind.

THE INTELLECTUAL NEEDS OF ADULTS

The problems I have just described admittedly are of the utmost importance, and they have wide ramifications. That the future educational program cannot be confined to youth is becoming more generally recognized. Already a thousand agencies in this country are dealing with adult education, although there seems to be no agreement as to the program they should follow. Perhaps it is just as well, for the instant a national policy is agreed upon, the movement it represents will begin to lose its effectiveness. Some of the things that are being done in the name of adult education are inconsequential. Many universities feel that they are doing all that they can or should when they send members of their staffs into remote communities to deliver isolated lectures. Others are sending out book lists to their alumni; still others are mailing publications of various kinds to selected citizens of the state.

To the subject of adult education I have given some thought and particularly have I considered the problem as it relates to a state university. My views are influenced by a number of factors. One of these is the difficulty of keeping oneself informed. This arises partly out of human inertia. Graduates of colleges and universities do not differ from other human beings, and once away from centers of stimulation, many of them lose their intellectual ambitions and interests.

Another reason for the failure to maintain intellectual alertness is the growth and expansion of human knowledge with such rapidity and in such volume that it has been difficult, if not impossible, for anyone—including the scholar—to do all of the reading that the situation demands. The speed with which knowledge develops and changes is strikingly illustrated by an experience that we had at the University of Minnesota. Because of the advances that had been made in the science of medicine in four years we recently found it necessary to repeat in the senior year of the Medical School a course given to a group of students in their freshman year.

Then, too, we must remember that the techniques of scientific inquiry are constantly being modified and refined. Unless we keep ourselves informed of these changes we soon find ourselves unable to read the literature that comes to our desks. I recently had a personal experience of this nature. Some fifteen years ago I claimed some knowledge and ability as a statistician. I was familiar with all of the techniques that were being used in scientific inquiry in education and psychology. Recently two members of our staff made a scientific investigation in the field of psychology. This investigation has been criticized by a scholar at another institution. Copies of the letters have passed across my desk. These letters are filled with technical discussions. I confess that I do not have the slightest knowledge as to what these men are talking about.

THE UNIVERSITY AS A CENTER OF ADULT EDUCATION

It is my opinion that universities should become centers of stimulation within the state for the continuing education of adults who are exercising leadership or are in a position to exercise it. A few random lectures delivered here and there will not accomplish much. There is a theory of social psychology to the effect that influence radiates from centers of stimulation and the more dynamic these centers of stimulation the more powerful the flow of influence. I believe that is true. I think the work that universities do for the education of adults should be done in large part at the institutions themselves. Potentially they are the most powerful agencies we possess for promoting adult education on the higher levels.

Not long ago I discussed this problem with two hundred pastors of one of the church organizations of the state. These men hold important positions in the communities in which they reside. They feel handi-

capped because it is difficult, if not impossible, for them to keep themselves informed about the recent contributions to science. They are not certain that they understand economic theory; they are anxious to learn more about international relations; in fact, they are hungry for the opportunity to learn more about everything. I suggested that we should have at the University a building to which the representatives of the church could come once a year for a short course of ten days or more. This building should house a working library; it should have seminar rooms, living accommodations, and a chapel. The instruction would be given by members of the university faculty and by noted scholars of theology who would be invited for this purpose. The suggestion met with an encouraging response. When one bears in mind that there are in the state of Minnesota approximately thirty-five hundred ministers of all denominations one begins to appreciate how gigantic the problem is. Here is a professional class that has an extraordinary opportunity—not merely of preaching the Gospel, but of disseminating information to the masses—yet a class that, on account of low salaries and other conditions, is practically denied the privilege of doing anything to keep its membership well informed.

I would not confine my program of adult education to the ministers; I would do the same thing for the medical profession. As a matter of fact, I think the medical profession might well adopt the policy of requiring doctors to return to the University once in four years for a course at least a month in length, and it might also require them to pass an examination at the end of the month for a renewal of licenses. Such a policy may not be possible now but it is something to which we might look forward.

What I would do for the ministers and doctors, I would do also for the other professional groups; as a matter of fact, I would open the building to non-professional classes, such as, for example, the League of Women Voters. I would bring these various groups to the campus, outline a definite program of instruction for each of them, and I would see that the programs were fully up to date and abreast of the times.

Such a plan would do three things. In the first place, it would disseminate the most recent knowledge available in every branch of human learning; in the second place, it would stimulate professional interest and growth on the part of professional leaders; and in the third place, it would give to the people of the state a higher quality of professional service than they could otherwise expect.

THE PENALTIES OF NEGLECT

In this discussion thus far I have been trying to show that neglecting the youth and impairing universities will be paid for in social distress. Russia, with the advent of communism, expanded her lower schools but stifled her universities. She withdrew support from them, lowered standards, placed poorly equipped, and oftentimes unqualified, persons in university positions, with the result that she doomed herself to skip a generation in her intellectual leadership. England, on the other hand, has not reduced support of her universities in the present crisis. As a matter of fact, she has increased their appropriations and expanded their functions. In the distress of today we should lay the basis for greater security tomorrow. A great nation will have the courage to take a long view of its destinies. We may also be reasonably certain that with the return of sober thought and stable conditions, many of the problems now being disposed of by political methods will be passed on to impartial students for further study and consideration. The educational leaven is already at work. Never before was there so much discussion of public questions—a discussion that arises partly out of necessity and partly out of a wider diffusion of knowledge.

YOUTH AND PRESENT DAY ISSUES

The present generation faces three issues of paramount importance. First, how to prevent war. Something has been accomplished already, but not nearly enough. The nations of the earth, living behind their tariff walls, training new armies and disregarding international covenants, are laying the basis for further international jealousies and new wars. The leadership of the world has not prevented war in the past and it is not now succeeding in building the forces that will prevent it in the future.

Second, this generation must learn how to prevent depressions in the future, or at least how to mitigate them. This calls for an understanding of commerce, tariff, exchange, international relations, and general economics.

Finally, this generation must find a way of lifting human welfare above the level of human selfishness. This necessitates a re-evaluation and readjustment of the values of life. Material gain that is dependent upon the exploitation of one's fellow men is unworthy as an ideal of a college man. Liberal-mindedness, which after all is the goal of a university, will exalt service and good will as aims of life.

Youth will have its part to play in disposing of these problems. The danger is that it will feel fully prepared to accept responsibility long before it has discarded its swaddling clothes. Far better for it to seek the humility of the scholar than for it brazenly to seek notoriety and distinction by doing unconventional things. A scholar never parades his virtues nor his possessions. And the true leader is a man who leads by virtue of his ability, knowledge, and worth, rather than by show or pretense.

WHY SCHOOL COSTS HAVE MOUNTED

But we say we can no longer support the schools for such a program as is herein outlined. It costs too much and times are too hard. Indeed we are critical of the schools because of their expense; we seek to curtail them by reducing their cost. While we express a sympathy with the needs of youth, we hope that somehow Providence may care for them. The reasons why the schools cost so much are easily understood and may be quickly stated.

The real reasons are far deeper than the salaries paid teachers, the elaborateness of school buildings, or the books and equipment supplied the schools. Teachers have never been overpaid. In days of prosperity there are many who do not respect teachers because they are not prosperous, and in days of depression teachers seem to lose the respect of many because they are public servants. There may be instances where communities have erected school buildings that are architecturally too ornamental, but the number is small, and even in such communities one usually finds that courthouses, city buildings, railroad stations, banks, buildings for public utilities, and many of the stores, far outrival in magnificence the structures that have been provided for the housing and education of youth. So far as school equipment is concerned, it must be kept modern if the instruction is not to fall hopelessly behind the needs of the times.

These are not the reasons why we are spending what we do spend on our schools. The real reasons, as I have already said, lie far deeper and, for the most part, outside of the schools themselves. The first and most easily understood reason is found in the number of children attending schools. The number has increased enormously in recent years. This increase has been due, as I have previously pointed out, to the fact that it is no longer profitable for us to employ children. Rather than leave them on the streets after we deprive them of work, we have put them in the classroom. The schools have become society's greatest pro-

tective agency, its greatest humanitarian, as well as its greatest educational, institution. Sending children to school has been society's more or less unconscious solution for the unemployment of youth.

Another reason for the cost of education is that the number of adults per one thousand youth in the total population is 400 per cent greater than it was one hundred forty years ago. It costs more to educate older boys and girls.

Still another reason affecting the cost of education has been the expansion of the curriculum. I picked up a metropolitan newspaper recently that contained an editorial excoriating the schoolmasters of this country on the ground that they had greatly increased the cost of education by introducing an array of fads and frills. The editorial was a cry to return to the good old days and to simple things. For their wickedness in introducing these unnecessary and trivial subjects the poor schoolmasters were to be punished by having their salaries cut.

THE NATURE OF "FADS AND FRILLS"

What are the facts with regard to these fads and frills? There was a time in America when instruction consisted of reading and writing. Later other subjects were added until we had what were known as the common branches, some eight or ten in number. These were regarded as the essentials of learning. Now how many things are taught in the schools? I do not know exactly—perhaps thirty or forty—some of them for brief and others for longer periods of time. It is these additional things that are regarded as fads and frills.

Why has the number of things we teach expanded from two or three to thirty or forty? The answer is that every one of them appeared in response to some social demand, pressure, or sanction. Each came in to satisfy a definite need. Music, for example, was introduced in the American schools under pressure created by religious workers who wanted the schools to teach the singing of sacred songs in order that there might be a higher and finer type of public worship. Home science came in because certain charitable organizations that were helping poor girls to make themselves more attractive and more nearly self-sustaining, conceived the idea that the same could be done for all girls. Physical education came in because the medical profession and its associates were interested in personal and public health. Safety instruction—something that was wholly unnecessary in my day, for we were never in any danger—came in because the casualty insurance companies of America were of the opinion that if a generation of young

people could be taught safety, it would mean fewer accidents and longer lives, and this would be good for the insurance business. Thrift instruction came in because the bankers recognized thrift as a virtue whose practice by millions of children would mean larger deposits in the banks. So one might go through the entire list of subjects now taught in the schools. Every one of them represents a response to a social need. The fads and frills have become the essentials of education. If we strike them from the curriculum, it will be left threadbare.

What I have been saying about the expansion of the lower schools applies with equal force to the higher schools, for every new subject has come in response to the changing needs of society. True it is that some subjects persist after the social need for them has passed, but we cannot always be certain when the need for a given subject has passed. Furthermore, a scholarly knowledge of the past is necessary for a clear understanding of the present. Subjects of study are like other human instruments; they eventually pass out of existence or are transformed when the need for their existence has finally disappeared.

In these movements to which reference has been made, viz., the unprofitableness of the labor of children and youth, the shift in the ratio of youths to adults, and the enrichment of the offerings on every level of education in response to social needs, lies the explanation of why we spend what we spend on education.

YOUTH'S FAITH IN EDUCATION

Education costs what it costs because society is growing more complex in its organization, because its problems are more numerous and more difficult, and because the schools are society's chief agency for fitting youth, so far as that is possible, to face with some assurance the problems of its day. In this statement we begin to find the answer, I think, to the question, What lies ahead for youth? It knows now that there will be fewer jobs and that there will be keener competition for them. It knows that the struggle for human existence is becoming more and more intense and that the prizes and rewards will go with greater certainty in the future than in the past to the best qualified and equipped. It knows furthermore that the world it is entering will not be narrowly circumscribed. Especially does youth today know that it cannot sit idly by waiting for a turn of the wheel of fortune to solve its problems.

Youth beholds a world in transformation before its eyes. Some of

these changes are born of planning, others are invading the social structure silently but with subtle certainty. Youth must grapple with them all. It is faced with a new challenge. The hope for youth is more, not less, schooling; a better, not a poorer, education; an expanded, not a restricted, curriculum. The youth of today must be taught in schools that are sensitive to ideas. No appeal to preserve the status quo, no outmoded insistence on traditional learning will be sufficient; the appeal must be to living needs.

College and university education is society's greatest social experiment for ameliorating the struggle for existence and for training a picked lot of young men and young women for citizenship, for the exercise of public leadership, and for the effective discharge of high public responsibilities. In spite of criticism to the contrary, I believe the colleges are doing this fairly well. Certainly there is an increased recognition of the importance and necessity of such training. It is revealed in the fact that attendance has increased in recent years and that students remain in college more faithfully and for longer periods than ever before. It is revealed in the fact that they are more serious minded today—more concerned about scholarship than they have been at any time since the war. Lectures, whether on religion, art, education, finance, or science, were never so well attended as now. All this attests to more than a lingering faith in education; it indicates youth's unspoken search for understanding and wisdom. Youth knows that education prepared and equipped a generation for the building of the greatest industrial society and commercial civilization the world has ever witnessed. Youth believes that education can help build another civilization, one that will be more secure and better than the present. Youth knows it will be the builder.

The attitude of youth toward the world is after all more optimistic than the attitude of the older generations. The older generations feel that they have lost something; they know that life will never again be what it has been. They still believe that education may help to avoid similar calamities in the future. I never was so certain in all my life as I am now that there will be need for more education in the future. I not only am convinced that general education will be necessary and more prevalent but also that the point of view of those engaged in this profession will be saturated more with ideals of service and less with those of personal gain. The chief business of a doctor is the mitigation of suffering and the saving of human life; the chief business of a

lawyer is the dispensation of justice; the chief business of a teacher is the stimulation of intellectual effort; the chief business of a minister is the teaching of spiritual ideals. The more mercenary one is the less he will be dominated by these ideals, and the less he is dominated by them the less society will recognize and reward him.

SOCIAL CHANGES AND HIGHER EDUCATION

Throughout this discussion there has been a continuing emphasis on the fact that the schools of America are undergoing and must continue to undergo change. In the field of higher education there is much notable evidence that the colleges and universities in America have been forced to reorganize their educational programs as well as their finances. Some institutions have not been able to withstand the storm; they have been wiped out of existence. Others have been lowered to the level of the most inadequately supported institutions of the state. Many have introduced consolidations of departments, have unified their administration, partly in the interest of greater economy and efficiency and partly with a view to improving the quality of their work. In the years that lie ahead, other changes, quite as sweeping and as radical as any we have experienced in American education, are likely to occur. I appreciate how dangerous it is to prophesy, for surely no one is capable of reading the future with the assurance and confidence that is needed in planning for the development of any human institution. It is my opinion, however, that we can indicate, with considerable safety, some of the changes that are likely to occur in the field of education. I mention them without any thought of elaborating them in detail at this time. They do, however, represent movements or tendencies that public school and college administrators should keep in mind in developing their institutions.

SOME CHANGES THAT LIE AHEAD

It is my opinion that the entire program of public education in the next ten or twenty years will follow lines that are fundamentally different from all the lines that are followed now. I believe that the elementary school will end with six grades; that the intermediate school will consist of three grades; and that the high school will consist of three, perhaps four, years. There will be modifications of the 6-3-3 plan, to be sure, but it will, in my judgment, more nearly represent the current practice than any other. The whole program of instruction will be so modified that we shall undertake to do in twelve years what

we are now doing in fourteen. There is abundant evidence in this country and abroad to support the statement that this can be done. These reorganizations should be brought about not merely in the interest of economy, but in the interest of better education as well.

The junior college movement, in my opinion, will not wholly subside. In the main the work now being done in the first two years of college should be done in the secondary schools. By an intelligent reorganization of the materials of instruction this can be accomplished. There still will be places where secondary school facilities are not available and where it may be necessary and advisable to establish junior colleges. If this is done at public expense careful surveys should be made to determine the area of the district they are to serve. It should have sufficient wealth and a large enough body of students to justify the existence of a college. On the other hand, some of the private collegiate institutions of this country will become junior colleges. Their resources are no longer adequate to justify them in undertaking a four-year program. As we improve standards and demand better results, colleges that are interested in meeting higher standards and in giving a truly genuine education to their students will lop off the two upper years and confine their activities to the first two years of college work.

It is my opinion also that there will grow up in many states a new type of educational institution that is intended to serve the needs of unemployed youth who are not interested in college and who do not possess the ability to do college work. This new type of school will be some sort of technical institute to provide vocational training in cooperation with the various trades and professions. Institutions of this kind have already been established in England under the administration of the Labor Department and they are being advocated in some quarters in the United States. There is every reason for establishing schools of this character; the number of unemployed youth is not likely to decrease in the near future.

I believe that the so-called adult education movement will gradually take form and that adult education somewhat similar to that which is provided in the *Folkschule* of Denmark will be available in this country. It probably will not be necessary to erect buildings for this purpose. The school buildings already in existence will be available. Seventy per cent of all of the farming population of Denmark is college bred; not college bred in the sense in which we use that term, but in the sense in which they use it. These farmers attend their colleges or *Folkschule* for a certain number of weeks during the winter when it is impossible

for them to engage in farming. They receive some instruction in matters pertaining to farming but most of their instruction is concerned with the humanities and with public affairs. One result is that in Denmark more books and more pamphlets are published per unit of population than in any other country in the world.

In my judgment the time will come when our universities will begin with the junior year and when the distinctions between the senior college and the graduate school will disappear. I think when this time arrives that students in the universities will be selected on some intelligent basis and that to remain in college they will be required to meet high standards of proficiency in their work.

THE NEW EDUCATIONAL SITUATION

With the passing of the pioneer days and the improvement of means of travel and communication, colleges and universities of this country face a number of entirely new situations. Established in the beginning to provide college work for a limited number of students in a somewhat narrow geographical area—frequently with the sanction of some church denomination—more than a thousand private colleges were created in America. At the same time great bodies of citizens representing communities of the state, believing that higher education was essential for public welfare and the maintenance and advancement of the interests of the state, established several hundred teachers colleges, land-grant colleges, technological schools, and universities. The competition among these institutions for backing and for students became more and more intense. They expanded activities, they enlarged plants, they increased personnel, they became rivals for private and public support. The origin and growth of the collegiate institutions of this country differed in no fundamental respect from the origin and growth of business enterprises generally. The ambitions of alumni and of the commercial interests of the community in which the institutions were located increased the rivalry among collegiate institutions. The success of college administration was measured by the growth of the college and the increase in its budget. Colleges advertised extensively for students. They created scholarships to induce students to attend them and they sent agents into the field to advertise their wares.

Colleges no longer confine their appeals to the local areas they were originally intended to serve. Students can travel from one end of the state to the other between sunrise and sunset. The colleges that survive

must now make their appeals to students over a wider area than they did a few years ago. Financial benefactors who were willing to lavish gifts upon educational institutions to provide memorials for themselves or for their families seem to be disappearing; certainly they are less numerous than formerly. Higher standards are being required of colleges everywhere. They are subject to an increasing amount of public discussion, scrutiny, and examination, partly because of an enormous amount of duplication of effort, of offerings, and of expense. College administrators are giving far more attention to the intellectual organization of their institutions than to exploitation for the purpose of obtaining students. College leaders are now finding it necessary to become students of education.

THE TREND TOWARD CONSOLIDATION

The impact of all these forces upon the collegiate institutions of this country is resulting in fundamental changes that are expressing themselves in at least three important ways, namely, the actual consolidation of institutions, inter-institutional co-operation, and the establishment of confederations in higher education. Since 1928 at least two dozen colleges have merged. Examples of this are found on the following page.

One needs only to review the situation in almost any state to find abundant evidence of the need of further mergers. A recent report, for example, shows that in Ohio within an area of 41,040 square miles and a (1930) population of 6,689,837 there were fifty-two institutions of collegiate grade, six of which received public support; the other forty-six were, for the most part, privately controlled. Only seven of these forty-six had endowments amounting to \$500,000. Of the forty-six only seven had more than \$100,000 from productive funds. Sixteen had less than \$100,000 from all sources, and of these sixteen, seven had less than \$50,000. Eighteen of the forty-six had less than \$25,000 in productive funds.

In the state of Minnesota there are thirty-two institutions of collegiate grade. Fourteen receive public support; the remainder are privately endowed. I do not have available the facts that show the income of any of the privately supported institutions of this state, but I do know that a number of them are facing a situation corresponding to the situation that exists in Ohio, Missouri, Illinois, Iowa, and in a number of other states. To take another example from Ohio, one institu-

tion that had 1,800 students enrolled had only 13,000 volumes in its library. Forty-nine institutions had less than 10,000 volumes in their libraries. Out of a total of thirty-six Ohio private colleges listing their 1927-28 productive endowments, twelve had less than \$1,000 per student, and only seven had more than \$5,000 per student. One institution had only \$8 in endowment for each student enrolled.

Original Colleges	Consolidated College
Albright College } Schuylkill College }	Albright College, Reading, Pa.
Atlanta University } Morehouse College } Spelman College }	Atlanta University, Atlanta, Ga.
Austin College } Texas Presbyterian College }	Austin College, Sherman, Texas
Centre College } Kentucky College for Women }	Centre College of Kentucky, Danville, Ky.
Chicora College for Women } Queens College }	Queens-Chicora College, Charlotte, N. C.
Columbia University } New York Post-Graduate Medical } School and Hospital }	Columbia University, New York City
Hannibal College } LaGrange College }	Hannibal-LaGrange College, Hannibal, Mo.
Knox College } Lombard College }	Knox College, Galesburg, Ill.
Lane Theological Seminary } Presbyterian Theological Seminary }	In process of amalgamation
Miami University } Oxford College for Women }	Miami University, Oxford, Ohio
New Orleans University } Straight University }	Dillard University, New Orleans, La.
Pittsburgh Theological Seminary } Zenith United Presbyterian Theo- } logical Seminary }	Pittsburgh-Zenia Theological Seminary, Pittsburgh, Pa.
Rochester College of Optometry } University of Rochester }	University of Rochester, Rochester, N. Y.

The unfortunate feature of this condition is that many colleges do not yet recognize the impossibility of continuing on their present basis. They are still engaged in a struggle to secure students. They are offering and must continue to offer a poor quality of collegiate educa-

tion. By specious advertising and the blandishments of field agents they are attempting to maintain their registration. They apparently have great powers of endurance and a lingering vitality. If they could continue to exist without wrecking the hopes and dreams of unsuspecting students, it would not be so bad. But that is impossible. Students come to them with high hopes, only to learn later that they have been betrayed by false claims and that the quality of the work which they have pursued is superficial.

The growth and spread of higher education in this country is revealed in striking form by figures collected by Sir Michael Sadler of Oxford, who not long ago pointed out that in Great Britain one out of every 1,000 in the population attends a university; in France, one out of 700; in Germany, one out of 650; and in the United States, one out of every 120. The ideal in America has been that every student who so desires may attend college. This is in keeping with the democratic philosophy prevailing in American education since colonial times. Perhaps now instead of insisting that all students should attend college, or have an equal right to attend, there should be reorganization of the educational system to correspond more nearly with the actual capacities and needs of the students. After all, it must be obvious that a large percentage of the students attending college find it impossible to do satisfactory college work. Dean Gauss, of Princeton, states that only $37\frac{1}{2}$ per cent attending college leave with diplomas.

The strength of a college is to be found in its faculty. Men of scholarly interests and instincts should constitute its staff. A few great minds located at any particular center will make a great college. A thousand superficial minds located in the same center will not make a great college, even though the student registration is large.

John A. Pollard discusses with great clarity and fullness the points I have made with regard to consolidation. Many of the facts presented on the preceding pages are taken from an article by him that appeared in *School and Society*, September 19, 1931. Near the close of this article he writes:

These trustees [i.e., trustees or Board of Regents] recognize that our higher educational system is discrete and a shambles. They recognize the competition of the now myriad junior colleges. They recognize that the business of the real college lies in higher regions than that of the junior college, and they are accordingly seeking to raise their standards. They recognize, as President Emeritus Durham, of Transylvania University, has stated candidly, that the small sectarian and secluded college, uninfluenced by the fertilizing cross-currents of modern financial and intellectual life, is in serious danger of extinction.

Mr. Pollard makes it clear in his discussion that two things are necessary. One is voluntary consolidation and merging of colleges, and the other is that the colleges that remain will deserve support and will receive it, providing they maintain staffs of first rank and make fresh adjustments to function vitally in a world greatly different from that which bred the small college of colonial pattern.

INTER-INSTITUTIONAL CO-OPERATION

Changes that are forcing institutions to merge are leading also to various forms of inter-institutional co-operation. Some universities, for example, have agreed tentatively that they will not undertake to duplicate work in certain fields. Chicago and Texas have entered into joint agreement to maintain a single astronomical observatory. A number of Canadian institutions have evolved a tentative scheme for the allocation of functions. An interchange of professors between certain institutions and departments is found increasingly. Work given at one institution is accepted by another institution which does not offer it.

This co-operation results partly from a desire to eliminate waste in higher education, partly from a desire to improve the quality of higher education itself, and partly because specialism in the various fields of learning is making co-operation necessary.

One of the most conspicuous illustrations of waste and duplication in higher education occurs in the land-grant colleges. The Federal Government has provided a land-grant college for each state and territory. It has set aside a sum of money for the operation and maintenance of certain work at these land-grant institutions. There is a duplication of plant, of offerings, of staff, and of equipment. A half dozen or more of these institutions are located in the same geographical area serving, in general, the same constituencies and undertaking to solve the same problems. The land-grant colleges located at Moscow, Idaho, and Pullman, Washington, are within eight miles of each other. At each institution work is being carried on in agronomy, animal husbandry, poultry, forestry, and in the other fields that relate to the advancement and improvement of agriculture. While this illustration is conspicuous because of the proximity of the institutions, it should be no more an object of consideration than the duplication that occurs among land-grant institutions in any given area. We find, for example, that studies in the breeding of livestock are under way at several land-grant institutions located in this particular area. There is a minimum amount of co-oper-

ation among these institutions. The studies are expensive; they require farms, herds, barns, feed for the stock, and a trained personnel. One or two stations adequately equipped and staffed for such studies would be enough. Scientists in related fields at other institutions in the same area might be invited to join in co-operating with the institutions at which these stations are established.

THE NEED FOR REGIONAL UNIVERSITIES

It is my candid opinion that the nation would be far ahead in productive scientific work in the field of agriculture—in all other fields of learning for that matter—if there were a regionalizing of institutions. One great university located somewhere here in the Northwest, staffed with the best minds that can be found, adequately equipped to study the problems of this region, would be more productive scientifically than a half dozen institutions poorly equipped and inadequately staffed.

The best illustration that I have of this is in Australia. A man named Peter Waite left money to establish an experiment station in agriculture at Adelaide. This station is now receiving support from the state of South Australia, from other states of the Federation, and from the Federal Government. It is carrying on scientific work in every part of Australia. Plots of ground in different soil areas have been made available for it. It studies the plant life and animal life of the sections of Australia as these are related to the various soil and geographical areas. The station itself is staffed by some of the most brilliant scientific minds that the world has produced. Instead of dissipating the energies of the staff and instead of establishing a number of more or less pale imitations of the institute in other sections of the country, there have been concentrated in one place the materials, equipment, and minds necessary for the highest kind of productive work. Perhaps we cannot do this in America but we could look forward to the time when there might be some regionalizing of institutions and when the Federal Government would make its grants not on the basis of political boundaries as it has in the past, but with a view to the regional advancement of science.

What is suggested with regard to land-grant institutions can be carried out to some extent among the universities themselves if their constituencies will subscribe to the agreement. Each institution might be encouraged to develop along those lines most favorable to it as a result of its location. Neighboring institutions might agree to accept each other's work. There is no real reason, for example, why there should be

several departments of dairy husbandry in the Northwest, several schools of forestry, several schools of mines, why there should be more than one school of medicine or dentistry. Instead of states spending comparatively large sums of money to maintain institutions on a meager basis, why should not the representatives of the states agree, following a careful study of their needs, that they will maintain a certain number of scholarships available at other institutions of learning where the needed work is being carried on? As an illustration, why should not North Dakota, South Dakota, and Montana provide a certain number of scholarships for medicine and for dentistry, in which fields there will always be need for highly trained practitioners? If the recipients were required to attend institutions of the highest grade, the general quality of the service could be raised in the states granting the scholarships. The same could be done in many of the fields of agriculture—as a matter of fact, more or less in every field. Under these circumstances, of course, scholars would be expected to attend the best equipped university, there to study the problems of the region in which they reside.

Or, to take another example, why should the University of Minnesota undertake to build up a library which will be among the most distinguished libraries in every field? Why should it enter into competition with the Universities of Wisconsin, Chicago, Michigan, Illinois, and other reputable institutions of similar standing? Why should there not be an understanding that Michigan, for example, will become the chief library center for the Romance languages, and that some other institution, let us say the University of Minnesota, will become the chief center of the Scandinavian languages? Why should we not enter into similar agreements covering other fields? This, of course, would mean that each institution would provide all those books and pamphlets and other library materials that are essential for its undergraduate work; but on the higher levels, in the fields where effort is being made to do scholarly and scientific work of the highest quality, competition among institutions for materials obviously limits and even cripples the full development of scholarly and scientific work.

THE INTERDEPENDENCE OF HUMAN KNOWLEDGE

Another of the factors leading to inter-institutional co-operation, as I have already indicated, is the extent to which human learning has become specialized. Without some specialization human progress would soon be resolved to the dead level of mediocrity. But important as

specialization is, we should not overlook the fact that in the final analysis all human knowledge is related.

This overlapping and interlacing of human knowledge is perhaps best seen in research. Specialists in one field are finding that they cannot carry on without the assistance and advice of specialists in other fields, even in their own institution. The pathologist calls for the help of the biochemist and the chemist; the physiologist needs the aid of the biologist, the chemist, the physicist, and the botanist. We know now that disease in one part of the human anatomy may have its cause in some other part of the body. Furthermore, we know that the effects of disease may appear in remote places in the body, and sometimes years later. This is why we are insisting that dentists shall have the same fundamental scientific training as doctors of medicine, and also why researches in dentistry now involve a study of nearly every organ of the human body. In my judgment the next great steps forward in the advancement of learning will be in the overlapping areas of human knowledge where scientists are working in close co-operation with each other. They will be made by those who, although specialists themselves, are trying to synthesize and bring together their separate points of view into a unified whole. I know that there will be an occasional genius living in an attic who will discover something worth while, but for the most part advances in knowledge will be the result of co-operation. They will be made where men in separate fields retain that mutual respect and confidence that truly scientific men are supposed to possess, and where they work in close affiliation with each other.

The necessity that men pool their experiences is beginning to result in an allocation of research between institutions. No institution can promote research along all lines. It has neither the men nor the money with which to do it. Poverty is teaching us a lesson we should have learned long ago—that even in scientific effort men must work together and in co-operation. To do otherwise is to waste money and human effort. The result of such allocation of research would be that institutions could gather into their folds scientists who are concentrating attention upon the study of certain major problems not being emphasized nor studied in like degree anywhere else. It does not follow that the more or less random or isolated scholar or scientist at some other institution of learning may not work upon some aspect of the general field emphasized by one of these major institutions. If such a scholar exists and is found, he will be or should be brought quickly into co-operation with the group of scientists who are concentrating their attention upon the more general fields in which his problem lies.

All of this suggests that the time has arrived when we should seriously think of research as inter-institutional. Ways and means should be found of bringing the institutions themselves into closer relationships. There should be an interchange of research projects. A research program covering the interests and activities of a number of institutions should be devised and an organization set up for its continuance. This means that the intelligence of various institutions should be brought to bear upon the problems of a given institution. An individual carries on his investigations for the purpose of finding the truth; an institution, likewise, is interested in the truth, but also in the utility or service value of its investigations. Any inter-institutional arrangement such as I am proposing would focus attention still more upon the social utility of the studies being made.

THE ADVANCEMENT OF LEARNING THROUGH CONFEDERATION

There is still another type of inter-institutional co-operation, described in a particularly happy manner as "A Southern Confederation of Learning," by Benjamin B. Kendrick, in *Southwest Review*, January, 1934. Mr. Kendrick proposes a confederation to promote the advancement and humanizing of learning in the South. He is not so much interested in preserving and revivifying the Old South as in stimulating a new regionalism that will give especial emphasis to thought and culture, to art and literature, to a beautiful and satisfying life. He declares that the educational system hitherto in operation has failed to eradicate passion and prejudice. It has failed to create a sufficient number of like-minded people who are interested in public welfare and the maintenance of institutions designed for public good. Professor Kendrick would first undertake the orientation of the young men and young women entering the colleges and the universities to the life about them. To accomplish this he would in so far as possible integrate information and courses in a manner to insure a knowledge of the world in general, and particularly of the life which students will lead.

He makes three definite proposals with regard to the establishment of his proposed Southern Confederation. The first is that it would publish a periodical to furnish freshmen and others with information which no national periodical now supplies concerning peculiarly local and southern problems. In addition the magazine would carry articles dealing with national and international problems. He would have correspondents in each of the southern capitals to study significant changes in the functioning of state administrations. But more especially the magazine would contain each month two or three scholarly articles sum-

marizing results of any special research completed by southern social scientists or educationalists. The periodical would be maintained by at least one hundred men and women of both races in each of the thirteen states. These thirteen hundred would be selected because they are socially minded, of intellectual ability, of scholarly attainment, and most important of all, possessed of good will. An effort would be made to bring every student in every southern college and university under the beneficent influence of the civilizing and enlightening articles that would appear in the periodical.

A second activity of the confederation would be an annual meeting for a discussion of various problems. Mr. Kendrick suggests, too, that it might well sponsor co-operation among southern universities at the graduate level. He proposes that each southern university might delegate its authority to grant higher degrees (at least the Ph.D. degree) to two or three confederations of universities. He goes so far as to suggest that there may be a South Atlantic Confederation, a Middle South Confederation, a Southwestern Confederation, and so on. It is his opinion that persons now designated as graduate students should be divided into two classes—those who take advanced courses simply to broaden their knowledge and who have never displayed scholarly ability of a high order, and those who have both the ability and the desire to become candidates for a higher degree. The former should continue to register in some one university, while the latter should register in the appropriate confederation.

Students registered in the confederation might be permitted to attend during the course of their graduate work anywhere from two to five universities where library facilities and personnel were best suited to their needs. For the benefit of the best students in each confederation, efforts should be made to establish a fellowship fund to be administered by the confederation.

A third undertaking of the confederation would be the promotion of research in colleges and universities having the necessary personnel and equipment. It is not urged that every professor or instructor should undertake research work, but where the research spirit is lacking an institution will be failing to fulfill one of its important functions.

In addition to promoting research the confederation would have a well-matured and progressive policy designed to encourage southern universities and colleges to modify and improve themselves in accordance with the needs of the times.

It will be observed that this program is intended to make men liberal, intellectual, and human; to stimulate research work; to induce univer-

sities to face the future; but above all it is calculated to advance and humanize knowledge, to break down institutional-mindedness and institutional selfishness. Mr. Kendrick states the objects of his plan as follows:

The object of the New Regionalism should be to preserve and revivify and reorient the best traditions of the Old South. From the New South it should take over that part of the program which advocated education for all. But it should give universal education a new objective and a new meaning. The objective of education should be to create in this region a body of wise and good citizens. Wisdom should mean the utilization of all knowledge pertinent to the situation. It should also mean the advancement of the frontiers of learning, the abolition of superstition and prejudice, and the discussion of problems in an objective and scientific spirit. Goodness should mean that each person in the community is at peace with himself and with his fellows. No honest person can be at peace with himself and with his fellows as long as his own welfare is dependent upon the exploitation of other human beings. Only in a democratically ordered society may each citizen have equal enjoyment of life, liberty, and happiness.

These proposals are made in no spirit of narrow provincialism. On the contrary, it is believed that only through the creation of a sane and progressive regionalism can the South attain the realization of its own latent possibilities and make its full contribution to the great nation of which it is a part and to the world order of which poets have dreamed.

YOUTH MUST BE SERVED

In the foregoing pages I have discussed education in relation to the trends of the times and I have also pointed out, I fear at some risk, the course that I think education will follow in the future.

In the years that lie ahead, it is my opinion that the Federal Government will find it both advisable and necessary to provide a fair share of the support needed to maintain the elementary schools of this country. I believe also that Congress will not confine its appropriations in the field of higher education to agriculture and engineering. I am of the opinion that credits, honor points, and examinations by instructors will soon disappear. I believe that the general education of our youth will end with the sophomore year or junior college and that it will be carried on in the secondary schools. I think that this general education will be devoted to preparing students for their social, civic, and political responsibilities, that college and university education—especially university education—will be dedicated to the training of young men and young women of superior talent for scholarly effort and high professional service.

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

ADMINISTRATIVE EVENTS OF GENERAL INTEREST

The Establishment of Junior Colleges

Fraternities

Dormitories

Military Training

THE ESTABLISHMENT OF JUNIOR COLLEGES

A committee of citizens of Crookston urged the Regents to establish a junior college at the School of Agriculture, located at Crookston. A little later a number of citizens of Morris urged that a junior college be established at the School of Agriculture located there. The Regents denied both of these requests.

The issues involved were of such vital significance to the general welfare of the state, to the ability of the state to support its educational institutions, and to the future of higher education, in particular, that the president prepared an analysis of the arguments which the Regents ordered printed in the minutes of the meeting of December 28, 1932. This statement reads as follows:

December 28, 1932

To the Honorable Board of Regents:

The proposal that the Board of Regents establish a junior college at the Northwest School of Agriculture, at Crookston, raises a number of issues of public policy. Some of these issues relate to the immediate proposal and to the effect of such a venture by the Board upon the School of Agriculture. Besides these immediate issues there are other and more important questions bearing upon policies of the organization of higher education in the state as a whole. As a basis for deciding the immediate issue it is desirable to consider the broader questions first.

I

There is first of all the question of the authority of the Board of Regents to establish a college or school away from the campus where the University was located by its original charter and by the constitution of the state. No such school has ever been so established except by legislative act. Furthermore, the Northwest School of Agriculture was established by a law which definitely limits the character of the school. The issue of expanding the curriculum of the school and of attaching to it new functions not contemplated in the act founding the school, raises certain legal questions which must be carefully explored in advance of any action by the Board.

II

If it may be assumed that authority to found a junior college at the Northwest School of Agriculture resides with the Board of Regents, we are then faced with questions of desirable public policy in the organization of higher education in Minnesota.

The establishment of a junior college at the Northwest School at Crookston clearly means the establishment of a new state policy with regard to higher education. Hitherto, the University has been an integral, integrated institution with all of its collegiate units located at a common center. The consensus of educational opinion throughout America is favorable to a continuance of this policy and unfavorable to the separation of the university into distant units.

In this matter Minnesota has been uniquely fortunate in having a single institution located at the largest center of population within its boundary. In a number of other states the university has been broken into units located at different places in the state. Iowa, Ohio, Michigan, Indiana, Kansas, North Dakota, and South Dakota, each has two or more state-supported universities. As these institutions have grown, they have required increasingly larger appropriations from the state. In every case there has arisen institutional rivalry, duplication of effort, confusion of administration, and increased costs. Not infrequently, the desires of these competing institutions and their overtures for the favor of the state have led to open conflicts that have been reflected in legislative halls as well as in public opinion and good-will. In a number of states the evils resulting from the division of higher institutions have become so great as to force attempts to reorganize the higher institutions through legislative commissions and by new legislative action. Notable cases in point are Oregon, where the United States Office of Education was called upon to work out a plan for the combination of five institutions; North Carolina, where an especially created Commission is attempting to integrate three institutions; and California, where the legislature two years ago invited the Carnegie Foundation for the Advancement of Teaching to study the local situation and recommend a new organization of its two universities, seven teachers colleges, thirty-two junior colleges, and a number of additional special schools. Problems of reorganization are always difficult and almost never satisfactory.

While the problems of Oregon, North Carolina, and California, because of their recency, provide pertinent illustration of the disadvantages of divided institutions, they do not stand alone. The difficulties of these states have had their counterpart in practically every state where the divided university exists, and in none of these states has the problem reached a satisfactory solution.

In contrast with these states, Minnesota, along with Illinois and Wisconsin, has fostered a single university centralizing in one place and under one management the opportunities in higher education it provides for its sons and daughters. Under this policy the University of Minnesota has developed to a place of commanding leadership among the universities of the country, and while it is still among the younger institutions, today it enjoys a high prestige based upon solid achievements in teaching and research. If the policy of a single university foundation supported by all the resources of the state and serving from a single center the entire population of the state is to be altered in behalf of a decentralized university, such a step should be taken with a clear understanding that it constitutes a profound change of state policy and with a full realization that the new policy will be subject to all the difficulties experienced in other states inflicted with divided universities. It would be unwise to embark upon such a change of policy without placing before the people of the state the entire situation.

III

The proposal to establish a junior college at the Northwest School of Agriculture is at variance with the considered judgment of all recent students of junior college education. This judgment holds that the junior college should not be a separate institution but that it should be integrated with the secondary school

on the one hand or with a higher institution on the other. The proposed junior college would be neither of these. There is a wide and growing belief that junior colleges may be effectively established in connection with public schools. In this view the junior college is an essential part of secondary education and finds its natural articulation with the public high school. It is in line with this view that public junior colleges have been established at Duluth, Hibbing, Eveleth, Virginia, Coleraine, Rochester, and Ely. These schools, which are organized in accordance with state law, are supported by the communities in which they exist and are conducted as a part of the local system of schools. The plan followed by the cities named above is open to other communities of the state, including Crookston.

In support of this policy of establishing junior colleges, citations could be given from practically every individual and commission by whom the question has been studied. In its report to the Governor of the State the recent commission of distinguished educators, who studied the California situation, discusses this very problem. This report states:

It is the primary and fundamental function of the common school system extending from the earliest years of schooling, through kindergarten, elementary school, junior and senior high school, and the *junior college*, to educate the citizens for effective participation in all those common understandings and cooperations which are necessary to sustain the best in our complex contemporaneous civilization which is American.

And further:

When junior college management looks upward to the university to discover its functions, its point of view, its procedures, and its social philosophy, it creates the largest possible gap between itself and the community high school, whereas it ought to be looking outward upon the community and its life to discover how all its unselected and different kinds of students may be educated to intelligent cooperation and useful membership in society. . . . Any and all administration which will integrate junior colleges with the rest of community schooling will be of inestimable value in making the public support of junior colleges a good social investment.

Professor L. V. Koos, formerly of the University of Minnesota, in discussing this problem a number of years ago, wrote:

Many of the same considerations that urge the ultimate discontinuance of the first two years of work in the university and its provision in connection with strong secondary schools oppose maintaining one of a system of junior colleges in a state as a part of its existing universities or other higher institutions. If it is provided in the community where such institutions are located, it should be as a part of the community's lower school system, just as now the high school work is not administered by the university but by the local community.

And again:

The branch type is especially to be deplored if it brings with it, as has been true in some instances, provisions for the high school work below. The function of our higher institutions is certainly not to set up a system of secondary schools competing with and duplicating the work of the state's system of high schools already in operation.

Professor W. C. Eells of Stanford University, who has also studied the problem, writes as follows:

It is highly questionable whether America with its long history and tradition of local initiative and independence, will generally accept this type of junior college. . . . Absentee administration is hardly consistent with as intensely local an institution as the junior college should be in its fullest development.

If, therefore, the University Board of Regents were to establish a branch college at Crookston, it would do so in violation of the best informed opinion upon the matter and would, in another particular, alter a well-accepted educational policy of the state.

IV

In still another particular the establishment of a junior college at the Northwest School of Agriculture would violate an established state policy. It would create a college in an institution designed in its character and for years conducted as a vocational school of subcollegiate grade. The School of Agriculture is not a college. It accepts students from the elementary schools; it offers distinctly vocational training in agriculture and home economics; its faculty is chosen for their proficiency in teaching these subjects; its offerings in general subjects are limited to the needs of these students; its students at the time of graduation have had fewer months in school than graduates of accredited high schools.

The School of Agriculture at Crookston and the other Schools of Agriculture, which are administered as units of the University, were established to train rural young men and women in agriculture and homemaking and to prepare them for citizenship in rural communities. They are staffed and equipped for these purposes. Nearly all members of the staff are graduates in agriculture and home economics, and their major interests center in agriculture and rural life.

No other institutions in the state are equipped and organized to perform the functions of the School of Agriculture, nor are they performing them.

To erect a college upon a foundation of the School of Agriculture would profoundly alter the school, disintegrate it, and would probably destroy it. It is our candid opinion that the objectives of these two types of institutions are so different that one would eventually destroy the other. We are fearful that, under such an arrangement, the type of education designed to meet the needs of agriculture and rural life and which to date has served well in meeting these needs, will be superseded by a type of a more general and less definite practical nature.

Attention should also be called to the agricultural experiment station at Crookston which for years has been rendering notable service in solving the soil, agronomic, animal husbandry, farm management, and other agricultural problems peculiar to the region in which it is located. If a junior college were established on the campus without considerable expansion of staff, it means that the work of the station would be greatly reduced. Superintendent Dowell, Professors McCall, Dunham, Kiser, Clark, Christgau, and Mr. Pilkey would have to turn most of the time they give to the station over to the junior college for approximately nine months of the year. This would be unfortunate, for the various researches under way require much time for observation and for compilation and analysis of data.

V

If the University is to embark upon the establishment of branch colleges, every one concerned should be prepared to face the necessity for greatly increased state appropriations for higher education in the state. If such a college is established at Crookston, the state will be called upon to make similar provision in other communities of the state with equally valid claims. The first step would be but the beginning of a movement, the end of which can not now be foreseen.

No one can doubt, however, that the program would involve one of two alternatives: Either the state would be forced to greatly increase expenditures for higher education, or the amount available would be spread so thin over all such institutions that only mediocre work could be done in any one of them.

Even if full use were made of the present facilities at Crookston, the establishment of a junior college would at the very beginning involve an increased budget. In the first place, it would be necessary to employ an almost entirely new staff. This statement involves no disrespect for the ability and competency of the School staff. This staff has been selected for the conducting of a specialized school and does not possess the training nor the background that a junior college staff must have. A college calls for many subjects not now taught in the School and would necessitate many additional teachers. Furthermore, much of the equipment and other facilities, including the library, are not adapted to junior college needs. If a junior college is established at the School of Agriculture, not merely a new faculty but much new equipment and new books must be provided for necessary courses not now needed in the School. We also should be faced at once with the need for more class-room buildings, laboratories, and dormitories.

The actual increase in operating budget that would be necessitated by the establishment of a branch junior college can not be determined without a more elaborate study than has thus far been possible. This item alone would be between fifty and seventy-five thousand dollars at the beginning and would be much greater within a few years. Capital outlay for buildings and other items would be in addition. Extend this privilege to other communities in the state and the total increased expenditures for state-supported higher education would certainly be very great.

VI

The resolution submitted by the petitioners calls especial attention to the fact that the state has \$1,000,000 invested in lands and buildings at the School of Agriculture at Crookston and that they are not being used at the present time to their full capacity. In the discussion of this matter before the Board of Regents especial stress was laid upon the possibility of using the staff and the facilities of the School in the operation of a junior college without increasing the cost to the state. It has been reported that the School has not been filled for ten years past in excess of thirty per cent of its capacity.

Upon this point there is clearly some misunderstanding. The School of Agriculture operates upon a six months term. The facts regarding enrolment may be given in a statement of Mr. Dowell, Superintendent of the School:

During the year 1929-30 we were operating at approximately thirty per cent *above* our normal capacity for the regular six months school year. That year it was necessary to place three and four students in many of our regular two-student rooms. Due to lack of class and laboratory equipment, it was necessary to refuse registration in some of our courses, such as sewing, cooking, and business training. All classroom space was taxed to capacity. Several staff members were required to devote every period from 8:15 to 4:30 to class and laboratory work. In other words, several of our staff members were taxed far beyond a reasonable teaching load.

More recently financial conditions that exist in our rural communities have forced many former, as well as prospective, students to remain at home. The result is that our enrolment for this term is 171. As new students will enter at the opening of the winter term, our attendance for the year will probably be around 190, while our dormitories filled to capacity

will accommodate 252. We are, therefore, operating our dormitories at about seventy per cent normal capacity. Staff members are, likewise, working at approximately ninety per cent capacity. It should be mentioned that our twelve months instructors devote somewhat more than one-half of their time to station work. In other words, they devote the full six months from April 1 to October 1 to station work, in addition to a part of their time during the regular school year. Furthermore, both our twelve months and six months instructors are required to devote a great deal of time to such outside activities as dormitory supervision, debate, public speaking, choruses, orchestra, class plays, athletics, and other activities that are essential in the operation of a school of this kind. The depression of 1920-23 reduced our enrolment from 301 in 1919-20 to 187 in 1923-24. From that time forward, the enrolment advanced to 353 in 1929-30. It would appear that the enrolment this year will drop about to the level reached in 1923-24. Based upon the previous record, it is evident that future attendance will depend upon financial conditions in the rural communities. We feel that the present condition is temporary; hence, our present facilities as to dormitories, class and laboratory equipment, and teaching force are adequate only for the expected enrolment of Agricultural School students.

It is clear from the facts given above that in normal times a junior college could not be accommodated in the School without additional buildings for class and laboratory work, and if students were to be provided living conditions comparable to those now enjoyed by students in the School, new dormitories would be required.

We appreciate the fact that the registration at the School this year is below normal, but these are not normal times. Of course, no one knows exactly what the future may have in store for us. But we refuse to believe that better days will not come and that the need for the continued intelligent study and practice of agriculture will not be as great in the future as in the past. As a matter of fact, we believe that the scientific study of its problems is fundamentally necessary to our economic restoration. This being our belief, we are not seriously disturbed by the fact that the buildings are not at present occupied to one hundred per cent of their capacity. We are concerned, however, with the preservation of the maximum usefulness of the School in these trying days.

VII

Attention is called to the fact that there are a number of high school graduates in the northwestern part of the state who are not in school.

That, of course, is true but the Northwest is not peculiar in this respect. Our studies show that about nineteen thousand young people graduate annually from Minnesota high schools but that only about five thousand ever enter college. This condition prevails over the entire state, in areas near the University as well as in those which are more remote. In Minneapolis, for instance, about five hundred of last year's high school graduates returned to high school this year and did not enter the University. Other hundreds found employment or went to special schools. Of 3,619 persons who graduated from Minneapolis high schools in the year 1931-32 only about 1,000 entered the University of Minnesota this year. It is thus apparent that nearness to college is only a partial determinant of college attendance.

It is a fact, of course, that some capable young men and young women find it impossible to go to college, even in prosperous years. The number of such persons may be, and probably is, greater in times of depression. Authorities have

called attention to this unfortunate situation repeatedly. They have suggested state scholarships, county scholarships, club scholarships. They have called attention to the English practice of the state, the municipalities, and various private organizations providing scholarships at Oxford and Cambridge and other English and Scottish universities for such students. The University of Minnesota has repeatedly suggested financial aid to promising high school graduates who could not afford the cost of a college education. At one time it provided a number of such scholarships and still offers a few. Our limited resources have not enabled the University to meet adequately the need for scholarships or loan funds to worthy students even though the total cost for such aid would be less than the amount that would be needed to establish and operate a branch junior college. This situation is, of course, unfortunate. For youth of genuine talents to be denied college training is not only an irreparable misfortune so far as they are concerned, but a social and, in the long run, an economic waste so far as the state is concerned.

In this connection it may not be amiss to note the fact that the state already supports two institutions of higher education in the general territory of the Northwest School of Agriculture. Only eighty miles south of Crookston is the State Teachers College at Moorhead, and the Bemidji State Teachers College is only ninety-five miles to the east.

VIII

The important questions to be asked about any institution of learning are not, How many students has it? but, How competent is its teaching staff? How satisfactorily are the interests of the students being cared for? Size, in itself, is a matter of no consequence; quality of work and the welfare of students are matters of supreme consequence.

So far as the University is concerned, there never was a time in all its history when it knew so much about and did so much for the individual student as now. It is a well-recognized fact in educational circles that there are few, if any, schools in America superior to the University of Minnesota in these respects. Its Dean of Student Affairs, its Dean of Women, its Students' Health Service, its Psychological Testing Bureau, its Vocational Guidance Counseling, its Faculty Advisory System, its Student Work Committees (composed entirely of faculty members), combine to make the University almost unique among the institutions of this country as to the knowledge it has and the assistance it gives its students. The advice it gives to students today is not advice based upon mere personal opinion; it is advice based upon carefully winnowed experience and scientifically acquired information. Surely the intellectual and spiritual welfare of youth is so supremely important and its future so potent with social responsibility for the state, that the best knowledge and advice that can be given to it is none too good. It is just because of its size and the variety of its resources that the University can now provide this superior service. It would not be possible to provide it on the same effective scale in a small branch college.

Another argument occasionally advanced for the establishment of state-supported junior colleges is that it is too expensive to send students from distant parts of the state to the University.

While it is an easily demonstrated fact that the cost of attending most colleges and universities in this country is greater than it is at Minnesota, it is never-

theless true that a less adequate college education could be obtained for less cost. The cost of operating a university is determined by the competition it has with corresponding institutions of learning with regard to instructors and quality of educational service demanded by the state and by the students. We could, of course, maintain the University at less cost. This would be to provide a cheaper type of education, but, sooner or later, both the students and the state would discover that cheaper education means inferior education.

IX

We realize that the question may be asked, Have not the Regents in the new General College already established a junior college at the University and may this not be accepted as a precedent for the establishment of others throughout the state?

What the Regents have done is something entirely different from the proposals of the petitioners. The Regents have not created a new school to attract new students. They have not created a junior college as that term is generally used. The General College at the University is an experimental attempt to provide for the needs of certain groups of students already in its student body. These students come from every section of the state, not from a single locality. The experiment permits the University to test educational procedures, for the staff that teaches them also teaches students in the other colleges. There is no duplication of effort or expense of administration; as a matter of fact, the University General College is an experimental study in procedure and practice which may prove to be, or may not prove to be, of great value.

X

In concluding, attention may be called to the rapidly changing character of educational organization in America. The California report, previously noted, takes the position that a reorganization of the public educational program is inevitable. This view is expressed in scores of other studies and reports, and the evidence is abundantly clear that reorganization is already under way in many places. Movements involving reorganization are in progress in at least twelve states this year. In general, these movements look toward centralization, unification, and the consolidation of institutions. Sooner or later Minnesota will of necessity give consideration to these problems. Its greatest need is not more institutions but better ones. Certainly before new institutions are established, or existing institutions extended, there should be an impartial study of the entire system of higher education within the state. Such a study, when made, should be conducted by non-resident experts in higher education of recognized leadership and standing under the auspices of a state commission. Such a commission could be created by the state legislature and should be composed of representative citizens. The study should deal with the problems of junior college education and with all forms of higher and professional education. The outcome of the study should be a long-time program for the development of higher education within the state, a program based upon an understanding of the fundamental principles of educational organization. With such a program in hand, the changes in our institutions of higher education could be made with wisdom.

XI

In view of the foregoing analysis of facts, it would seem not to be in the public interest to concur in the proposal that there be established a Junior College at the Northwest School of Agriculture.

Respectfully submitted

L. D. COFFMAN, *President*

The issue did not die with the action of the Board of Regents. Bills were introduced in the Legislature providing for the establishment of junior colleges at the schools of agriculture at both Morris and Crookston. And the bills nearly passed, although the Legislature was finding it difficult to meet the imperative needs of the state government and of the various state institutions.

Again, in the fall of 1933, preceding the opening of schools, pressure was brought to bear upon the Regents to establish the schools. At that time the superintendents of the schools of agriculture at Morris, Crookston, Grand Rapids, and St. Paul prepared a statement on the matter, a copy of which follows:

September 13, 1933

PRESIDENT L. D. COFFMAN:

We, the Superintendents of the Schools of Agriculture, have noted the efforts that have been made by certain citizens in the West Central and Northwestern part of the State for the establishment of junior college work at the Northwest and West Central Agricultural Schools. We wish to submit the following statement relative to the Schools of Agriculture, hoping that it may be useful to you and the Board of Regents in the consideration of this question.

PURPOSE OF THE SCHOOLS OF AGRICULTURE

The Schools of Agriculture were established for the purpose of giving training to young men and women to fit them for efficient farm life and to prepare them for useful citizenship. Agriculture is the greatest industry in Minnesota. The need for education, training, and preparation for farm life has increased as the problems of Minnesota agriculture have multiplied. To meet this need has been the purpose and objective of the Schools of Agriculture. It would seem that for so great an industry in our commonwealth we have not had too extensive a program of agricultural education. Could the Schools of Agriculture have reached a larger proportion of our farm youth in the past, we feel certain that our present farm problems would be solved with less difficulty.

CONTRIBUTION OF SCHOOLS OF AGRICULTURE

The Central School, established in 1888, has given training to over 19,000 farm youth; the Northwest School, established in 1906, has given similar training to 4,000 young people; and the West Central School, established in 1910, has given training to a similar number. The newly organized school at Grand Rapids has started on a similar program.

Eighty-five per cent of the former students and graduates are located on Minnesota farms. They are a stabilizing influence in their communities; they are taking an active part in local community affairs, and they are furnishing much of the leadership in our various rural organizations of state-wide importance. It would, therefore, appear that this kind of education for rural people should be fostered and supported in every possible way in normal times, and especially in this present emergency.

ENROLMENT

During the year 1929-30, the Northwest and West Central Schools of Agriculture were operating at approximately thirty per cent above normal capacity for the regular six months school year. In that year it was necessary to place three and four students in many of the regular two-student rooms. In a number of cases students were denied the privilege of registering for certain laboratory courses because of lack of accommodations. All class rooms were taxed to capacity. Many of our staff members were required to carry an abnormal teaching load.

More recently financial conditions existing in our rural communities have forced many former as well as prospective students to remain at home. The result has been a decline in enrolment, beginning with the year 1930-31, and continuing through the year 1932-33.

The depression of 1920-23 reduced the enrolment at Crookston from 301 in 1919-20 to 187 in 1923-24, and at the other schools in about the same proportion. From that time forward, the enrolment advanced to 353 at Crookston and 388 at Morris for the year 1929-30, despite the fact that the farmer's buying power, although increasing, had not reached the pre-war level. Enrolment for the year 1932-33 fell to about the same level as in 1923-24. Based upon past records, it is evident that future attendance will depend upon financial conditions in the rural communities. We feel that the present condition is temporary; hence, our present facilities as to dormitories, class and laboratory equipment, and teaching force, which have been reduced this year as the result of a reduction in support appropriations, are adequate only for the normal enrolment of agricultural school students.

Based upon our advance registration, we are of the opinion that there will be a slight increase in attendance this year. Dormitories will therefore be operating at about seventy per cent capacity, class and laboratory rooms at ninety per cent capacity, while the reduced staff will be required to carry an abnormally heavy teaching load, in addition to devoting a great deal of time to such outside activities as dormitory supervision, debate, public speaking, choruses, orchestra, class plays, athletics, and other activities essential in the operation of these schools.

THE DESIRE FOR AGRICULTURAL TRAINING

Based upon scores of letters that we have received during the past few months, we are convinced that hundreds of our rural young men and women are being denied the kind of vocational training that they so much desire, and that would make them independent, useful citizens. These rural young people are not tramping our city streets, or riding boxcars to and fro across the country. Nevertheless they are a part of the great unemployed army whose proper training is necessary in meeting the need for skilled and competent citizens on the farms of this country. This need is even greater today than it has been in the past.

The four Minnesota Schools of Agriculture are especially equipped and staffed to render this service.

SUGGESTIONS FOR MEETING PRESENT EMERGENCY

To meet the present emergency in which farm people find it impossible to avail themselves of the facilities of the agricultural schools, we wish to make certain suggestions for your consideration.

a. **Present Student Work Policy.** The Schools are now providing to the limit of their resources part time work for students at a modest rate of pay. Practically all of the work in dormitories, dining halls, barns, on the campus, farms, etc., is being done with student help. This has made it possible for approximately 50 students, who could not otherwise do so, to attend the schools at Morris and Crookston and for varying numbers, according to their resources, to attend the other schools.

b. **Enlarged Student Work Program.** There is a very large amount of work at each of the schools where farms and experiment stations are maintained that could be done with student labor provided funds were made available. This would make it possible for more young people to attend and be most helpful at the present time. The four schools could provide additional work for approximately 150 students working at the rate of three hours per day. We believe that this suggestion is worthy of serious consideration.

c. **Scholarships.** Although we are making every effort to assist worthy students by offering part time work, and could extend this assistance considerably if additional funds were made available, it is clear that only a limited number can attend the Schools under this provision.

If it were possible to raise a scholarship fund in the amount of \$10,000 per school, this would enable 100 needy students to attend each of the Agricultural Schools throughout the coming six months school year. The existing facilities of the Schools would then be taxed to capacity, and at the same time a real service would be rendered to the future farmers and home-makers of this state.

THE WISEST AND MOST LOGICAL EXPENDITURE OF FUNDS IN THE AGRICULTURAL SCHOOLS

Should junior college work be established at the Agricultural Schools it will call for the expenditure of funds now and in increasing amounts in the future. The question naturally arises whether these institutions can render the largest service by using any additional money that might be available for the benefit of rural youth who aspire to farm life or whether they should dilute their present effective program with a new educational program entirely foreign to their present objectives. We believe the welfare of the state will be best served by continuing in our present field. It should be pointed out that our state is now well equipped with institutions offering academic work of the junior college type. Such institutions include not only the University but the state teachers colleges and the private colleges and universities. It is doubtful whether these institutions will be filled to capacity this year and if not, there would seem to be little need for making provisions that would amount to duplication of effort. In our judgment this is especially significant in view of the fact that no other institutions in our state are offering work in the fields covered by the Schools of Agriculture.

If the doors of the agricultural schools are to be opened wider, we are convinced that they will render their greatest service by training farm young men and women for rural life rather than by giving elementary college courses preparatory for training in the professions.

It is apparent that with the present conditions of employment in industry as well as the over-crowding of the professions, the cities will not for a long

time to come absorb as large a percentage of rural young people as they have in the past. Therefore, from the long-time viewpoint, more emphasis than ever should be placed upon the possibilities of the country for the country boy and girl. We believe it to be the job of the Agricultural Schools to assist in turning their minds to a favorable and resourceful attitude toward farming and country life. Over and over again young men and women have come to the Schools determined to leave the farm, but in the course of their training have changed their minds and returned to the country.

Summarizing, it has been our purpose to bring to your attention the following :

a. That there are a great number of rural young men and women who today are being denied the opportunity of securing the vocational training they and their parents so much desire.

b. That the Schools of Agriculture are equipped and staffed to give this training.

c. That the welfare of our agriculture and state will be well served if a solution for giving this training can be found.

d. That it would be unsound educational policy to add now a program of work foreign to the aims and purposes of the Agricultural Schools.

Approved :

W. C. COFFEY

I concur fully and unequivocally.

L. D. COFFMAN

P. E. MILLER

J. O. CHRISTIANSON

A. A. DOWELL

R. L. DONOVAN

FRATERNITIES

Fraternities developed around the thought that a small group of congenial people would find their mutual associations and contacts profitable during their undergraduate years. National groups were established on the assumption that college life is wider than a single campus and that fraternity men would find congenial homes on campuses they might be fortunate enough to visit.

We have come a long way from these simple beginnings. Many groups have built large and expensive houses in a spirit of sheer rivalry. More often than otherwise this unfortunate rivalry for large homes can be attributed to the ambitions of alumni groups rather than to the ambitions of students.

The national value of fraternity life has been magnified far beyond its real worth. There are national conventions, national headquarters, national publications, elaborate offices, set-ups in international headquarters, long lists of distinguished alumni to impress unsuspecting freshmen at rushing season, visits of traveling secretaries—all of which add to the expense of being a fraternity man.

Some fraternity problems. Fraternities are to a certain extent the victims of over-organization and over-exploitation. Congeniality and the possibility of mutual friendship have given way in too many in-

stances to a man's ability to pay his board bill or to his ability to shine in some campus activity. Dean Thomas Arkle Clark, of Illinois, used to say that from the point of view of their being congenial members of the group, any fraternity would make almost as good a selection of freshmen if it were to go out and pledge the first twelve men who happened to come along the street.

Fraternity men are supposed to be especially competent and capable, and yet the sad fact remains that their scholastic records are not very satisfactory. At Illinois about three years ago a study was made of the scholastic expectancy of the men who entered fraternities and of the men who did not. The fraternity men outranked the non-fraternity men at the beginning; but at the end of the first semester the non-fraternity men, who had no supervision of their study habits whatever, actually showed a higher performance than the fraternity men.

The change in the financial situation has greatly complicated matters for fraternities. One generation of students and their supporters build an expensive house which is heavily mortgaged. The next and succeeding generations of students find themselves burdened with a load they did not create and cannot carry, even in prosperous times. And now while we are still in the midst of the depression, many of these organizations face bankruptcy. This situation exists at nearly every university in America, not at Minnesota alone.

The various factors which I have outlined have caused an increasing number of undergraduates to question the wisdom of joining a fraternity. Some are doubtful as to whether they will have worth-while and profitable experiences if they join. They are also wondering whether they can afford the expense, for after all it often costs more to live in a fraternity house than it costs to live at a rooming house or in a dormitory. And parents are questioning these same things.

Fraternity co-operation. The question is being raised at more than one institution in this country as to whether fraternities are co-operating as wholeheartedly as they should with the central purposes of their institutions or whether some of the forces at work in them are destructive to the purposes for which they exist. To be specific, are fraternities co-operating with ideals of scholarship or are they opposed to the intellectual purposes of the institution? Is the intellectual capacity of prospective members actually given weighty consideration? Are fraternities more interested in house representation in campus activities than in scholastic honors? Is the general level of conversation about fraternity houses concerned with matters which pertain to the intel-

lectual life? Must fraternities, in order to survive, engage in expensive campaigns in soliciting members?

Something is being done to help along some of these lines. Graduate advisers to students are permitted to live in some houses. There is a movement to provide libraries for fraternity houses—this deserves encouragement. There is evidence to support the statement that some fraternities are more interested in trophy cups than in books. The editor of a student newspaper at a neighboring university said that the chief value of the cups was to fill the empty spaces on the bookshelves.

Still another factor that has tended to impair the standing of fraternities has been their treatment of freshmen. A university tries to help freshmen grow up. The very last refuge of hazing still exists to some extent in fraternities. The barbaric custom of treating freshmen as infants still exists. President Chase says he believes that it is easier in a good many cases to become a real person outside of a fraternity than inside, because of the kinds of mass pressure which come from the group.

I sometimes hear it said that the moral situation among the fraternal group is different, if not lower, than that of students in general. There is no foundation for this statement, in my opinion. The morals of fraternity men are neither better nor worse than those of students in general.

What can be done? All this discussion naturally leads one to ask, What can be done about the matter? Some of the things that appeal to me are:

1. The national system, if it is to continue, should exercise more wisdom in dealing with local chapters. Above all, it should reduce its fees and co-operate far more closely than it has with the universities. At present it is a great, independent, expensive principality from which fraternities are deriving little guidance, and universities little co-operation.

2. Consideration should probably be given to the expensive housing arrangements of fraternities. Universities cannot and should not be expected to assume responsibility for debts incurred in erecting these houses. At some institutions, regulations have been adopted controlling the amount that may be spent in building a new house.

3. Weak organizations should merge. This would be far more common were it not for the loyalties which impel organizations to cling to what they have until death.

4. A number of fraternities have turned their houses over to their university and are renting them.

5. Fraternities can reduce the cost of living, and should. They should reduce their initiation fees, the fees they pay to national headquarters, the cost of soliciting members, the number and cost of their parties.

There is no good reason why fraternities, in these times at least, should not do all or practically all of their own work. There is nothing disgraceful about it. As a matter of fact there are few things that they can do that will increase public esteem for them more than to announce that they are doing their own work, and especially if they do their work well. There is nothing new about this. I know of a fraternity that employs a fine woman to do the cooking; the boys wash the dishes, make the beds, change the linen, sweep the floors, maintain their house in apple-pie order, under the supervision of their house mother. They have won the approbation of the administration and the applause of their parents and of the public.

6. A co-operative plan of purchasing supplies and equipment is in vogue at some institutions, and with some of the organizations at Minnesota. This deserves further study. Those in charge of it could accomplish more if they kept in contact with the purchasing department of the University. I do not think the University could do their purchasing for them, but it could keep them informed as to the prices of the things they need to buy in lots.

7. Many of the fraternities are co-operating in maintaining an officer who examines their accounts. This officer is located in the office of the dean of men. He has no control over the finances of the organizations he represents; he could accomplish far more if he were given control. Some of the national fraternities have definitely resisted this type of co-operative enterprise.

8. At some institutions the university has built or owns the houses that student groups live in. This is a matter which deserves investigation.

9. Fraternities should exercise more caution in the selection of their new members. To elect men to membership whose intelligence rating is low as shown by university records is poor policy. To elect men who will leave or must be dropped during the year serves no good purpose. To fail to elect an increasing number of upper classmen seems inexcusable.

10. A training course for student managers should be provided, if the practice of having student managers is to be continued. Instruction should also be given in menu making and in budgeting.

11. The most important question fraternities have to face is whether they can maintain themselves without co-operating more closely with the central purpose of the University. To this question they must give serious thought. They must determine for themselves whether they are to become more strictly educational.

I should be unfair to the situation at Minnesota if I have created the impression that the relations between the fraternities and the University have not been cordial. Co-operation between the fraternities and the University is becoming closer. We know that many of them are honestly trying to be intelligent about their problems. They are entitled to and will receive correspondingly intelligent and sympathetic support as the study of their problems progresses.

DORMITORIES

ENLARGEMENT OF PIONEER HALL

During the biennium the Regents received a grant of \$84,000 from the Federal Public Works Administration to build the second unit of Pioneer Hall. To this sum was added \$141,342, which represented the accumulated net earnings of the dormitories and service enterprises of the University over a period of years. The total funds thus made available amounted to \$225,342. An additional sum of \$100,000 was borrowed by issuing certificates of indebtedness, pledging in payment thereof the income from the dormitories.

When it became known that the University proposed to provide additional dormitory facilities, objections were raised by certain citizens living in southeast Minneapolis. These objections were answered in a letter by the president to Mr. E. B. Pierce, secretary of the General Alumni Association. The letter reads as follows:

October 9, 1933

My dear Mr. Pierce:

You have asked what the University's policy is with regard to the erection of dormitories and you have also asked me to answer certain objections that have been raised by those who are opposing the erection of additional dormitories at the University.

The University's policy with regard to the building of dormitories dates back to 1870, when Dr. Folwell in his first report respectfully urged the Regents of the University to give "early and attentive consideration" to this matter. A resolution adopted by the Board of Regents on June 29, 1870, reads as follows:

Resolved that the Executive Committee are authorized, if in their judgment they think best, to erect at once one or two buildings on the University grounds for the accommodation of students as suggested by Dr. Folwell.

It is a matter of some interest that two old frame structures were secured for this purpose. These buildings still stand. They never were satisfactory nor adequate but they represent the beginning of an effort to secure living accommodations for students at the University.

Each of Dr. Folwell's successors at various times spoke in favor of the erection of dormitories. Every educational officer of the University of whom I have any knowledge and of whom I have been able to find any record, has favored the building of dormitories. The attitude of the presidents of the University, of the other educational officers, and of the Board of Regents with regard to this matter, has been uniform and consistent all these years. Furthermore, it has been in keeping with what has been regarded as sound policy at educational institutions everywhere throughout this country and throughout the world. I do not know of any important university or of any important college that does not have or does not

seek to have residence halls for students. The universal opinion of those who have spent their lives in looking after the interests of college youth favors the building of dormitories. It is true that they are not always called "dormitories." I found them called "colleges" in Australia, "hostels" in certain other countries, "halls" at various places in America, but in every instance they serve the same fundamental purpose. Surely it should not be necessary for me to spend time setting forth the social and educational advantages of having students live in residence halls.

Now certain objections are being raised to the building of an addition to Pioneer Hall, an addition which would accommodate between 250 and 260 men students. One is that the University contemplates the forcing of all freshmen to live in the dormitories. This alleged information never emanated from my office. Now that the question has been raised, it would seem to me that it should be looked into with a great deal of care. In view of the fact that the University and the various fraternal organizations associated with the University are mutually interested in the social and educational welfare of freshmen, it would seem that we should jointly undertake the study of this matter. There are institutions in America which require their freshmen, unless the freshmen are excused for good and sufficient reasons, to live in university residence halls. I am informed that Yale is entering upon such a plan this year; that Harvard has adopted it; and that it has been, for a good many years, the practice at Dartmouth. At some of the institutions where the freshmen are expected to live in university controlled halls, the various fraternal organizations have limited their membership to students in the sophomore, junior, and senior years. I am not familiar with the success of this plan, but if it is socially and educationally sounder than the plan we have been following, then there is no reason why it should not be adopted. Its introduction would be extended over a number of years—three, four, five—whatever number might be necessary. In the meantime, the various fraternity organizations could fill their membership with upper class students whose scholastic ability at the university had been definitely demonstrated and who might reasonably be expected to remain at the university for a full college course.

Another argument that is presented by those who are objecting to the building of dormitories is that the Legislature has refused appropriations for the construction of dormitories at the University. I have now been president of the University fourteen years. During all these years I have never asked the Legislature to appropriate one dollar for the construction of a dormitory. I did encourage the Regents in 1921 to ask the Legislature to give them permission to borrow money for the construction of a dormitory. Question was raised as to whether or not the Legislature could give the Regents power to borrow money without involving the credit of the State; the Legislature did not wish to do this nor did we wish to have it do so. It was believed then by certain members of the Board that the Board had power to use unappropriated funds or earnings, which it derived from non-state sources, for the construction of a dormitory. It was also believed that the Regents had the power to borrow money. Consequently they proceeded on this basis. Householders and others in the vicinity of the University objected. They maintained that the Regents had no power to borrow money and that if they did borrow money the credit of the state would be pledged. They insisted

that the Regents were dishonestly using funds of the University in the erection of this building. The whole matter was taken to court; every detail was considered by the court and the court declared that it was the University's privilege to use certain funds in this way and that it could borrow money to build a dormitory, pledging the income from the dormitory in payment thereof.

A third argument that is being advanced is that the building of an additional dormitory unit is a subtle move to destroy the fraternities at the University. It is even claimed that I am personally unfriendly to the fraternities. It so happens that I am a fraternity man myself and that I have in various ways undertaken to contribute to the fraternity life of the institution and even to my own fraternity. It is also true that my son, a graduate of the University, was a fraternity man, and my daughter was a member of a sorority. The assertion that I have no interest in these organizations is absurd. It is likewise untrue that I have any desire to destroy them. It is still my opinion that there is room for the dormitories and the fraternities at this University.

Many of the fraternities are in hard lines financially. The University is in no sense responsible for this condition. They would be in exactly the same situation had there been no Pioneer Hall. The University can be of service to them, not only in the matter of securing and holding their membership but in straightening out their financial difficulties provided they care to have the University serve them, but this service naturally will call for a certain measure of cooperation on their part. Some fraternities have undoubtedly overbuilt. The University had nothing to do with this for the plans of the fraternity houses were never submitted to the University; indeed, the tradition has existed that the University has no responsibility with regard to such matters. It is well known that the membership in certain fraternities has been largely local and that few non-residents of the Twin Cities have been admitted. It is also a fact that the fraternities have not found it possible under existing conditions to reduce the cost of living as much as might seem desirable. And finally, it must be said in all fairness that the grades of the academic fraternities were lower this last year than the grades of any other organized group in the University.

Throughout the years the fraternities and sororities have served the University in many ways; not the least of these services has been the building of houses for their members to live in. It is said that as much as two million dollars has been invested in these houses. Surely no one, least of all the administration of the University, wishes to destroy this property. It cannot be said too often, nor too emphatically, that we desire the cooperation of these organizations and that we will go far out of our way to assist them.

There are 29 academic fraternity houses and 17 professional fraternity houses, which, if filled, will accommodate 923 men students out of a total of something over 8,000 men. It must be recognized that not everyone desires to join a fraternity, just as it must be recognized that not everyone wishes to live in a dormitory. On the other hand, I have had a good many parents in this state tell me that they have sent their sons or daughters elsewhere because of the lack of satisfactory dormitory accommodations at the University. I have never had anyone tell me that he sent his son or his daughter elsewhere because there was a lack of fraternity or sorority accommodations at the University.

The householders of the community are likewise objecting to the building of the dormitory. There are 17 houses in the neighborhood of the University that furnish both room and board for men, and there are 91 houses that furnish rooms only, for men. These houses, when filled to capacity, will accommodate 802 students, which after all is only one-tenth of the total number of men students, and when one includes the number that live in fraternities he finds that the total number of men students who can be accommodated in rooming houses and in fraternities is about 1,700, which is only a little more than one-fifth of the total number of men students.

But it is said that many men students reside in the Twin Cities. That is true. Every male student, of course, is a possible fraternity man while not every male student is a possible dormitory man. Men students living in reasonable proximity to the University are not likely to seek quarters in the dormitory and even though they be elected to a fraternity they are not likely to live in a fraternity house. On the other hand, some men students from St. Paul and Minneapolis do live in the fraternity houses and some do live in the dormitory. Fraternity men who do not live at the house nevertheless help to maintain it. They pay the usual initiation fees, the regular dues, the customary assessments, and for a certain number of meals whether they eat at the house or not. The percentage of occupancy apparently is higher for the dormitory this year than it is for the fraternity and rooming houses.

Pioneer Hall is filled to 92 per cent of its capacity this year. Last year it was filled only to about 85 per cent. The University prepares its budget for Pioneer Hall on an estimated occupancy of around 85 per cent. We are of the opinion that a situation is likely to arise in the near future which will tax all the rooming accommodations in the neighborhood of the University to capacity. A study which has been completed by a commission which Governor Olson recently appointed to investigate the conditions of unemployed youth shows that if the high school graduates of the last two years had been privileged to come to the University, we should have a freshman class this year of more than 6,000 students. Many of them could not come because of lack of funds. I venture the assertion that in case there is any measurable return of prosperity in the near future, we shall have a great influx of students similar to the influx which we had immediately following the war, and that the rooming accommodations in the vicinity of the University will be overtaxed.

The situation with regard to the rooming houses in southeast Minneapolis has undergone a complete change within a generation. Forty years ago practically all of the houses in the neighborhood of the University were occupied by their owners; if students lived in them, they lived in intimate relations with the family. But the owners of these houses have sold them and have moved away. There has come in their place a generation of rooming-house keepers. I do not wish to reflect on these housekeepers in the least. They will be here and in business long after I am gone. The University has enjoyed very satisfactory contacts with them. It wishes these relationships to continue. We inspect the rooming houses, rate them, and assign or recommend them to students who desire to live in rooming houses.

In the consideration of this question it is necessary to remember that the University is a state institution, organized and maintained and operated for the

benefit of the entire state. It is not operated nor maintained for the benefit of any community or any particular set of organizations. The taxpayers of the entire state maintain it. They have the right, if they wish to do so, to express themselves with regard to its policies and its programs. With Concordia, Gustavus Adolphus, St. Olaf, Carleton, Macalester, Hamline, St. Thomas, St. Catherine's, St. Teresa, St. Mary's, the teachers colleges, the schools of agriculture—all having dormitories—it is difficult to believe that the people of the state would not sanction some dormitory facilities at the University.

But it is said that the University is located in a great metropolitan center and for that reason it does not need dormitory facilities, that the students who come to it should be expected to live in rooming houses and in fraternities. That argument was not advanced, so far as I know, when a dormitory was built at Macalester or at Hamline, nor was it ever advanced when dormitories were built at Northwestern, at Chicago, at Harvard, at Yale, at Columbia, or at any other great university even though it was located in a metropolitan center.

My own opinion is that we should have a sufficient number of dormitories to accommodate those students who desire to live in dormitories. We should have as adequate and as satisfactory residential accommodations at the University as students can find anywhere in the country. It should not be necessary for the parents of Minnesota to send their children elsewhere because of a lack of satisfactory living accommodations at the University. How many dormitories the University should have should be determined wholly by circumstances. Pioneer Hall I would finish at once. I would also provide a dormitory for women. The one which we now have—Sanford Hall—is located in a most unsatisfactory and unfortunate place. I would build a new one and eventually abandon the old one. Furthermore, I would add to the number of cooperative cottages at the University, which, according to my classification, belong in the dormitory list, for the reason that the residents of these cottages have the highest scholastic rating in the University and live most economically.

Cordially yours,

L. D. COFFMAN, *President*

MILITARY TRAINING

On June 18, 1934, the Regents by a vote of six to five, voted to discontinue the compulsory feature of military training at the University of Minnesota. Military training became a part of the curriculum of the University when the Legislature accepted the provisions of the Morrill Act. The pertinent provision is given in Section 4, which reads as follows:

And be it further enacted, That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sales of land scrip hereinbefore provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks, yielding not less than five per centum upon the par value of said stocks; and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished,

(except so far as may be provided in section fifth of this act), and the interest of which shall be inviolably appropriated, by each State which may take the claim and benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

Instruction in "military tactics" has been compulsory from the beginning.

When Congress passed the National Defense Act on June 3, 1916, and amended it on June 5, 1920, it made provision for the establishment of Reserve Officers Training Corps units at the land-grant colleges. Students who passed satisfactorily the basic course in military training thus became eligible for advanced work in one of the Reserve Officers Training Corps units.

The University of Minnesota has had medical, dental, infantry, coast artillery, and signal corps units. Students in these units received a stipend from the Federal Government and were eligible to commissions as reserve officers upon the satisfactory completion of the course in which they were registered.

In both of these ways, one by accepting the provisions of the Morrill Act, and the other by adopting the provisions of the National Defense Act, the state and the University have been contributing to the programs of national defense.

The legal status of drill. In recent years the question has been raised from time to time as to whether it is necessary for land-grant colleges to make military training compulsory. William D. Mitchell, attorney-general of the United States, declared on June 20, 1930:

I, therefore, advise you that you are justified in considering that an agricultural college which offers a proper, substantial course in military tactics complies sufficiently with the requirements as to military tactics in the Act of July 2, 1862, and the other Acts above mentioned, even though the students at that institution are not compelled to take that course.

The question has never been tested in the courts. The only question that has been tested is whether a conscientious objector must be excused from military training in land-grant colleges that require it. A conscientious objector at the University of Maryland declined to take military training. The university dismissed him. He sued the university.

The courts took the position that a conscientious objector has no right or liberties, so far as national defense is concerned, that other persons do not have. They insisted that since everyone enjoys the protection of his country, he must be willing to support his country. They denied the student the right to return to the university. A similar decision has been handed down in California, so I am informed.

The Morrill Act provided for the establishment of land-grant colleges. It requires them to offer instruction in agriculture, mechanic arts, and military tactics. It made grants of land to the states to maintain or to assist in maintaining the land-grant colleges—the University of Minnesota received the sixteenth and thirty-sixth section of each township. This land amounted to 155,074 acres (State Auditor's Report for 1931-32). All of it except 14,233 acres has been sold. The money derived from the sale of these lands, from iron royalties, etc., amounts to \$3,292,282.02, and is a part of the permanent university fund.

In addition to the land grants, Congress appropriated \$25,000 known as the Morrill Land Grant, later supplemented under the Nelson amendment with an additional \$25,000 per year. Since then it has made other appropriations to the land-grant colleges of the country. The sum which the University of Minnesota receives as a land-grant institution is \$346,279.22 per year.

The reasons for military training. Military training has existed in the land-grant colleges of the country all these years for two reasons: (1) That it contributes to national defense by training leaders who may serve the country in time of need; and (2) that it has distinct educational values. A letter which I received not long ago reveals one of the current misconceptions about military training. It reads: "Military training is no required part of a liberal, scientific, or professional education according to American standards." This is true. Military training was not introduced into the universities on the assumption that it contributes to education along any of these lines. That it has definite educational values is testified by a random sampling of the men students in classes from 1915 to 1933 at the University. These values, of course, are not the same as the values one would derive from a liberal arts course, or a technical course, or a professional course, but they are none the less real for that reason.

As to whether there is a public need for military training seems to be the question upon which there is a difference of opinion. If there is a need for society to provide for its protection, its security, and its development, it has the right to determine through what institutions it shall make provision for these things.

Most of the arguments that are advanced for and against compulsory military training are superficial and specious. Frequently they are little more than expressions of emotion or of deep-seated biases. One is that military education should be abandoned because it develops the spirit of militarism. When one recalls that compulsory chapel was abolished because its critics maintained that it failed to develop the spirit of religion, he cannot fail to note that the compulsory argument is used to suit our prejudices. The argument that the compulsory feature should be abandoned because it interferes with the freedom of the students is, likewise, weak. Higher education, we must remember, is not an inherent right of the students; it is a gift of the people, who are entitled to set such conditions upon it as they think best. Still again, it is claimed that the compulsory features are incompatible with modern educational ideals. It is true that there is less prescription in education than there was a few years ago; but it has not all been removed, nor can it all be removed. Another argument sometimes advanced is that the military men assigned to the universities are not of the caliber they should be. I can testify that Minnesota has been fortunate in the quality of the men assigned to direct her military training.

What one's personal views are as to whether there should be military training at the land-grant colleges of the country should not determine the policies of those institutions. So far as I am personally concerned, I have looked forward to the time when none of it would be required anywhere. I abhor war and will go to any reasonable length to prevent it. I shall lend my support to every movement that will contribute to the establishment and maintenance of peace. I deplore forms of excessive emotion and of super-patriotism which lead to war. And yet if an enemy were to threaten the sanctity of my home, the honor and good name of my state, the integrity and perpetuity of my country, I would do everything in my power to protect my children, to defend my family, and to maintain my state and my country. The abolition of war does not rest with any one nation. It calls for international action. We have made altogether too little progress in developing sentiment favoring peace. We are not members of the League of Nations nor of the World Court. We have just let a contract for twenty-one new battleships. We are engaged in an active war of economic nationalism. It is with deep regret that I note these things.

The presence of compulsory military training in the land-grant colleges should be decided, not on the basis of its educational value, concerning which there is no question, but on the basis of whether a social

need for it exists, whether there is public sanction that justifies it. In the opinion of a majority of the Board of Regents this sanction no longer exists.

The present status of drill at Minnesota. As this statement is written, it is clear that a number of new problems will arise out of the situation. The War Department is under no obligation to maintain any military work at any land-grant university. The responsibility of maintaining this work resides with the universities themselves. The Federal Government has, however, maintained the work at the land-grant institutions as a part of its program in carrying out the provisions of the National Defense Act.

The War Department has informed the University that it will fulfill its obligations to the students who are already registered in the Reserve Officers Training Corps units; that it will discontinue at once the basic work in infantry; that it will continue work in the signal and coast artillery corps units provided the work receives credit and is supported by the University as adequately as it supports the other departments of the University.

Last year there were 1,770 students in infantry, 467 in coast artillery, and 116 in signal corps. The action of the War Department means that military work will be denied students who desire work in infantry and that it will be available only for students who elect coast artillery and signal corps work. Only students with a knowledge of trigonometry and some technological background will be competent to select it. The Reserve Officers Training Corps had enrolments as follows: 118 of the 1,770 students in infantry; 130 of the 467 students in coast artillery; and 31 of the 116 students in the signal corps.

The War Department has allowed \$9 per year to the University for the purchase of uniforms for basic students (freshmen and sophomores). The University has purchased the uniforms by contract and has issued them to students who were privileged to wear them at any time. In the advanced corps (juniors and seniors who elect to continue the course for an additional two years for a reserve commission) there has been a cash allowance, for two years at the present rate, varying from \$166 to \$175 per student in addition to the uniform.

The action of the Regents in discontinuing the compulsory feature and the action of the War Department in withdrawing all work and all support except for the two Reserve Officers Corps units, coast artillery and signal corps, will naturally raise the question as to whether

the University is complying with the Morrill Act. To comply with the Morrill Act, is it necessary for the University to make training in "military tactics" equally available to every male student? If so, must it supply the personnel and equipment for the work? If it fails to do this, is it entitled to federal funds granted by the Morrill Act and to other funds appropriated by Congress to land-grant colleges? If a land-grant institution fails or refuses to accept the provisions of the land-grant and national defense acts, then the War Department is clearly not obligated to try to maintain military work at that institution. The federal authority who would be called upon to determine whether a land-grant institution is maintaining an adequate and proper course of military work and is therefore entitled to receive federal funds appropriated to land-grant colleges, would be the secretary of the interior. The obligation to meet the conditions of the Morrill Act rests upon the colleges themselves, not upon the War Department.

UNIVERSITY LIFE

Builders of the Name

Fidac Medal Award

Special University Lectures

Convocations

BUILDERS OF THE NAME

When the Cyrus Northrop Memorial Auditorium was erected panels were provided in the memorial hallway on which to engrave the names of those individuals who had rendered distinguished service to the commonwealth through its University.

The problem of selecting these persons was referred to a special university committee composed of faculty and alumni. Their task was not an easy one. The individuals finally chosen or to be chosen fell into three groups:

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 has 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.

The committee, with the help of the State Historical Society, determined the Founders. Suitable exercises in their honor were held April 21, 1932; their names are engraved on the central panels in the foyer of the auditorium. That list is complete.

The second group to be honored—the Builders of the Name—while not large in the beginning, will embrace an ever expanding list of names.

On February 16, 1933, a university convocation was held to honor the first list of Builders. A brief address was made by President Coffman who then introduced the five alumni selected to give the short biographical sketches of the persons to be honored. As these sketches were given, the names of the Builders and their photographs were thrown upon the screen. The names are now engraved on a panel beside the names of the Founders in the auditorium.

Address by PRESIDENT L. D. COFFMAN

A year ago we met upon an occasion similar to this to honor the names of the Founders of the University. Their names are chiseled in stone in the foyer of this auditorium.

Today we meet to honor the names of the Builders of the Name, University of Minnesota. In honoring the Builders of the Name, we

are not thinking of those who planned nor of those who, with bricks and mortar, erected the buildings on the campus. We are thinking of those who have enhanced the reputation and brought distinction to the University as a seat of learning.

The University, in the sixty-five years that it has been in existence, has had thousands of persons on its staff and tens of thousands of students have passed from its doors with their diplomas under their arms. Every member of the staff and every student and every graduate who has lived a fruitful and helpful life, who has in any way contributed to the cause of human learning and to the advancement of civilization, has been a builder of the name, University of Minnesota. But some have stood out conspicuously. Through the character of their administration of the University, they contributed in notable ways to its spiritual life; or through the superlative exercise of that indefinable something we call teaching skill, they widened the intellectual horizons of their students and stimulated them to great achievement; or through the dissemination of information under their inspired leadership, they extended the usefulness of the University to every section of the state. Not one of those whom we honor today was a great scientist, a great dramatist, a great poet, or a great leader in public service. And yet each of them brought distinction to the University by the faithful and courageous performance of his work. To each of them the day's work was not a task but a high privilege. Each of them looked upon his responsibility as an opportunity for molding character, developing ideals, and spreading the gospel of learning. Each of them kept the wellsprings of his intellectual life fresh and flowing. Those who sat at the feet of the masters, whose names we inscribe today on the walls of this auditorium, were probably unconscious that they were sitting in the presence of greatness, for the masters had the simplicity and humility of scholars and teachers. They never coveted public applause nor sought notoriety or distinction.

The Founders' list is complete; the Builders of the Name list shall never be complete so long as the University endures. New ones should be added to it from year to year and new ones will be added, for the thirst for human knowledge and the higher life will never be satisfied.

Among the University's graduates and on her staff there will be, if indeed there are not now, artists, poets, dramatists, novelists, biographers, mathematicians, historians, as well as scientists, who will contribute to the culture of the human race or to its scientific knowledge in ways that will add to the glory of the University.

There will be other meetings like this in years to come. These meetings will make it clear that life is not measured by the years one has lived nor by what he has accumulated in the way of wealth, but rather by the good he has done.

Nothing that we can do here today will immortalize those whose names we honor. Their immortality is enshrined in the affections of the unnumbered thousands who knew them. Their unrequited toil now reaps, in some measure, its reward. We know what they did not know and that is that they brought immortality to the University that cherished and protected them. They have made us see once again that the lamp of learning must never be allowed to flicker nor grow dim. They have made us see that the strength of the University resides in those who have been touched by its influence and that their strength in turn is increased by the improvement and development of the University as a place where scholarly effort abounds. They have made us see that the University resides in the quality of her administration and her teachers.

How necessary it is in these times that we remember this thought. Minnesota has in the last two years lost six of her professors by death and four by calls elsewhere. We should fill each of those places, if possible, with men fully as capable as those who have left us. We should not falter, nor should the citizenry of the state permit us to falter, in our efforts to build more strongly for tomorrow than we built for yesterday. In honoring our distinguished leaders of the past we should, at the same moment, take cognizance of the present and look to the future; otherwise we shall be betraying the trust that has fallen to our lot.

The leaders of this and of other universities will some day be known as the high priests of civilization. Society will turn to them more and more with the passing of time, I venture to say, for consolation and inspiration, for knowledge and leadership. It will turn to them because they have embodied in their lives and have taught in their classes the true values of the imponderables of life.

Henry T. Eddy, Maria Sanford, William S. Pattee, Cyrus Northrop, and William Watts Folwell—they set the patterns for us. Now shall we, in the spirit in which they worked, renew our vows to keep the University true to her fundamental purpose, while we pay our respects to them!

THE PRESIDENT'S REPORT

WILLIAM WATTS FOLWELL

Address by CHARLES L. SOMMERS, B.L. '90

We meet today to do honor to the "Builders of the Name." A list of these without the name of William Watts Folwell is unthinkable; quite as unthinkable as trying to picture this institution without its having had the benefit and inspiration of his life and services. His broad outlook, his remarkable foresight and prevision, together with his most uncanny power of advance planning seem to us now in retrospect, to have been indispensable to its growth and development. Dr. Northrop said of him, "He had the faculty of thinking straight and seeing clear." It was indeed fortunate that the University had as its guiding spirit in those early and critical days of its history, a man of such vision and optimism, coupled with conservative judgment.



In the development of an institution of learning, as in a building enterprise, there is need of both the architect and engineer to do the planning, and of master builders to do the construction. Without question, William Watts Folwell was the architect and engineer of the University of Minnesota. It was he who surveyed the field; it was he who drew the plans; it was he who laid the foundations and who laid them deep and broad and strong enough for the expansion of later years. The master builders of the institution were Cyrus Northrop and his eminent associates—men who sympathetically caught the vision and gave the plans form and substance.

William Watts Folwell was born February 14, 1833, in the town of Romulus, Seneca County, New York. His schooling was intermittent, with in-between occupations, principally teaching school and farming. After graduating from Hobart College in 1857, young Folwell taught languages and mathematics in that institution, devoting his leisure to the study of law. Becoming interested in comparative philology, a subject then but little known in this country, he went abroad and enrolled in the University of Berlin. We get some idea of the sort of student he was when we learn that he also spent several months

in Greece and Rome, studying modern languages, art, and archeology. In 1861, after a tour through Switzerland, William Folwell returned to Germany where news of the outbreak of the Civil War reached him. Returning to the United States he immediately applied for an army position and, although without technical training, was commissioned as first lieutenant in the Fiftieth New York Regiment of Engineers. Dr. Folwell's great ability and adaptability were soon recognized and he rapidly rose in rank. Toward the end of the war he commanded a detachment of 450 engineering troops, with the rank of lieutenant colonel, the highest rank then attainable in the Engineering service.

The war over, Colonel Folwell accepted a position in a mercantile establishment in northern Ohio, devoting his leisure to the study of economics, politics, and political history—subjects which occupied most of his time during the later years of his life.

In August, 1869, he was offered, and accepted, the presidency of the infant educational institution, the University of Minnesota, to which position he gave fifteen years of able, arduous, and constructive service.

The University of Minnesota in 1869 was a university in name only. It was a preparatory school, with no collegiate work and only a handful of students. When in 1884, Dr. Folwell resigned from the presidency in order to devote his time to what was closest to his heart—the upbuilding of the University Library and to the study of philology and economics, he handed over to his successor a strong faculty, an earnest student body, and a well-equipped institution.

Dr. Folwell during his life did many unusual things. An outstanding example was, when fifty-one years of age, at the height of his intellectual powers, and after he had fully demonstrated his ability and fitness, he resigned his position as president of the University. Even more unusual was the welcome he extended to his successor and the loyal and devoted service that he gave to his new chief for upwards of a score of years. The relationship between Dr. Folwell and Dr. Northrop is one of the brightest chapters in the history of the University.

Dr. Folwell was a pioneer in the field of education. Very early, and in advance of accepted views of other educators, he championed the cause of science in a university curriculum, and of equal educational opportunities for men and women. An example of his astonishing power of prevision was his prediction, more than forty years ago, of the day of junior high schools and junior colleges.

Dr. Folwell was president of the University of Minnesota from 1869 to 1884. He was professor of political science from 1884 to

1907—at which time he retired from the University to devote himself to the chief literary effort of his life, his *History of Minnesota*.

When Dr. Folwell came to the University of Minnesota there were only 14 students enrolled in the institution. In 1929, when he passed away at the ripe old age of ninety-six, the students, former students, and alumni numbered 40,000. This growth of from 14 to more than 40,000 within the span, and almost within the sphere of one man's life, will probably always be the all-time record of an American university.

William Watts Folwell, first president of the University, and his successor, Cyrus Northrop—the “two Grand Old Men of the University of Minnesota”—were so closely associated in their lives and in their work, and also in the hearts of thousands of alumni who knew and loved them, that they should be forever associated in our memory.

CYRUS NORTHROP

Address by THOMAS F. WALLACE, B.A., '93, LL.B., '95

In comparison with other men of like station in his day, Cyrus Northrop might not rank as a great scholar or even as an extraordinary administrator, but he was a great man, a great builder of a university, and greatest of all as a friend and counsellor.



Dr. Northrop, the second president of the University of Minnesota, was born at Ridgefield, Connecticut, on September 30, 1834, and died at Minneapolis, Minnesota, April 3, 1922.

During the period covered by his life, he saw changes in the political, social, economic, and cultural life of the world vaster than those occurring in any similar age since civilization began, and so far as these changes affected the United States, he might, like Ulysses of old, well have said, “Of all these things I was a part.”

A graduate of Yale in 1859, he became successively clerk of the Connecticut House of Representatives, editor of the *New Haven Palladium*, and professor of rhetoric and English literature at his Alma Mater in 1863, where he remained for twenty-one years until he was called to the presidency of Minnesota, and at

fifty years of age commenced the most thrilling and vital period of his life with all the enthusiasm and vigor of a youthful crusader.

The underlying purposes of state-supported universities had at the time he took office already been stated with great clarity and almost prophetic insight by William Watts Folwell, his immediate predecessor, but it remained for Dr. Northrop to vitalize and make this program an integral part of the University's educational structure.

During the twenty-seven years of his presidency, the University grew rapidly in material equipment and in the number of enrolled students, and this was very largely due to the tact, deep knowledge of human nature, and intense vitality of Dr. Northrop which enabled him to secure sympathetic and generous financial support from successive state legislatures, while his talents as an orator spread the name and fame of Minnesota through all sections of our country.

He took the helm just as the University was emerging from adolescence to manhood. As it continued to grow, he continued to inspire in the student body a zeal to repay by civic service the debt which they owed the state for their education. At the same time he won the good will and approval of successive state legislatures in whose hands rested the responsibility for the University's adequate financial support, and when passion and prejudice would have divided and torn down what had been so laboriously built up, it was in a large measure due to his personality that wiser counsels prevailed and the University was saved.

But his influence went further than this. Through social contacts and public appearances he made not only Minneapolis, the city in which the University was located, but the entire state of Minnesota proud of the University and of its president.

In 1918 at the commencement exercises celebrating the fiftieth anniversary of the founding of the University, Dr. Northrop in an address plainly indicated that he felt his greatest contribution to the upbuilding of the University was his work in popularizing it. He said, "When I came I found the University was not especially popular in the state, and in its relations with the Legislature it was somewhat in the position of a man on trial for some criminal offense."

So completely did he reverse this attitude that at the close of his administration, he could say, "I felt that it was vital to have the state back of the University. And it is. And it is good for the University and good for the State."

The true greatness of a state university, however, is not to be measured by the number of students it enrolls, nor by the popularity of its

president, nor by its material equipment in the way of buildings, important as all these factors are, but rather by the standard of social, economic, political, and cultural ideas and ideals which it creates in those who participate in its activities and receive its degrees. In this respect Dr. Northrop was a master builder.

To the truth of this all of us who came under his personal influence can testify. He did not minimize the importance of training our minds, but he yearned to see our souls grow, and his affection for the humanities and his passion for moral as well as intellectual progress was noticeably reflected in the attitude of many of the members of the university faculty during his term of office. His students knew him and loved him, and the wholesome influence which he exerted upon thousands of them during their university life has in depth and quality probably never been surpassed in the history of higher education in this country. He helped to build and to popularize a great University, but more than this, he built men and women and inspired within their breasts a love of country, of God, and of their fellow men, which transmitted by them to their descendants constitutes a monument to Cyrus Northrop, more lasting than plaques of marble, more eternal than these walls of stone.

WILLIAM SULLIVAN PATTEE

Address by WILLIAM H. OPPENHEIMER, LL.B. '04, LL.M. '05

It is indeed a pleasure and a privilege to join with you today in paying tribute to the memory and achievements of one of the builders of this great institution, to the first dean of its Law School, William Sullivan Pattee.

When the Regents of this University decided in 1888 to establish a Department of Law, they doubtless realized how much depended upon their selection of the man who as dean would guide the Law School through its formative years.

In his hands there would, of necessity, be placed not merely the task of creating and building a college of law but the far more important task of building in such a manner that the foundation thus laid would carry the structure of tomorrow, that not merely in the then present but in the future the school so created would serve not alone as an institution of learning but as a positive force for the public good.

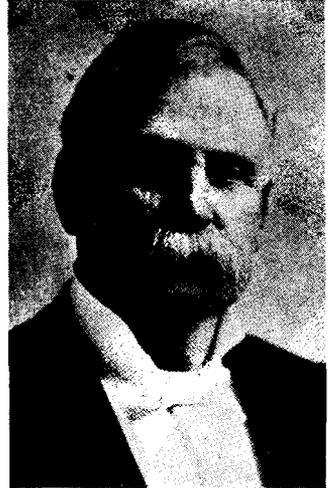
Here was a task calling for one learned in the law, one with administrative ability, and in addition thereto industry, broadmindedness, a sympathetic understanding of men, and above all, a thorough belief

in the mission of the school, in training not merely lawyers but building in its students character, and a sense of their duties as citizens.

Their choice fell on William S. Pattee, a most fortunate selection as subsequent events proved. Forty-two years of age, he was in the prime of life and had a background of teaching, active practice at the bar, and public service that peculiarly fitted him for the task. Born in Maine he spent his early years upon a farm. He was graduated from Bowdoin College in 1871 and was then successively principal of the high school in Brunswick, Maine, and professor of Greek in Lake Forest University, Illinois.

In 1874 he moved to Northfield, Minnesota, where he became superintendent of the public schools, a position he held until 1878. For seven years after graduating from college every spare hour was spent in the study of the law and in 1878 he was admitted to the Minnesota bar. For the next eight years he practiced his profession as a lawyer in Northfield and St. Paul. During this period he was appointed a member of the Minnesota Normal School Board, and served one term in the state legislature. As a member of this latter body he drafted several important measures, one being the Act for the Incorporation of Villages, and won recognition as a careful student of public affairs and as a clear, logical, and forceful speaker who always commanded a respectful hearing. The character of his work in the two years of his service as a member of the legislature was such as to cause his being mentioned frequently and favorably for the office of attorney-general and governor.

From the time of his election as dean of the newly formed Law School to the day of his death in 1911 Dean Pattee had but two real interests in life—his family, consisting of his wife and three children to whom he was a devoted husband and father, and his adopted child, the Law School. For the twenty-two years preceding his death he and the Law School were one; its record, its traditions, its standing, its character but the reflection of his life. During his administration the Law School grew until in 1910 it ranked as the third largest law school in the country and the largest of its age in the world, but its



greatest claim to recognition lay not in the number of its students but rather upon the character of its work, in its ability to imbue its students with a knowledge of the law, with a love of the law, and a keen realization of the opportunity it afforded of service to one's fellow man.

The underlying principles which controlled Dean Pattee's thoughts and work can best be illustrated by an excerpt from his book, *The Essential Nature of the Law*, published in 1909 and recognized as one of the notable contributions to legal literature. In arguing for recognition of the fact that jurisprudence is but a branch of applied ethics he says that such recognition gives "to jurisprudence itself the highest possible dignity; it raises the administration of justice from a selfish scramble by litigant and counsel for unrighteous ends to a dignified effort on the part of judge, counsel and advocate to discover where the golden thread of moral principle runs in the complicated affairs of human life and to settle the rights of the parties interested according to the demands of that principle; it dignifies the office of the judge by making him a priest at the altar of moral law and it raises the office of counsel to the exalted life work of one devoted to the advocacy of unselfish love in the complicated details of human life."

Such a conception of jurisprudence and its administration coming from teacher to student could not but be an uplifting and ennobling inspiration, and so while the Law School of this University stands today as a monument to his faith, industry, broadmindedness, and ability, there exists a still greater monument—one found in the hearts of his students—love for him as a man, as an able, yet sympathetic teacher and counsellor, and one found in the record of their lives, influenced and molded to higher aims and aspirations because of contact with him whose memory we honor today.

Upon his record, William Sullivan Pattee has been rightfully enrolled as Minnesota's Apostle of Jurisprudence.

MARIA L. SANFORD

Address by GRATIA A. COUNTRYMAN, B.S. '89, M.A. '32

She was called the best loved woman of Minnesota. Men respected her courage and integrity; women loved her gentle spirit and ready sympathy. Everyone admired and enjoyed her keen intellect and her delicious sense of humor. Our memory of her today is vivid.

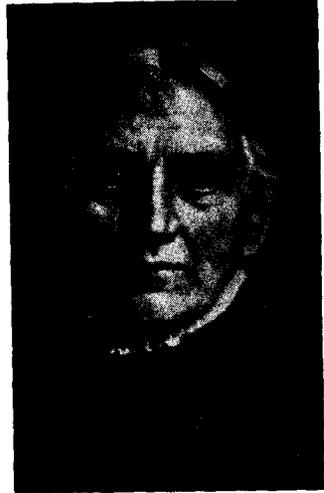
Miss Sanford came to Minnesota in 1880. She had been for eleven years professor of history in Swarthmore College, the first woman pro-

fessor in the United States. Dr. Folwell had visited the classroom of this enthusiastic teacher and had recognized her unusual qualities. Later he invited her to the University of Minnesota as professor of rhetoric and elocution. This position she held for twenty-nine years until the day of her retirement. She was a born teacher and always gave the best there was in her. She had a fixed belief that education should prepare one for living, that it should be as much concerned with character as culture.

She had a remarkable personality of vitality and vigor, a voice of rare purity and power, and a remarkable memory, especially for poetry. Her mind was stored with it. When she chose to spend the class hour repeating poem after poem in her musical voice it awakened in students their latent appreciation not only of poetry but of things high and noble. It was the genius of a great teacher that she could awaken and inspire her students.

Her marvelous voice was a great asset. All of her force, her earnestness, her humor penetrated to her audience through the thrilling sweetness and power of her voice. She was in great demand as a speaker, and accepted lecture engagements throughout the state. She was a University Extension Department in her own person and doubtless contributed much to the phenomenal growth of the University in the 80's and 90's. This enlargement of her sphere of teaching carried her influence far and wide. To do it she had to endure hardship and fatigue. But that was another of her outstanding characteristics—she never counted the cost to herself. Her students always found her ready to devote time and training, at whatever self-sacrifice of personal plans or needed rest. So selfish we were of her and so generous she was to us. Her abundant reward was in our successes.

In 1909, she retired at the age of seventy-two. The senior class of that year invited her to give the commencement address which she felt was the greatest honor ever shown her. It was said to be the first time a woman had ever been asked to make such an address in a great university. It was a great event and a memorable address entitled, "What the University Can Do for the State." The Alumni Association pre-



sented her with a document beginning, "We, the alumni of the University, thank you for what you have been to your students. . . . twenty-nine classes acknowledge with gratitude their debt to your kindness and wisdom, . . ." The Board of Regents voted her emeritus professor of rhetoric. And so closed her active career as a university professor.

But such a woman could not be laid on the shelf. Her wide acquaintance through the state and nation made her in constant demand as a speaker. She was interested in civic matters and national problems, and promoted them with her wonderful vitality of mind and body. President Vincent described her as "a woman who had retired and didn't know it."

On her eightieth birthday in 1916 the University celebrated the occasion by an all-university convocation. At this time Oscar Firkins recited an original poem to which Miss Sanford listened with unrestrained mirth. We are quoting one stanza:

What name, said you? No, not "Mary,"
 Debonair, sedate, and chary,
 Not "Marie," demure and wary,
 Fits the presence I acclaim;
 No, the thing I chant is bigger,
 It is impetus and vigor,
 Truculence it is and rigor,
 It's a crisp and couchant trigger,
 And "Maria" is its name.

Mr. Firkins wrote a very remarkable summary of her with his usual fine insight:

Maria L. Sanford, who was a learner and a teacher in America for eighty years had a temperament the precise opposite of all that one would naturally associate with learnership and teachership in that time and in that country. She had a jubilant, dominant, turbulent spirit, fitted to guide a crusade or head an insurrection, about as circumspect as a projectile and about as tamable as a prairie fire; a poet could have pictured her as joining the dance of the Maenads on Mount Cithaeron or the descent of the dauntless Valkyrie from the clouds to the corpse-strewn battlefield.

A nature of this mould was born in Connecticut in 1836, born to poverty, to work, to family prayers, to austere manners, to a puritanic and inexorable code, born, finally, to sixty years of subjection to a teacher's routine and a teacher's decorum in the exacting and censorious America of her day. What was the result? This woman embraced her limitations, turned restraint into opportunity, made wings out of her fetters, found escape and room for her swift and daring spirit in those very elements of her destiny in which others of the same breed would have seen only handicap and bondage. In a college faculty she was almost the most

orthodox member, and she was absolutely the most riotous. She would have made the welkin ring with the vehemence of her exhortations to a disaffected populace to keep the peace.

The strongest proof of the indomitable vigor of the woman came in the last years of her life, the period of nominal retirement. She was known at that time, if not to the nation, at least to a class in every district of the nation. She was fêted, fondled, flattered, fed with confections and pelted with nosegays by school-children, Sunday-school classes, teachers' clubs, women's clubs, Daughters of the Revolution, and one knows not what. By all this she was comforted, but not subdued; the blast, the flame, which constituted her being was unchecked. The falchion which she essentially was, showed its undimmed and undulled edge beneath the vain accumulation of sweetmeats, sedatives, and flowers.

Her last days were as she would have had them. Invited to attend the National Convention of the Daughters of the American Revolution at Washington in April, 1920, she delivered a powerful address, "An Apostrophe to the Flag." A frail little figure on the platform, her clear ringing voice pealed out over the great audience as it always had. She was giving her valedictory. That night the glorious voice was stilled. In June the University held a Memorial Convocation in her honor.

Today we again honor her as one of the "Builders of the Name." She still lives,

"The best loved woman of the North Star State."

HENRY TURNER EDDY

Address by HENRY A. ERIKSON, B.E.E. '96, Ph.D. '08

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

In 1870 he was united in marriage to Miss Sebella Elizabeth Taylor. This was the beginning of a long and happy married life, and we cherish the memory of Mrs. Eddy.

In 1870 Mr. Eddy was awarded the degree, civil engineer, by Cornell University and two years later Cornell conferred upon him the degree, doctor of philosophy. For a period of two years he studied in Europe, the first year at the University of Berlin and the second year at the Sorbonne and the College de France. In 1892 Centre College conferred upon him the degree, doctor of laws. Immediately after graduation from Yale, Dr. Eddy entered upon his active academic life as an instructor. In this capacity he served at Yale University, University of Tennessee,

Cornell University, Princeton University, and the University of Cincinnati, where he was also dean of the Arts College, and later acting president and president elect.

In 1894, after serving three years as president of Rose Polytechnical Institute, Dr. Eddy began his professorial life at the University of Minnesota, where he also served as dean of the Graduate School, and where his services continued uninterrupted until he reached the retirement age in 1912.



During his eighteen years at Minnesota, it was my good fortune to be almost daily associated with Professor Eddy. He was my teacher, undergraduate and graduate, and also my professional colleague and I am indeed happy that it has fallen to my lot to voice Minnesota's tribute to him on this occasion.

We honor Professor Eddy today because of his influence as a scholar and as a man.

Gradually through the years there has been erected in this land a pyramid of knowledge having mathematical physics as its basis, and at the apex of which is the internationally recognized work of J. Willard Gibbs.

Professor Eddy's knowledge of mathematics and his power in its application, coupled with his keen desire for the furthering of knowledge, enabled him to contribute in a large measure to the engineering aspect of this structure.

Professor Eddy was the first outstanding influence in the field of mathematical physics in this University. During his time here he was the central figure in this field and advanced students found in him an ever ready guide, inspiration, and help. Indicative of his scholarly interest, is the fact that during a period of about ten years he came weekly to the Department of Physics and led a group in the study of the newer developments in the fields of physics and chemistry.

Professor Eddy was a distinct asset in the scholarly life of this University, and Minnesota was personified through him in the minds of many scholars in this land and other lands.

We honor Professor Eddy today also because of his splendid manhood. He was upright in character, manly in his bearing, and altruistic

in his reactions. He was a strong liberal churchman. He was faithful in his attendance and generous in his support. In civic questions his mind turned immediately in the direction of general good.

Professor Eddy was as if cast in the mold of an Adams, and one feels a keen desire to think of him as exemplifying the true American type. As he moved about the campus from day to day, he was a personification of the best, and the then oncoming generation visualized in him the better values. In life's great orchestration, seated well forward, he played his part in the spirit of the great composer, and in inscribing him with these other noble servants of the state, we not only honor him, but we do honor to ourselves as well.

FIDAC MEDAL AWARD

On April 6, 1934, the University of Minnesota was awarded the FIDAC medal by the American Legion in recognition of distinguished work in the furtherance of international relations and the understanding of international problems by the student body.

Veterans' organizations of ten nations have combined in the Fédération Interalliée des Anciens Combattants (FIDAC), and the American Legion is the member society for the United States. This international organization has sponsored the award of medals for several years, and at the 1933 congress of FIDAC in Morocco, the University of Minnesota was announced as the public institution most deserving the honor for that year.

The selection of the University of Minnesota was based on evidence that included the following points:

1. More than sixty courses in the curricula of eleven departments dealing with other nations or peoples.
2. The large proportion of students enrolled in one or more of these courses.
3. The threefold program of the International Relations Project, in its assistance to foreign students; its stimulation of American students to become informed in this field; and its co-operation with community agencies sponsoring international programs.
4. The contributions of faculty members by publications and by co-operation with various international agencies.
5. The large number of lecturers from other countries presented by the University and by various departments.
6. The activities initiated by students, e.g., through the International Relations Club, the Cosmopolitan Club, the Students' Forum, the Christian associations.
7. The discriminating presentation of news and editorial matter on international subjects in the *Minnesota Daily*.

The award was made at a special convocation on April 6, 1934, and the presentation was by Edward A. Hayes of Decatur, Illinois, national commander of the American Legion. The medal was accepted by President L. D. Coffman, who said in part:

The attitude which was responsible for the awarding of the medal to Minnesota grew up gradually and without obvious intent on the part of anyone. It grew only out of the effort of the University to discharge one of its chief obligations—to bring to students matters of international interest, and to bring to the faculty scholars from every great institution of the world. All over the world we find people torn by conflicting philosophies, in conflict with each other for world supremacy. Most of these countries are controlled through the exercise of force—of coercion of some sort. The individual is the creature of the state. This has never been true in America, where popular education has been in control. We at the University have been trying to endow our graduates with the same sort of spirit with which the FIDAC is inspired; we are trying to make them ambassadors of good will. I accept the FIDAC award as a symbol of things to which we should dedicate ourselves in the days ahead, in days of prosperity and universal peace.

George W. Lawson, member of the Board of Regents and secretary of the State Federation of Labor, presided at the presentation ceremonies, and the Honorable Frank B. Kellogg, former secretary of state, and ambassador to the Court of St. James, was a special guest.

SPECIAL UNIVERSITY LECTURES

In addition to the speakers who give the convocation addresses on Thursday mornings during the academic year the University, as opportunity arises, invites to the campus experts in many fields who deliver special lectures or hold discussions with various groups. Many of these guests are from foreign countries who carry back to their own institutions ideas and impressions from this campus, as well as leaving here ideas and suggestions in their special fields of study and research that serve as stimulants to members of the university staff and student body. Others come from various sections of the United States. In either case, their presence is a leavening influence in the intellectual life of the institution, and these visits are important and should be encouraged. The scope and variety of interests represented are apparent from the list of speakers.

At the conclusion of the Sixth International Genetics Conference, held at Cornell University, Ithaca, New York, in August 1932, arrangements were made to bring to the Farm campus three of the foreign lecturers who had appeared there:

October 5, 6, and 7: Professor Richard Goldschmidt, Kaiser Wilhelm-Institut für Biologie, Berlin

October 11, 12, and 13: Professor Ruggles Gates, King's College, University of London

October 14, 17, and 18: Professor Owen Winge, Royal Veterinary and Agricultural College, Copenhagen

1932-33

FALL QUARTER

October 14: Dr. Bryce M. Stewart, Director of Industrial Relations Counselors, Inc.

October 25: Dr. Julius Curtius, Former German Minister for Foreign Affairs

October 31: Alfred W. Flux, Assistant Secretary, Statistical Department, British Board of Trade

November 3: Dr. Fritz Rager, Secretary, Austrian Chamber of Labor, Vienna

November 11: Sir Norman Angell, British Publicist

December 5: Rennie Smith, Former Member of Parliament of the Labor Party, Great Britain

WINTER QUARTER

January 11: Barbara Burks, Child Psychologist

January 18: Dr. Bernard Fantus, Professor of Pharmacology, University of Chicago

January 18: Laurence N. Gould, Professor of Geology, Carleton College, Second in Command of first Byrd Expedition to the South Pole

January 25: Professor Reinhold Niebuhr, Union Theological Seminary, New York

February 3, 7, 21: Maud Scheerer, Dramatic Interpreter

February 7, 8: William Hodson, Sociologist, Welfare Council of New York

February 15: M. L. Wilson, Head of the Agricultural Economics Department of Montana State College

February 20: Dr. Jacob Viner, Professor of Economics, University of Chicago

February 28: Howard Scott, Director of Technocracy, Inc., New York City

March 9: Dr. Harold G. Moulton, The Brookings Institution, Washington, D.C.

SPRING QUARTER

April 10-13: Mrs. Harrison Elliott, New York Member of National YWCA Board

April 13: Max Monitor, German Dramatic Impersonator

May 23: John Erskine, Professor of Literature and of Music, Author, New York City

1933-34

FALL QUARTER

October 26: Dr. John A. Lapp, Publicist

November 10: Arnold J. Toynbee, Director of Studies, Royal Institute of International Affairs, London

November 17: Abraham Epstein, Executive Secretary of the American Association for Social Security

- November 23: Dr. Friedrich Schoenemann, Head of American Division of the English Seminars at the University of Berlin
 December 1: Dr. Carl W. Blegen, Professor of Classical Archeology, University of Cincinnati and former Acting Director of the American School of Classical Studies in Athens
 December 11: Dr. Joseph S. Davis, Director of Food Research Institute, of Stanford University
 December 15: Dr. Hans Kohn, Lecturer in Political Science at the Workman's Seminary in Jerusalem

WINTER QUARTER

- January 11: Mrs. Goldie Myerson, Sociologist, Pioneer Women's Organization, New York
 January 17: Dr. Paul Dengler, Director of the Austro-American Institute of Education
 January 23: The Honorable Phillip F. LaFollette, Former Governor of Wisconsin
 January 25: Professor H. Tasman Lovell, Professor of Psychology, University of Australia
 January 26: Madame Maurice Muret, Political Scientist, Author, Paris
 January 30: Lawrence Marnus, Danish Architect
 February 9: Oswald Garrison Villard, Editor of *The Nation*, New York
 February 19: Professor Kenneth W. Taylor, McMaster University, Hamilton, Ontario
 February 21: Rockwell Kent, Writer and Artist
 February 26, March 2, 5: Maud Scheerer, Dramatic Interpreter
 March 13: Dr. Luigi Villari, Formerly a member of the Secretariat of the League of Nations
 March 22: Professor Irving Fisher, Yale University

SPRING QUARTER

- April 3: Dr. Kirsopp Lake, Archeologist, Harvard University
 April 11: Dr. Alonzo Taylor, Director of the Food Research Institute, Stanford University
 April 24: Shane Leslie, Irish Poet and Author
 May 1: Dr. Harold C. Urey, Professor of Chemistry, Columbia University
 May 2-4: Dr. Selig Hecht, Professor of Biophysics, Columbia University
 May 3, 4: Professor H. H. Whetzel, Plant Scientist, Cornell University
 May 8: Dr. Melchior Palyi, Visiting Professor, University of Chicago
 May 14: Dr. Thomas M. Balogh, Economist, London
 May 24: Dr. Bailey Willis, Geologist, Leland Stanford University
 May 29: Dr. Herman Kantorowicz, New School for Social Research in New York and formerly of the University of Kiel.

Sigma Xi lectures. Sigma Xi, honorary scientific society, continued the series of popular public lectures inaugurated in 1928. These continued to draw large audiences, including many citizens from Minneapolis and Saint Paul. Each year these lectures are built around a central theme; they are presented by members of the faculty. In

1932-33 the topic was "Science and Human Welfare" with these speakers:

- February 22: Professor Elvin C. Stakman, "Problems of Human Subsistence"
- March 1: Professor Charles A. Mann, "Chemistry in the Service of Man"
- March 8: Professor Dwight E. Minnich, "Biology and Social Progress"
- March 15: Dean Guy Stanton Ford, "Science and Civilization"

The general topic in the 1933-34 series was "Engineering and the Social Order":

- January 26: Professor W. T. Ryan, "Power"
- February 2: Professor Charles A. Koepke, "Production"
- February 9: Professor A. S. Cutler, "Transportation"
- February 16: Professor H. E. Hartig, "Communication"

CONVOCATIONS

1932-33

- July 21: Summer Session commencement exercises: George F. Arps, Dean, College of Education, Ohio State University, "Morality and the Present Crisis"
- October 6: Opening convocation: Lotus D. Coffman, President of the University, "Address of Welcome"
- October 20: Vicki Baum, Author, Playwright, and Lecturer, "Looking at Life"
- October 27: George E. Sokolsky, Far Eastern Correspondent, *New York Times*, "The Struggle for Manchuria"
- October 29: Dedication of the Medical Sciences Building. Dr. Richard E. Scammon, Dean of Medical Sciences; Dr. Thomas B. Hartzell, Past President, American Dental Association; Dr. William J. Mayo, Regent of the University; Lotus D. Coffman, President of the University
- November 3: The Most Reverend John Gregory Murray, S.T.D., Archbishop of St. Paul, "What Is Religion?"
- November 10: Allardyce Nicoll, Professor of English Language and Literature, University of London, "Is Drama Literature?"
- November 11: Armistice Day convocation: George E. Vincent, President of the University of Minnesota, 1911-1917
- December 8: State Day convocation: The Honorable Floyd B. Olson, Governor of the State of Minnesota
- December 15: Student assembly for football awards: Frank McCormick, Athletic Director, "Athletics at Minnesota"; Coach Bernard W. Bierman, "Review of Season"; President L. D. Coffman, "Awarding of M's"
- December 22: Fall quarter commencement exercises: Thomas Franklin Kane, President of the University of North Dakota
- January 12: John Langdon-Davies, Author, Journalist, and Lecturer, "The New Spain"
- January 19: Thomas S. Eliot, Poet and Essayist, "The Tendency of Some Modern Poetry"

- January 26: Sir Frederick Whyte, former President of India Legislative Assembly, "The Road to Home Rule in British India"
- February 2: The Reverend J. Ralph Magee, Bishop of the St. Paul Area, Methodist Episcopal Church, "Adventures in Thought"
- February 16: Charter Day convocation in honor of the Builders of the Name: Lotus D. Coffman, President of the University, "Who Are Builders of the Name?" Charles L. Sommers, Thomas F. Wallace, William H. Oppenheimer, Gratia A. Countryman, Henry A. Erikson, Alumni of the University of Minnesota, "The Builders in Review"
- February 23: Ada L. Comstock, President, Radcliffe College, formerly Dean of Women, University of Minnesota, "Discussing Peace on the Doorsteps of Manchuria"
- March 2: Sir Hubert Wilkins, Arctic Explorer, "What I Discovered in the Arctic and the Antarctic by Dog-Team, Aeroplane, and Submarine"
- March 9: William F. Ogburn, Professor of Sociology, University of Chicago, "Social Trends"
- March 23: Winter quarter commencement exercises: John B. Johnston, Dean of the College of Science, Literature, and the Arts, "The Meaning of a Liberal Education"
- April 13: Pierre de Lanux, Paris Representative of the League of Nations, "High Tide and Low Ebb of Our International Ethics"
- April 20: Rabbi Solomon Goldman, Congregation Anshe Emet, Chicago, "Are Minorities Useless?"
- May 4: Convocation in recognition of those who have served the University for thirty years: Lotus D. Coffman, President of the University, "Thirty Years at Minnesota"; Andrew Boss, Vice-Director of Experiment Station and Professor of Agriculture and Farm Management, "Roll Call of the Old Guard"
- May 11: Cap and Gown Day convocation: Fallon Kelly, President of the All-University Senior Class, "Presentation of the Class of 1933"; Lotus D. Coffman, President of the University, "Response"
- May 18: Virginia Gildersleeve, Dean of Barnard College, "The Universities Face a New World"
- June 18: Baccalaureate service: The Reverend Harry P. Dewey, Pastor of Plymouth Church, Minneapolis: "The Main Point"
- June 19: Commencement exercises: University Stadium: Lotus D. Coffman, President of the University, "Charge to the Class"

Builders of the Name. Attention is also called to the exercises of February 16, 1933, in honor of the Builders of the Name. The five persons elected to be honored were William Watts Folwell, first President of the University, who served from 1869 to 1884; Cyrus Northrop, President of the institution for twenty-seven years, 1884-1911; William S. Pattee, Dean of the Law School, 1888-1911; Maria L. Sanford, Professor of Rhetoric and Elocution, 1880-1909; and Henry Turner Eddy, Professor of Engineering and Mechanics, 1894-1912, and Dean of the Graduate School, 1905-1912. Tributes to these "builders" were paid by the following alumni: Charles L. Sommers, B.L. '90; Thomas F. Wallace, B.A. '93, LL.B. '95; William H. Oppenheimer, LL.B. '04, LL.M. '05; Gratia A. Countryman, B.S. '89, M.A. '32; Henry A. Erikson, B.E.E. '96, Ph.D. '08. A compre-

hensive booklet giving the program and the addresses (see pages 67 to 81 of this report) in detail was sent to a selected list and to all alumni out of school twenty-five years or more.

Service of staff members. Another convocation of peculiar interest was that of May 4, 1933, at which time those members of the staff who had rendered thirty years or more of service were honored. A luncheon in their honor was held in the Minnesota Union after the convocation. Members of the staff whose names appeared on the thirty-year list are as follows:

Name	Year of Appointment	Present Position
Anderson, Christian	1896	Assistant to supervising engineer
Appleby, William R.	1891	Dean, School of Mines and Metallurgy
Bachman, Gustav	1902	Professor of pharmacy
Bass, Frederic H.	1901	Head, Department of Civil Engineering
Beach, Joseph W.	1900	Professor of English
Benjamin, Dr. Arthur E.	1894	Assistant professor of obstetrics and gynecology
Boss, Andrew	1891	Vice-director of Experiment Station and professor of agriculture and farm management
Boss, William	1893	Chief, Department of Agricultural Engineering
Brooke, William E.	1901	Head, Department of Mathematics and Mechanics
Burkhard, Oscar C.	1901	Professor of German
Butters, Frederic K.	1901	Associate professor of botany
Christianson, Peter	1892	Professor of metallurgy
Christison, Dr. James T.	1895	Associate professor of pediatrics
Cohen, Lillian	1902	Associate professor of chemistry
Colvin, Dr. Alexander R.	1900	Associate professor of orthopedic surgery
Condit, Dr. William H.	1900	Assistant professor of obstetrics and gynecology
Cooke, Dr. Louis J.	1897	Assistant director, physical education and athletics
Dalaker, Hans H.	1901	Professor of mathematics and mechanics
Dane, Christian	1901	Mechanic
Doty, William H.	1892	Laboratory assistant
Drew, James M.	1893	Assistant, Agricultural Extension Division
Erdmann, Dr. Charles A.	1893	Associate professor of anatomy
Erikson, Henry A.	1897	Chairman, Department of Physics
Freeman, Edward M.	1898	Dean, College of Agriculture, Forestry, and Home Economics
Gilfillan, Dr. James S.	1903	Associate professor of medicine
Hartzell, Dr. Thomas B.	1892	Lecturer, Department of Medicine
Hawkins, Jennie A.	1902	Locker room manager, Women's Gymnasium
Hempel, Edwin J.	1899	Carpenter foreman
Hickey, Thomas	1895	Plumber foreman
Kindley, Ole	1896	Janitor
Kirchner, William H.	1894	Head, Department of Drawing and Descriptive Geometry

THE PRESIDENT'S REPORT

Name	Year of Appointment	Present Position
Litzenberg, Dr. Jennings C.	1900	Head, Department of Obstetrics and Gynecology
Mann, Dr. Arthur T.	1900	Associate professor of surgery
Munson, Oscar	1898	Custodian of athletic equipment
Nicholson, Edward E.	1895	Dean of student affairs
Paige, James	1890	Professor of law
Pease, Levi B.	1898	Professor of metallurgy
Pike, Joseph B.	1892	Head, Department of Latin (on leave)
Ramsey, Dr. Walter R.	1899	Associate professor of pediatrics
Ritchie, Dr. Harry P.	1897	Associate professor of surgery
Rogers, Dr. John T.	1895	Associate professor of surgery
Rosendahl, C. Otto	1900	Chairman, Department of Botany
Rothrock, Dr. John L.	1895	Professor of obstetrics and gynecology
Ruggles, Arthur G.	1902	Professor of entomology and economic zoology
Savage, Charles A.	1899	Chairman, Department of Greek
Shumway, Royal R.	1902	Assistant Dean, College of Science, Literature, and the Arts
Sigerfoos, Charles P.	1897	Professor of zoology, emeritus
Swanson, John Jacob	1900	Janitor
Switzer, Dr. Samuel E.	1902	Professor of dermatology and syphilology
Swenson, David F.	1898	Professor of philosophy
Tilden, Josephine	1896	Professor of botany
Ulrich, Dr. Henry L.	1902	Professor of medicine
Walls, Dr. James M.	1901	Professor of operative dentistry
Weiss, Dr. Andrew J.	1899	Instructor in dentistry
Weiss, Dr. Oscar A.	1893	Professor of prosthetic dentistry and orthodontia
White, Albert B.	1899	Professor of history
White, Dr. S. Marx	1898	Professor of medicine
Wilde, Norman	1898	Professor of philosophy (on leave)
Wright, Dr. Franklin R.	1896	Director, Division of Urologic Surgery
Wulling, Frederick J.	1892	Dean, College of Pharmacy
Zeleny, Anthony	1895	Professor of physics

On Cap and Gown Day, the convocation program, in addition to the list of honors and prizes, carried the names of all students in the University who had maintained an average of B or better in their courses.

Faculty dinner. Another function of interest was the faculty dinner held in the Minnesota Union, November 23, 1932, at which time President Coffman outlined the needs of the University and the legislative program. Over four hundred were present.

Legislative visit. On January 31, 1933, members of the Legislature visited the University. A dinner in their honor was held in the Minnesota Union at six o'clock. About 300 were present. Following the dinner the visitors were entertained in the Northrop Memorial Auditorium at the opera, "The Vagabond King."

Court of Honor dinner. On May 11, 1933, the Civic and Commerce As-

sociation, the Junior Chamber of Commerce, and the Minneapolis Contact Committee held a dinner at the Nicollet Hotel in honor of those seniors who had maintained the highest averages throughout their courses in the respective colleges. One hundred forty students were so recognized at this Court of Honor. The affair was unique in being the first of its kind in the history of the institution.

1933-34

- July 27: Summer Session commencement exercises: Richard R. Price, Director, University Extension, University of Minnesota, "A Dirigible Education"
- October 5: Opening convocation: Lotus D. Coffman, President of the University, "Address of Welcome"
- October 12: Kimball Young, Professor of Social Psychology, University of Wisconsin, "Propaganda and Modern Democracy"
- October 19: Stephen Leacock, Department of Political Economy, McGill University, "The Technique of Humor"
- October 26: State Day convocation: Herman Roe, Publisher, *Northfield News*, "Builders of the State: The Contribution of the Press"
- October 27: Dedication of Nurses' Hall; Dr. Richard Olding Beard, Professor Emeritus of Physiology, "Dedication Address"
- November 9: Elmer L. Rice, Playwright, "The Future of the Theater"
- November 11: Armistice Day convocation: The Reverend John Walker Powell, Special Lecturer, General Extension Division, University of Minnesota, "Youth and World Problems"
- November 16: The Reverend L. Franklin Gruber, President, The Chicago Lutheran Theological Seminary, "The Why of Present-Day Religious Unrest"
- November 23: Ralph D. Blumenfeld, Editor and Author, "The Destiny of Great Britain and America"
- December 7: Student Assembly for Football Awards: Frank McCormick, Athletic Director, "Athletics at Minnesota"; Roy Oen, Captain of 1933 Team, "Review of Season"; Guy Stanton Ford, Dean of the Graduate School, "Awarding of M's"
- December 14: Mrs. Gifford Pinchot, Clubwoman and Wife of Governor of Pennsylvania, "The New America"
- December 21: Fall quarter commencement exercises: Henry M. Wriston, President of Lawrence College, "The Political Trend"
- January 18: Oliver Edwin Baker, Senior Economist, U.S. Department of Agriculture, "Some Thoughts Concerning the Land and the People"
- January 25: Leland Stowe, Paris Correspondent of the *New York Herald-Tribune*, "France, and Germany's Militarism"
- February 8: The Reverend H. Moynihan, President, College of St. Thomas, "Religion and the Human Spirit"
- February 15: Charter Day convocation: Walter L. Stockwell, '89, formerly Superintendent of Public Instruction, State of North Dakota, Life President of the Class of 1889, "Charter Day Address"
- March 1: Maud Scheerer, Dramatic Reader, "The Uncommon Art of Common Speech"

- March 8: Carlos Daliva, Chilean Ambassador to the United States, 1927-31, Provisional President of Chile, June to September, 1932, "Our Leaders and Your Leaders; Our Politics and Your Politics"
- March 15: Sophenisba Breckenridge, Professor of Public Welfare Administration, "Some Social Problems of International Scope"
- March 22: Winter quarter commencement exercises: Irving Fisher, Professor of Economy, Yale University, "What Is a Dollar?"
- April 5: Russell A. Plimpton, Director, Minneapolis Institute of Arts, "Who Started Museums Anyhow?"
- April 6: Fidac convocation: Edward A. Hayes, National Commander, American Legion, "Presentation of Fidac Medal"; Lotus D. Coffman, President of the University of Minnesota, "Acceptance"
- April 19: Captain Carl von Hoffman, Ethnologist, "The Ancient Kingdom of the Moors"
- April 26: Rabbi Stephen S. Wise, Free Synagogue, New York City, "What Religion Asks of Men: What Men Ask of Religion"
- May 3: Mortimer J. Adler, Professor of the Philosophy of Law, University of Chicago, "Modern Science and Ancient Wisdom"
- May 10: Cap and Gown Day convocation: Walter G. Hargesheimer, President of the All-University Senior Class, "Presentation of the Class of 1934": Lotus D. Coffman, President of the University, "Response"
- June 17: Baccalaureate service: The Reverend J. V. Moldenhawer, Minister, First Presbyterian Church, New York City, "Poetry and Life"
- June 18: Commencement exercises, University Stadium: Lotus D. Coffman, President of the University, "Charge to the Class"

State Day convocation. The advent of "Diamond Jubilee" in 1933 served to focus the attention of the public on Minnesota's growth over a period of seventy-five years; hence, the committee proposed that for a time at least subsequent State Days recognize the contributions that certain pioneer influences have made toward the growth and development of our commonwealth. The particular influence selected for emphasis at the first of these new-theme convocations was that of the press.

Charter Day. The Charter Day exercises on February 15, 1934, consisted of an address by Walter L. Stockwell of the class of '89, in which he reviewed the early days of the University with special emphasis on the classroom leadership of those days and the student social life of that period.

Second Court of Honor. The Court of Honor, established in 1932-33 by the Civic and Commerce Association, the Junior Chamber of Commerce, and the Minnesota Contact Committee was repeated at the Nicollet Hotel, Thursday, June 7, 1934. One hundred sixty-one seniors with the highest scholastic standing in the respective schools and colleges were honored.

THE UNIVERSITY'S EXTERNAL RELATIONS

Experimental Ore Roasting Plant

Cast Iron Pavements

Dr. Diehl's Patent

The University Radio Station, WLB

The Admission of Non-Accredited Students

EXPERIMENTAL ORE ROASTING PLANT

An experimental ore roasting plant was erected this past summer at Cooley, Minnesota, and is now in operation. It is hoped to demonstrate that conversion of hematite tailings into magnetic ore by roasting, will permit their commercial utilization at a cost that will yield a profit to mining companies. The project was made possible by an agreement between the University of Minnesota and Butler Brothers, of St. Paul, Minnesota, owners of mining lands, and was approved by the Board of Regents on April 27, 1934. The University, through its Mines Experiment Station, built the experimental unit, and operations are conducted by Butler Brothers. A vast amount of ore of only about 30 per cent iron content, together with huge piles of tailings remaining from various processes by which ore has been concentrated, are at Mesabe Range points, and will be given commercial value if the roaster succeeds. E. W. Davis, director of the School of Mines Experiment Station, planned the furnace. Its construction was supervised by John J. Craig of the Experiment Station and R. O. Hocking of Butler Brothers.

CAST IRON PAVEMENTS

Under the direction of E. W. Davis, director of the School of Mines Experiment Station, and W. F. Holman, supervising engineer, an experimental strip of cast iron pavement has been laid on the campus at the foot of the Pleasant Street hill. Following a study of the use of cast iron for pavements in Europe, Mr. Davis strongly recommended that it be tried out in this country, and permission was obtained from the Minneapolis city engineer. In England, France, Belgium, and Switzerland pavements made of separate cast iron blocks, square or triangular, have been gaining favor for use at places of particularly heavy wear. Mr. Davis has found that they are much more durable than any other type and cost only a little more than the better pavements now in use, such as brick. He has published several articles in technical journals recommending the adoption of this pavement in the United States. It would create a new outlet for Minnesota iron ore, he points out, and might lead to the erection of smelters in northern Minnesota.

DR. DIEHL'S PATENT

During the biennium the University accepted assignment of the patent applied for by Dr. Harold S. Diehl, director of the Students' Health Service, covering "Copavin," a new drug combination for the treatment of the common cold. Studies concerning the effectiveness of a large number of medicines used in cold treatment were made on students during the past two years by Dr. Diehl. In the case of the compound finally selected (two practically harmless opium derivatives, codeine and papaverine) 72 per cent of the 1,500 students treated with it showed "definite improvement." The application for a patent was filed as a protection against commercial exploitation and a reputable drug firm has been permitted to manufacture the compound under the name "Copavin." The announcement of Dr. Diehl's researches in the *Journal of the American Medical Association* attracted wide attention, since medical records at present contain no other remedy that has, even approximately, so great a record of success in the treatment of colds.

THE UNIVERSITY RADIO STATION, WLB

Although the past years have seen a marked decrease in the number of radio stations owned or operated by educational institutions, during the biennium the University has made increased use of its station, WLB, in presenting constructive programs. Unhampered by considerations that restrict the preparation of programs at commercial stations, the University has sought to utilize the talent represented in its own staff in broadcasting cultural and informative material. Through the radio channel the University possesses a valuable means of enhancing its service to the citizens of the state, and of bringing to their attention the vast body of material that its scholars in all fields are discovering. This last year, in a series of fifteen political and economic talks, current problems were analyzed by staff authorities, and in another series, twenty members of the faculty discussed for high school seniors, their parents, and high school principals, the problems of vocational guidance. The station has also been used to supplement the work of the extension specialists of the Department of Agriculture. During the grasshopper plagues and the drouth, specialists established contact with the farmers through WLB, and the various features of the AAA have been fully presented by the station. The broadcasting of the all-university convocation exercises at 11:30 o'clock each Thursday morning of the

academic year, for which guest speakers of distinction come to the campus, also began during the biennium.

THE ADMISSION OF NON-ACCREDITED STUDENTS

Regulations of the University Senate provide for matriculation in the University of students who do not have either a high school diploma from an accredited school or the proper high school credits required by the University. These students may apply for admission to the University on the basis of entrance tests. If they receive percentile ranks of 60 on the Minnesota College Aptitude Test and 30 on the English Placement Tests, they may be admitted provisionally subject to the completion of one year of satisfactory scholastic work. Satisfactory work is defined as average grades of C or higher. The Board of Admissions has authority to decide cases of students whose entrance test scores approach the required standards.

In the academic year 1932-33, 37 students were admitted under this regulation. Three entered the College of Agriculture, Forestry, and Home Economics, and 34 entered the College of Science, Literature, and the Arts. The 3 students in Agriculture and 15 of those enrolled in Science, Literature, and the Arts completed a year of satisfactory work. One additional student in the latter college dropped out of the University before completing one year of satisfactory work, but her grades were satisfactory. Thus, a total of 19 out of the 37 students did satisfactory work. An additional 4 students were permitted to register more than one year, although their first year's work did not quite reach the required minimum standard of C.

In the academic year 1933-34, a total of 49 students was admitted under the above regulation—one in Agriculture, Forestry, Home Economics, 2 in Dental Hygiene, 3 in Education, 3 in the General College, 6 in Nursing, 1 in Pharmacy, and 33 in Science, Literature, and the Arts. Twenty-nine of these students received average grades of C or better during their first year in college. One additional student in Dental Hygiene was in residence only one quarter but had satisfactory grades; one additional student was in residence in Science, Literature, and the Arts less than one year but received satisfactory grades. In all, a total of 31 of the 49 students admitted by entrance tests made satisfactory grades. Two additional students in Science, Literature, and the Arts made grades slightly below a C average in the first year in

college and were permitted to register for an additional quarter pending final disposition of their cases.

For the two academic years there was a total of 86 students admitted to the University on the basis of entrance tests. Fifty, or 58 per cent, of these received average grades of C or higher. Although generalizations based upon such a small number are somewhat hazardous, it is apparent from these statistics that this admissions procedure results, on the whole, in the selection of a satisfactory group of students.

THE UNIVERSITY'S CULTURAL PROGRESS

Fine Arts Developments

The Pipe Organ

University Concert Courses

The Newsreel Theatre

FINE ARTS DEVELOPMENTS

The Little Gallery. In the second year of the biennium several projects were started for the purpose of stimulating interest in the fine arts. Foremost of these was the opening of the Little Gallery. When Northrop Memorial Auditorium was constructed, five rooms and storage space across the front of the building, on the top floor, were reserved for use as an art gallery. These are now fully furnished and were opened during the spring quarter, 1933-34. To supervise the gallery and plan for its use, an all-university committee was created, and Mr. Hudson Walker was named as curator of fine arts. The first exhibition, a loan collection, opened on April 5, and the convocation speaker on that same day was Mr. Russell A. Plimpton of the Minneapolis Institute of Arts who spoke on, "Who Started Museums Anyhow?" The gallery was open daily thereafter, and on Friday evenings for the symphony audiences. During the month of the first exhibit approximately 4,000 visited the gallery, of which about 2,500 came on other than symphony evenings. The second exhibit, opening in the first week in May, consisted of pieces loaned by members of the university staff.

Members of the university staff teaching in the fields of fine arts have made use of the Little Gallery as an adjunct of the classroom, and numerous informal lectures for special groups were arranged by the curator.

Except for the services of the curator, the gallery was staffed with students on the federal work-relief program.

Loan collection of fine prints. In the spring, 1934, a collection of 516 color reproductions of famous works of art was purchased, and arrangements made for mounting and framing. These will serve as the nucleus of a loan collection from which students will be able to borrow for the purpose of room decoration. The collection will be kept at the Little Gallery.

Employment of local artists. In May, 1934, seven Twin City artists who had previously been engaged on PWA projects were brought to the campus, for periods ranging from two to five weeks, to paint scenes associated with the University of Minnesota. A collection of 79 water colors and oil paintings resulted. These have been framed and will be hung in residence halls, dining rooms, and student buildings on the campus.

When the work of the PWA artists in this state was distributed to public institutions, a collection of 38 water colors, prints, and drawings was allocated to the University. These have been framed for hanging in university buildings.

THE PIPE ORGAN

The Four Manual Skinner Organ which was installed in Northrop Memorial Auditorium in the fall of 1932 is one of the finest instruments in the Northwest. Several of the outstanding organ soloists of the country have been presented in recitals; Mr. George Fairclough, the university organist, has given a weekly broadcast over WLB, and a series of programs preceding the Thursday morning convocations. The Minneapolis Symphony Orchestra also has been able to present major works which call for the use of a large organ thus adding variety to their programs. Senior students of music who have majored in organ have had the opportunity of performing on the organ on the annual commencement program of the department. The organ cost approximately \$40,000 and has added materially to the enjoyment of the many public functions presented at the University.

UNIVERSITY CONCERT COURSES

Verna G. Scott, director of the University Concert Courses, arranged the following series of concerts during the biennium:

Three regular series were presented in Cyrus Northrop Auditorium: the University Artists Course of recitals, and two series of Symphony concerts by the Minneapolis Symphony Orchestra, Eugene Ormandy, conductor. There were six concerts in the Artists Series, and sixteen Friday night Symphony concerts and twenty Popular Sunday Symphony concerts each season. The attendance was most satisfactory.

The following artists were presented in the Artists Course: 1932-33—Jascha Heifetz, Galli-Curci, Lotte Lehmann, Mischa Levitzki, John McCormack, and Charles Courboin and the Minneapolis Symphony Orchestra in a program in dedication of the new university concert organ; 1933-34—Lily Pons, Rachmaninoff, Tito Schipa, Nathan Milstein, Bauer and Gabrilowitsch in joint recital, Grete Stueckgold and Marion Clayton, organist.

The following artists were soloists with the orchestra: 1932-33—Lily Pons, Goete Ljungberg, Roland Hayes, Gere Cotna, violinist, Joseph Szigeti, Vladimir Horowitz, Eunice Norton, Yehudi Menuhin, Elsa Anneke, pianist, Steffy Goldner Ormandy, harpist, and Eugene Goossens, guest conductor; 1933-34—John Charles Thomas, Artur Schnabel, Friedrich Schorr, Jascha Heifetz, Fritz Kreisler, Sigrid Onegin, Walter Giesecking, Lotte Lehmann, Myra Hess, Julia Elbogen, pianist,

Roland Hayes, Shura Cherkassky, pianist, and Ossip Gabrilowitsch, guest conductor.

Besides the above concerts in the Symphony Series, four concerts for the public school children were given each season, and in 1932-33, two extra Popular concerts were presented; in 1933-34 there was one extra concert with the Cecelian Singers.

THE NEWSREEL THEATRE

The University of Minnesota Newsreel Theatre was started in 1932-33 under the auspices of the General College of the University. The purpose was to offer a weekly program of current newsreels and short subjects that would be of definite educational value, and that could be correlated with various courses of instruction. Although started primarily as a General College function, the programs were open to all members of the University and students from other courses and departments were advised or required to report on certain phases of the newsreel programs. The newsreel theater thus became an all-university affair.

In 1932-33 five free showings were given one day each week during class hours in the auditorium of the Music Building which seats approximately 600. In 1933-34 it proved necessary to move into larger quarters and the current four showings are given in Northrop Memorial Auditorium. The equipment now installed in Northrop Auditorium is of the latest design and the showings are given with professional finish. A five-cent charge is made for individual admissions in order to defray the expense.

The programs are made up from commercial material available at the regular theatrical booking agencies in Minneapolis. From the current reels of Fox news, Pathé news, travelogs, and scientific and educational short subjects, the trite, and irrelevant material is edited out and a four- or five-reel program is arranged from the best footage.

The University of Minnesota Newsreel Theatre is the only newsreel theater in this part of the country and one of the few in the United States.

GIFTS

Gift from the Mayo Properties Association

Salary Savings by Staff

Gifts, 1932-33

Gifts, 1933-34

GIFT FROM THE MAYO PROPERTIES ASSOCIATION

Seldom in anyone's lifetime does the opportunity come to read a document as sincere, mature in philosophy, and yet unpretentious, as the letter written by Dr. William J. Mayo, in behalf of himself and his brother, Dr. Charles H. Mayo, to accompany the recent gift of \$500,000 from the Mayo Properties Association to the University of Minnesota. Composed by a man who has been honored in every part of the world, it reveals the heart and thought of one at the peak of his profession who has never lost touch with the simple verities of life, or in achieving success failed to appreciate his obligations to his profession and the society in which he has practiced it.

Dr. Mayo's letter contains, along with its splendid personal philosophy, a statement of the duties of wealth, an expression of the importance of education, and an embodiment of the highest ideals in the practice of medicine. In it he puts into words the spirit that has been expressed tangibly in the gifts of \$2,500,000 by himself and his brother to the Mayo Foundation for Graduate Medical Study and Research.

Rochester, Minnesota
February 15, 1934

To the Board of Regents
University of Minnesota
Minneapolis, Minnesota

DEAR SIRS :

As a man advances in years, he begins to look backward over those conditions and happenings in the past that influenced his life work. To grow up in a doctor's family with a professional background of some generations will likely have, as it did with my brother and myself, that sort of influence which leads, not to conscious choice of medicine as a career, but rather to unconscious elimination of every other choice. Neither my brother nor I ever had an idea of being anything but a doctor.

Our father recognized certain definite social obligations. He believed that any man who had better opportunity than others, greater strength of mind, body, or character, owed something to those who had not been so provided; that is, that the important thing in life is not to accomplish for one's self alone, but for each to carry his share of collective responsibility. Stepping as we did into a large general practice, with a great deal of surgery from the beginning, my brother and I had an exceptional opportunity, and as we entered medical practice during the early period of development of asepsis and antisepsis in surgery which had come through the work of Pasteur and Lister, this opportunity was unique. We were especially fortunate that we had the benefit of our father's large experi-

ence to help us apply the modern methods to replace the old type of surgery which up to that time had been practiced. There being two of us, with absolute mutual confidence, each of us was able to travel at home and abroad each year for definite periods of study of subjects connected with surgery, as well as to attend medical meetings, while the other was at home carrying on the practice.

In 1894, having paid for our homes and started a modest life insurance program, we decided upon a plan whereby we could eventually do something worth while for the sick. This plan was to put aside from our earnings any sums in excess of what might be called a reasonable return for the work we accomplished. It seemed to us then, as now, that moneys which should accumulate over and above the amount necessary for a living under circumstances which would give favorable conditions to work and to prepare reasonably for our families, would interfere seriously with the object that we had in view.

Contented industry is the mainspring of human happiness. Money is so likely to encourage waste of time, changing of objectives in life, living under circumstances which put one out of touch with those who have been life-long friends, who perhaps have been less fortunate. How many families have we seen ruined by money which has taken away from the younger members the desire to labor and achieve and has introduced elements into their lives whereby, instead of being useful citizens, they have become wasteful and sometimes profligate.

Medicine constantly became more complex. From time to time new members were added to the staff. Each member of the staff received a salary which was sufficient to permit whole-hearted attention to his work. There was no profit-sharing—accumulations over and above the amount necessary for the purposes I have outlined were conservatively invested, and have been reinvested, adding all interest to principal.

Year by year more young physicians applied for positions as assistants and internes in the hospitals. The need of providing in some way a better form of postgraduate medical education for these earnest young men soon became apparent.

In 1907 I was honored by an appointment to the Board of Regents of the University of Minnesota. During these twenty-seven years I have had the privilege and responsibility of becoming intimately acquainted with the work of the University. This association has been an inspiring influence, bringing me into contact with university presidents of wide vision, representative men and women on the Board of Regents, and able and experienced administrators, devoted to the University and the welfare of the state. I have found a capable and growing faculty in each college of the University, and have been impressed by these loyal men and women who are giving their lives to investigations, to teaching, and to public service. It seems to my brother and myself that the crowning endeavor of a life in medicine would be to aid in the development of medical education and research.

Our state University is not political in origin or management. Yet it comes from and belongs to the people. The representatives of the people at intervals, elect a continuing board of twelve members each for a term of six years. The members of the Board of Regents have always been representative citizens, eminently fitted for their responsibility in safeguarding the interests of education,

and I have been impressed with their sympathetic understanding of the changing economic and social conditions. The Regents are responsive to the public voice, but not to public clamor.

Foundations which depend on self-continuing bodies of trustees may do well for the first and second generation, but there is the hazard that in later periods new trustees who are unfamiliar with the spirit and ideals of the founders may through lack of understanding defeat their purpose. Especially is there danger in laying down inflexible rules and regulations which may hamper and even obstruct the original purpose of the Foundation. However, the control and management of the University of Minnesota, which places the responsibility for its institutions in the hands of each succeeding generation, furnishes ideal conditions for perpetuation of broadly outlined trusts and purposes.

The fund which we had built up and which had grown far beyond our expectations had come from the sick, and we believed that it ought to return to the sick in the form of advanced medical education, which would develop better trained physicians, and to research to reduce the amount of sickness. My brother and I came to the conclusion that this purpose could be best accomplished through the state University.

In 1913, when our fund seemed to be of sufficient size to warrant the endowment of a foundation at the University of Minnesota to carry out these purposes, we proposed the affiliation. After careful consideration, the arrangements were agreed upon, June 9, 1913. My brother and I gave to the University of Minnesota a million and a half dollars, which was the entire fund which we had been able to accumulate up to that time, to found the Mayo Foundation for Medical Education and Research, with the understanding that the sum should reach two millions or more before any part of the income should be expended. September 13, 1917, the temporary arrangement became a permanent affiliation, and the results have shown the wisdom of the course pursued.

Our relations with the University of Minnesota and its Medical School have been most cordial. The graduate students in medicine who have come to the University and through the University to Rochester for graduate medical instruction make a splendid roster. Before the Mayo Foundation for Medical Education and Research was established, there had been at the Clinic in Rochester 105 internes, special students, or assistants, 41 of whom are now in university positions. The 36 students of this category who were in Rochester at the beginning of the Foundation, became fellows. Of the more than 1,350 men and women who have studied on the Mayo Foundation for Medical Education and Research, more than 450 are in responsible teaching positions in medical schools in this country and abroad.

In order to care for additional funds which had been accumulating since the affiliation with the University in 1915, the Mayo Properties Association, a charitable corporation without capital stock, was formed on October 8, 1919, under a thirty-year charter from the state of Minnesota which was later by legislative enactment made a perpetual charter. The Mayo Properties Association holds title to all the lands, buildings, laboratories, and equipment of all kinds and description used in Rochester in the work of the Mayo Foundation. This Association

also owns and handles the moneys accrued for the same purposes as the endowment of the Mayo Foundation for Medical Education and Research, for future disposal. These moneys and properties never can inure to the benefit of any individual.

Nineteen years have gone by since the Mayo Foundation for Medical Education and Research was established. The association between the University and the Foundation at Rochester has been most harmonious, and has been distinguished by splendid co-operation on both sides for the benefit of higher medical education and research. The people's money, of which we have been the moral custodians, is being irrevocably returned to the people from whom it came.

The practice of medicine in Rochester is carried on in the same manner as by other members of the regular medical profession throughout the state and nation. All classes of patients, without regard to race or creed, social or financial standing, receive necessary care without discrimination. The income from the Mayo Foundation funds can be used only for medical education and research as approved by the administration of the University, and ordered by the Board of Regents.

The affiliated hospitals in Rochester are approved by the American College of Surgeons. While under the medical direction of our staff, the hospitals are independently owned and managed.

The trustees of the Mayo Properties Association are in entire accord with our plans, and therefore at this time they unanimously have authorized our proposal to transfer \$500,000 from the Mayo Properties Association to add to the endowment of the Mayo Foundation for Medical Education and Research.

Very truly yours,

WILLIAM J. MAYO

SALARY SAVINGS BY STAFF

During the year 1932-33 the staff and employees of the University of Minnesota joined with other employees of the state to reduce the tax burden by contributing one or two weeks of service without pay, employees receiving \$1,200 and less working one week without pay and those receiving over \$1,200 two weeks without pay. The total contributions made by the staff and employees under this plan effected a saving of \$171,555.08. The proportion of the contributions arising from salaries paid from state appropriations amounted to \$94,190.80. These funds were turned over by the University to the state treasurer for credit to the general revenue fund of the state. The contributions arising from salaries paid from non-state appropriation sources, amounting to \$77,364.28, have been held in the university treasury subject to the order of the Committee on Salary Contributions, representing the staff and employees of the University. The committee has already

tendered to the Regents gifts in the amounts and for the purposes indicated below :

- \$15,000 to Staff and Employees Student Loan Fund
- 2,500 to Staff and Employees Central School of Agriculture Loan Fund
- 2,500 to Staff and Employees Extension Student Loan Fund
- 10,000 to Staff and Employees Graduate Service Fellowships
- 10,000 to Staff and Employees Loan Fund
- 3,000 to Federal Students Book Fund.

The balance, subject to the action of the committee, presumably will be given to the Board of Regents for the same or other similar purposes during the next biennium.

GIFTS, 1932-33

SUMMARY OF CASH GIFTS

Loan funds		
New	9	\$ 27,137.60
Additions to old.....	14	1,802.79
Scholarships		
New	1	75.00
Additions to old.....	26	6,210.00
Fellowships		
New	2	1,600.00
Additions to old.....	9	12,599.95
Prizes		
New	1	10.00
Additions to old.....	19	984.13
Research and experiments		
New	6	14,600.00
Additions to old.....	32	54,015.00
Miscellaneous		
New	2	50,050.00
Additions to old.....	4	765.00
		\$170,849.47

LOAN FUNDS, SCHOLARSHIPS, FELLOWSHIPS, AND PRIZES

- \$ 1,000.00 From the J. T. Baker Chemical Company for a fellowship in analytical chemistry for 1932-33 to be known as the Baker Fellowship in Analytical Chemistry.
- 1,000.00 From the Seventh District Federation of Women's Clubs for the establishment of a loan fund to be used for loans to worthy students attending the West Central School of Agriculture to be known as the West Central School of Agriculture Seventh District Federation of Women's Club Loan Fund.

- \$ 600.00 From the teaching staff in social work for the establishment of a fellowship for graduate students in social work, at \$150 per quarter with exemption from tuition to be known as the Fellowship for Graduate Students in Social Work.
- 15,000.00 From salary deductions from other than state funds for the establishment of a loan fund to be known as the Staff and Employees Student Loan Fund, to be loaned to undergraduate and graduate college students in the usual manner through the office of the dean of student affairs.
- 100.00 From the Ladies Drug Auxiliary of Minneapolis for the establishment of a permanent student loan fund in the College of Pharmacy, for either a boy or a girl, to be known as the Ladies Drug Auxiliary of Minneapolis Loan Fund.
- 12.60 And 219½ shares of stock in the St. Paul Foundry for the establishment of the John Buckhout Johnston Educational Fund to be administered in accordance with the general rules and policies governing general student loans.
- 10.00 From Alpha Kappa Gamma, dental hygiene sorority, annual prize to the girl maintaining the highest scholastic average during her two-year course in dental hygiene at the University of Minnesota.
- 1,000.00 From the Minnesota Union for the establishment of the Minnesota Union Loan Fund for use of the undergraduate men students of the University and such graduate men students as may have taken their undergraduate work in the University. The fund shall be so administered as to be available for return to the Minnesota Union on March 1, 1937.
- 2,500.00 From salary deductions other than state funds for the establishment of a loan fund to be known as the Staff and Employees Schools of Agriculture Loan Fund, to be loaned to students of the several schools of agriculture.
- 2,500.00 From salary deductions other than state funds for the establishment of a loan fund to be known as the Staff and Employees Extension Student Loan Fund, for loans to students in the Extension Division.
- 5,000.00 From salary deductions other than state funds for the establishment of a loan fund to be known as the Staff and Employees Loan Fund, to be available, principal and interest, for loans to employees and staff members.
- 25.00 From the Gopher 4-H Club, for the establishment of a loan fund to be available to any 4-H Club member.
- 75.00 From Miss Gertrude Vaile for the establishment of a scholarship for senior and graduate students who have been enrolled in the Training Course for Social and Civic Work at least one quarter, to be known as the Social Work Scholarship Fund.

Additions to Previous Gifts

- \$ 1,200.00 From the American Creosoting Company for the American Creosoting Fellowship.

- \$ 750.00 From the Dow Chemical Company for the Dow Fellowship in Chemistry.
- 864.41 For the Students' Student Loan Fund
- \$613.98 Class of 1920
 - 200.00 Class of 1932
 - 36.00 1932 Class in Dental Hygiene
 - 7.90 Student Activities Fund
 - 5.00 Women's Athletic Association
 - .60 Pledge Nite Revue
 - .93 Senior class
- 666.38 For the Central School of Agriculture Student Loan Fund
- \$446.75 School of Agriculture classes from 1914 to 1931
 - 100.00 1931 Class of the School of Agriculture
 - 119.63 1932 Class of the School of Agriculture
- 3,100.00 From the Minneapolis General Hospital for the Minneapolis General Hospital fellowships (16).
- 300.00 From an anonymous donor for the re-establishment of a fellowship in tuberculosis.
- 250.00 From an anonymous donor for continuation of a music scholarship.
- 100.00 From the Minneapolis Women's Advertising Club and the University of Minnesota Business Women's Club for the Minneapolis Women's Advertising Club Scholarship.
- 3,000.00 From the National Research Council for the continuation of the National Research Council and National Livestock Fellowship for 1932-33.
- 1,500.00 For the Cloquet Wood Fibre Fellowship
- \$750.00 Cloquet Lumber Company
 - 750.00 Northern Lumber Company
- 300.00 From the St. Paul College Women's Club for the St. Paul College Women's Club scholarships.
- 400.00 From the Minneapolis College Women's Club for the Minneapolis College Women's Club Scholarship.
- 100.00 From the American Legion Auxiliary, Department of Minnesota, for the American Legion Auxiliary Scholarship.
- 1,950.00 From the American Dry Milk Institute, Inc., for the continuation of the American Dry Milk Institute Fellowship for the period January 1 to June 30, 1933.
- 60.00 Sigma Theta Pi Scholarship for 1932-33.
 - 32.00 From Dad's Association for Dad's Day Loan Fund.
- 150.00 From an anonymous donor for the Law Faculty Scholarship Fund.
- 100.00 From the Women'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.
- 100.00 From Saint Paul Housewives League for the Saint Paul Housewives League Loan Fund.

- \$ 700.00 From the Women's Self-Government Association for seven additional Women's Self-Government Association scholarships for the winter and spring quarters of 1932-33.
- 1,575.00 From Law Alumni Association for fifteen scholarships of \$100 each and one of \$75.
- 100.00 Minnesota Law Review Scholarship.
- 40.00 From the St. Paul Section of the Council of Jewish Women for the Julia Hess Loan Fund.
- 100.00 Agriculture Faculty Women's Club Scholarship (1933-34).
- 10.00 Alpha Chi Sigma Twin City Alumni Association Prize in Chemistry (books).
- 150.00 Faculty Women's Club, Students' Section, Scholarship Fund.
- 50.00 Home Economics Association Scholarship.
- 100.00 P. E. O. Scholarship.
- 50.00 Phi Beta Chapter of the Mu Phi Epsilon Scholarship.
- 50.00 Louise M. Powell Prize.
- 100.00 Minnesota Academy of Medicine Prize.
- 100.00 Marion L. Vannier Scholarship.
- 175.00 Pillsbury Debate Prize.
- 250.00 Henry Webb Brewster scholarships.
- 250.00 Florence A. Brewster Scholarship.
- 25.00 Pi Beta Chapter of Chi Omega Prize.
- 75.00 American Society of Mechanical Engineers Prize (Twin City Section).
- 25.00 Tau Beta Pi Prize (books).
- 8.00 Chi Epsilon (Minnesota Chapter) Prize (handbook).
- 100.00 Frank H. Peavey Prize.
- 50.00 Phi Upsilon Omicron Scholarship.
- 75.00 American Institute of Architects prizes (books).
- 15.00 Phi Lambda Upsilon Prize.
- 50.00 Alpha Zeta Scholarship (1933-34).
- 8.00 Eta Kappa Nu Prize in Electrical Engineering (handbook).
- 6.13 Pi Tau Sigma Prize in Mechanical Engineering (handbook).
- 26.00 School of Chemistry Faculty Prize (books and journals).
- 100.00 Minnesota Home Economics Freshman Scholarship (1933-34).
- 25.00 Delta Sigma Psi Scholarship.
- 50.00 Lambda Alpha Psi Prize.
- 46.00 American Society of Civil Engineers, Northwest Section, Prize.
- 799.95 Miller Hospital teaching fellowships.
- 900.00 Minneapolis Journal Boys' and Girls' 4-H Club Scholarship Fund.
- 100.00 Class of 1902, for Class of 1902 Loan Fund.
- 100.00 Southern Minnesota Medical Association Prize.
- 100.00 Minnesota State Pharmaceutical Scholarship.
- 100.00 Advertising Club of Minneapolis Scholarship.

- \$ 40.00 Northern States Power Company prizes.
50.00 Gargoyle Club prizes (books).

RESEARCH AND EXPERIMENTS

- \$ 750.00 From the National Research Council for technical assistance in the study of internal structural changes taking place in freshly prepared crystalline precipitate on standing. Fund—National Research Council (research in analytical chemistry).
- 12,000.00 \$6,000 a year for 1932-33 and for 1933-34 from the Carnegie Foundation for the Advancement of Teaching for research in art education under the direction of Dean M. E. Haggerty.
- 1,000.00 From the American Historical Association, Commission on the Investigation of Social Studies in the Schools, for the salary of an instructor at \$200 per month to assist Professor Krey toward the completion of a report on tests.
- 500.00 From the American Creosoting Company for research on wood preservatives.
- 150.00 From Rohm and Hass Company of Bristol, Pennsylvania, covering co-operative research in the applications of certain chemical leavening agents available for use in baking.
- 200.00 From Western Red Cedar Association for an investigation of the electrical conductivity of red cedar and southern pine poles, to be carried on under the direction of the head of the Department of Electrical Engineering.
- 820.00 For the Fox Breeders' Distemper Research Fund
 \$300 American National Fox and Fur Breeders Association
 200 Central New York Fur Co., Inc.
 170 Springdale Silver Fox Farms
 100 Rockridge Co.
 50 Albert E. Braum
- 225.00 For the International Relations Project
 \$ 50 Robert F. Pack
 25 Mrs. Elbert L. Carpenter
 5 Thomas L. Daniels
 100 Frederick White
 10 B. F. Benson
 5 George Neilson
 5 S. V. Wood
 15 Willis C. Helm
 10 Charles R. Williams
- 250.00 From the American Medical Association Council on Pharmacy and Chemistry for the American Medical Association—Therapeutic Research Grant No. 196 Fund for the continuation of research on calcium and magnesium in blood.

THE PRESIDENT'S REPORT

- \$ 50,000.00 From Carnegie Corporation of New York for the completion of the study of the re-education of the unemployed—Employment Stabilization Research Institute.
- 300.00 From members of the Minnesota District of the American Association of Hospital Social Workers for the Medical Social Work Fund.
- 120.00 Coffman Educational Research
- \$ 5 W. H. Pillsbury
 - 10 Esther McGinnis
 - 5 Lillian Jaspersen
 - 5 Victor Noll
 - 5 Lucille McKnight
 - 10 W. J. Saupe
 - 10 Mrs. W. E. Peik
 - 5 Ella J. Rose
 - 5 W. S. Miller
 - 5 H. J. Steel
 - 5 C. W. Wiseman
 - 50 L. D. Coffman
- 1,750.00 American Society of Heating and Ventilating Engineers Co-operative Research.
- 500.00 From National Research Council for technical assistance for Dr. I. M. Kolthoff's studies of internal structural changes taking place in fresh precipitate of lead sulphate.
- 50.00 From American Academy of Arts and Sciences, for Astronomy Department, for modifications of equipment used by Professor W. J. Luyten in his research work.

MISCELLANEOUS

- \$ 1,000.00 From the late Cornelia Purdy Conklin Bailie for the establishment and maintenance of a room in the University of Minnesota Hospitals for students.
- Provisions of the will of Dr. Carl Voss which contemplates the establishment of the Dr. Ingvald Muller Scholarship and Loan Fund in memory of his friend, Dr. Ingvald Muller.
- A trust donation from Mrs. Mary Olive Lathrop Farraher of Los Angeles, California, Class of 1910, for a history scholarship in accordance with deed of trust.
- Request of the late James R. DuFresne, estimated to be \$60,000, the income to be used to provide a scholarship or scholarships to be known as the Sophie DuFresne Memorial Scholarship, to be awarded to applicants who have been the main support of their mothers during the three years next preceding the date on which application is made for such scholarship in accordance with the provisions of the trust as set forth in the will.

- \$ 50,000.00 Anonymous gift of bonds, \$50,000 par value. Income to be paid to donor during life and to donor's sister if and so long as she may survive him. On termination of life of both the fund is to be used to supplement the salaries of loyal and distinguished members of the faculty whom the University might not otherwise be able to retain in its service, or to be used for postgraduate scholarships.
- 50.00 From Engineer's Club of Minneapolis to be used by College of Engineering and Architecture for purchase and distribution of booklet published by the Engineering Foundation entitled *Engineering, A Career—A Culture*.

Additions to Previous Gifts

- \$ 10.00 From Joseph Vadheim for the Frederick J. Wulling Trust Fund.
- 250.00 From James Ford Bell Museum Donation Fund for the Thomas S. Roberts Fund for the publication of a manual for the identification of birds.
- 500.00 Vocational service for juniors.
- 5.00 From Frederick C. Beyer for the Alumni Service Fund.

OTHER GIFTS, 1932-33

MISCELLANEOUS

- 3,000 iris bulbs from Miss Nellie P. Bell.
- Offer of an award by the Military Order of Foreign Wars to the most outstanding member of the Advanced Course of the R.O.T.C.
- A kiln and eight frames from Mrs. M. Weichselbaum for the Department of Art Education.
- A Dunn's Local Anaesthesia Syringe Outfit No. 1 from Dr. Halbert L. Dunn for the University of Minnesota Hospitals.
- Subscription to *Child Life Magazine* from an anonymous donor for the University of Minnesota Hospitals.
- An electrical communication apparatus from the Western Electric Company for the Department of Electrical Engineering.
- Collection of birds' eggs from Mr. Edward S. Stebbins for the Museum of Natural History.
- Specimen storage cabinets, estimated cost \$1,000, from Miss Constance Everett, for the Museum of Natural History.
- Two electric relays from Northern States Power Company of St. Paul for the Department of Electrical Engineering.

BOOKS

- Pamphlets, periodicals, books, and journals from Mrs. Ida M. Harrison, St. Paul, Minnesota, for the Division of Veterinary Medicine.
- 21,647 gifts for the University Library from 4,235 donors.

GIFTS, 1933-34

SUMMARY OF CASH GIFTS

Loan funds		
New	2	\$ 350.00
Additions to old	8	7,861.36
Scholarships		
New	2	11,275.00
Additions to old	18	4,035.00
Fellowships		
New	1	2,650.00
Additions to old	7	20,180.50
Prizes		
New	1	25.00
Additions to old	21	960.09
Research and experiments		
New	8	12,950.00
Additions to old	37	546,922.00
Miscellaneous		
New	8	9,758.00
Additions to old	1	5.00
		<hr/>
		\$616,971.95

LOAN FUNDS, SCHOLARSHIPS, FELLOWSHIPS, AND PRIZES

\$ 10,000.00	From the Committee on Salary Contributions for Graduate Service fellowships or scholarships to be awarded by the dean and the Executive Committee of the Graduate School, subject to the approval of the president and the Board of Regents.
2,650.00	From Dr. Frank E. Burch for the establishment of the Frank E. Burch Fellowship in Ophthalmology with stipends of \$750, \$900, and \$1,000 in the first, second, and third years, respectively.
1,275.00	From the Jewish-American citizens of the Twin Cities for the establishment of a scholarship for a Jewish scholar; \$1,200 to be used for a scholarship for the year 1933-34. The balance in the fund is to be used in 1934-35 or returned. (Name changed to Twin City Jewish-American Lectureship Fund—Board of Regents 1-24-34.)
200.00	From the Child Psychology Study Circle of St. Paul, Minnesota, to be used for loans to students from St. Paul, preference to be given to students majoring in child psychology.
25.00	Annually from the Minnesota Chapter of Delta Sigma Rho for the establishment of prizes for an annual extemporaneous speaking contest; the first prize to be \$15 and the second prize to be \$10.
150.00	From the Board of Trustees of the Endowment Fund of the School of Nursing of the University of Minnesota (Richard Olding Beard Fund) for the establishment of a loan fund for the students in the School of Nursing.

Additions to Previous Gifts

\$ 1,200.00	From the American Creosoting Company for the American Creosoting Company Fellowship.
2,740.50	From the American Dry Milk Institute, Inc., for the American Dry Milk Institute Fellowship.
1,181.36	For the Students' Student Loan Fund
	\$ 81.36 University Band
	1,000.00 Women's Self-Government Association
	50.00 School of Dental Hygienists graduates of 1933
	50.00 Cadet Officers' Club
100.00	From the Minnesota Society of Internal Medicine for the Charles Lyman Greene Prize in Physiology for 1933-34.
150.00	From a group of individuals interested in social work for the Fellowship for Graduate Students in Social Work.
100.00	From the American Legion Auxiliary for the American Legion Auxiliary Scholarship for 1933-34.
105.00	From the St. Paul College Women's Club for the St. Paul College Women's Club scholarships for 1933-34 (one of \$55 and one of \$50).
1,440.00	From the Northwest Paper Company, Cloquet, Minnesota, for the Cloquet Wood Fibre Products Fellowship for 1933-34 (November 1, 1933 to June 30, 1934).
5,000.00	From the Committee on Salary Contributions for the Staff and Employees Loan Fund.
150.00	From an anonymous donor for the continuation of a fellowship in tuberculosis for the period November 1, 1933 to April 30, 1934.
11,500.00	From the Minneapolis General Hospital for the Minneapolis General Hospital fellowships as follows: \$3,000 for the continuance of 16 fellowships from July 1 to December 31, 1933; \$8,500 for the continuance of 16 fellowships and one new fellowship with maintenance, for the calendar year 1934, and the establishment of an instructorship at the rate of \$1,800 per year in the Out-Patient Department of the Minneapolis General Hospital; and \$4,800 for the establishment of four instructorships in the Medical School (three in medicine and one in surgery) at \$1,200 per year and maintenance. One additional fellowship in ophthalmology and oto-laryngology with no stipend but maintenance at the General Hospital, for the period August 1 to December 31, 1933.
1,000.00	From the Federal Cartridge Corporation for the Boys' and Girls' 4-H Club Revolving Fund for the Conservation of Wild Life Activity for the 4-H Club of the Agricultural Extension Division.
3,000.00	From the National Research Council for the National Research Council and National Livestock Fellowship for 1934.
600.00	From the Women's Self-Government Association for six additional Women's Self-Government Association scholarships.
1,600.00	From Law Alumni Association for the Law Alumni Loan Fund.
30.00	From the Saint Paul Housewives League for the Saint Paul Housewives League Loan Fund.

- \$ 50.00 From the Honorable Phillip LaFollette for the General Student Loan Fund.
- 100.00 Agricultural Faculty Women's Club.
- 15.00 Alpha Alpha Gamma Prize in Architecture (books).
- 10.00 Alpha Chi Sigma Twin City Alumni Association Prize in Chemistry (books).
- 500.00 Minneapolis Journal Boys' and Girls' 4-H Club scholarships.
- 105.00 Minnesota State Pharmaceutical Scholarship.
- 100.00 P. E. O. Scholarship.
- 15.00 Phi Lambda Upsilon Prize.
- 175.00 Pillsbury Debate Prize.
- 50.00 School of Architecture Faculty Prize.
- 50.00 Phi Beta Chapter of Mu Phi Epsilon Scholarship.
- 50.00 Louise M. Powell Prize.
- 27.00 School of Chemistry Faculty Prize (books).
- 25.00 Tau Beta Pi Prize (books).
- 100.00 Marion L. Vannier Scholarship.
- 8.00 Chi Epsilon (Minnesota Chapter) Prize (handbook).
- 50.00 Phi Upsilon Omicron Scholarship.
- 6.13 Pi Tau Sigma Prize in Mechanical Engineering (handbook).
- 8.00 Eta Kappa Nu Prize in Electrical Engineering (handbook).
- 46.00 American Society of Civil Engineers, Northwest Section, Prize (handbook and fees).
- 100.00 Minnesota Home Economics Association Freshman Scholarship (1934-35).
- 10.00 Alpha Kappa Gamma Prize.
- 50.00 Alpha Zeta Scholarship Fund.
- 50.00 Home Economics Association Scholarship.
- 250.00 Florence A. Brewster Scholarship.
- 250.00 Henry Webb Brewster Scholarship.
- 100.00 Peavey Prize Fund.
- 100.00 Southern Minnesota Medical Association Prize.
- 40.00 Northern States Power Company Prizes.
- 75.00 American Society of Mechanical Engineers Prize.
- 50.00 Gargoyle prizes.
- 25.00 Chi Omega Prize in Sociology.
- 25.00 Delta Sigma Psi Scholarship.
- 24.96 From the Sigma Xi Society for the Thomas F. Andrews undergraduate research prizes.
- 500.00 Minneapolis College Women's Club Scholarship.

RESEARCH AND EXPERIMENTS

- \$ 1,000.00 From the Brookings Institution, Washington, D.C., for a co-operative study between the Division of Agricultural Economics, the Minnesota Agricultural Experiment Station, and the Brookings Institution, of the development of production adjustment, benefit payments, trade agreements, and other steps taken under the agricultural adjustment program and to ascertain their economic consequence and effects.

- \$ 200.00 From the American Medical Association, Council on Pharmacy and Chemistry, for the investigation of the relation of iodine to goiter.
- 2,100.00 From Lactona Incorporated for dental research in accordance with a plan approved by Dr. P. J. Brekhuis, chairman of the Faculty Committee of the School of Dentistry, Dr. A. D. Hirschfelder of the Department of Pharmacology, and Dean W. F. Lasby, School of Dentistry.
- 7,500.00 From the Brookings Institution, for a study of the effect of the NRA on American business by the Employment Stabilization Research Institute.
- 500.00 From the National Research Council for technical assistance in connection with an ecologic survey of bacteria in a freshwater lake (Lake Alexander, Minnesota) under the direction of Professor Arthur T. Henrici of the Department of Bacteriology.
- 400.00 From the National Research Council for technical assistance in connection with the preparation of gases of the methane series with the heavy isotope of hydrogen under the direction of Professor L. H. Reyerson of the School of Chemistry.
- 1,000.00 Annually from the Firestone Plantations Company, Akron, Ohio, for research in relation to the propagation, protection, and collection of plantation rubber in the Division of Plant Pathology and Botany.
- 250.00 From the National Academy of Sciences (Gould fund) to be used in connection with a study of the proper motion of the southern stars.

Additions to Previous Gifts

- \$509,500.00 (Par value) From the Mayo Properties Association for the Mayo Foundation for Medical Education and Research.
- 20,000.00 From the Carnegie Foundation for the Advancement of Teaching for research in art education, payable during four years 1934-37, under the direction of Dean M. E. Haggerty.
- 5,200.00 For the International Relations Project
- \$5,000.00 Carnegie Corporation of New York
 - 50.00 Robert F. Pack
 - 25.00 Thomas L. Daniels
 - 25.00 Mrs. E. L. Carpenter
 - 5.00 Mrs. Walter R. Ramsey
 - 10.00 J. S. Clapper
 - 25.00 The Rotary Club of Duluth
 - 15.00 Willis C. Helm
 - 10.00 B. F. Benson
 - 10.00 George W. Neilson
 - 25.00 Frederick White
- 7,900.00 From the Citizens Aid Society for the Cancer Institute Research Fund.

\$ 1,275.00	For the Fox Breeders' Distemper Research Fund
	\$450.00 The Rockridge Company
	100.00 United Fur Ranches, Incorporated
	95.00 Mr. C. A. Schwass, Scotville, Michigan
	100.00 Belmond Silver Fox Ranch
	500.00 New York Zoological Society
	30.00 Bery Silver Fox Farm
164.00	For the Coffman Educational Research Foundation
	\$100.00 L. D. Coffman
	5.00 Ella Rose
	5.00 W. H. Pillsbury
	10.00 Victor H. Noll
	10.00 Dora Smith
	2.00 Gerda Preus
	10.00 Lucille McKnight
	2.00 Lucile Levin
	5.00 W. S. Miller
	10.00 Alvin Eurich
	5.00 C. R. Wiseman
1,000.00	From the Insulite Company for Heat Insulation Research Fund.
516.50	From the members of the Minnesota District of American Association of Hospital Social Workers for the Medical Social Work Fund.
200.00	From Mr. Paul L. Errington and the Cloquet Sportsmen's Club (\$100 each) for the Ruffed Grouse Research Fund. To be used for the salary of an assistant to continue the research on the life history and ecology of ruffed grouse begun in 1929 by the Agricultural Experiment Station.
1,000.00	Minnesota State Pharmaceutical Association
	\$500.00—1933-34
	500.00—1934-35
166.50	Miller Teaching Fellowship.

MISCELLANEOUS

\$ 50.00	Annually from the Phi Beta Pi Medical Fraternity for the Clarence Martin Jackson Lectureship Fund. To be used as an honorarium each year to bring some selected speaker to the campus.
200.00	Annually from Dr. E. Starr Judd, Rochester, Minnesota, to be used as an honorarium for a lecturer at the Medical School. The lecturer will be selected each year by Dr. E. Starr Judd during his lifetime; after that by the head of the Department of Surgery.
200.00	From friends of the late O. W. Peterson to be used to pay the music fee of one student each year at the Northwest School of Agriculture. Northwest School—O. W. Peterson Memorial Fund.
3,000.00	From the Committee on Salary Contributions to purchase textbooks for use during the winter quarter by students in attendance at the University under the plan by which aid is received from the Civil Works Administration.

- \$ 6,000.00 From the Rockefeller Foundation and the Emergency Committee in Aid of Displaced German Scholars (\$3,000 each) to be used to pay the salary of a guest professor in the School of Business Administration for a period of 18 months, beginning April 1, 1934.
- 158.00 And subsequent grants from the Charles Jerome Edwards Trust Fund for expenses as tuition, books, sorority expenses, living expenses, incidentals, and allowance while attending the University.
- 150.00 From the Board of Trustees of the Endowment Fund of the School of Nursing of the University of Minnesota (Richard Olding Beard Fund) for a special lecture course in the School of Nursing by Dean Annie W. Goodrich of Yale University.
- From Mrs. George Parmly Day 228¾ acres in St. Louis County, Minnesota, having a nominal value of \$1 per acre. One half of the net income from the lease of the land, the sale of timber, etc., and, after the death of the last survivor of the beneficiaries all of the income, shall be held and used by the University of Minnesota preferably in the field of music and the fine arts. To be known as the "Pioneer Fund."
- Provisions in the will of the late Dr. Russell D. Carman which provides for the transfer of the sum of \$25,000 in cash or securities, to be held as a distinct and separate fund to be known as the "Carman Student Revolving Loan Fund."
- Provisions in the will of the late Margaret E. Hunt of Ann Arbor, Michigan, the conditions of which provide for a gift to the University of Minnesota of the residue of her estate estimated at \$10,000, for the establishment of certain scholarships.

Additions to Previous Gifts

- \$ 5.00 From Xi Sigma Pi for the Dean E. M. Freeman Medal for Student Leadership Fund.

Patents

Assignment of Dr. Harold S. Diehl, director, University Students' Health Service, of his patent covering "Copavin," a new drug combination for the treatment of a common cold.

OTHER GIFTS, 1933-34

MISCELLANEOUS

One Hayes Improved Gas Analyzer from Bell and Eiss, Inc., for the College of Engineering and Architecture.

A glass model of the Roan Antelope ore-body in Rhodesia, South Africa, from E. C. Congdon and his associates, Duluth, Minnesota, for the School of Mines and Metallurgy.

Film of Simba which was sent to the University by the American Museum of Natural History at the request of the Martin Johnson African Expedition Corporation.

Two large mahogany display cases, seven small mahogany display cases, two mahogany tables, and about 30 large display bottles for the Division of Agronomy and Plant Genetics; and four mahogany tables and about 100 bottles for the Division of Horticulture from the Northern Pacific Railway Company.

A picture of Miss Anna Maud Butner, director of physical education at the University of Minnesota from 1900 to 1912, from her sister, Miss Cora Inez Butner, for the Women's Gymnasium.

A ton piece of copper from the Sagamore Mine on the Cuyuna Range, through the efforts of Mr. John A. Savage of Duluth, for the School of Mines and Metallurgy.

A terraplane six-cylinder engine fitted with carburation, ignition, generating, and starting apparatus from the Hudson Motor Car Company for the College of Engineering and Architecture.

A copy of the *St. Paul News* of April 20, 1865, and a copy of the *Sunday Pioneer Press* of May 8, 1898, from Mr. C. J. Buckley, Delano, Minnesota, for the Department of Journalism.

A copy of *Maryland Journal and Baltimore Advertiser* of August 20, 1773, from Mr. Al P. Erickson, Minneapolis, for the Department of Journalism.

A 1934 Chevrolet engine complete with all accessories from the Chevrolet Motor Company for the College of Engineering and Architecture.

Instruments, lantern slides, and books from F. C. Shenhon for the College of Engineering and Architecture.

Gift of two annual prizes of one volume of poetry each from Zeta Pi Eta, national honorary speech sorority.

17,133 gifts for the University Library from 3,056 donors.

UNIVERSITY PERSONNEL

Changes in the Board of Regents

Retirement of Professor Paige

Appointments

Leaves of Absence

Resignations

Promotions

Deaths

CHANGES IN THE BOARD OF REGENTS

Governor Floyd B. Olson, at the close of the 1933 legislative session, appointed the following as members of the Board of Regents:

Mrs. Anna O. Determan, of Litchfield, to succeed Mr. W. H. Gemmell.

Mr. George W. Lawson, of St. Paul, to succeed Dr. Egil Boeckmann.

Dr. A. E. Olson, of Duluth, to succeed Mrs. Bess M. Wilson.

Mr. Frank W. Murphy, of Wheaton, to succeed Mr. J. V. Williams.

RETIREMENT OF PROFESSOR PAIGE

Professor James Paige of the Law School reached the retirement age, and at the close of the biennium was made professor emeritus. He has rendered long and loyal service to the University and the Law School. Entering as a student in 1888, the year the Law School was organized, he graduated with its first class. His teaching activities began the next year and continued for forty-four years without interruption. For two periods of one year each, he was acting dean of the Law School. His insistence upon high standards, his sterling character, unwavering loyalty, and fine devotion have made their impression upon the school and its graduates. Professor Paige, in addition to his many services in the Law School, has represented Minnesota since 1905 in the Conference Committee of the Big Ten, and he was twice employed by the Board of Regents to compile the laws, federal and state, and the rules passed by the Regents, for the government of the University.

The Law School and its alumni held a dinner in his honor on the occasion of his retirement. Unable to be present, President Coffman sent this message, which was read:

May 2, 1934

My dear Dean Fraser: It is a matter of regret to me that I am unable to attend the Law School banquet this year. I should have been pleased to express in a public way the appreciation of the University for the services of Mr. James Paige as a professor at this institution. His skill in instruction, his high sense of honor and personal integrity, his unyielding sense of honesty, and his devotion to the best interests of the University, whether serving as a teacher or as a member of the committee on intercollegiate athletics, or in some other capacity, have won for him the profound admiration and respect of every administration under which he has served and of the members of the staff with whom he has been associated. The Law School does well to honor him and to call attention to his career.

Cordially yours,

L. D. COFFMAN

At this dinner the alumni formally presented to the University a portrait of Professor Paige, painted by Nicholas R. Brewer, and this was accepted by Mr. Fred B. Snyder, '81, president of the Board of Regents.

CHANGES IN THE FACULTIES

APPOINTMENTS, 1932-33

- Reginald Coggeshall as assistant professor of journalism for 1932-33
 B.A. 1925, M.A. 1930, Ph.D. 1931, University of Texas.
- Clarence P. Oliver as assistant professor of zoology for 1932-33
 B.A. 1916, Harvard University, M.A. 1932, Harvard Graduate School.

APPOINTMENTS, 1933-34

- Lieutenant Colonel Lloyd R. Fredendall as professor of military science and tactics beginning on or about October 14, 1933.
- Captain Charles H. Jones as assistant professor of military science and tactics beginning with the year 1933-34.
- Celestin P. Cambiaire as professorial lecturer in Romance languages for the winter and spring quarters of 1933-34
 B.A. 1900, University of Lille; B.Ph. 1901, University of Paris; M.A. 1922, University of Missouri; Ph.D. 1925, University of Iowa.

LEAVES OF ABSENCE, 1932-33

- Raymond W. Brink, professor and chairman, Department of Mathematics, sabbatical furlough for 1932-33, for study and travel abroad.
- Herbert K. Hayes, professor and chief, Division of Agronomy and Plant Genetics, without salary from September 16, 1932 to June 15, 1933, to accept appointment as acting professor of plant breeding at Cornell University.
- Arthur W. Marget, professor in School of Business Administration, sabbatical furlough from the spring quarter of 1932-33 to the close of the winter quarter of 1933-34, to lecture at the University of London and to study various branches of economic theory in Sweden, Italy, and Vienna.
- Francis W. Peck, professor and director of agricultural extension, without salary from May 16, 1933 to June 30, 1934, to assume charge of the co-operative loan section of the Farm Credit Administration in Washington, D.C.
- Joseph B. Pike, professor of Latin, sabbatical furlough for 1932-33, for travel and study abroad.

- Frank K. Walter, university librarian and professor of library instruction, with salary from August 1 to September 30, 1932, for travel to study library conditions in Europe.
- Norman Wilde, professor of philosophy, sabbatical furlough for 1932-33, for rest and writing.
- Ross L. Finney, associate professor of sociology, sabbatical furlough from October 16, 1932 to June 15, 1933, on account of illness.
- Wesley E. Peik, associate professor in the College of Education, without salary for winter quarter of 1932-33, for work on the National Survey of the Education of Teachers for the United States Bureau of Education.
- Rhodes Robertson, associate professor of architecture, without salary for 1932-33, for travel and study abroad.
- William H. Stead, associate professor in the School of Business Administration, with salary from May 27 to June 15, 1933, to attend the International Labor Conference at Geneva, Switzerland, as a special representative of the United States Department of Labor.
- George A. Thiel, associate professor of geology, sabbatical furlough from January 1 to March 31, 1933, to study the early Ordovician sandstones of the Interior Lowlands Province of the United States.
- Robert W. Desmond, assistant professor of journalism, without salary for 1932-33, for study at the London School of Economics and Political Science.
- Raymond S. Dunham, assistant professor, Northwest School and Station, sabbatical furlough for 1932-33, to complete work for Master's degree at the University of Minnesota.
- Frances Dunning, assistant professor and manager of dining hall, without salary from July 1 to August 31, 1932, for travel and study in Europe.
- Thorvald S. Hansen, assistant professor of forestry, sabbatical furlough from October 1, 1932 to June 15, 1933, for graduate work at Yale University.
- Roger S. Mackintosh, exhibits specialist with rank of assistant professor in agricultural extension, with salary from July 5 to September 19, 1932, on account of illness.
- Eves E. Whitfield, assistant professor in agricultural extension, without salary, from August 1 to 15, 1932, for travel in Europe.
- David H. Willson, assistant professor of history, sabbatical furlough for 1932-33, for research work abroad.

LEAVES OF ABSENCE, 1933-34

- Clyde H. Bailey, professor of agricultural biochemistry, with salary from February 23 to March 23, 1934, to study cereal chemistry in the Hawaiian Islands.
- Frank E. Burch, professor of ophthalmology and oto-laryngology and head of the Division of Ophthalmology and Oto-Laryngology, without salary from June 1 to September 30, 1934, for rest and vacation.
- Katharine J. Densford, professor and director of School of Nursing, with salary from July 1 to 31, 1933, to attend the International Council of Nurses in Paris, France.
- Austin A. Dowell, superintendent and professor, Northwest School and Station, Crookston, without salary from November 16, 1933 to August 31, 1934, to have charge of special research work in the field of livestock marketing under the direction of the Bureau of Agricultural Economics of the United States Department of Agriculture.
- Richard M. Elliott, professor of psychology, sabbatical furlough for 1933-34, for study, writing, and travel in Europe.
- Alvin H. Hansen, professor in the School of Business Administration, without salary from December 16, 1933 to June 15, 1934, to accept appointment as executive secretary of the Social Science Research Council's Commission of Inquiry on International Economic Relations.
- August C. Krey, professor of history, for fall quarter of 1933-34, with one-third salary for rest and recuperation.
- Morris B. Lambie, professor of political science and chief of the Municipal Reference Bureau, partial leave for winter quarter of 1933-34; one fourth of salary to be deducted in order to devote his time to assisting Governor Olson's relief program.
- John I. Parcel, professor of civil engineering, without salary for 1933-34, to engage in professional practice.
- Warren C. Waite, professor of agricultural economics, without salary from September 10 to 30, 1933, for work with the United States Department of Agriculture in Washington, D.C.
- J. William Buchta, associate professor of physics, sabbatical furlough for 1933-34, for study and research at the California Institute of Technology.
- George P. Conger, associate professor of philosophy, sabbatical furlough for 1933-34, for study of Indian philosophy in India, results of which are to be incorporated in a book on philosophy of religion.

- Edwin C. Johnson, associate professor of agricultural economics, without salary from November 16, 1933 to September 30, 1934, to act as vice-president of the Production Credit Corporation established by the Farm Credit Administration.
- Louis F. Keller, associate professor of physical education and athletics, sabbatical furlough for 1933-34, for study at New York University towards a Ph.D. degree.
- William H. Stead, associate professor in the School of Business Administration, without salary for 1933-34, to accept an appointment with the Department of Labor, Washington, D.C.
- George M. Stephenson, associate professor of history, with salary for fall quarter of 1933-34, because of injuries received in automobile accident.
- Gertrude Vaile, associate professor and associate director of the Training Course for Social and Civic Work, for half time on half salary from January 16 to March 15, 1934, to devote her time to state relief administration.
- Edward J. Baldes, assistant professor of biophysics, Mayo Foundation, without salary from July 1 to September 30, 1933 and October 16, 1933 to June 30, 1934, for work towards Doctor's degree at University College, London, England.
- Ralph Cassady, assistant professor in the School of Business Administration, without salary from October 16 to December 15, 1933, to accept appointment as economic adviser to the Wholesale and Retail Section of the NRA.
- William L. Cavert, farm economist with rank of assistant professor in agricultural extension, without salary from October 11, 1933 to January 10, 1934, to assist the Farm Credit Administration of the United States Department of Agriculture; from April 20 to June 30, 1934, to accept position as director of research of the Farm Credit Administration, in St. Paul.
- Frances Dunning, assistant professor of home economics and director of cafeteria, without salary from June 16 to July 31, 1934, to attend the National Home Economics meeting in New York and for travel.
- Elizabeth Jackson, assistant professor of English, sabbatical furlough for 1933-34, for study and research abroad.
- Willem J. Luyten, assistant professor of astronomy, with salary for fall quarter of 1933-34, on account of illness.
- Grace Medes, assistant professor of medicine, sabbatical furlough for 1933-34, for further study and research.

- Mary M. Miller, home management specialist with rank of assistant professor in agricultural extension, with salary from May 10 to July 31, 1934, on account of illness.
- Shirley P. Miller, assistant professor of anatomy, sabbatical furlough for 1933-34, for study abroad.
- Harry J. Ostlund, assistant professor in the School of Business Administration, without salary from October 16 to December 15, 1933, to accept appointment as economic adviser to the deputy administrator for the Industrial Advisory Board, a division of the NRA.
- W. Bruce Silcox, marketing specialist with rank of assistant professor in agricultural extension, without salary from September 17 to November 25, 1933, to assist the United States Department of Agriculture in organizing plan for marketing of milk and its products.
- Arthur N. Wilcox, assistant professor of horticulture, sabbatical furlough from November 1, 1933 to October 31, 1934, to do research work in fruit breeding abroad.

RESIGNATIONS, 1932-33

- Harvey S. Hoshour, professor of law, effective January 1, 1933.
- Herbert E. Chamberlain, professorial lecturer, College of Education, effective at time of reappointment for 1932-33.
- Olena Ordahl, assistant professor, School of Nursing, effective January 1, 1933.
- Nelson W. Taylor, assistant professor, School of Chemistry, effective at close of fall quarter of 1932-33.
- Major William C. Webb, assistant professor of military science and tactics, effective at close of year 1932-33.
- James D. Winter, assistant professor of entomology and economic zoology, effective July 1, 1933.

RESIGNATIONS, 1933-34

- Lieutenant Colonel John H. Hester, professor of military science and tactics, effective on or about October 12, 1933.
- Frederick B. Hutt, professor of animal genetics and poultry husbandry, effective at close of 1933-34.
- Herman C. Bumpus, associate professor of urology, Mayo Foundation, effective October 1, 1933.

- Edna Heidbreder, associate professor of psychology, effective at close of 1933-34.
- Walter I. Lillie, associate professor of ophthalmology, Mayo Foundation, effective September 1, 1933.
- William L. Cavert, assistant professor and farm economist, Agricultural Extension, effective July 1, 1934.
- Reginald Coggeshall, assistant professor of journalism, effective at close of 1933-34.
- Robert W. Desmond, assistant professor of journalism, effective August 5, 1933.
- Major William G. Guthrie, assistant professor of military science and tactics, effective at close of 1933-34.
- Charles F. McCuskey, assistant professor of anesthesia, Mayo Foundation, effective October 1, 1933.
- Grace Medes, assistant professor of medicine, effective at close of 1933-34.
- Captain Rex W. Minckler, assistant professor of military science and tactics, effective at close of 1933-34.
- Elizabeth Reynolds, assistant professor, School of Nursing, effective August 1, 1933.
- Major Willis Shippam, assistant professor of military science and tactics, effective at close of 1933-34.
- Wesley D. Stegner, state club agent with rank of assistant professor in agricultural extension, effective March 24, 1934.
- Captain Porter P. Wiggins, assistant professor of military science and tactics, effective at close of 1933-34.
- H. Jean M. Boyer, professorial lecturer in Romance languages, effective at time of reappointment for 1933-34.

PROMOTIONS EFFECTIVE YEAR 1932-33

Associate Professor to Professor:

Louis J. Cooke (Physical Education and Athletics)

Assistant Professor to Professor and Director:

Frank G. McCormick (Physical Education and Athletics)

Assistant Professor to Associate Professor:

George B. Vold (College of Science, Literature, and the Arts)

Instructor to Assistant Professor:

Henry B. Bull (College of Agriculture)

Albert V. Stoesser (Medical School)

PROMOTIONS EFFECTIVE YEAR 1933-34

Professor to Professor and Assistant to the President:

Malcolm M. Willey

Associate Professor to Professor:

Moses Barron (Medical School)

Maynard E. Pirsig (Law School)

Associate Professor to Professor and Chief:

Lee I. Smith (School of Chemistry)

Assistant Professor to Professor:

William L. Prosser (Law School)

Assistant Professor to Associate Professor:

Arlie R. Barnes (Mayo Foundation)

Harry H. Bowing (Mayo Foundation)

Harry M. Conner (Mayo Foundation)

Arthur U. Desjardins (Mayo Foundation)

Fred W. Gaarde (Mayo Foundation)

James W. Kernohan (Mayo Foundation)

Byrd R. Kirklin (Mayo Foundation)

Frederick P. Moersch (Mayo Foundation)

Herman J. Moersch (Mayo Foundation)

Harry L. Parker (Mayo Foundation)

Avery D. Prangen (Mayo Foundation)

Max Seham (Medical School)

Leda J. Stacy (Mayo Foundation)

Rood Taylor (Medical School)

Henry P. Wagener (Mayo Foundation)

Archa E. Wilcox (Medical School)

Harold K. Wilson (College of Agriculture)

Instructor to Assistant Professor:

Mildred Adams (Mayo Foundation)

Richard S. Ahrens (Medical School)

Nelson W. Barker (Mayo Foundation)

Donald C. Beaver (Mayo Foundation)

Orwood J. Campbell (Medical School)

Fred Z. Havens (Mayo Foundation)

Gladstone B. Heisig (School of Chemistry)

Bayard T. Horton (Mayo Foundation)

Roger L. J. Kennedy (Mayo Foundation)

Eugene T. Leddy (Mayo Foundation)
 Nathaniel H. Lufkin (Medical School)
 Harold L. Mason (Mayo Foundation)
 Marschelle H. Power (Mayo Foundation)
 Harry L. Smith (Mayo Foundation)
 Edward C. Stafne (Mayo Foundation)
 Charles H. Watkins (Mayo Foundation)
 James F. Weir (Mayo Foundation)
 Macnider Wetherby (Medical School)

Assistant Professor to Professorial Lecturer:

Herbert E. Clefton (College of Science, Literature, and the Arts)

DEATHS

The University suffered great loss in the deaths of the following:

STEPHEN MAHONEY

1852-1932

Stephen Mahoney of the class of 1877 was the first alumnus of the University of Minnesota to become a member of its Board of Regents. He served in this capacity from 1889 to 1907. Judge Mahoney was born in Pittsburgh, Pennsylvania, on December 26, 1852, and came to Minnesota with his parents as a young boy. Following graduation from the University of Minnesota he went to the University of Michigan for his law course; Minnesota at this time had no Law School. He returned to practice his profession in Minneapolis, and to serve the city in many public ways. For twenty years he was a judge of the Municipal Court. His death occurred on November 18, 1932.

In recognition of his services to the University of Minnesota, the Board of Regents at its meeting on November 19, 1932, voted unanimously to approve the following resolution:

WHEREAS, Stephen Mahoney, a graduate of the University of Minnesota in 1877, the first alumnus of the University to serve on the Board of Regents, a member of the bar, a judge of the court, a teacher in the public schools, was appointed Regent on June 15, 1889 and served to March 1907, a period of 18 years, during which time he contributed to the spiritual, intellectual, and material growth of the University in many ways,

Be it resolved by the Board of Regents that an expression of appreciation for the quality and distinction of these services, the faithfulness with which Mr. Mahoney devoted himself to his public responsibilities and to the University, be herewith adopted and recorded in the minutes of the Board.

GEORGE H. PARTRIDGE

1856-1932

George H. Partridge, a graduate of the University of Minnesota, and a member of the Board of Regents from 1914 until 1931, died December 21, 1932. Mr. Partridge was born at Medford, Minnesota, August 21, 1856. He graduated from Winona State Teachers College in 1873, and entered the University the following

year. Following his graduation in 1879 he engaged in teaching, civil engineering, and railroad building, and then entered the credit and financial department of a Minneapolis wholesale firm which marked the beginning of his rise as a leader in the business and financial life of the city.

In 1914 Mr. Partridge was appointed a regent of the University by Governor A. O. Eberhart, and was reappointed by Governor J. A. A. Burnquist and Governor Theodore Christianson. In 1925, Mr. Partridge was named chairman of the building committee appointed to take charge of the construction of Northrop Memorial Auditorium; at the time he was also chairman of the Buildings and Grounds Committee of the Board of Regents.

In recognition of his services to the University, the Board of Regents at its meeting on December 28, 1932, unanimously passed the following resolution:

Mr. George H. Partridge was a member of the Board of Regents of the University of Minnesota from 1914 to 1931. During those years he served the University unselfishly and devotedly. As Chairman of the Buildings and Grounds Committee, he was responsible in large measure for the enlargement of the campus and the erection of many new buildings.

He brought to his task a knowledge of practical affairs and a sympathetic conception of the life and work of the University. To him the University was an agent to serve the state, not an institution to be exploited for the benefit of any individual or class.

Liberal minded, generous hearted, kindly disposed, and genial at all times, it was a constant source of pleasure and satisfaction to work with him.

Recognizing the heavy obligations the University owes to him, the contributions he made to its material expansion, its administrative procedure, and its inner life, the Regents of the University do hereby resolve that an expression of their deep appreciation for these able and distinguished services shall be spread upon the minutes of the Board.

JAMES COOPER LAWRENCE

1890-1932

James Cooper Lawrence was born at Columbus, Ohio, February 10, 1890. In 1910 he graduated from Ohio State University. He then served for a year as chairman of the English Department at Westminster College, New Wilmington, Pennsylvania, following which he entered the business world for the avowed purpose of rounding out his experience in preparation for a return to academic life.

Mr. Lawrence came to the University in 1928 as administrative assistant, and soon became assistant to the president and director of the summer quarter. In January, 1931, his title was changed to university dean. He died on August 14, 1932.

Mr. Lawrence was a man of varied interests and extraordinary intellectual gifts. As university dean he gave his full support to the policy of bringing distinguished scholars, scientists, artists, and industrial leaders to the campus for addresses, conferences, and lecture courses. He introduced symposia of various types as special features of the summer quarters. It was he who developed the idea of, and plans for, commemorating the Founders, the Builders of the Name, and the Great Benefactors of the University of Minnesota.

Mr. Lawrence also found time for many activities in civic and national life. In 1930, he was asked by President Hoover to serve in Washington as director general of regional advisers on the Emergency Committee for Employment. From this work he conceived the idea of the Employment Stabilization Research Institute, and was largely instrumental in securing funds for its sup-

port. During his busy years he found time to prepare the manuscripts for two books. He was endowed with a fertile brain, a retentive mind, and an agreeable personality, all three of which he used effectively and liberally in advancing the interests of the University.

JOHN W. BELL

1853-1933

Dr. John W. Bell practiced medicine in the city of Minneapolis for more than fifty years, and at his death, on May 16, 1933, was one of the oldest physicians in Minnesota. Dr. Bell was born on March 18, 1853 in Butler County, Ohio. He graduated from the Ohio Medical College, Cincinnati, in 1876, after which he took a long postgraduate course in Germany where at that time many of the leaders in medical thought and research held teaching posts. Following this he returned in 1882 to Minneapolis to begin his long and distinguished career.

Dr. Bell became professor of the theory and practice of medicine at the Minnesota Hospital College in 1886, and was named professor of physical diagnosis and clinical medicine at the University of Minnesota Medical School at its opening in 1888. In 1905 he was made professor emeritus. Thus during twenty of the most active years of his long life he played an important part in training young men for the profession. Dr. Bell served as visiting physician at Swedish, St. Mary's, and Asbury hospitals, and had been president of Hennepin County Medical Society, Minnesota State Medical Association, and Minnesota Academy of Medicine. For the first ten years of its existence, Dr. Bell was a member of the Hennepin County Sanatorium Commission which built and administers the Glen Lake Sanatorium. His breadth of interest and activity is also indicated by the fact that he served in the state senate from 1891 to 1895, and was for many years a member of the Minneapolis Charter Commission.

CLARENCE HENRY ECKLES

1875-1933

Clarence Henry Eckles was born near Marshalltown, Iowa, in 1875. He graduated from Iowa State College in 1895, and was then appointed assistant in dairy husbandry and dairy bacteriology at the same institution. In 1896, he went to the University of Wisconsin for additional training and returned to Iowa State College for his M.S. degree. In the period 1896-1901 Dr. Eckles laid the foundation for his broad interest in the field of dairy husbandry. For one term he was instructor in dairy manufacturing at the Massachusetts Agricultural College.

In 1901, Professor Eckles was called to the University of Missouri. Here, within the next five years he built a strong research and teaching department and broadened his own scientific training by study abroad. In 1916, the Iowa State College conferred upon him the degree of doctor of science, *honoris causa*.

Dr. Eckles came to the University of Minnesota from Missouri in 1919 as professor and chief of the Division of Dairy Husbandry. Here his work took on new momentum and his leadership in the field of dairying increased. He engaged in research covering every phase of the dairy industry and his contributions to the literature of dairy science were frequent and numerous. He was a member of many scientific societies and associations, and of professional and

honorary societies. He was an official delegate of the United States Government at the International Dairy Congress at London in 1928 and at Copenhagen in 1931. In 1931, he was elected as a corresponding member of the Czechoslovakian Academy of Agriculture.

Although he was widely recognized as a scientist and author, perhaps his greatest contribution was in the training of young men to follow in his footsteps. The influence of these students, even as the influence of Dr. Eckles himself, will be leavening the dairy industry for many years to come.

In his death on February 13, 1933, both the University of Minnesota and the dairying industry suffered a heavy blow. Both could ill afford to lose the practical leadership, the inspiring example, and the constructive work which were the hallmark of his career. There is comfort only in the knowledge that Dr. Eckles built well and solidly for the future, and that the men whom he has inspired and trained will keep alive the tradition of scholarship and leadership he did so much to establish.

JOHN CORRIN HUTCHINSON

1849-1934

John Corrin Hutchinson was born in the village of Kirkmichael on the Isle of Man in 1849, and in 1867 came to Minnesota. He entered the University with the class of 1876 and as an undergraduate distinguished himself as a brilliant scholar. Upon graduating he was appointed instructor in Greek and Latin; in 1879 his title was changed to instructor in Greek and mathematics. He was advanced to an associate professorship in 1882 and from 1891 to 1917 served as professor of Greek language and literature. His scholarly interests were broad and his preparation was thorough. He was an authority on Hebrew and Sanskrit, as well as in the fields he taught. He held membership in many educational and honorary societies. Following his retirement in 1917, Professor Hutchinson served as assistant pastor of Simpson Methodist Episcopal Church in Minneapolis. He died on March 5, 1934.

Words spoken by Professor Hutchinson himself summarize sharply the characteristics of the man he was:

Real education is not knowledge of facts but a love for literature, a love for science. Given the poorest curriculum a good teacher can leave his impress on the pupil. Cramming is comparatively worthless. The true teacher makes of his student a great interrogation point, interested in all that is doing. Education should make him a citizen of the world, not a small-minded person doing his thinking in a yard square.

THOMAS GEORGE LEE

1860-1932

Dr. Lee was born at Jacksonville, New York. He attended the University of Pennsylvania and received the degrees of B.S. and M.D. (1886). He was also awarded the degree of B.S. at Harvard University. After graduation from Pennsylvania he served a five-year period as lecturer in histology and embryology at Yale University, where he was also director of the laboratory. Later, he taught histology and embryology at Radcliffe College for one year.

Dr. Lee came to the University of Minnesota in 1892 as an instructor in the then recently organized School of Medicine. Here he established a laboratory

of histology and embryology and had charge also of the work in bacteriology and clinical microscopy. From 1908 to 1913 he served as professor of anatomy and head of the Department of Anatomy. His title was changed in 1913 to professor of comparative anatomy. His death occurred on September 1, 1932.

Dr. Lee was firm and aggressive in his efforts to increase the facilities and improve the standards of scientific laboratory work. For years he served as secretary of the medical faculty, and devoted much time to the foundation and development of the medical library. He visited the various laboratories of Europe and America in developing plans for the erection of the new Institute of Anatomy, which was completed at Minnesota in 1913.

He was active also in the investigation of mammalian embryology, and published important papers.

FRANKLIN WESLEY SPRINGER

1870-1933

Professor Springer was born at Anoka, Minnesota, in 1870. He earned the degree of B.E.E. at the University of Minnesota in 1893, and the degree of E.E. in 1898. He also had studied at European universities.

Professor Springer came to the University of Minnesota as a laboratory assistant in 1896, and was made an instructor in 1897. He was given the rank of assistant professor in 1901 and in 1911 was named professor of electrical engineering, a title which he held until his death. During the years 1925-27 he served as acting head of the Department of Electrical Engineering. While in Europe he had given much attention to architectural and laboratory features of engineering buildings and gained knowledge which was drawn upon in planning the Electrical Engineering Building at the University.

Professor Springer was interested in general education and wrote numerous articles on its fundamentals and their relation to all phases of life. His activities outside of regular teaching duties were many, varied, and continuous. He was one of a small group of Minnesota engineers who developed the plan for organization of the Minnesota Federation of Architectural and Engineering Societies in 1921, and was counselor and adviser to the Twin City Rapid Transit Company in 1893-94 on perfecting equipment for the electrically operated street cars.

Professor Springer will be remembered by his students as a wise counselor and a real friend, and by his associates as an industrious, conscientious collaborator.

HOMER BLISS DIBELL

1864-1934

Judge Homer Bliss Dibell was a native of Fillmore County, Minnesota, and was born in 1864. He was educated in Indiana, and was a graduate of Indiana University and Northwestern University School of Law. He entered the bar at Duluth in 1890, and for many years practiced law in that city, and served on the district bench of St. Louis County. In 1913 he was made supreme court commissioner, and in 1918 associate justice. His opinions brought him wide recognition for their humanity, and their legal scholarship. He was frequently invited to serve as an arbitrator in railway disputes, and had many requests to give

special lectures at law schools, including Yale, Northwestern, and the University of Michigan.

Judge Dibell was appointed professorial lecturer at the University of Minnesota Law School in 1914-15, and served until the time of his death which occurred February 17, 1934. For these two decades he taught without compensation, for the love of the work and the association with students. In his death, the Law School lost a valued friend, and the state, a distinguished public servant.

ROSS LEE FINNEY

1875-1934

Ross Lee Finney, associate professor of sociology, retired from the faculty June 16, 1933, because of ill health; his death occurred on February 24, 1934.

Professor Finney was born at Postville, Iowa, on August 8, 1875. He did undergraduate work at Upper Iowa University, the University of Chicago, and Northwestern University. From 1899 to 1902 he attended Boston University, from which institution he received the degrees S.L.B., A.M., and Ph.D. In 1902 he was ordained as minister in the Methodist Episcopal Church, and held pastorates until 1909 when he joined the faculty of Illinois Wesleyan University. In 1914 he went to State Normal School, Valley City, North Dakota, and in 1919 was appointed assistant professor of sociology at Minnesota. He became associate professor in 1929, which rank he held until his retirement.

Professor Finney was widely known as a writer and speaker on educational topics, and he is remembered by students as a vigorous and enthusiastic teacher.

EMIL SEBASTIAN GEIST

1878-1933

Dr. Emil S. Geist, distinguished orthopedic surgeon, was born in St. Paul on May 9, 1878. He did undergraduate work at the University of Minnesota, with the class of 1899, and received his M.D. degree from the Medical School in 1900. After his internship in St. Joseph's Hospital, St. Paul, he went to Europe in 1901 where he spent three years in the orthopedic clinics of Vienna, Breslau, and Paris, working with the foremost scholars in his chosen field, and fitting himself for practice of the specialty in which he was destined to become so well known. In 1904 he returned to Minneapolis.

Dr. Geist's active interest in medical matters was recognized in his election to the presidency of the Hennepin County Medical Society in 1925. He was a fellow of the American College of Surgeons and the Minnesota Academy of Medicine. For years he was secretary of the Orthopedic Section of the American Medical Association. He was a member of many professional societies.

In 1915 Dr. Geist entered the Medical Reserve Corps, in which he rose from the rank of lieutenant to major. During the war he conducted a school of orthopedic surgery at Fort Oglethorpe, Georgia, and after the war opened a reconstruction hospital in Texas.

Dr. Geist's association with the University of Minnesota Medical School as a staff member began in 1906 when he was appointed clinical assistant in orthopedics. He was made clinical instructor in 1909, and became an assistant

professor in 1914. In 1920 he was promoted to an associate professorship and held this rank at the time of his sudden death, May 14, 1933. Students and colleagues alike had high regard for his great skill. His genial personality made for him many loyal and devoted friends and in the memory of these he remains truly "the good physician."

HAROLD S. BOQUIST

1888-1934

Dr. Harold S. Boquist, practicing physician and instructor in medicine at the University of Minnesota, died on June 12, 1934. He was born at Red Wing, Minnesota, October 21, 1888. From the University of Minnesota he received his B.A. degree in 1914, his B.S. in 1919, and his M.D. degree in 1921. He was appointed assistant in medicine, December 1, 1922, and became an instructor beginning with the academic year 1925-26. He had also served as resident physician at Glen Lake Sanatorium.

BRUCE LEE RAY

1899-1933

Bruce Lee Ray, an instructor in mechanical engineering, died on July 22, 1933. He was born in Saybrook, Illinois, February 6, 1899. He had studied at both Valparaiso University and Purdue University. He was appointed to the staff of the University in June, 1932.

STAFF HONORS

EDUCATIONAL, SCIENTIFIC, AND RESEARCH AWARDS

Never have demands for the services of the university staff been so frequent as during the past two years. Federal, state, and local governments have sought to utilize the special knowledge and abilities of the men and women in almost every department. The University has sought to co-operate fully in meeting these many requests, and has been liberal in arranging for the release, full or part time, of those whose services are requested, up to the very limits where such release would seriously affect the normal university obligations and functions in teaching and research. Similarly, unusual numbers of the staff have been recipients of special honors from educational and research groups. The following lists are representative of these various staff activities and honors.

Graduate School. Guy Stanton Ford received the honorary degree doctor of literature from the University of Wisconsin, 1933.

Dean of Women. Anne D. Blitz was given the honorary degree doctor of laws by Hobart College, 1933.

College of Science, Literature, and the Arts. John B. Johnston was president of the Association of Minnesota Colleges, 1932-34; in 1933 the University of Michigan awarded him the honorary degree of doctor of science.

Raymond W. Brink was elected a trustee of the Mathematical Association of America, 1934-37.

J. William Buchta is assistant editor of *Physical Review*, *Review of Modern Physics*, and *Physics*.

George O. Burr was awarded the Meat Board Fellowship for research, and a Guggenheim Foundation Fellowship for study abroad.

J. N. Douglas Bush was awarded a Guggenheim Fellowship for 1934-35.

Ralph D. Casey was elected vice-president of Sigma Delta Chi, national journalism society; he is a member of the committee on pressure groups and propaganda of the Social Science Research Council; and served on the board of jurors of N. W. Ayer and Son national newspaper typographical contest.

F. Stuart Chapin has been appointed advisory editor of the *American Journal of Sociology*, and was elected corresponding member of the *Masaryk Sociological Society of Czechoslovakia* (Prague).

Oliver P. Field received a research grant from the Social Science Research Council for the study of the effect of unconstitutional statutes.

Elizabeth G. Gardiner was elected president of the American Association of Medical Social Workers.

William L. Hart serves as a trustee of the Mathematical Association of America, and is on the executive board of the School Protective League of Minneapolis.

William T. Heron served as chairman of the program committee of the American Psychological Association.

Willem J. Luyten received a grant for astronomical research from the Gould Fund of the National Academy of Sciences.

Kenneth E. Olson was elected vice-president of the American Association of Teachers of Journalism; he was named by the Inland Press Association to undertake a survey of the effect of the Temporary Newspaper Code on newspaper production costs.

Donald G. Paterson was appointed chairman of the Technical Committee of the National Occupational Conference, is secretary of the American Psychological Association, and was appointed by the American Association for Adult Education to evaluate and report on the Adjustment Service of New York City.

Harold S. Quigley is a member of the executive committee of the American Society of International Law. He received the degree of doctor of laws from Hamline University, 1932.

C. Otto Rosendahl received the Southern Minnesota Medical Association Gold Medal Award (jointly with Dr. Ralph V. Ellis) for best scientific exhibit in connection with the study of the hay fever problem in Minnesota.

Carlyle M. Scott was awarded the degree of doctor of music, by St. Olaf College, 1934.

Lester B. Shippee was elected president of the Mississippi Valley Historical Society; he received a special research grant from the Carnegie Endowment for historical study.

Lawrence D. Steefel was elected a member of the Royal Historical Society (London).

Elmer E. Stoll was invited to give three lectures at the University of Toronto for the Alexander Foundation.

Andrew A. Stomberg was awarded the honorary degree of doctor of literature, by Gustavus Adolphus College, 1933.

John T. Tate was editor of *Physical Review*, *Review of Modern Physics*, and *Physics*, and adviser on publications of the American Physical Society.

Malcolm M. Willey is a member of the Committee on Social Science Personnel which awards the training and research fellowships of the Social Science Research Council.

College of Engineering and Architecture. Ora M. Leland was elected a member of the executive committee of the Association of Land-Grant Colleges and Universities, vice-president of the Northwestern Section of the American Society of Civil Engineers, and an honorary member of Phalanx, national military fraternity.

Axel B. Algren was president of the Minnesota Chapter, American Society of Heating and Ventilating Engineers.

John M. Bryant received a research grant for investigation of the electrical resistance of wood poles for the Western Red Cedar Association.

Henry E. Hartig was given a research grant by the Engineering Foundation.

Thomas P. Hughes is a member of the executive board, Northwest Chapter of the American Society of Metals, 1934-35.

John H. Kuhlmann is secretary of the Minnesota Section, American Institute of Electrical Engineers.

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

Frank B. Rowley was elected president of the American Society of Heating and Ventilating Engineers.

Department of Agriculture. William H. Alderman is a member of the executive committee, American Pomological Society.

Clyde H. Bailey was elected to the American Society of Naturalists.

John O. Christianson was elected president of the Schools of Agriculture Association of America.

Franc P. Daniels was elected president of the Minnesota State Horticultural Society.

Albert M. Field is editor of the Methods Department of the *Agricultural Education Magazine*.

Clifford P. Fitch was elected president of the American Veterinary Medical Association.

Ross A. Gortner delivered the Priestley Lectures, Pennsylvania State College, in 1934. He serves as associate editor of the *Journal of Physical Chemistry*, associate editor of the *Journal of the American*

Chemical Society, and assistant editor, *Chemical Abstracts*, and as member of the jury of award for the Willard Gibbs Medal and the Langmuir Prize (American Chemical Society). The Russian Government is translating his textbook *Outlines of Biochemistry* into the Russian language. The degree of doctor of science, *honoris causa*, was conferred upon him by Lawrence College, 1932.

Alexander A. Granovsky was elected first vice-president of the Association of the Ukrainian Professional Men in America.

Rodney B. Harvey was elected as corresponding member of the Botanical Society of Czechoslovakia (Prague).

Herbert K. Hayes was elected vice-president of the American Society of Agronomy. He delivered the Frank Azor Spragg Memorial Lectures at Michigan State College in 1934. He served as chairman, Committee on Wheat, the Flour Milling Industry and Bakeries, Sixth International Congress of Genetics.

Frank H. Kaufert was awarded the Firestone Plantations Company Research Fellowship.

Clarence E. Mickel is on the editorial board of the *Annals of the Entomological Society of America*.

Leroy S. Palmer was appointed associate editor of the *Journal of Dairy Science*.

Leroy Powers was chairman of the committee for the Hordeum Genetics Exhibit at the International Genetics Congress at Ithaca, New York, in 1932.

William A. Riley serves as vice-president of the American Board of Trustees, Lingnan University, Canton, China, and was elected honorary member of Phi Tau Phi, national scholastic honor society of China, and a corresponding member of the Peking Society of Natural History.

Arthur G. Ruggles was president of the International Great Plains Entomologists Conference, 1933-34.

W. Martin Sandstrom is national editor of the *Phi Lambda Upsilon Register*.

Arthur C. Smith was elected as secretary-treasurer of the Minnesota State Poultry Association, and president of the Minnesota Poultry Improvement Board.

Elvin C. Stakman was elected to the National Academy of Sciences. He will serve as vice-president of the Section for Phytopathology, Sixth International Botanical Congress at Amsterdam, Holland, in 1935.

Maurice C. Tanquary is secretary-treasurer of the Minnesota State Beekeepers' Association.

Mark J. Thompson is farm management editor of the *Stock and Dairy Farmer*.

Arthur N. Wilcox received a National Research Council Fellowship for European study in the field of plant genetics.

Harold K. Wilson was re-elected secretary-treasurer of the Minnesota Academy of Science, and is national vice-president of the Farm House Fraternity.

School of Chemistry. Samuel C. Lind is a member of the Advisory Board of the United States Public Health Service (Radium Hazards), of the Sub-committee on Geological Time (Division of Geology), of the Committee on Electrical Insulation (Division of Engineering), and of the Committee on Photochemistry, all of the National Research Council. In the American Chemical Society he is editor of the *Journal of Physical Chemistry*, a member of the board of editors of *Scientific Monographs*, a member of the editorial board of *Chemical Review*, and a member of the council of the American Chemical Society. He was president of the Minnesota Chapter of Sigma Xi, and has been elected to honorary membership in Gamma Alpha.

C. Frederick Koelsch was winner of the Langmuir Prize for 1934, given to him by the American Chemical Society for excellence in research in organic chemistry.

Izaak M. Kolthoff received research grants from the National Research Council, and the American Academy of Arts and Sciences.

Lloyd H. Reyerson was awarded a research grant from the National Research Council.

Medical School. Dr. Richard E. Scammon was awarded the honorary degree of doctor of laws by the College of Saint Thomas, St. Paul. He was invited to deliver the Benjamin Knox Rachford Lectures at the University of Cincinnati, and the Porter Lectures in Medicine at the University of Kansas Medical School, and gave the opening address at the Congrès International des Sciences Anthropologiques and Ethnologiques, London, 1934. He served as chairman of the Minnesota State Planning Board.

Dr. Elexious T. Bell was president of the American Association of Pathologists and Bacteriologists, 1932-33; vice-president of the American Association for Cancer Research, 1933-34.

Dr. Edward A. Boyden served as editor of the *Anatomical Record*.

Dr. Frank E. Burch is a member of a Committee on Industrial Relations between the State Medical Society and the Industrial Commission of Minnesota.

Eula B. Butzerin serves as a member of the State Certification Committee for Public Health Nurses.

Dr. Walter E. Camp was secretary of the Minnesota Academy of Ophthalmology and Otolaryngology, 1933-34.

Katharine J. Densford is a member of the board of directors of the National League of Nursing Education; president, Minnesota League of Nursing Education; and member, board of directors, American Nurses' Association.

Dr. Harold S. Diehl is a member of the advisory committee on the State Tuberculosis Program; he is on the editorial board of *Journal-Lancet*.

Robert H. Hamilton, Jr., received a National Research Council Fellowship to study "Blood Iodine" in Utrecht, the Netherlands.

Dr. Arild E. Hansen won the Alexander Brown Coxe Fellowship in Pediatrics at Yale University for 1934-35.

Dr. Erling W. Hansen was president of the Hennepin County Medical Society, 1932-33.

Dr. Arthur D. Hirschfelder received two grants from the American Medical Association for research.

Dr. Clarence M. Jackson was re-elected chairman of the Minnesota State Board of Examiners in Basic Sciences. He is a member of the University of Missouri Advisory Council, and of the Advisory Board of the Wistar Institute of Anatomy, Philadelphia.

Dr. Jennings C. Litzenberg was elected president of the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons.

Dr. Irvine McQuarrie delivered the Frederick Packard Memorial Lectures, in Philadelphia, 1933. He was president of the Northwestern Pediatric Society, 1932 and 1933.

Dr. Robert B. Radl has been elected a fellow of the American College of Physicians.

Dr. Owen H. Wangenstein was invited to participate in the Semi-Centenary Celebration and Post-Graduate Course of the founding of the University of Manitoba, at Winnipeg, 1934.

School of Dentistry. Dr. Carl O. Flagstad had conferred upon him the honorary degree of fellow in the American College of Dentists.

School of Business Administration. Richard L. Kozelka received a Social Science Research Council Fellowship for travel and study abroad, 1934-35.

Arthur W. Marget spent a year of study abroad as a fellow of the Social Science Research Council, and was guest lecturer at the London School of Economics, 1933.

William H. Stead was appointed as a special representative of the United States to attend the International Labor Conference at Geneva, Switzerland, 1933.

College of Education. Melvin E. Haggerty is chairman of the board of directors of the National Society for the Study of Education, 1934-37; regional consultant on the National Education Association Joint Commission on the Emergency in Education; member of the Committee on the Revision of Standards of the North Central Association of Colleges and Secondary Schools; and secretary of the Minnesota Council of Education.

Leo J. Brueckner was chairman of the new *Yearbook on Diagnosis*, National Society for the Study of Education.

Robert S. Hilpert was resident director of the Owatonna Art Project, a study conducted by the Committee on Research in Art Education under a grant from the Carnegie Corporation.

Grace Gordon Hood was elected to membership in Phi Upsilon Omicron, national honorary professional home economics organization.

Archie N. Jones is president of the Twin City Choirmasters' Association, 1933-35; president, Twin Cities Music Supervisors' Club, 1933-35; and president, Music Section, Minnesota Education Association, 1930-34.

Wesley E. Peik was appointed contributing editor of the *Journal of Experimental Research*.

Dora V. Smith was elected first vice-president and chairman of the committee on research of the National Council of Teachers of English, and is a member of the editorial board of the *English Journal* and the *Pi Lambda Theta Journal*.

James G. Umstattd is a regional consultant for the Joint Commission on the Emergency in Education, president of the Minnesota Institutional Teacher Placement Association, and vice-president of the National Institutional Teacher Placement Association.

Lucy M. Will is an associate editor of the *German Quarterly*, official journal of the American Association of German Teachers.

School of Mines and Metallurgy. Ralph L. Dowdell was given membership in Phi Lambda Epsilon, honorary chemical fraternity.

General College. Malcolm S. MacLean was elected to the advisory board, Progressive Education Association, Washington, D.C.

Department of Physical Education and Athletics. Frank G. McCormick was appointed chairman of the National Collegiate Athletic Association Tax Committee.

Bernard W. Bierman was elected first vice-president of the National Collegiate Football Coaches Association.

Institute of Child Welfare. John E. Anderson was elected a vice-president of the American Association for the Advancement of Science. He received *Parents' Magazine* medal award in recognition of editing the Century Childhood Library. He is a member of the National Advisory Committee on Emergency Nursery Schools in co-operation with the United States Office of Education.

Mayo Foundation. Carleton College in 1934 conferred the honorary degree of doctor of science, *honoris causa*, upon Edward C. Rosenow, and the degree of doctor of laws, *honoris causa*, upon Donald Church Balfour.

PUBLIC SERVICE

Administration. Lotus D. Coffman was named chairman of the Commission of Inquiry on Public Service Personnel of the Social Science Research Council; he served on a committee considering the merger of the University of Chicago and Northwestern University. He also served on the National Co-operating Committee of the Inter-American Federation of Education, the Committee on Education and Government of the American Council on Education, and the Council of One Hundred of the American Association of Adult Education. He was chairman of the Minnesota Land Utilization Committee, and a member of the Minnesota Commission on Education of Unemployed Youth, and the Minnesota State-Wide Committee To Study Crime.

William F. Holman was a member of a special committee of five appointed by the Minneapolis Civic and Commerce Association to assist the city building inspector in revising the Minneapolis Building Code.

William T. Middlebrook has served as a member of the Mayor's Permanent Citizens' Advisory Committee on Public Utilities, Minneapolis.

Dean of Student Affairs. Edward E. Nicholson was a member of the Minneapolis Liquor Control Committee appointed by Mayor Bainbridge.

Graduate School. Guy Stanton Ford was elected vice-chairman of the Social Science Research Council and member of its committee on problems and policy; served as a member of the Commission on

National Policy in International Economic Relations; was a member of the committee of selection of fellows of the Guggenheim Memorial Foundation, and of the committee on classification of the United Chapters of Phi Beta Kappa.

College of Science, Literature, and the Arts. William Anderson served as a member of the editorial committee of the Minnesota Land Utilization Committee; associate editor of the *American Political Science Review*, and representative of the American Political Science Association on the Social Science Research Council.

Darrell H. Davis is chairman of the committee for co-operation with the Bureau of the Census, National Research Council.

Monica K. Doyle was chairman of a committee appointed by the judge of Juvenile Court, Ramsey County, Minnesota, to study the County Detention Home for Girls.

Morris B. Lambie is executive secretary of the League of Minnesota Municipalities. He acted as co-ordinator of the Emergency Relief and Civil Works Administration, November 15, 1933 to May 1, 1934, and is a member of the Minnesota Crime Commission, State Planning Board, the Council of the American Political Science Association, the National Municipal League, and the National Civil Service Reform League.

Gertrude Vaile is a member of the special advisory committee from the American Association of Schools of Social Work appointed at the request of the Federal Emergency Relief Administration, and has directed two institutes for Federal Relief Workers.

George B. Vold gave service in connection with the formulation of a program for the Minnesota Crime Commission.

College of Education. Harold Benjamin was director of emergency education for the state of Minnesota under the State Department of Education and the State Emergency Relief Administration.

Ralph T. Craigo served as counselor and supervisor of the state re-education cases referred by the State Departments of Re-Education of Minnesota, Iowa, Wisconsin, and South Dakota.

Fred Engelhardt has been a member of the Citizens' Committee on Educational Finance and of the State Council on Education.

College of Engineering and Architecture. Frederic H. Bass is a member and vice-president of the State Board of Health, and a member of the Board of Engineers to direct work of the Minneapolis-St. Paul Sanitary District.

Alvin S. Cutler was state representative of the Local Control Surveys of the United States Coast and Geodetic Survey.

Robert T. Jones serves on the Minneapolis Housing Commission and acts as regional reconditioning supervisor for the Home Owners Loan Corporation for Minnesota, North and South Dakota, Iowa, Nebraska, and Colorado.

Frederick M. Mann was appointed by the mayor of Minneapolis as a member of the City Planning Commission (president 1933-34); and by the governor as a member of the Minnesota State Planning Board. He served as architect adviser to the Home Owners Loan Corporation for the state of Minnesota. He is an honorary fellow of the American Institute of Architects and served as a member of its board of directors.

William T. Ryan served as adviser, Engineering Department, Minnesota Tax Commission.

Department of Agriculture. Walter C. Coffey served as regional director of Drouth Relief Service of the Agricultural Adjustment Administration, chairman of the finance committee of the Board of Education of the Methodist Episcopal Church, chairman of the Committee on Co-operative Meat Investigation, and chairman, executive committee, State Young Men's Christian Association. He is a member of the board of directors of the International Livestock Exposition, a member of the Board of Education of the Methodist Episcopal Church, and a trustee of Hamline University.

Parker Anderson was president of the State Forestry Association and secretary of the Minnesota Game Conservation Council.

Andrew Boss served as assistant director, in charge of the Production Control Campaign, Agricultural Adjustment Administration; he was elected president of the Minnesota Chapter of the Society of Sigma Xi.

William Boss served as a member of the jury of awards of the American Society of Agricultural Engineers.

Spencer B. Cleland acted as regional supervisor of the thirteen north central states to correlate agricultural extension, AAA and rural rehabilitation, SERA.

Willes B. Combs was appointed a member of the National Butter Industry Committee and elected chairman of the Minnesota Dairy Industry Committee. He was elected president of the National Creamery Buttermakers' Association.

Ralph F. Crim was in charge of administering state tobacco contracts, AAA.

Austin A. Dowell was on leave for special research in livestock marketing for the United States Bureau of Agricultural Economics.

Oscar B. Jesness is a member of the editorial committee of the Minnesota Committee on Land Utilization, a member of the Minnesota State Planning Board, and served on a special committee of the Social Science Research Council to suggest a program of marketing research for the United States Department of Agriculture. He is an editor of the *Journal of Farm Economics*.

Edwin C. Johnson served as chairman of a state committee appointed by the governor to effect adjustments in farm debts, and was granted leave to serve as vice-president of the Production Credit Corporation, Farm Credit Administration, St. Paul.

Harold Macy was elected chairman of the Dairy Manufacturing Section of the American Dairy Science Association.

Paul E. Miller served as state director of the Emergency Drouth Relief Administration for Minnesota, and as chairman of the Stevens County Debt Adjustment Committee.

Robert W. Murchie was consultant to the Minnesota Committee on Land Utilization, and served as state director in charge of recreation for the Emergency Relief Administration.

Frank W. Peck was granted leave of absence to serve as co-operative bank commissioner of the Farm Credit Administration, Washington, D.C.

William E. Petersen was elected national treasurer, Gamma Alpha, graduate scientific fraternity.

George A. Pond is a member of the State Board of Review organized in connection with the Agricultural Adjustment Program.

Harry B. Roe served as agricultural engineering adviser to the State Department of Conservation, Division of Drainage and Waters and the Federal Emergency Conservation Work organization in their soil erosion control activities.

Henry Schmitz was appointed by Governor Olson to serve as one of two representatives from Minnesota on a Permanent Land Use Council of the Lake States; and was appointed by the Minnesota Conservation Commission as chairman of a committee of federal and state representatives to adjust the state and federal forest land acquisition programs for Minnesota. He is on the editorial staff of the *Journal of Forestry*.

Lloyd L. Ulylot was granted leave to serve with the Bank for Cooperatives, Farm Credit Administration, St. Paul.

Warren C. Waite was appointed a member of the State Board of Review organized in connection with the Agricultural Adjustment Program, and has served as adviser to the Agricultural Adjustment Administration. He is associate editor of the *Journal of Farm Economics*.

Hall B. White was vice-chairman of the State Farm Housing Survey and director for Minnesota of the Federal Farmhouse Plans and the Federal Rural Electrification Survey.

The Law School. Everett Fraser has been reporter for the American Law Institute on the law of property, and adviser on the law of trusts, and on other divisions of the law of property.

Wilbur H. Cherry is a member of the Board of Governors of the Minnesota State Bar Association, and a member of the Crime Committee appointed by the president of the State Bar Association.

Ralph H. Dwan prepared Minnesota annotations on the American Law Institute Restatement of Contracts at the request of the Minnesota State Bar Association.

Henry L. McClintock prepared Minnesota annotations on the American Law Institute Restatement of Conflict of Laws at the request of the Minnesota State Bar Association.

Henry Rottschaefer is a member of the Governor's Citizens' Tax Committee; adviser to the Tax Committee of the House of Representatives during the session of 1933; consultant and adviser for Income Tax Department of the Minnesota Tax Commission, and of other state officials in connection with income tax matters; was a member of the executive committee of the Association of American Law Schools.

School of Business Administration. Russell A. Stevenson was elected president of the American Association of Collegiate Schools of Business, and served on the Committee on Decentralization of Industry, United States Department of Commerce, and as economic adviser to Consumers' Advisory Board, National Recovery Administration.

Roy G. Blakey is a member of Governor Olson's special committee on the study of public school finance for the state of Minnesota; of the special committee of the United States Treasury Department to study tax problems; of the State Planning Board; and of the Minnesota State Liquor Control Board.

Ralph Cassidy acted as economic adviser to the Wholesale and Retail Section of the National Recovery Administration.

Alvin H. Hansen was a member of the Columbia University Commission on Economic Reconstruction; a member of the committee ap-

pointed to consult with the federal co-ordinator for the railroads; executive secretary of the Social Science Research Council's Commission on Inquiry on National Policy of International Economic Relations; and a member of the United States State Department's Committee on Reciprocity involving the formation of policies to be applied in negotiating reciprocal trade agreements.

Harry J. Ostlund served in Washington as economic adviser to the deputy administrator on the Wholesale Drug Code under the National Recovery Administration.

Roland S. Vaile was chairman of the Mayor's Housing Commission, Minneapolis, and a member of the Minneapolis Welfare Board's Committee on Grocery Prices.

Medical School. Dr. E. M. deBerry is a member of the committee on children's problems, State Board of Control.

Dr. Arthur D. Hirschfelder was appointed by the governor as a member of the Minnesota State Liquor Control Board.

Dr. J. Charnley McKinley is secretary-treasurer of the Minnesota State Board of Examiners in Basic Sciences.

Dr. William A. O'Brien is chairman of the Committee on Cancer Education.

Dr. Leo G. Rigler has been consultant to the Minneapolis Board of Public Welfare, and the State Board of Control.

Mr. Harold A. Whittaker is a member of the advisory committee on the State Tuberculosis Program, Minnesota State Planning Board, the Governor's Advisory Committee on Public Works, the Minnesota State Plumbers Examining Board, and the Governing Council of the American Public Health Association.

Institute of Child Welfare. Josephine C. Foster acted as regional representative of the National Advisory Committee on Emergency Nursery Schools of the United States Office of Education for the states of Wisconsin, Minnesota, North and South Dakota.

Marion L. Mattson was assistant director of Emergency Education for the state of Minnesota, in charge of nursery education.

Esther McGinnis was assistant director of Emergency Education for the state of Minnesota, in charge of parent education.

BUILDINGS AND GROUNDS

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 :

From Isaac Summerfield and wife on March 22, 1933 the Westerly 50 feet of the Southerly 200 feet of Warwick Avenue vacated, between Blocks 9 and 10, Summit Avenue Addition to St. Paul (quit claim deed).

From Bernice C. Gaines on June 8, 1934 the Westerly 40 feet of the rear 80 feet of Lots 9 and 10, Block 18, St. Anthony City; also an undivided one-half interest in a tract lying to the West and adjoining the afore-mentioned premises, being 132 feet long by 14 feet wide, said tract to be used for a driveway or alley in common by the abutting property owners holding title to either Lot 9 or 10.

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 removal of the intercampus car tracks from between the Business Administration Building and the Music Building and the landscaping of this area.

The rearrangement of the intercampus car line to form a complete turn-around at the intersection of Fifteenth Avenue and Pillsbury Drive; the paving of the west road on Fifteenth Avenue and the resurfacing of the east road and the landscaping of the area between these roads.

The landscaping of the area immediately south of Folwell Hall which was part of the old parade grounds.

The old house located at 300 Washington Avenue S.E. was torn down and the area it occupied made into a lawn.

The houses at 600 Essex, 500 Walnut, and 511 Harvard were wrecked to make the site available for the second unit of Pioneer Hall.

The old frame structures at 119 Union Street, front and rear, were torn down and the space was thrown into the athletic field area.

Farm campus. New concrete curbs and gutters have been installed from a point south of the Home Economics Building, passing the rear of the Soils Building and connecting to the pavement back of the Horticulture Building. Sidewalks and curb were also installed near the Livestock Pavilion. The road between the Cold Storage Plant and the Dining Hall has been paved with concrete. The area around Dexter Hall has been graded and landscaped.

NEW BUILDINGS AND TUNNELS

Main campus. During the past two years but one major building was constructed on the main campus—the Nurses' Hall. It adjoins the University of Minnesota Hospitals to which it is connected by a tunnel. The building is a block U in shape, five stories high in front and seven stories high in the rear, and of colonial architecture. It is of fireproof construction, beautifully located at the foot of Union Street and overlooks the Mississippi River. It will house approximately 300, including adequate quarters for the superintendent of nurses, the director of the School of Nursing, the director of the Nurses' Hall, etc. The ground floor has a large recreation room, and the first floor has a lounge room.

Three other structures on the main campus were far advanced in construction on June 30, 1934, the second unit of Pioneer Hall, the Indoor Sports Building, and the roof house addition to the Students' Health Service Building. Each of these three in part is financed through the United States Public Works Administration.

Pioneer Hall, dormitory for men, second unit. This building is being constructed by income and receipts from the following sources:

U.S. Public Works Administration.....	\$ 84,000.00
University of Minnesota Dormitory Fund.....	141,342.00
Loan—Certificates of Indebtedness.....	100,000.00
	\$325,342.00

The United States Government furnished 30 per cent of the labor and materials to which were added funds from dormitory receipts, and the balance is made up of an issue of certificates of indebtedness issued for a ten-year period at the rate of 4 per cent and dated June 1, 1934.

The second unit of Pioneer Hall is almost an identical copy of the first unit which was constructed three years ago. It is of fireproof construction and is connected with the first unit by a head house which will contain all the offices for both units of the dormitory. More adequate recreational facilities are also being added in the basement of this second unit.

Indoor Sports Building. This building is being constructed by income and receipts from the following sources:

U.S. Public Works Administration.....	\$ 86,000.00
University of Minnesota Athletic Receipts.....	164,000.00
Loan—Certificates of Indebtedness.....	100,000.00
	\$350,000.00

The United States Government furnished 30 per cent of the labor and materials to which were added funds from athletic events of prior years, and the balance is made up of an issue of certificates of indebtedness issued for a ten-year period at the rate of 3 per cent and dated September 1, 1934.

The Indoor Sports building is a magnificent structure located some 150 feet west of the Stadium and faces the closed end of the Stadium. It is approximately 233 feet long by 119 feet wide and four stories high. The basement has an exhibition swimming pool with built-in seats for 1,200 spectators and has also a practice swimming pool. This building will house all of the offices of the Department of Physical Education and Athletics with adequate office space for each member of the physical education staff together with the ticket offices, etc. The top floor is one large open space, to be devoted to intramural games.

Students' Health Service addition. This building is being constructed by income and receipts from the following sources:

U.S. Public Work Administration.....	\$ 8,205.00
Students' Health Service.....	21,795.00
	\$30,000.00

The United States Government furnished 30 per cent of the labor and materials to which were added funds from the Students' Health Service.

The addition to the Students' Health Service Building will provide much needed space for convalescent patients. The east and west rooms are large sun rooms with windows of quartz glass to permit the ultra violet rays of the sun to pass through. This addition is constructed so that it is entirely possible to close it off from the rest of the building for use as an isolation ward should occasion require.

An addition was constructed to the university laundry, located in the west wing of Elliot Memorial Hospital. This addition is 70 feet long by 31 feet wide, one story high. The exterior is of gray stone to match the lower portion of Elliot Memorial Hospital. It is light and airy and provides a much more healthful place for those employed.

North Central School and Station, Grand Rapids. A new dairy barn has been completed. The structure was designed by the Department of Buildings and Grounds with the assistance of the University Department of Agriculture and is 120 feet long by 36 feet wide. The first story is of hollow tile with many windows, an adequate ventilating system, and is electrically lighted. In the north end of this barn is a large room used by the school for instruction in cattle judging. The upper story is devoted to storage of grain and hay.

Northeast Experiment Station, Duluth. A small ice house was constructed at this station.

IMPROVEMENTS AND ALTERATIONS

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

The remodeling of the old Dentistry Building, now called Westbrook Hall, to provide space for the Department of Anthropology, the University Press, and the General College of the University.

The remodeling at the Minnesota Union consisted of tearing out the old main entrance, completely revising the stairway, removing the old fireplace room, constructing an adequate lobby, and completely remodeling and redecorating all of the dining rooms on the second floor.

In Cyrus Northrop Memorial Auditorium the motion picture booth has been equipped with sound on film apparatus.

The old stokers under boilers 1 and 2 in the heating plant were removed and the setting completely changed and pulverized fuel burning apparatus installed. This increases the efficiency of the boilers some 10 per cent.

A new ventilating system was installed in the sub-basement of the Chemistry Building to ventilate adequately the space used as a chemical storehouse.

The moving picture booth in the Music Building was remodeled and equipped for moving pictures with sound.

Two large lecture rooms in the Physics Building and the main business offices on the third floor of the Administration Building have been adequately treated with sound absorbing material.

Farm campus. Dexter Hall, boys' dormitory, was completely renovated; the building is now in first class condition.

A new concrete floor and driveway was installed in the machine shed.

The old wooden block floors in the agricultural engineering shops were replaced by concrete and steel floors.

The old chain grate stokers under boilers 3 and 4 were removed, the setting completely changed, and pulverized fuel burning apparatus installed.

New roofs were installed on the agricultural engineering shops, Music Building, Veterinary Building, all of the chicken houses, and the Seed House.

SCHOOLS AND STATIONS

Forestry Station, Cloquet. A new cottage was erected to take the place of one which was destroyed by fire. The old office building was torn down, and a new building is under construction.

Southeast Experiment Station, Waseca. A new four-inch cast iron water main connected with the city of Waseca water main has been installed, and this gives fairly adequate fire protection.

West Central School and Station, Morris. Stokers have been installed under two of the three boilers. In the past the boilers have been hand fired.

Northwest School and Station, Crookston. Stephens Hall, boys' dormitory, was completely renovated; these changes have made a first class building of this dormitory.

The Home Economics Building was completely remodeled. The plans for this work were drawn in the Department of Buildings and Grounds with the aid of the Home Economics Department of the Northwest School and Station.

New stokers were installed under two of the three boilers at this station; we expect a saving in the fuel bill with the use of the stokers.

CIVIL WORKS ADMINISTRATION PROJECTS

When the Civil Works Administration announced their program in the late fall of 1933, the Department of Buildings and Grounds immediately took steps to do as much work as possible which would not interfere with the regular maintenance and for which otherwise funds would not have been available. A considerable amount of work was done for the University.

On the main campus the first unit of Pioneer Hall, dormitory for men, was painted throughout.

On the Farm campus all of the dormitories were painted, and the Farm Crop Field House received a coat of paint.

At the Northeast Experiment Station at Duluth, Institute Hall was painted throughout.

At the Southeast Experiment Station at Waseca, the space under Institute Hall was excavated and a concrete floor and foundation installed, making this space available for experimental work.

At the West Central School and Station at Morris a considerable amount of water main was installed leading to the various barns and pastures and feeding grounds. New excavation was made for the foundation for the new location of the Farm House.

At the Northwest School and Station at Crookston new cast iron water mains were installed throughout, replacing the old mains which were of galvanized pipe and a constant source of trouble. A new sewer line from the superintendent's residence, Kiehle Building, and Robertson Hall was constructed. The Home Economics Building and Stephens Hall were painted.

CONCLUSION

The statistical reports of the registrar and of the comptroller and the most significant portions of the reports submitted by the deans of the colleges and heads of other university administrative units are submitted to complete this report.

Respectfully submitted,

L. D. COFFMAN, *President*

REPORT OF THE REGISTRAR

REPORT OF THE REGISTRAR

To the President of the University:

SIR: I have the honor to submit the following report for the biennium 1932-34.

The enrolment at the University of Minnesota is classified as: (a) collegiate students; (b) subcollegiate students; and (c) extension students. The tables which follow show the enrolment in these groups separately since they represent different types of instruction.

For the second consecutive year a loss appears in the numbers of collegiate students, the largest loss occurring in the registration for the summer quarter. The General College, in its second year, shows an increase of approximately 50 per cent. Slight gains and losses in the other units apparently have little significance.

TABLE I. COLLEGIATE STUDENTS BY SCHOOLS AND COLLEGES, 1932-34

COLLEGE OR SCHOOL	YEAR 1932-33			YEAR 1933-34			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
GENERAL COLLEGE:								
Sophomores .....	.....	.....	.....	168	106	274	274	...
Freshmen	379	246	625	399	256	655	30	...
Unclassed .....	.....	.....	.....	2	1	3	3	...
Totals	379	246	625	569	363	932	307	...
UNIVERSITY COLLEGE:								
Seniors	10	12	22	15	23	38	16	...
Juniors	18	21	39	14	15	29	...	10
Sophomores	5	7	12	1	5	6	...	6
Freshmen	2	1	3	1	1	2	...	1
Unclassed .....	.....	2	2	2	3	5	3	...
Totals	35	43	78	33	47	80	2	...
SCIENCE, LITERATURE, AND THE ARTS:								
Seniors	124	201	325	125	182	307	...	18
Juniors	180	183	363	175	182	357	...	6
Sophomores	1,309	835	2,144	1,145	759	1,904	...	240
Freshmen	791	640	1,431	880	709	1,589	158	...
Unclassed	87	104	191	62	109	171	...	20
Totals	2,491	1,963	4,454	2,387	1,941	4,328	...	126
ENGINEERING AND ARCHITECTURE:								
Seniors	300	5	305	276	6	282	...	23
Juniors	352	9	361	360	10	370	9	...
Sophomores	325	1	326	280	....	280	...	46
Freshmen	242	....	242	231	....	231	...	11
Unclassed	9	4	13	4	7	11	...	2
Totals	1,228	19	1,247	1,151	23	1,174	...	73

TABLE I—Continued

COLLEGE OR SCHOOL	YEAR 1932-33			YEAR 1933-34			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
AGRICULTURE, FORESTRY, AND HOME ECONOMICS:								
Seniors	116	114	230	67	99	166	...	64
Juniors	71	68	139	67	58	125	...	14
Sophomores	129	140	269	131	149	280	11	...
Freshmen	115	110	225	122	125	247	22	...
Unclassed	20	23	43	18	19	37	...	6
Totals	451	455	906	405	450	855	...	51
LAW:								
Third year	66	4	70	61	2	63	...	7
Second year	67	4	71	79	4	83	12	...
First year	116	4	120	145	6	151	31	...
Unclassed	4	....	4	3	....	3	...	1
Totals	253	12	265	288	12	300	35	...
MEDICINE:								
Internes	156	10	166	139	6	145	...	21
Seniors	78	5	83	98	7	105	22	...
Juniors	123	7	130	112	5	117	...	13
Sophomores	112	5	117	133	6	139	22	...
Freshmen	133	7	140	132	5	137	...	3
Unclassed	19	5	24	24	2	26	2	...
Totals	621	39	660	638	31	669	9	...
MEDICAL TECHNICIANS .....	....	36	36	....	51	51	15	...
NURSING:								
Third year .....	....	97	97	....	106	106	9	...
Second year .....	....	108	108	....	98	98	...	10
First year .....	....	204	204	....	190	190	...	14
Affiliates .....	....	144	144	....	184	184	40	...
Unclassed .....	....	83	83	....	92	92	9	...
Totals .....	....	636	636	....	670	670	34	...
DENTISTRY:								
Seniors	93	....	93	72	....	72	...	21
Juniors	61	....	61	69	1	70	9	...
Pre-juniors	74	1	75	78	1	79	4	...
Unclassed .....	....	....	....	....	....	....	...	...
Totals	228	1	229	219	2	221	...	8
DENTAL HYGIENISTS:								
Second year .....	....	40	40	....	29	29	...	11
First year .....	....	38	38	....	37	37	...	1
Totals .....	....	78	78	....	66	66	...	12
MINES AND METALLURGY:								
Seniors	33	....	33	30	....	30	...	3
Juniors	42	....	42	27	....	27	...	15
Sophomores	40	....	40	49	....	49	9	...
Freshmen	55	....	55	55	....	55	...	...
Totals	170	....	170	161	....	161	...	9

TABLE I—Continued

COLLEGE OR SCHOOL	YEAR 1932-33			YEAR 1933-34			GAIN	Loss
	Men	Women	Total	Men	Women	Total		
PHARMACY:								
Fourth year	46	3	49	38	8	46	...	3
Third year	34	8	42	38	4	42	...	...
Second year	42	7	49	37	10	47	...	2
First year	17	5	22	15	2	17	...	5
Unclassed	....	....	....	1	....	1	1	...
Totals	139	23	162	129	24	153	...	9
CHEMISTRY:								
Seniors	92	4	96	85	3	88	...	8
Juniors	99	1	100	101	2	103	3	...
Sophomores	104	2	106	91	1	92	...	14
Freshmen	100	2	102	94	2	96	...	6
Unclassed	4	1	5	1	....	1	...	4
Totals	399	10	409	372	8	380	...	29
EDUCATION:								
Seniors	160	453	613	125	363	488	...	125
Juniors	106	356	462	114	336	450	...	12
Sophomores	68	112	180	65	98	163	...	17
Freshmen	62	107	169	60	81	141	...	28
Unclassed	97	272	369	82	371	453	84	...
Totals	493	1,300	1,793	446	1,249	1,695	...	98
BUSINESS ADMINISTRATION:								
Seniors	177	24	201	136	31	167	...	34
Juniors	198	43	241	229	56	285	44	...
Unclassed	20	4	24	16	3	19	...	5
Totals	395	71	466	381	90	471	5	...
GRADUATE	1,279	508	1,787	1,139	520	1,659	...	128
Total academic year	8,561	5,440	14,001	8,318	5,547	13,865	...	136
Less duplicates	459	317	776	446	311	757	...	19
Net total academic year	8,102	5,123	13,225	7,872	5,236	13,108	...	117
SUMMER QUARTER:								
First term	1,922	2,454	4,376	1,446	1,826	3,272	...	1,104
Second term	914	900	1,814	759	698	1,457	...	357
Totals	2,836	3,354	6,190	2,205	2,524	4,729	...	1,461
Less duplicates	670	681	1,351	549	670	1,219	...	132
Net total summer quarter	2,166	2,673	4,839	1,656	1,854	3,510	...	1,329
Mayo Foundation (graduate)	206	13	219	159	9	168	...	51
Net total summer enrolment	2,372	2,686	5,058	1,815	1,863	3,678	...	1,380
Grand total (collegiate)	10,474	7,809	18,283	9,687	7,099	16,786	...	1,497
Less duplicates	1,202	867	2,069	975	670	1,645	...	424
Net grand totals (collegiate)	9,272	6,942	16,214	8,712	6,429	15,141	...	1,073

TABLE IIA. COLLEGIATE ENROLMENT BY QUARTERS, INCLUDING SUMMER QUARTER, 1932-33

COLLEGE OR SCHOOL	FIRST TERM, SUMMER QUARTER, 1932			SECOND TERM, SUMMER QUARTER, 1932			FALL			WINTER			SPRING			TOTAL INDIVIDUAL REGISTRATION*		
	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T
	General College	284	174	458	299	199	498	298	206	504	379	246	625
University College	7	5	12	3	1	4	29	36	65	31	37	68	28	41	69	40	46	86
Science, Literature, and the Arts Engineering and Architecture ...	396	427	823	175	129	304	2,194	1,768	3,962	2,042	1,603	3,645	1,822	1,523	3,345	2,753	2,309	5,062
Agriculture, Forestry, and Home Economics	146	4	150	57	1	58	1,150	19	1,169	1,115	16	1,131	1,046	16	1,062	1,285	19	1,304
Law	65	95	160	14	11	25	401	414	815	398	387	785	333	354	687	474	506	980
Medicine	19	3	22	.....	.....	.....	251	12	263	242	12	254	236	12	248	260	12	272
Medical Technology	232	16	248	231	16	247	558	34	592	568	37	605	523	34	557	649	41	690
Nursing .....	.....	14	14	.....	7	7	.....	29	29	.....	30	30	.....	17	17	.....	39	39
Dentistry .....	.....	386	386	.....	353	353	.....	505	505	.....	490	490	.....	504	504	.....	735	735
Dental Hygienists	67	.....	67	45	.....	45	222	1	223	213	1	214	212	1	213	240	1	241
Mines and Metallurgy .....	.....	2	2	.....	3	3	.....	76	76	.....	73	73	.....	64	64	.....	79	79
Pharmacy	5	.....	5	3	.....	3	160	.....	160	158	.....	158	150	.....	150	171	.....	171
Chemistry	19	2	21	16	2	18	132	23	155	132	20	152	125	20	145	142	23	165
Education	73	5	78	20	.....	20	365	10	375	340	9	349	325	8	333	418	11	429
Business Administration	304	1,057	1,361	111	264	375	408	1,101	1,509	402	1,007	1,409	377	961	1,338	776	2,309	3,085
Graduate	54	16	70	26	4	30	297	66	363	299	67	366	293	69	362	432	82	514
Totals	741	435	1,176	419	122	541	1,057	396	1,453	1,067	357	1,424	1,015	377	1,392	1,861	900	2,761
Less duplicates (transfers between colleges)	2,128	2,467	4,595	1,120	913	2,033	7,508	4,664	12,172	7,306	4,345	11,651	6,783	4,207	10,990	9,880	7,358	17,238
Net total .....	.....	.....	.....	.....	.....	.....	67	109	176	71	97	168	115	120	235	608	416	1,024
	2,128	2,467	4,595	1,120	913	2,033	7,441	4,555	11,996	7,235	4,248	11,483	6,668	4,087	10,755	9,272	6,942	16,214

* This represents a net count of individuals with all duplicates deducted.

TABLE IIB. COLLEGIATE ENROLMENT BY QUARTERS, INCLUDING SUMMER QUARTER, 1933-34

COLLEGE OR SCHOOL	FIRST TERM, SUMMER QUARTER, 1933			SECOND TERM, SUMMER QUARTER, 1933			FALL			WINTER			SPRING			TOTAL INDIVIDUAL REGISTRATION*		
	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T
	General College	8	5	13	1	1	420	277	697	453	285	738	459	282	741	574	366	940
University College	7	4	11	4	....	4	25	39	64	24	41	65	22	39	61	36	48	84
Science, Literature, and the Arts	289	328	617	137	90	227	2,019	1,679	3,698	1,953	1,590	3,543	1,842	1,520	3,362	2,618	2,235	4,853
Engineering and Architecture	61	3	64	83	....	83	1,049	21	1,070	1,020	21	1,041	1,009	19	1,028	1,184	25	1,209
Agriculture, Forestry, and Home Economics	55	52	107	1	7	8	323	404	727	347	389	736	281	356	637	416	480	896
Law .....	....	....	....	....	....	....	285	13	298	270	12	282	264	12	276	288	12	300
Medicine	263	13	276	244	13	257	565	26	591	564	26	590	544	23	567	684	34	718
Medical Technology .....	....	9	9	....	4	4	....	38	38	....	44	44	....	46	46	....	54	54
Nursing .....	....	429	429	....	379	379	....	512	512	....	484	484	....	562	562	....	758	758
Dentistry	47	....	47	28	....	28	213	2	215	210	2	212	209	2	211	235	2	237
Dental Hygienists .....	....	1	1	....	....	....	....	61	61	....	57	57	....	49	49	....	67	67
Mines and Metallurgy	3	....	3	....	....	....	153	....	153	144	....	144	135	....	135	161	....	161
Pharmacy	20	4	24	13	2	15	123	25	148	120	25	145	119	24	143	136	25	161
Chemistry	46	3	49	19	....	19	329	7	336	323	7	330	307	5	312	392	10	402
Education	175	704	879	76	144	220	348	1,050	1,398	351	999	1,350	339	814	1,153	621	1,904	2,525
Business Administration	55	16	71	23	6	29	272	78	350	287	83	370	299	80	379	419	99	518
Graduate	576	264	840	289	62	351	932	378	1,310	846	341	1,187	858	339	1,197	1,543	750	2,293
Totals	1,605	1,835	3,440	918	707	1,625	7,056	4,610	11,666	6,912	4,406	11,318	6,687	4,172	10,859	9,307	6,869	16,176
Less duplicates (transfers between colleges)	10	6	16	1	1	2	62	69	131	61	103	164	48	70	118	595	440	1,035
Net total	1,595	1,829	3,424	917	706	1,623	6,994	4,541	11,535	6,851	4,303	11,154	6,639	4,102	10,741	8,712	6,429	15,141

* This represents a net count of individuals with all duplicates deducted.

THE PRESIDENT'S REPORT

TABLE III. SUBCOLLEGIATE STUDENTS, 1932-34

SCHOOL OR COURSE	YEAR 1932-33			YEAR 1933-34			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
CENTRAL SCHOOL OF AGRICULTURE:								
Three-year course:								
Seniors	59	19	78	85	23	108	30	...
Juniors	65	26	91	66	29	95	4	...
Freshmen	39	10	49	39	18	57	8	...
Unclassed	58	17	75	23	10	33	...	42
Totals	221	72	293	213	80	293	...	...
Intermediate	24	11	35	65	24	89	54	...
Total school registration	245	83	328	278	104	382	54	...
NORTHWEST SCHOOL OF AGRICULTURE:								
Three-year course:								
Seniors	31	15	46	31	13	44	...	2
Juniors	24	12	36	40	12	52	16	...
Freshmen	33	11	44	70	23	93	49	...
Unclassed	6	15	21	31	23	54	33	...
Totals	94	53	147	172	71	243	96	...
Intermediate	25	12	37	32	13	45	8	...
Total school registration	119	65	184	204	84	288	104	...
WEST CENTRAL SCHOOL OF AGRICULTURE:								
Three-year course:								
Seniors	27	16	43	39	17	56	13	...
Juniors	34	13	47	32	18	50	3	...
Freshmen	31	12	43	44	17	61	18	...
Unclassed	17	15	32	37	33	70	38	...
Totals	109	56	165	152	85	237	72	...
Intermediate	10	12	22	15	8	23	1	...
Total school registration	119	68	187	167	93	260	73	...
NORTH CENTRAL SCHOOL OF AGRICULTURE:								
Three-year course:								
Seniors	12	...	12	6	...	6	...	6
Juniors	7	...	7	14	...	14	7	...
Freshmen	14	...	14	22	...	22	8	...
Unclassed	3	...	3	16	...	16	13	...
Totals	36	...	36	58	...	58	22	...
Intermediate	13	...	13	8	...	8	...	5
Total school registration	49	...	49	66	...	66	17	...
UNIVERSITY HIGH SCHOOL.....	220	196	416	198	200	398	...	18
Net total schools.....	752	412	1,164	913	418	1,394	230	...

TABLE III—Continued

SCHOOL OR COURSE	YEAR 1932-33			YEAR 1933-34			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
SHORT COURSES:								
Beekeepers' short course.....	11	5	16	...	...	...	...	16
Commercial florists' short course	94	17	111	...	...	...	...	111
Creamery operators' short course	25	...	25	31	...	31	6	...
Creamery operators' short course (advanced)	16	...	16	...	...	...	...	16
Farm structures short course..	18	...	18	...	...	...	...	18
Farm women's week (Crookston)	...	88	88	...	103	103	15	...
Farm women's week (Morris)..	...	166	166	...	137	137	...	29
Farmer Institute (Grand Rapids)	76	66	142	56	17	73	...	69
Ice cream makers' short course..	7	...	7	...	...	...	...	7
Junior short course (Crookston)	375	453	828	508	501	1,009	181	...
Junior short course (Grand Rapids)	31	43	74	109	200	309	235	...
Junior short course (Morris)..	697	756	1,453	439	467	906	...	547
Land management short course	33	...	33	...	...	...	...	33
Scout masters' short course...	43	...	43	...	...	...	...	43
Swimming short course (Crookston) .....	...	25	25	25	...	25	...	...
Grand total short courses	1,426	1,619	3,045	1,168	1,425	2,593	...	452
Less duplicates	1	3	4	...	1	1	...	3
Net total short courses...	1,425	1,616	3,041	1,168	1,424	2,592	...	449
Grand total schools and short courses	2,177	2,028	4,205	2,081	1,905	3,986	...	219
Less duplicates	41	14	55	39	12	51	...	4
Net total schools and short courses	2,136	2,014	4,150	2,042	1,893	3,935	...	215

THE PRESIDENT'S REPORT

TABLE IV. EXTENSION STUDENTS, 1932-34

	YEAR 1932-33			YEAR 1933-34			GAIN	Loss
	Men	Women	Total	Men	Women	Total		
GENERAL EXTENSION	2,216	2,663	4,879	2,089	2,315	4,404	...	475
SHORT COURSES:								
Boxing	6	...	6	...	...	...	...	6
Cancer clinic and general clinics .....	...	...	...	130	3	133	133	...
Cross examination	13	...	13	...	...	...	...	13
Current literature .....	...	...	...	12	55	67	67	...
Dental:								
Anatomy of head and neck..	12	...	12	...	...	...	...	12
Radiography	39	...	39	...	...	...	...	39
Embalming	87	5	92	98	7	105	13	...
Fabrics .....	...	...	...	8	2	10	10	...
Greenskeepers .....	...	...	...	37	1	38	38	...
Janitors and engineers.....	41	...	41	44	...	44	3	...
Men's and boy's clothing.....	...	...	...	22	...	22	22	...
Rayon fabrics .....	...	...	...	14	43	57	57	...
Scout leaders:								
Camp counselors .....	...	40	40	3	44	47	7	...
Recreational leadership ...	...	23	23	...	...	...	...	23
Swimming .....	...	...	...	...	17	17	17	...
Grand total short courses..	198	68	266	368	172	540	274	...
Less duplicates .....	...	7	7	...	...	...	...	7
Net total short courses...	198	61	259	368	172	540	281	...
CORRESPONDENCE	1,257	1,783	3,040	1,028	1,432	2,460	...	580
Grand total extension.....	3,671	4,507	8,178	3,485	3,919	7,404	...	774
Less duplicates	54	102	156	43	86	129	...	27
Net total extension.....	3,617	4,405	8,022	3,442	3,833	7,275	...	747

TABLE V. SUMMARY, 1932-34

DIVISION	YEAR 1932-33			YEAR 1933-34			GAIN	Loss
	Men	Women	Total	Men	Women	Total		
Collegiate students	9,272	6,942	16,214	8,712	6,429	15,141	...	1,073
Subcollegiate students	2,136	2,014	4,150	2,042	1,893	3,935	...	215
Totals	11,408	8,956	20,364	10,754	8,322	19,076	...	1,288
Less duplicates	2	1	3	...	5	5	2	....
Net totals	11,406	8,955	20,361	10,754	8,317	19,071	...	1,290
Extension students	3,617	4,405	8,022	3,442	3,833	7,275	...	747
Grand totals	15,023	13,360	28,383	14,196	12,150	26,346	...	2,037
Less duplicates	769	914	1,683	590	662	1,252	...	431
Net grand totals.....	14,254	12,446	26,700	13,606	11,488	25,094	...	1,606

TABLE VI. COMPARATIVE REGISTRATION FIGURES, 1932-34

COLLEGE OR SCHOOL	YEAR 1932-33			YEAR 1933-34			GAIN		LOSS	
	M	W	T	M	W	T	M	W	M	W
General College	379	246	625	569	363	932	190	117	...	...
University College	35	43	78	33	47	80	...	4	2	...
Science, Literature, and the Arts	2,491	1,963	4,454	2,387	1,941	4,328	...	...	104	22
Engineering and Architecture	1,228	19	1,247	1,151	23	1,174	...	4	77	...
Agriculture (including schools of agriculture and short courses)	2,367	2,273	4,640	2,249	2,143	4,392	...	...	118	130
Law	253	12	265	288	12	300	35	...	...	...
Medicine (including Nursing and Medical Technicians) ..	621	711	1,332	638	752	1,390	17	41	...	...
Dentistry (including Dental Hygienists)	228	79	307	219	68	287	...	...	9	11
Mines and Metallurgy	170	...	170	161	...	161	...	...	9	...
Pharmacy	139	23	162	129	24	153	...	1	10	...
Chemistry	399	10	409	372	8	380	...	...	27	2
Education (including University High School)	713	1,496	2,209	644	1,449	2,093	...	...	69	47
Business Administration	395	71	466	381	90	471	...	19	14	...
Graduate	1,279	508	1,787	1,139	520	1,659	...	12	140	...
Summer quarter (net)	2,372	2,686	5,058	1,815	1,863	3,678	...	...	557	823
Totals	13,069	10,140	23,209	12,175	9,303	21,478	...	...	894	837
Less duplicates	1,663	1,185	2,848	1,421	986	2,407	...	...	242	199
Net totals	11,406	8,955	20,361	10,754	8,317	19,071	...	...	652	638
Extension:										
General Extension	2,216	2,663	4,879	2,089	2,315	4,404	...	...	127	348
Short courses	198	61	259	368	172	540	170	111	...	...
Correspondence	1,257	1,783	3,040	1,028	1,432	2,460	...	...	229	351
Totals	3,671	4,507	8,178	3,485	3,919	7,404	...	...	186	588
Less duplicates	54	102	156	43	86	129	...	...	11	16
Net totals	3,617	4,405	8,022	3,442	3,833	7,275	...	...	175	572
Summary:										
Totals, resident students ..	11,406	8,955	20,361	10,754	8,317	19,071	...	...	652	638
Totals, extension students ..	3,617	4,405	8,022	3,442	3,833	7,275	...	...	175	572
Grand totals	15,023	13,360	28,383	14,196	12,150	26,346	...	...	827	1,210
Less duplicates	769	914	1,683	590	662	1,252	...	...	179	252
Net grand totals	14,254	12,446	26,700	13,606	11,488	25,094	...	...	648	958

TABLE VIII. DEGREES CONFERRED, 1932-34

COLLEGES AND DEGREES	YEAR 1932-33			YEAR 1933-34		
	Men	Women	Total	Men	Women	Total
SCIENCE, LITERATURE, AND THE ARTS:						
B.A. <i>summa cum laude</i>	5	1	6	2	1	3
B.A. <i>magna cum laude</i>	6	10	16	7	8	15
B.A. <i>cum laude</i>	16	16	32	15	23	38
B.S. <i>magna cum laude</i>.....	..	3	3	..	..	..
B.S. <i>cum laude</i>	3	4	7	..	7	7
B.A.	110	71	181*	97	66	163
B.S.	1	69	70	5	43	48
ENGINEERING AND ARCHITECTURE:						
Bachelor of aeronautical engineering with high distinction.....	..	..	..	1	..	1
Bachelor of aeronautical engineering with distinction	1	..	1	2	..	2
Bachelor of aeronautical engineering... ..	18	..	18	30	..	30
Bachelor of agricultural engineering... ..	4	..	4	3	..	3
Bachelor of architectural engineering with distinction	1	..	1	..	..	..
Bachelor of architectural engineering... ..	14	..	14	13	..	13
Bachelor of civil engineering with distinction	9	..	9	5	..	5
Bachelor of civil engineering.....	28	..	28	36	..	36
Bachelor of electrical engineering with high distinction	1	..	1	4	..	4
Bachelor of electrical engineering with distinction	11	..	11	3	..	3
Bachelor of electrical engineering.....	44	..	44	53	..	53
Bachelor of mechanical engineering with high distinction.....	1	..	1	..	..	..
Bachelor of mechanical engineering with distinction	2	..	2	4	..	4
Bachelor of mechanical engineering... ..	42	..	42	40	1	41
Bachelor of architecture with distinction ..	2	..	2	..	..	..
Bachelor of architecture.....	9	..	9	23	1	24
Bachelor of interior architecture.....	..	7	7	..	3	3
AGRICULTURE:						
B.S. with distinction (agriculture)....	3	..	3	2	..	2
B.S. (agriculture)	18	..	18	25	..	25
B.S. with distinction (agricultural science)	1	..	1	1	..	1
B.S. (agricultural science).....	13	..	13	11	..	11
B.S. with distinction (forestry)....	5	..	5	..	..	..
B.S. (forestry)	31	1	32	18	..	18
B.S. with high distinction (home eco- nomics) .....	..	..	..	..	1	1
B.S. with distinction (home economics)	..	2	2	..	1	1
B.S. (home economics).....	..	34	34	..	25	25
AGRICULTURE AND EDUCATION:						
B.S. with high distinction (home eco- nomics) .....	..	1	1	..	..	..
B.S. with distinction (home economics)	..	4	4	..	7	7
B.S. (home economics).....	..	33	33	..	33	33
B.S. with high distinction (agricul- ture)	1	..	1	..	..	..
B.S. (agriculture)	10	..	10	4	..	4

TABLE VIIA--Continued

COLLEGES AND DEGREES	YEAR 1932-33			YEAR 1933-34		
	Men	Women	Total	Men	Women	Total
AGRICULTURE AND BUSINESS ADMINISTRATION:						
Bachelor of business administration in agriculture	1	..	1	1	..	1
LAW:						
LL.B.	64	5	69	48	1	49
B.S. in law	4	..	4	13	1	14
MEDICINE:						
M.D. with highest distinction	1	..	1	..	..	..
M.D. with distinction	1	..	1	3	..	3
M.D.	114	11	125	106	5	111
M.B. with distinction .....	..	..	..	3	..	3
M.B.	116	6	122	121	8	129
B.S. <i>cum laude</i> .....	..	..	..	..	7	7
B.S.	68	27	95	65	23	88
Graduate nursing .....	..	94	94	..	91	91
DENTISTRY:						
D.D.S.	77	..	77	63	..	63
Graduate dental hygienist .....	..	33	33	..	21	21
MINES AND METALLURGY:						
E.M.	10	..	10	9	..	9
E.M. in geology	2	..	2	1	..	1
E.M. in petroleum	4	..	4	4	..	4
Metallurgical engineer	11	..	11	10	..	10
PHARMACY:						
B.S. in pharmacy	29	1	30	29	6	35
CHEMISTRY:						
Bachelor of chemistry with distinction	4	..	4	2	..	2
Bachelor of chemistry	10	1	11	18	2	20
Bachelor of chemical engineering with high distinction .....	..	..	..	2	..	2
Bachelor of chemical engineering with distinction	6	..	6	5	..	5
Bachelor of chemical engineering	34	..	34	22	..	22
EDUCATION:						
B.S. with high distinction	5	8	13	2	6	8
B.S. with distinction	13	67	80	17	39	56
B.S.	91	293	384	69	237	306
BUSINESS ADMINISTRATION:						
Bachelor of business administration with distinction	1	..	1	5	..	5
Bachelor of business administration	117	23	140	100	24	124
UNIVERSITY COLLEGE:						
B.A. <i>summa cum laude</i> .....	..	1	1	..	1	1
B.A. <i>magna cum laude</i> .....	..	1	1	1	..	1
B.A. <i>cum laude</i>	2	3	5	2	6	8
B.A. with distinction .....	..	1	1	..	..	..
B.A.	3	7	10	6	9	15
B.S. <i>cum laude</i>	1	..	1	..	..	..
B.S.	2	..	2	5	..	5
GENERAL COLLEGE:						
Associate in arts .....	..	..	..	38	30	68

* B.A. conferred June 18, 1934, as of August 27, 1932.

TABLE VIIA—Continued

COLLEGES AND DEGREES	YEAR 1932-33			YEAR 1933-34		
	Men	Women	Total	Men	Women	Total
GRADUATE:						
M.A.	100	71	171	76	40	116
M.S.	45	10	55	33	15	48
M.S. in aeronautical engineering.....	1	..	1	1	..	1
M.S. in agricultural engineering.....	..	..	..	1	..	1
M.S. in architecture.....	4	..	4	1	..	1
M.S. in architectural engineering.....	2	..	2	..	..	..
M.S. in chemical engineering.....	5	..	5	4	..	4
M.S. in civil engineering.....	6	..	6	2	..	2
M.S. in electrical engineering.....	4	..	4	7	..	7
M.S. in mechanical engineering.....	11	..	11	7	..	7
M.S. in psychometrics .....	..	3	3	..	1	1
Ag.E. ....	..	..	..	1	..	1
C.E. ....	..	..	..	1	..	1
M.E.	1	..	1	..	..	..
M.S. in dermatology and syphilology..	5	..	5	1	..	1
M.S. in medicine	11	..	11	5	..	5
M.S. in obstetrics and gynecology....	..	1	1	1	..	1
M.S. in ophthalmology	1	..	1	1	..	1
M.S. in oto-laryngology and rhinology	2	..	2	..	..	..
M.S. in otology .....	..	..	..	1	..	1
M.S. in pathology	1	..	1	1	1	2
M.S. in pediatrics	1	..	1	1	..	1
M.S. in radiology	3	..	3	1	..	1
M.S. in surgery	10	..	10	9	..	9
M.S. in experimental surgery	1	..	1	..	..	..
M.S. in neurosurgery .....	..	..	..	1	..	1
M.S. in orthopedic surgery	2	..	2	3	..	3
M.S. in urology	1	..	1	2	..	2
Ph.D.	57	10	67	61	9	70
Ph.D. in dermatology and syphilology	..	..	..	1	..	1
Ph.D. in medicine .....	..	..	..	2	..	2
Ph.D. in obstetrics and gynecology ...	..	..	..	1	..	1
Ph.D. in pediatrics .....	..	..	..	1	..	1
Ph.D. in surgery	4	..	4	3	..	3
Ph.D. in experimental surgery	1	..	1	..	..	..
Ph.D. in urology .....	..	..	..	1	..	1
Totals	1,480	933	2,413	1,405	803	2,208

TABLE VIIB. CERTIFICATES CONFERRED, 1932-34

SCHOOL OR DIVISION	YEAR 1932-33			YEAR 1933-34		
	Men	Women	Total	Men	Women	Total
Central School of Agriculture.....	45	19	64	57	18	75
Embalming certificates	68	2	70	84	6	90
Extension certificates	13*	1	14	9	1	10
North Central School of Agriculture....	18	..	18	9	..	9
Northwest School of Agriculture.....	54	25	79	35	16	51
Public health nursing certificates.....	..	30†	30	..	21	21
University High School	31	41	72	40	43	83
West Central School of Agriculture....	33	26	59	30	16	46
Totals	262	144	406	264	121	385

* One student received certificate in December, 1933, as of June, 1933.

† Two students received certificates in August, 1933, for June, 1933.

TABLE VIII.A. SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF UNIVERSITY STUDENTS OF COLLEGIATE GRADE (OTHER THAN SUMMER QUARTER), 1932-33

	General	University	S., L., and A.	Eng. and Arch.	Agriculture	Law	Medicine	Med. Technicians	Nursing	Dentistry	Dental Hygienists	Mines and Met.	Pharmacy	Chemistry	Education	Business Adm.	Graduate	Duplicates	Total
Hennepin County	300	53	2,222	530	289	96	216	12	202	43	45	80	64	182	691	183	584	293	5,499
Ramsey County	134	8	814	240	176	40	110	8	30	26	14	37	23	81	244	69	269	129	2,194
Other Minnesota counties	106	9	924	329	361	98	247	10	216	90	14	40	66	109	623	152	378	235	3,537
Totals	540	70	3,960	1,099	826	234	573	30	448	159	73	157	153	372	1,558	404	1,231	657	11,230
Other states	84	8	466	133	72	31	79	6	185	52	5	10	9	35	232	60	469	114	1,822
Foreign countries	1	..	28	15	8	..	8	..	3	18	..	3	..	2	3	2	87	5	173
Grand totals	625	78	4,454	1,247	906	265	660	36	636	229	78	170	162	409	1,793	466	1,787	776	13,225

TABLE VIII.B. SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF UNIVERSITY STUDENTS OF COLLEGIATE GRADE (OTHER THAN SUMMER QUARTER), 1933-34

	General	University	S., L., and A.	Eng. and Arch.	Agriculture	Law	Medicine	Med. Technicians	Nursing	Dentistry	Dental Hygienists	Mines and Met.	Pharmacy	Chemistry	Education	Business Adm.	Graduate	Duplicates	Total
Hennepin County	452	50	2,164	468	290	103	201	17	243	43	39	75	65	174	768	179	544	302	5,573
Ramsey County	218	10	795	230	157	57	110	8	28	26	11	38	27	76	202	75	284	140	2,212
Other Minnesota counties	172	10	914	332	332	109	268	19	207	90	13	35	48	98	516	140	336	221	3,418
Totals	842	70	3,873	1,030	779	269	579	44	478	159	63	148	140	348	1,486	394	1,164	663	11,203
Other states	87	8	432	132	70	31	84	7	189	46	3	11	13	29	206	76	424	91	1,757
Foreign countries	3	2	23	12	6	..	6	..	3	16	..	2	..	3	3	1	71	3	148
Grand totals	932	80	4,328	1,174	855	300	669	51	670	221	66	161	153	380	1,695	471	1,659	757	13,108

Respectfully submitted,
 RODNEY M. WEST, Registrar

REPORT OF THE COMPTROLLER

To the President of the University:

SIR: I have the honor to submit herewith a brief summary of the annual report of the comptroller of the University of Minnesota for the year ended June 30, 1934.

The University's complete financial report, *Report of the Comptroller*, is separately published and is available upon request.

Sources of Income, July 1, 1933 to June 30, 1934

From the State

The legislative maintenance appropriation..... \$2,800,000.00

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..... 319,941.33

The standing direct property tax for the general support of the University.

The state's share of the cost of indigent patients at the University of Minnesota Hospitals..... 146,481.08

The special projects administered and carried on by the University for the general benefit of the people of the state... 154,844.27

These special projects include Agricultural Extension, county agents, Live Stock Sanitary Board, dairy manufacturing, and research in fields of maniferous ores, direct process beneficiation of low grade ores, soils, medicine, crop breeding and testing.

The physical plant extensions (University Building Fund).... 212,523.85

Proceeds from Sale of Dormitory Certificates of Indebtedness.. 100,000.00

From the Federal Government..... 346,279.22

\$315,110.43 of this amount was used for instruction, research, and extension in agriculture; \$9,500 in engineering; \$10,022.66 in education; and \$9,500 in the College of Science, Literature, and the Arts.

From the Permanent University Fund..... 235,423.52

The principal of the fund, amounting to \$6,030,705.53 on June 30, 1934, 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..... 70,912.53

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)..... 999,446.09

The counties' share of the cost of indigent patients at the University of Minnesota Hospitals..... 177,370.86

The University of Minnesota Hospitals receipts..... 163,656.37

The Dental Infirmary receipts of the School of Dentistry..... 46,777.38

Other miscellaneous departmental income such as sales of livestock and agricultural products..... 283,047.94

Sale of Old Dispensary property..... 1,100.00

From Self-Supporting Service Enterprises and Revolving Funds 1,239,068.52

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..... 592,081.03

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..... 212,943.57

All intercollegiate athletics receipts are credited to this fund.

Total Receipts from All Sources..... \$8,101,897.56

Free balance July 1, 1933..... 225,989.20

\$8,327,886.76

Expenditures, July 1, 1933 to June 30, 1934

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..... \$ 156,684.99

The General University

The expenses of the library, general bulletins and publications, lectures and convocations, the storehouses, truck service, the inter-campus trolley, the Employment Bureau, and other services of an all-university character 442,178.29

The Expenses of Instruction and Research

The expenses of college instruction and research, agricultural schools and experiment stations, the University of Minnesota Hospitals, Summer Session, Agricultural and General Extension. (General fund, \$3,925,656.05; federal funds, \$344,133.09; special state appropriations, \$184,438.22) 4,454,227.36

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, \$703,009.42; special state appropriations, \$10,000.00) 713,009.42

The Plant Extension Expenditures

Expenditures for building additions and land. (General fund, \$86,148.41; special state appropriations, \$43,114.52; service enterprises, \$205,087.94; building funds, \$5,007.61) 339,358.48

The Redemption of Certificates of Indebtedness..... 50,000.00

The Self-Supporting Service Enterprises and Revolving Funds

The operating and capital expenditures for dormitories and dining halls, cafeterias, printing department, and other self-supporting enterprises and revolving funds..... 1,116,012.29

The Trust Fund Expenditures

Scholarships, fellowships, prizes, and trust fund expenditures for teaching and research, care of the sick, and other trust purposes.... 496,854.37

The Expenditures of Intercollegiate Athletics

The operating expenses of intercollegiate athletics and that part of the physical education expense paid from receipts of intercollegiate athletics 146,489.58

Expenditures for All Purposes.....\$7,914,814.78

Transfer to student loans and endowments 24,893.34
 Transfer to depreciation reserve (Minnesota Hospital and Home for Crippled Children)..... 45,000.00
 Increase in obligations and allotted balances*..... 249,673.69
 Free balance June 30, 1934..... 93,504.95

\$8,327,886.76

* Includes Indoor Sports Building..... \$307,907.46
 Pioneer Hall Building..... 175,000.10

\$482,907.56

A Few Interesting Facts About the University

Students

	1929-30	1930-31	1931-32	1932-33	1933-34
Collegiate	16,877	17,522	17,756	16,214	15,141
Non-collegiate	3,896	3,509	3,123	4,150	3,935
Extension	10,206	10,614	9,814	8,022	7,275

Staff—1933-34

Administrative, teaching, and research staff*	1,171
Clerical and service staff*	1,007

Colleges

	Departments
Science, Literature, and the Arts	26
College of Engineering and Architecture	10
Department of Agriculture	31
Medical School	13
School of Chemistry	1
School of Mines and Metallurgy	3
School of Dentistry	1
Law School	1
College of Pharmacy	1
College of Education	9
Graduate School	10
School of Business Administration	1
Library Instruction	1
University College	1
General College	1

Land—June 30, 1934

	Acres	Value
Main campus—Minneapolis	131.50	\$3,737,705
Farm campus—St. Paul	640.85	617,545
Crookston	550.89	137,368
Grand Rapids	454.60	34,095
Zumbra Heights	229.89	41,271
Morris	376.70	41,018
Waseca	246.02	30,752
Duluth	252.74	41,224
Cloquet	2,902.09	60,632

Buildings—June 30, 1934

	Major	Minor	Value
Main campus	46	15	\$14,544,663
Farm campus	28	52	2,162,289
Crookston	14	25	588,418
Grand Rapids	3	20	208,769
Zumbra Heights	5	8	53,108
Morris	15	15	762,519
Waseca	6	14	35,399
Duluth	2	20	65,476
Cloquet	6	20	34,595
Itasca	2	15	17,525

* Reduced to a full time basis.

Equipment—June 30, 1934

	Total	Livestock	Books, Museums, and Collections	Other
Main campus	\$5,164,108	.....	\$2,711,135	\$2,452,973
Department of Agriculture	1,100,657	\$64,868	328,429	707,360
Research	21,745	.....	.....	21,745
Service enterprises	595,992	.....	.....	595,992
	<hr/>	<hr/>	<hr/>	<hr/>
	\$6,882,502	\$64,868	\$3,039,564	\$3,778,070

Endowment—June 30, 1934

	Value
For student aid	\$ 397,736.80
For specific purposes other than student aid.....	5,299,520.75
Endowment—subject to annuity.....	159,007.54
For general purposes—Permanent University Fund.....	6,030,705.53
	<hr/>
	\$11,886,970.62
Student Loan Funds—Cash available	74,612.94
Notes receivable	248,720.05
	<hr/>
Total	\$12,210,303.61

Respectfully submitted,

W. T. MIDDLEBROOK, *Comptroller*

COLLEGE REPORTS

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

To the President of the University:

SIR: I have the honor to submit my report as dean of the College of Science, Literature, and the Arts for the biennium 1932-34.

The state of the college.—It is time now to take stock of the effect of social and economic conditions on the work of the college. The economic depression did not greatly affect the college during the biennium ending June 20, 1932. Registration was at its maximum in the year 1930-31 and decreased less than 2.5 per cent in 1931-32. In the year 1932-33, the registration decreased 696, or 13.5 per cent. The new General College took about 300 who would have registered in this college, or 6 per cent of the freshman registration in 1931-32. The decrease due to the depression was about 7.5 per cent. In the year 1933-34, about 260 students who might have entered this college enrolled in the General College, and the registration in this college showed a further decrease of 110, or nearly 2.5 per cent. If the General College had not entered the picture, the registration in this college for the two years of this biennium would have been approximately 4,750 and 4,600, a decrease from the peak of 1930-31 to 1933-34 of 12.9 per cent. The decrease in actual registration for the same period was 17.7 per cent.

The relations of this college are such that its formal registration is in no sense a measure of its work. The teaching functions of this college fall into three large divisions: instruction of those who wish to obtain degrees from this college, instruction of those who are preparing to enter various professional schools, and instruction of students who are enrolled in professional schools or the Graduate School. For convenience, these three parts may be thought of as approximately equal, the latter being in fact the largest. While a little more than one third of the students present in the college classes are enrolled in some other unit of the University, a large number of students enrolled in this college are taking work in other colleges or schools. As these groups who are taking class work in colleges other than that in which they are enrolled vary in number from year to year, the only way to measure the work of the college in instruction is in terms of student credit hours (number of students in class times the number of credit hours in the course). This is the number which appears in the total column under "Student Credit Hours" in Table I. It may be seen that the decrease in teaching load has been less than the decrease in registration. Since 1930-31, the decrease in registration has been 17.7 per cent and the decrease in teaching load has been 8.25 per cent. This is due to an increase in the number of students coming to our classes from other colleges in the University.

The teaching of students from other colleges reached its maximum in the first year of the biennium, 1932-33. In the second year, that group showed a marked decrease because of the reduced enrolment in the College of Education and the Graduate School.

TABLE I. DATA PERTAINING TO REGISTRATION, STUDENT CREDIT HOURS, SIZE OF FACULTY, AND BUDGET, 1923-24 TO 1933-34

ACADEMIC YEAR	REGISTRATION	STUDENT CREDIT HOURS (Teaching Load)			FACULTY*	BUDGET
		S.L.A.	Other			
			Colleges	Total		
1923-24	4,059	121,301	44,746	166,047	202.73	\$624,105
1924-25	4,258	124,283	48,521	172,804	203.49	654,745
1925-26	4,609	135,591	51,219	186,810	212.74	686,885
1926-27	4,968	138,849	57,114	195,963	219.23	740,285
1927-28	5,026	138,937	55,771	194,708	223.80	787,605
1928-29	5,228	134,204	61,285	195,489	227.03	850,134
1929-30	5,264	138,442	57,833	196,275	235.95	878,322
1930-31	5,279	135,980	64,042	200,022	243.53	872,738
1931-32	5,150	137,492	67,213	204,705	234.27	844,380
1932-33	4,454	122,317	70,818	193,135	231.29	839,180
1933-34	4,344	117,494	66,026	183,520	213.35	703,034

* Administration included. The faculty includes many part time members; the figures in the column represent the "full time equivalent" of the combined faculty members.

In the matter of budget, the college was affected in the biennium ending in 1931-32 by a reduction of 3.75 per cent and in the biennium just closed by a reduction of 16.75 per cent. The budget for 1933-34 was slightly more than 20 per cent below that for 1929-30. The reduction from the budget of 1931-32 to that of 1933-34 was distributed as follows: salary cuts, \$59,894; reduced number of faculty, \$72,744; supplies and expense, \$8,708. Between 1931-32 and 1933-34, there was an increase of 3.5 in the number of faculty in the three professorial ranks, due to promotions, and a decrease in the number of instructors and teaching assistants equivalent to 25 full time persons.

With all the changes in enrolment, budget, and faculty, the relation of teaching load to faculty has been kept remarkably constant by adjustments between departments, as indicated in Table II.

TABLE II. THE RELATION OF INSTRUCTIONAL COSTS TO TEACHING LOAD

ACADEMIC YEAR	STUDENT CREDIT HOURS	FACULTY*	STUDENT CREDIT HOURS PER QUARTER PER INSTRUCTOR	BUDGET	COST PER STUDENT CREDIT HOUR
1927-28	194,708	223.80	290	\$787,605	\$4.04
1929-30	196,275	235.95	277	878,322	4.47
1931-32	204,705	234.27	291	844,380	4.12
1933-34	183,520	213.35	287	703,034	3.83

* Full time equivalent.

In this table, administrative officers are included with the teaching faculty, and the total budget is used, including clerical help, supplies, and expense. Of course, a considerable sum is really used for research and other services. If these items could be accurately estimated, the cost per credit hour of teaching would be appreciably reduced. The main purpose of the table is to show comparison by years expressed in the chief service of the college, namely instruction. The decrease

of 9 per cent in the cost of the student credit hour of teaching as compared with the average for the six years previous is very significant. It means that the reduction made in the faculty salaries on account of the economic stress was greater than the decrease in the teaching to be done. What is especially noteworthy in the situation is the increase in teaching service for students enrolled in other colleges (Table I). In 1923-24, the instruction for such students made up 27 per cent of the total teaching load of this college. By 1930-31, when the enrolment had increased 30 per cent, the teaching for "other college" students had increased by 43 per cent, and constituted 33.6 per cent of the total teaching load. In 1933-34, this group of students made up 36 per cent of the teaching load of the college. Of this instruction for students enrolled in other colleges, about 60 per cent is in Senior College courses.

Morale.—The morale of the faculty and students has continued excellent during the depression. Course offerings and administrative procedures have been examined and changes have been made with a view to maintenance of services and objectives with increased instead of impaired efficiency. The morale of the faculty has been evidenced also by the general insistence that financial adjustments should be made in a way to preserve the strength of the departments and of the college for the future. Members of the faculty have put the training and efficiency of the faculty of the years to come before their own present salaries and comforts.

Among students there has been evident an unusual interest in the significance of the curriculum and the methods of teaching. This has appeared in part in the activities and conversation of individual students as they seek to arrange their study programs to meet their own needs and in part in the discussions and carefully considered suggestions of the Arts College Intermediary Board. This is a group elected by the students on the honor roll for consultation with the faculty. Members of this group have met with the Advisory Committee, and groups of the faculty and the dean have attended meetings of the board. The discussions have been mutually helpful, the suggestions made by the students have commanded the interest and respect of the faculty, and there is developing an understanding and a community of interest which do not always emerge from the work of the classroom. Among the subjects discussed with the board have been the selection of students, the functions and form of examinations, student knowledge of current affairs, survey courses, and independent study.

Changes in curriculum.—Active discussion of the curriculum by the faculty has gone on during the two years and has led to important changes both in requirements and in procedures.

Among the purposes sought in the discussion of the curriculum may be mentioned: to raise the level of intellectual effort on the part of the students who seek the college degree; in the interest of efficiency in instruction and of uniform standards of service to society, to set reasonable bounds to the range of ability allowed in the same classes or in candidacy for the same degree; to secure adherence to ideals rather than obedience to certain rules; to lay greater stress on coherence of plan and co-ordination of studies and less on traditional preferences; to make possible and encourage the planning of individual curricula; to arouse genuine interest and secure acceptance of responsibility on the part of the students; to encourage independent study and interest in scholarly achievement.

Under the past regulations, students have developed some unfortunate practices which the new curriculum is designed to correct. One of the most serious of these is the failure of many students to make reasonable intellectual progress during the four years of their college course. The offerings of departments are graduated from elementary courses intended for freshmen and sophomores to advanced and intensive courses intended for juniors, seniors, and graduates, but many students do not arrange an advancing series of courses in their elections for four years. In the cases of more than one half of the graduates, each one has spent less than one third of his four years on advanced courses intended for juniors and seniors. The proportion of time devoted to such advanced studies by individual students has varied from one fifth to more than one half of the total credits required for graduation. A formal system of credit requirements encourages the slack student to offer for his degree as much freshman and sophomore work as he can.

The habit of some students to determine their study programs on flimsy and thoughtless grounds is well known. The fact that one's friends are taking the course, that it meets at a convenient hour of the day, or that the instructor or the subject is supposed to be easy plays far too great a part in the choice of studies.

The weight given to research since 1880 has led students to specialization as a matter of course, often without any consideration for adequate ground work and without the intention or the aptitude to do anything with the specialized study or training. Research has been the academic god. His worship requires specialization on the part of the devotees. Specialization has built up and segregated subjects of study protected by departmental walls. The student who seeks an academic degree knows that he is expected to specialize in some subject. Thus has subject-matter specialization been substituted for the intellectual development of the individual during his formative years. The worst feature of this academic formalism has been that all individuals were to be treated alike. Some might be ready for specialization; for others it might never be advisable. No difference, the tradition ruled.

In seeking to gain the purposes of curriculum revision outlined above, efforts in two main directions were believed necessary. First, to set up curricular requirements under which the way would be left open for the adjustment of college work to the needs of the individual. Second, to require and facilitate the progress of the student from elementary to advanced studies so that his college years would be a period of intellectual development.

The second of these had been secured in part indirectly by the requirement of major and minor studies made up of Senior College courses. Under this plan, the minimum of advanced studies required amounted to only one fifth of the four-year course, and student elections of Senior College courses varied from 36 to 96 quarter credits. The new action provides that during his Senior College years the student shall occupy himself with Senior College courses, except for such elementary work as is necessary to carry out the plan of studies agreed upon by the student with his adviser.

Examination of the elections under the old plan showed that most students had not made intelligent preparation to meet such a requirement. In the new

plan it would be necessary to direct the student during his Junior College years so that a foundation would be laid for the advanced studies in the Senior College. For this purpose, the subjects open to freshmen and sophomores were arranged in four groups: (a) humanities, (b) social sciences, (c) natural sciences, (d) mathematics and philosophy. In the revised curriculum, each student is required to prepare himself in five subjects for courses of study intended for juniors and seniors. Three of the five subjects must represent the first three groups and two may be chosen at large from all four groups. As a part of, or in addition to, these five subjects, the student must meet the past requirements in freshman English and in foreign languages. When study programs are properly planned, the student can meet all these requirements in the freshman and sophomore years and have one third of his time, more or less, for free electives.

These freshman and sophomore requirements, while preserving the principle of distribution of studies which has been generally accepted, provide the foundation for progress to advanced studies, eliminate the excuse for the extreme variations in student electives above noted, and furnish a background for individual student plans.

The first condition mentioned above, provision for individual curricula, is secured by offering juniors and seniors the option between specialization, as heretofore represented by the required major and minor studies, and a general course to be arranged by each student in consultation with his Senior College adviser. Under the major study plan, a small degree of adjustment for the individual has always been allowed through modification of the major sequence and the student has had great freedom (often too great) in choosing his other studies. Under the new liberal or cultural curriculum, the student is expected to take the initiative in planning a program of studies for the junior and senior years. This program is to be taken to the adviser for discussion, and the adviser approves a program which offers an intelligent plan for achieving a worth-while aim. The theory underlying this is that the individual curriculum is not a system of wholly free electives but an arrangement under which the student and the college share the responsibility for the student's education. The responsibility of the college is borne by the faculty adviser. The student has the initiative in choosing his field of interest and in framing the first draft of his program. The adviser gives attention to the coherence of the program and the significance of the studies chosen in relation to the main purpose, and probably in many cases will be consulted by the student at the outset regarding the field of interest itself, its vocational aspects, the facilities for its study, etc.

In connection with these changes in the curriculum, the mode of defining Senior College courses has been changed. For some years, those courses which might be counted for credit toward Senior College requirements have been defined by their prerequisites; that is, the preparation which the student must have in order to do the work satisfactorily and profitably. In the course of time, this rule came to operate in reverse in some cases; a department wishing a certain course to be a Senior College course announced prerequisites to satisfy the rule, altho they were not bona fide prerequisites for the work to be done in the course. It is now declared that a Senior College course is such because of its character, content, and method, as recommended by the department and approved by the fac-

ulty committee in charge of curriculum matters. As a result of this, the prerequisites of many Senior College courses have been decreased and greatly simplified. It is expected that prerequisites hereafter will be restricted to the significant preparation or foundation for the course in question. Very considerable changes have already been made in the direction of simplifying the prerequisites to be effective next year. These changes appear in half of the departments and affect nearly one fourth of all courses offered. The new faculty rules leave the way open for similar action by other departments another year.

In connection with the revision of the curriculum, changes have been made in the system of advisers for upper class students. The number of major advisers has been decreased, and each adviser will be expected to give closer attention to the administrative duties connected with the direction of a group of students. The care of students electing the general course will require advisers with an outlook and interests different from those which usually characterize the major advisers. The interest of these students is not to make themselves competent in a recognized department but to draw upon any fields of knowledge which will help them to organize and develop their own intellectual activities. These students seek their salvation not in conformity with a traditional scheme of human knowledge but in the development of their own native intellectual powers. The equipment which this demands they seek wherever it may be found. The task of the adviser for these students is a new one; whether more or less difficult than that of the major adviser remains to be seen. The men and women who have been asked to undertake this work are expected to meet together for the discussion of cases and problems which arise. It is hoped that out of their experience may develop ways of making college education more useful and satisfying to that part of our students who do not fit into the traditional groove of specialization but seek to realize their individual ideas or visions.

The needs of the college.—In these days, it is realized that the needs of the college are not to be stated in terms of buildings or salary scales or numbers of faculty but rather in terms of the ideals and purposes which in the long run determine these things. From this point of view, I would mention the following as the peculiar needs of the college:

1. Selection and direction of students in such ways that less of the energies and facilities of the college shall be devoted to those who do not succeed and more to those who will render the greatest service to society. Past and present efforts in this regard should be continued and in many respects greatly increased.

2. The full working out of the plans for adapting our instruction and guidance to the needs of individuals.

3. Greater attention by both faculty and students to the problems of life, especially those of organized society, and less to the satisfaction of personal desires or to the maintenance of traditions. This involves among many things: the better selection of those who are privileged to turn their attention to research; greater stress on social problems and the development of more active and genuine interest in the fields of the social sciences; increased interest among students in the serious business of education and less attention to the pleasures and enjoyments of college life or the practice of college politics; more rigid insistence on worthwhile results by those who are allowed to use the college facilities for a period of years.

4. For the education of youth who are selected and directed in this spirit and who show interest and competence to deal with the serious things of life, the determination of what are ample funds in view of the public needs and the common welfare.

5. The service which society should have from the college requires that the intellectually most capable youth be found and enabled to attend college, that the less capable youth be limited to the kinds of instruction or training which will enable them to render their most effective service, and that the facilities provided for each group and type of students shall as nearly as possible equal the capacity of the students to make use of them in social services.

Respectfully submitted,

J. B. JOHNSTON, *Dean*

THE DEPARTMENT OF AGRICULTURE

To the President of the University:

SIR: The period of depression through which this country has been passing has been one of great difficulty for the American farmer. How the Minnesota farmer has fared during it is indicated by estimates of farm income made by the Division of Agricultural Economics of the University. The gross cash income of farmers from the sale of products in 1929 amounted to 384 million dollars. The gross cash sales in 1932 brought a total of only 165 million dollars, or considerably less than half of the total for 1929. The estimate for 1933 is 185 million dollars, a slight increase.

Fixed charges constitute such an important part of the farmer's cash expenses that his outlays are not quickly adjusted to a situation of reduced income. The cash operating expenses of Minnesota farmers in 1929 were estimated at 199 million dollars, leaving a net cash income from sales of farm products of 185 million dollars, or \$1,057 per farm. In 1932, the cash expenses totaled 149 million, leaving a net cash income of only 16 million dollars, or \$92 per farm. For 1933, the cash expenses totaled 142 million, leaving a net of 43 million, or an average of \$248 per farm.

A number of farmers in several areas of the state have been keeping detailed business records of their farm operations under supervision of our Division of Agricultural Economics. A group of farms in southeastern Minnesota for which records are available for several years, in 1929 averaged \$2,571 return for the operator's labor after providing for operating costs. In 1932, the returns not only provided nothing for the operator's labor but failed by an average of \$455 to meet the other charges. The situation on these farms improved because of price improvement in 1933, so that they averaged \$1,222 for the operator's labor. Eighteen farms in western Minnesota failed to cover other charges, without any allowance for a return to the operator for his labor, by an average of \$1,240 in 1932 and \$224 in 1933. The drouth situation affected the earnings in this area materially in 1933.

The farms for which these records are kept probably are considerably above the average of all farms but they suggest the difficult situation in which agriculture finds itself in a period of drastically low prices.

Trends in land values.—Another indication of the condition of agriculture is furnished by trends in land values because land derives its value from the income which it yields in the present and is expected to yield in the future. The State Tax Commission has gathered records of the sale prices of farm real estate. An analysis of these records indicates that sale prices for the state for the two years 1920 and 1921 averaged \$104 an acre. For the years 1928-29 the average had dropped to \$71 and as a result of the severe decline in prices since 1929, the average in 1932-33 was only \$40 an acre. The average for southwestern Minnesota was \$152 an acre in 1920-21, and only \$61 an acre in 1932-33.

These changes in farm real estate values cannot be dismissed as merely changes on paper which have no special significance to the farm owner. The

upward trend in land values which characterized a long period of time prior to 1920 undoubtedly was taken into consideration by farmers in measuring their returns from farming. Even the current cash income oftentimes was of very modest proportions, the farm owner saw the creation of an old age retirement fund or an estate for his family in the growing value of his farm. The case is quite different when values trend sharply downward. Then current returns are the sole reliance. Moreover, the amount of capital needed for the acquisition of a farm is so large that loans frequently are required by the purchaser to complete the transaction. More than half of the farms in Minnesota are mortgaged. Falling prices of farm products not only make it more difficult to meet interest payments and installments on the principal when due, but, through their effect on land values, also reduce the owner's equity in the property. When the fall is as drastic as that since 1920 and especially since 1929, it becomes impossible for many farm debtors to meet their payments and many find their equities entirely wiped out. It is under circumstances such as these that foreclosures become acute and demands arise for extensions and adjustments in debts.

National programs.—The national programs under way are directed towards the alleviation and solution of these difficulties. The agricultural adjustment program, on the one hand, seeks to raise prices for farm products, mainly by the reduction of supplies placed on the market; the farm credit program, on the other, seeks to provide better credit service for farmers and to help them arrange more advantageous loans and readjust existing debts.

The Department of Agriculture of the University has participated actively in these efforts. The adjustment programs to be effective require the voluntary co-operation of the rank and file of farmers. We have carried the programs to farmers and have helped them in arranging their own production programs to comply with the requirements laid down by the national administration. We have felt entirely justified in doing so because of the evident need for bringing agricultural production more nearly into line with the ability of the market to absorb farm products.

Agriculture and other industries.—It may be well to call attention here to some differences between farming and various other industries in their reactions to reduced markets and lowered prices. Agriculture is carried on by relatively small units, namely the individual farm. The fixed costs of such units represent a large proportion of their total costs while the output of any single unit is an insignificant part of the total supply. Manufacturing establishments shut down plants and lay off labor when the market reduces its takings. The farmer maintains his production and takes the full effect in form of lower prices. The difference is between manufacturing and farming; not between the manufacturer and the farmer. The adjustment program seeks to help the farmers do what they cannot do as individuals—adjust production to reduced outlets.

Long time adjustment.—While we look upon this as desirable in the short run, in view of the situation in which we find ourselves, we are fully aware that the long run solution cannot be arrived at in this way. We live by production, not by lack of production; wants are satisfied by production, not by scarcity. We can raise standards only through production for the satisfaction of wants. While there is no justification in producing for markets that do not exist, the

long run improvement must come from a re-establishment of markets. The emphasis placed upon overproduction in agriculture has caused people to lose sight of the fact that the farmers are suffering even more from lack of production in other lines. Business recovery, bringing with it re-employment and re-establishment of industrial outlets for farm products, is essential to agricultural recovery. Domestic markets for farm products can be re-established only through such recovery. Foreign markets occupy an important place in agriculture and there is urgent need for the adoption of policies which will foster and re-establish these markets. The alternative to this is a slow, painful, and costly retrenchment of the farming industry of the country involving a lowering of income and of living standards.

Agriculture is often referred to as a "mode of living" and not as a business. While the home and the business are more closely associated in agriculture than in other lines, still our farms, which produce the major part of the supplies of farm products, are business undertakings which must be operated efficiently and on a business basis. We do not accept the view that the unemployed should be encouraged generally to enter farming. Some argue for such a movement on the ground that unemployment does not extend to agriculture, overlooking the fact that this is because agriculture does not follow the example of other industries in adjusting production to lower prices. Existing farms are more than ample for existing needs. Any extensive movement of people to the land would reduce them to a mere subsistence level with extremely low standards. Rather than thus accept defeat, the country must find ways and means of returning these people to the production of products for which wants now are going unsatisfied.

Because farming is a business, it is essential that it be carried on in the most efficient manner in the interest of society as well as the farmer. The Department of Agriculture, therefore, has continued to direct its research work along lines seeking to improve agriculture. Unthinking individuals who argue against such improvement because of the immediate situation need to ask themselves if they have ever known an industry to find its way out of a depression through inefficiency.

The need for the development of new knowledge.—An invasion of grasshoppers or other pests is more serious in a period of depression than in more prosperous times. During such an invasion farmers seek the aid of science to combat the scourge. A period of extreme drouth calls for new knowledge and information on pasture and emergency forage crops, and research to these ends is important. When it is difficult to make ends meet, management and good business methods become more important than ever before and the farmer seeks additional help from the results of research studies and experimental work. A difficult economic situation calls for aids in arriving at the best uses to make of credit and the best ways of meeting obligations. In a period of distress difficulties involved in land use problems stand out and the results of research on such problems are doubly important. The need for agricultural research, in short, is emphasized and not diminished by an economic emergency. Production could be cut through inefficiency but at a cost far outweighing any subsequent improvement in prices. Net returns rather than unit prices determine the farmers' economic status. High prices for a unit of commodity resulting because supply

has been cut through the employment of poor seed, poor methods of tillage, inadequate equipment, and inefficient methods, or by the visitation of drouth or of hordes of grasshoppers, are no attraction to the farmer since his costs will be so high that his net return will be unsatisfactory. There is no incompatibility between research to enhance efficiency in farming and agricultural adjustment in a period of depression.

The drouth situation has affected the agriculture of the state extensively and in parts of the state the effects are serious. Feed crops and pastures have been reduced in turn, curtailing livestock enterprises and income from them. Cash crops have suffered, lowering farm income still further. The immediate situation, in areas where the drouth is most severe, has made it impossible for many residents to maintain themselves without outside aid. The relief load borne by the state and nation is increased. Moreover, the effects will not all vanish with the appearance of rain. Farming systems and enterprises have been disturbed and time is needed to re-establish them. The physical plant and equipment have not been maintained and as a consequence productive efficiency has been lowered. Inability to meet taxes adds to public debt and to the tax burden of future years. Debt situations are complicated by the shutting off of income. Farm youths find their immediate educational and other opportunities curtailed. Standards are lowered. In recognition of both the immediate and longer time seriousness of the drouth the Department of Agriculture has bent every effort to aid constructively in alleviating the condition.

A program of research is necessarily a long time program and the Department of Agriculture of the University is carrying its agricultural research on that basis. Changing conditions lead to changes in emphasis but the main objective of aiding agriculture in the solution of fundamental problems is always in mind. The projects receiving attention must cover a wide range because of the variety of difficulties confronting agriculture. They relate to economic, social, and technical production problems.

The Department of Agriculture has endeavored to co-operate fully with the state and Federal governments in handling relief and recovery problems. The following, in which we have participated with the Agricultural Adjustment Administration, indicate a number of programs and projects dealing with these problems and indicate types of activity which have made demands upon the time of the staff.

a. Emergency hog buying conducted in late summer 1933 when an attempt was made to buy 5,000,000 pigs and 1,000,000 sows. Extension specialists and county agents co-operated in this program by acquainting farmers with the requirements made in connection with it.

b. The production control programs with respect to wheat, tobacco, corn, and hogs involved a heavy load of work for county agents and all the men serving as extension specialists.

c. The Division of Publications and the Agricultural Extension Division co-operated with representatives of the AAA and the Farm Credit Administration in preparing press and radio material for emergency programs.

d. In June, 1934, the Agricultural Adjustment Administration inaugurated a program of cattle purchasing in emergency drouth areas. This work made large

demands on the time of the dean and members of the staff, including extension specialists and county agents.

The Federal Government conducted several CWA survey projects in which we were asked to co-operate. Outstanding among these were:

Farm housing, under the direction of the Federal Department of Home Economics; tax delinquency, mortgage foreclosures, and land values survey, by staff members in the Agricultural Economics Division; part time farming, organized by the dean of the Department of Agriculture.

In many other ways the staff members and divisions have been actively engaged in public service.

E. C. Stakman, professor in the Division of Plant Pathology, represented the University of Minnesota at conferences called to deal with an emergency problem in connection with barley scab and for the purpose of determining an equitable basis for grading barley with particular reference to scab. Dr. Stakman's research, made at the request of the State Grain Grading Board of Appeals, has shown that lowering of grade is often due to comparatively harmless parasites rather than to scab.

The Division of Home Economics has co-operated in the state nutrition project by helping to find trained workers for the field; has co-operated with Twin City relief organizations, both public and private, in an attempt to solve some of the home problems with special regard to food and clothing; has worked especially with the public welfare organizations and the Visiting Nurses' Association of the Twin Cities.

Members of the staff of the Division of Forestry through the Cloquet Forest Experiment Station, have co-operated with the State Forest Service in growing pine seedlings for their emergency planting program. At the present time between 100,000 and 200,000 pine seedlings are ready to be turned over to the State Forestry Department. During the past two years the division also has co-operated with the Division of Agricultural Economics and the Bureau of Agricultural Economics, United States Department of Agriculture, in connection with a land use study.

Members of the staff of the Division of Entomology and Economic Zoology have co-operated with the state and Federal governments in grasshopper and chinch bug control. Especial mention should be made of the work done in visiting the various Emergency Conservation Work camps in connection with the white grub project.

THE EXPERIMENT STATION

Experiment station contributions.—The national act creating state agricultural experiment stations and providing in part for their support conceived these as public service institutions. They were established to carry on for the farming population activities it could not well do for itself. The demands upon the Experiment Station and its contributions to the agricultural industry during its existence seem fully to justify this view. These demands have been particularly heavy during the past two years because of the untoward circumstances that have been affecting the agricultural situation in this state. Fortunately, the Experiment Station has accumulated throughout the years of its existence a vast body of information closely related to the farming industry and this has been drawn upon freely in the emergency

As illustrative of the Experiment Station contributions, reference may be made to the Haecker feeding formulas for dairy cows, based upon years of patient research in the requirements of dairy cows for body maintenance and milk production. The Haecker feeding standards have become the dairyman's manual. Their use insures greater production and economy in feeding, and thus greater net profit from dairying. Over two hundred thousand bulletins developed from these researches have been distributed to dairymen. Many of them are found tacked up in the dairy barns or carried in the dairyman's pocket for ready reference and use. The later studies of Professor C. H. Eckles and his associates of the deficiencies of essential minerals in relation to the requirements for dairy production are equally important and useful to dairymen.

Another example of the influence of experiment station research is found in the general adoption into commercial agriculture of the new strains of cereal, forage, and fruit crops originated in the plant breeding nurseries of the Experiment Station. This research, first definitely established in the early nineties, has continued in ever expanding volume to the present time and the contributions have been many and varied. The most notable of these, in effect upon the agriculture of the state, involve the improvement of the corn crop. Beginning with the distribution of Minnesota No. 13 corn in 1896 and Minnesota No. 23 corn a few years later, there has been a continual expansion of the corn acreage northward and westward until now the whole state is well provided with varieties adapted to each county or region. The corn crop has consequently become economically the most important crop in the state. The value of this form of research to the state is well demonstrated not only in the four and a quarter million acres of corn grown annually but also in the great increase in livestock population and in farm income arising from the substitution of corn for the less intensive cereal crops. Because of this transition, the state has been in position quickly to adapt its agriculture to the drouth emergency and provide feed and forage in much larger quantity than would have been possible had small grains still held a dominant place. The incomes of farmers have been made not only safer but larger.

Through the co-operation of plant breeders, plant pathologists, biochemists, and other members of the station staff, high yielding, good milling, disease resistant varieties of the cereal crops have been introduced and become the standard commercial varieties. The high yields of these add to the incomes of farmers and the disease resistant quality offers a form of crop insurance which is well recognized by the ready acceptance of these varieties by grain growers.

The contributions from the fruit breeding nurseries have been equally acceptable and meritorious. The rigorous winters of the Northwest and the short, hot summers call for extreme hardiness and quick maturity in fruits. With these must be combined good quality and appearance. Since the establishment of the fruit breeding station at Zumbra Heights in 1907, many new fruit introductions have been made. Through selection and hybridization numerous new varieties have been developed and tested. The best of these have been offered to the public and now constitute the major portion of the commercial varieties of the state and the Northwest. These fruits are also now found on the tables in houses of those unable to produce their own fruit prior to the development of these varieties.

The early pioneering research of the Minnesota station in the field of farm management and agricultural economics also has yielded results of inestimable value in the later years of depression and close economy. The detailed cost studies initiated in 1902 and continued to date have proved a never ending source of information on farm costs and incomes. Studies of the taxation problems, farm credit policies, co-operative movements, and land use, also have yielded information that has been much in demand these recent, nerve trying years.

Only a few of the outstanding contributions of the station have been mentioned here as illustrative of the ways in which its support is justified. No less important are the contributions of the chemists, entomologists, veterinarians, and staff members working in many other lines.

The work of the biennium.—The work of the Experiment Station has moved steadily forward during the biennium in spite of uncertainty of financial support and pressure on the staff for emergency service. This draft on the time of the staff, however, has been in part offset by an allotment of technically trained workers on CWA funds during the past year. These were fitted into the lines of many of the research projects.

Because of the necessity for bringing specialists in various lines into the solution of problems it has been found best to set up major and complicated researches as Experiment Station projects rather than as division projects and definite progress has been made in organizing the work along these lines. Two projects have already been organized with a view to securing closer co-operation and a better co-ordinated program and as opportunity offers other projects will be reorganized and broadened to include the services of all of those workers necessary in finding the solution of a certain problem. Necessarily such reorganization can come about only slowly and will be limited to the problems of broader scope.

Land utilization.—For some years a study has been made of the use of land in northern Minnesota. This problem is particularly acute because of a large amount of tax delinquency in that section of the state. Recently the study has been directed toward assembling information pertaining to better policies and programs of land use. The districting of the cut-over area in accordance with physical and economic factors already has supplied guidance in developing suggestions for marginal land purchase programs. This districting marks an initial step in land classification and is basic to classification and zoning which are to follow. Information on public expenditures and services in the area points to possible reorganizations and economies which may be effected. Case studies of isolated settlers and settlements give concrete evidence of costs involved and the need for concentration of settlement. Farm management records which have been assembled throw light on farm returns from favorable and unfavorable land use situations. Records of part time farmers make data available as to the possibilities and limitations of this type of development.

The continued study of factors affecting the income of dairy farms supplies information on variations in farm income and reasons therefor. Detailed farm accounts of 108 farmers for 1933 revealed the fact that labor incomes ranged from \$538 to \$6,438. The average was \$986. The most important factors affecting income were butterfat production per cow, feeding efficiency, intensity of

productive stock per 100 acres, high crop yields, selection of high profit crops, labor efficiency, control of expenses, and size of business. The findings are being used widely by county agents and extension specialists in reorganizing the operating plans of many farms in Minnesota. With the prevailing low incomes due to drouth and low prices, these measures of economy in production are vital.

Studies of the consumption demand for Minnesota agricultural products and of the factors influencing land values have been initiated. Under the first study survey records relative to the consumption of dairy products were obtained from 2,187 Minneapolis households. The results indicated that the number of children in the family appears to be the most important factor in the amount of fluid milk used, and also that income plays a more important part in the purchases of other dairy products, such as cream, butter, and cheese. A study of the factors influencing land values shows the average values by ten-year periods from 1857 to 1932. In Martin County, Minnesota, there was a constant rise from \$2.37 per acre in 1857 to \$177.22 in 1920. From that point there was a decline until in 1933 the average sale price had dropped to \$61.05. One of the interesting disclosures was that mortgage foreclosures ran nearly as high in that county in 1870 to 1881 as in the decade between 1921 and 1932. There were 334 foreclosures between the years 1870 and 1881 with only 948 farms in the county and 426 between the years 1921 and 1932, when there were 2,561 farms.

Plant breeding nurseries.—Contributions have been made from the field crop and fruit breeding nurseries. Over 2,000 bushels of a new variety of wheat were released to farmers in the spring of 1934. This wheat is a joint production of the Divisions of Agronomy and Plant Genetics, Plant Pathology and Botany, and Biochemistry working in co-operation with the branch stations and the Bureau of Plant Industry, United States Department of Agriculture. It has been named "Thatcher" wheat in honor of former director R. W. Thatcher, who as vice-director of the Experiment Station, lent much support to plant breeding activities. The new hybrid wheat was distributed after further tests had shown its productive quality and the repeated trials had convinced the millers of the state that it was satisfactory in milling and baking qualities. It is an awnless, stiff strawed, high yielding variety that is resistant to black stem rust. It is superior in flour color and loaf volume to Marquillo wheat, also a black stem rust resistant variety, released in 1932.

A new variety of corn called Minhybrid 301, a product of the crop breeding nursery, was released for general distribution. This is a three-way cross variety developed by combining a first cross of selfed lines with a line known as Baker sib B164, obtained through exchange with an Iowa seed company. This variety is adapted primarily to southern Minnesota where it has given approximately 20 per cent increase in yield over farmers' varieties. It excels in ability to withstand lodging and ripens uniformly. Approximately 120 acres of hybrid seed plots of this variety have been planted by Minnesota farmers this year.

From the fruit and vegetable breeding nurseries have come contributions valuable to the gardeners and fruit growers. The Warba potato, an early high yielding variety, which is apparently resistant to most of the common mosaic diseases, has been widely distributed to growers. It is distinctly earlier than the Irish cobbler and has outyielded that variety in comparative tests.

A sweet northern climate watermelon was also introduced. This is an unusually early watermelon of high quality, ripening two weeks ahead of ordinary varieties. It is adapted for both home use and commercial purposes. It has attracted wide attention and 1,585 packages of seed were distributed this year, reaching growers in every state in the Union and also Alaska, Australia, Mexico, and Canada.

Other contributions from the fruit breeding nursery are Parker pear, named after E. C. Parker who introduced it in 1908 from Manchuria. Mr. Parker, who then was serving as an agricultural expert for the Chinese government, collected the seed in Fieng-tien Province, Manchuria, and sent it to Professor S. B. Green, then in charge of the fruit breeding farm at Zumbra Heights. From this seed a number of pear trees were grown and selections made down through the years until a pear of good quality was discovered that is winter hardy and adapted to the Minnesota climate. This variety has been under test by the nurserymen of the state since 1924, has been found hardy enough for general planting in the southern half of Minnesota, and has been successfully grown as far north as Duluth. It is looked upon as a welcome addition to the list of Minnesota fruits. Other introductions have been the Flame crab apple, a fruit-producing ornamental tree, and the Hiawatha chrysanthemum, a hardy chrysanthemum adapted to both greenhouse and garden culture.

New type of cheese produced.—The importation of foreign types of cheese into America runs into large figures. Many of these cheeses find their way into the state for sale in competition with the home products. Visualizing an opportunity to capture at least a part of this trade the Dairy Division has been encouraged to attempt the manufacture of a Roquefort type of cheese. This cheese, made in the dairy laboratories, has been cured through a period of six months or more in a new sandstone cave rented for the purpose and located in the bluffs along the Mississippi River. The temperature and humidity of the cave have been found proper for the natural curing of this type of cheese. Manufacture and curing have been carried to a point which leads to the belief that this type of cheese can be made and cured satisfactorily under this natural environment. Samples submitted to members of the cheese trade and to specialists competent to judge the product have met with favor and commendation. Arrangements are being made to manufacture the cheese in large quantities and to bring it into trade channels. If this attempt is successful it will open up a new outlet for dairy products of large importance to the dairymen of Minnesota.

Investigations of the causes of cheesy flavor in unsalted sweet cream butter have shown that they are due to various combinations of micro-organisms, and methods for the control of these in sweet cream butter have been worked out and given to creamery manufacturers. This research should result in saving many thousands of dollars to the creamerymen of the state.

Animal breeding and genetics.—For a number of years the effect of close inbreeding of swine has been studied at the Waseca station. Seventh and eighth generation inbred pigs have been produced from brother-sister matings. This has attracted wide attention and has invited the interest of the animal breeders of the United States Department of Agriculture. The department has expressed a desire to purchase some of this inbred stock for breeding purposes at the federal

experimental farm at Beltsville, Maryland. Requests have been made also for a large number of these inbred hogs, as soon as they can be produced, for use at the government experimental farm in comparative feeding and growth tests.

The project has been recently reorganized and expanded to obtain more accurate data on the generations of inbred pigs and with a further view of using the inbred pigs produced to develop more efficient strains of hogs, and hogs of better quality. In this work, the Animal Husbandry Division of the central station, the staff members of the Waseca station, and the geneticists of the Experiment Station, together with the veterinarians and animal pathologists, are co-operating to the fullest extent.

The effect of crossbreeding of swine has also been studied by the Division of Animal Husbandry in co-operation with the Northwest and West Central experiment stations. This study likewise has brought out information of practical value to the producers of hogs and will soon be published. Both of these swine investigations have yielded results beyond expectation and are regarded as major contributions in the field of animal breeding.

Studies of the embryological development of the sheep conducted during the biennium have likewise given significant results. These are of value more particularly from the scientific, rather than from the practical, viewpoint. It is believed, however, that they may lead to knowledge of practical importance to the animal breeder. So fruitful has this research proved that it has been expanded and a similar study set up of the embryological development of the bovine. These again are in the nature of pioneering researches in the fundamentals of animal breeding.

Insect control.—Heavy drafts have been made upon the time and knowledge of the entomologists in the control of insect pests affecting the crops and livestock of the state. New methods of meeting the grasshopper menace have been devised and much time expended in instructing farmers and community leaders in the use of control measures. Chinch bug epidemics, army worms, corn ear worms, and various other noxious insects have demanded attention. For several years the white grub has been causing serious damage in corn fields, meadows, and to other farm crops. It has now been discovered that it is likewise a serious menace to many forest stands. As a consequence, the studies of the life-history, feeding habits, and control of this pest have been enlarged with a view to finding ways of reducing the seriousness of the menace.

Animal disease control.—Bang's disease (contagious abortion) in cattle has been the cause of serious economic losses, particularly to dairymen. Studies by staff members in veterinary medicine of methods of diagnosis of this disease by agglutination test of the blood have shown that this test can be satisfactorily used. Much attention has been given to the development of the technique for diagnosis and the contributions from this station have played a large part in the adoption of this test by the Federal Government in a national attempt to control or eliminate the disease.

Studies of the effect of anemia in swine and of the effect of a low phosphorus diet on the productivity and breeding qualities of cows have likewise yielded results of value to livestock raisers.

Forestry.—During the biennium, great movements have taken place in forest conservation in the nation and in Minnesota. With many of these, the Department of Agriculture has been and is directly or indirectly concerned.

The legislation authorizing the Civilian Conservation Corps was enacted by Congress on March 31, 1933. On April 10, 1933, the first quota of 25,000 men was called. At present about 300,000 young men are in this work and the program appears to be expanding. This sudden expansion in the conservation program created an unprecedented demand for trained foresters. All available forestry graduates and many undergraduates found employment opportunities. The Division of Forestry was requested to release a member of the staff to assist in the supervision of state administered camps.

In connection with the CCC activities and through co-operation with the State Forestry Department, approximately 100 CCC workers have been assigned to the Cloquet Forest Experiment Station. This has enabled us to construct much needed forest roads, firebreaks, and buildings, to reduce fire hazards by clearing up brush and débris along existing roads and trails, and to carry on forest cultural activities until the Cloquet Forest is, in the words of a prominent German forester who visited the forest recently, "one of the most intensive and practical demonstration forests in America."

The conservation movements materially influence the Department of Agriculture and the research program of the station. New projects have been undertaken and old projects reoriented to obtain the information necessary to determine the most effective programs of work in the state. If these conservation programs continue in anything like their present magnitude, a heavy responsibility will fall upon our research organization. Already the actual practice of forestry in the Lake States has advanced beyond the frontiers of research. Unless there is constant study to determine the effect upon the state, maladjustments and economic waste are likely to occur.

Publications.—It is impossible to mention all of the activities of the Experiment Station. The scope of the research work is more adequately indicated by the 250 projects under which authorized investigations are being conducted, and by the publications of the Experiment Station. During the biennium there have been published 19 bulletins in the General Experiment Station Series, 15 bulletins in the Technical Series, 148 papers in the Scientific Journal Series, and 55 papers in the Miscellaneous Journal Series. Numerous articles have been contributed also by staff members which have not been included in the Experiment Station records.

AGRICULTURAL EXTENSION

Altho the economic maladjustment and emergency situations have greatly influenced the program of extension work during the past biennium, there has been no departure from the fundamental purpose of extension work nor from the principles and policies on which it has been developed.

Adjustment programs.—The responsibility of extending reliable information regarding the purpose and methods of the Agricultural Adjustment Act were placed on the extension service. In order to carry out the program quickly and effectively, a number of the state workers have given a large amount of their time. This has resulted in giving less time to their regular programs of work.

The same has been true of many county agents. Altho the extension service is engaged in giving instruction which embodies the Federal Government's program of reducing the volume of crop and livestock production, it is convinced that it should continue to assist farmers in striving for greater efficiency in production and marketing as an important means in attaining a higher standard of living and in bringing about agricultural stability.

Beginning with the wheat adjustment campaign in July, 1933, and extending into the corn loan and corn-hog campaigns now in progress, 95 public meetings (attended by 13,523 persons) were held at which the purpose and methods of these programs were outlined. In 637 other meetings, attended by 14,747 campaign workers, the specialists and supervisors explained the mechanical details of setting up the programs.

About 22,000 Minnesota farmers who signed wheat reduction contracts have received adjustment payments aggregating more than \$1,200,000, and additional payments estimated to be \$579,000 will be made to them on their 1933 allotments.

More than 13,000 farmers borrowed \$5,500,000 on farm-stored ear corn, and since the Commodity Credit Corporation agreed to accept the corn in full settlement of the principal, interest, and insurance charges on the loans (amounting to about 47 cents per bushel) the effect has been to "peg" the price of corn at or above this level. It is estimated that these loans increased the value of corn at least 20 cents per bushel, or a total of almost \$4,500,000 on the portion of the corn crop marketed from Minnesota farms.

Eighty thousand Minnesota farmers, or 75 per cent of all those raising corn and hogs on a commercial scale, have signed corn-hog reduction contracts. These farmers will receive adjustment payments aggregating about \$10,000,000 in the summer of 1934 and an additional \$15,000,000 during the fall and early winter. Hog prices, after receiving a severe setback in the spring of 1934 due to heavy drouth marketings, took an upward trend. Including the adjustment payment, the contract signer is now receiving about \$2.58 per hundredweight more for his hogs than he did a year ago.

Emergency activities.—The cattle buying program in the drouth relief counties, plans for which were developed at University Farm on May 29 and 30, 1934, was in actual progress in 23 Minnesota counties on June 4, and in 19 additional counties on July 19. A total of 117,444 cattle had been purchased in this state and \$1,600,965 had been paid to Minnesota farmers up to July 19. This program has enabled farmers to cull their herds, a previous impossibility because of the low price of cattle and problems involved in securing mortgage releases.

Agents necessarily have devoted much time to organizing and assisting relief agencies in drouth stricken areas.

During the summer of 1933 agents in approximately one half of the counties of the state devoted considerable time to the program of combating grasshoppers.

The nutrition specialist supervised organization work and supplied subject-matter to the State Emergency Relief Administration in canning and budgeting food for relief families. She also gave general advisory assistance to the Relief Administration.

Meat cutting and curing projects also were conducted in most of the counties. Three special demonstrators in the canning of vegetables and other products were

employed through June and July, 1933, during the winter of 1933-34, and in June, 1934.

The 4-H Club work.—The membership in the 4-H Club work has been more than maintained; the increases of 1931, 1932, and 1933 over the year preceding were 235, 303, and 104, respectively. The percentage of members carrying projects through to completion has averaged 82.7 during the three years. Altho the technical phases of farming and home making receive careful attention in the 4-H Club program, emphasis is placed on activities which develop better men and women. The "live at home" program has been stressed in all 4-H Club work. Special training has also been given the girls in remodeling used garments. Bread baking, canning, and other home subject-matter projects have been continued. Thrift and business principles are emphasized in connection with all of the subject-matter projects. A conservation project pertaining to natural resources and wild life instituted this year has captured the interest of nearly every club member.

Young people above 4-H Club age.—Young people who are not in school and have not as yet become established in farming or other occupations are increasing in number and a project is being developed for them. During the past year about 500 young men and 259 young women, who were nearing or had passed the age limit of 4-H Club work, met in county-wide groups to study improved farm and home practices. This work will be carried on in 15 or more counties this year.

Recreation.—Assistance has been given rural people in developing their talents for self-expression in music, dramatics, and organized play. Leadership training in this field has been provided in connection with achievement day programs, 4-H Club rallies, special local leader meetings, the regular monthly meetings of community clubs, community picnics, and in dramatic and athletic tournaments.

Home projects.—The increase in demands on home demonstration workers has been great and it would have been easy during this period to change the program entirely to one of social service. Altho much time and effort have been spent in such work, particularly in such activities as production for home needs and the utilization of the products grown, the permanent program—the purpose of which is to maintain desirable standards in food selection, clothing, home management, child care and training, leisure and recreation—has been maintained. New minor projects and special activities have been planned to help the women maintain health and satisfactory standards of living for themselves and their families. The extent of co-operation given in home projects is brought out in the following.

Major projects were conducted and completed in 34 counties with 5,189 leaders and 8,479 members. There were 54,075 persons reached through special activities. Project members furnished information to 21,230 non-members. Altho the savings in money effected by these co-operators as a result of their project work is only a minor result of that work, incomplete reports furnished by the women in 1933-34 showed that their combined savings amounted to \$445,699.29.

Home demonstration agent work reaches the women who are most actively engaged in home making. A survey reveals that 66 per cent of all those enrolled were from 25 to 44 years of age; 85 per cent from 20 to 49 years; and 90 per

cent from 20 to 54 years. This is ample proof that home demonstration work interests women when they are in the best position to benefit from it. Moreover, the wide range of ages represented, covering the entire span of adult life, indicates that the program is of universal interest, having something of value to every farm woman.

Farm marketing, financing, and production.—A special study has been made of the marketing practices of a number of co-operative creameries, and meetings have been held with boards of directors to stress possibilities of bringing about better business organization and operation. A similar service has been extended to co-operative elevators and livestock shipping associations. Co-operation has been taught also through the work and play activities of community clubs, 4-H clubs, and women's project groups, and through the work of the corn-hog and wheat production control associations.

The fall of prices of farm products became most acute in 1933. When the average of Minnesota farm prices for April 1924-25-26 is represented by 100, the April index for 1930 was 100.9; 1931, 70.8; 1932, 46.2; 1933, 39.9. This situation created an increasingly urgent demand for information on, and assistance in, refinancing and some action to increase the buying power of the farmer.

Following the passage in 1933 of the Agricultural Adjustment Act, providing the legal machinery for farm refinancing, conferences were held in all regions of the state to inform county agents of these provisions. Specialists in agricultural economics and farm management then co-operated with county agents in 76 county-wide credit meetings attended by 7,274 persons, an average of almost 100 per meeting. The interest shown indicated the necessity for a much wider discussion of this subject. Community credit meetings were held and assistance given individuals in meeting their special problems.

Farm projects.—Reliable estimates showed that only 30 to 50 per cent of Minnesota lambs were selling in the top grade; the remaining 50 to 70 per cent lacked the necessary finish and were selling for a much lower price per pound. With the co-operation of business interest on the South St. Paul market and the Animal Husbandry Division of the College of Agriculture, the Extension Division in 1933 conducted 127 lamb grading demonstrations, attended by 2,058 farmers, in which the method of selecting the lambs ready for market was shown and information given on additional profits to be derived by further feeding of lambs needing more finish. The value of this work to Minnesota farmers is estimated at 75 cents to one dollar on every lamb marketed last year, or a total of at least \$150,000 on the 200,000 head sold.

Other production projects.—In 1933, 295 corn plots were planted and checked for results in representative areas of the state; 170 result demonstrations were conducted in the use of lime and fertilizer; there was some loss in the number of cow testing associations due to inability of many farmers to pay association fees; co-operation was extended to Smith-Hughes agricultural instructors in testing 650 dairy herds comprising more than 5,000 cows; farmers were encouraged to co-operate in a well-organized program of weed and livestock disease control. Special attention was given to problems involved in raising turkeys, and to the prevention of cattle abortion. More emphasis has been placed on windbreak planting due to the severe loss of trees resulting from the drouth.

Extension personnel.—The number of agents employed decreased from 65 on July 1, 1933 to 57 on December 1 of that year, which was the smallest number employed since 1918. By January 15, however (with the aid of the Agricultural Adjustment Administration funds in some counties) 7 new agents had been hired and by June 30, 1934, the number employed had again reached the level of one year previous—65.

Caring for the overload.—The total number of extension contacts made by Minnesota county extension agents during the past several years has been approximately 1,500,000. This figure contains duplications but it is at least an indication of the volume of work. The contacts increased by about 250,000 in 1933. An analysis shows that the attendance at county extension meetings was 1,160,000. There were 134,295 letters written (a normal number) and 189,431 official office calls received, a figure much above normal.

The extraordinary number of office calls for the six months ending June 30, 1934—263,000 or about 64,000 more than for any previous twelve-month period—indicates the demands on the county extension offices. This increase made it necessary to expand the office force, rent additional office space, and effect a general reorganization under which duties were delegated to individuals working under the supervision of the county agent. In many offices clerical staffs were increased temporarily from two or three to twelve or thirteen members with funds supplied by the Agricultural Adjustment Administration and local corn-hog and wheat organizations.

THE COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

The college registration has shown successive decreases for the two years of the biennium, approximately 10 per cent decrease for the first year and about 4 per cent for the second year. There has been recently a slight increase in Home Economics, a steady but gradual decrease in Agriculture, and a rather pronounced decrease in Forestry for the year just closing. The latter undoubtedly reflects the large demand in government programs for forestry graduates and for forestry students who have not yet completed their college course. The situation in Agriculture is clearly due to the continued depression and the inability of the boys from the farms of the state to pay the expenses of their college course.

Curriculum.—Several years ago the college established a more definite break between the freshman and sophomore years, on the one hand, and the junior and senior, on the other. The attainment of a graduation grade is now required for registration in the junior class. The objective is to prevent those students who would not be able to graduate from wasting too much time in attempting the impossible. By means of this segregation, also, it is possible to give to students who will not graduate a more complete two-year course than they have had in the past. Co-operation with the General College has increased the possibility of doing this. Within the last year the curricula in Home Economics have been revised, with larger opportunities for students in selecting fields of specialization. To those students who do not plan to enter any professional field in home economics, courses in the General College will be permitted as substitutes for basic

science heretofore required. In general, the curricula opportunities in the whole college have been increased and liberalized over the last two years.

In the last year the college has been called upon by many of the federal programs for national and agricultural recovery to furnish experts in various fields. Many of the divisions have lost members of their staffs, for the most part temporarily. The college also contributed materially to the federal programs for relief and recovery in furnishing students and graduates competent to carry them on. This has increased to a marked degree the employment of our graduates and even our undergraduate students. While the employment possibilities for students have increased, and while the federal, state, and university relief has assisted a great many students in remaining in college, the situation is still critical for a large majority of the students. Comparatively few of them are able to attend college without earning at least a part of their way. This situation will apparently become still more acute in the drouth sections of the state.

The demand for graduates and for those trained in the special fields required by the various federal programs calls for an increased number of adequately prepared graduates from this college. The college is, therefore, faced with a difficult problem. In the training of leaders for any of the multitudinous vocations and professions involved in the agricultural industry, students whose ability is greater than that of the average are needed. For the highest leadership real native ability is necessary. Upon that native ability college training can hope to develop real leaders. The long depression and the acute situation of the drouth bid fair to reduce still further the number of students from the rural districts. On the one hand, the college needs to train a greater number of experts for the future demand, and, on the other hand, it is faced by a shortage of competent material in the freshman class. Every effort is being made to assist these boys and girls on the farm in obtaining employment so that they may continue or begin a college course. It is significant that employment opportunities in the field of forestry have already resulted in a large increase in applications for admittance to the Forestry curriculum. It would seem probable that a realization of the similar opportunities in agricultural employment, especially in the field of agricultural economics, has percolated more slowly. When these opportunities are known and appreciated, and when students from the farms are again able to afford a college education, an increase in this group will be assured.

THE SCHOOLS OF AGRICULTURE

CENTRAL SCHOOL, UNIVERSITY FARM

Enrolment.—With the increasing severity of the economic depression came a corresponding decrease in enrolment at the School of Agriculture. For the year 1932-33 the total enrolment was 328 students. For the year 1933-34 it was 381 which was only three less than the enrolment in 1931-32. Practically every inquiry for 1934-35 indicates the need for work in order to make attendance possible.

Loan funds.—With each year's experience in administration of loan funds, it becomes more apparent that the short time loans made to students are more apt to be repaid than those that are made for a longer period. During the past year approximately \$2,800 was loaned to school students, and almost \$2,400 of that has been repaid. The Minnesota Farm Bureau Federation is making progress toward

the establishment of a School of Agriculture loan fund, and has set a quota of \$25 from each county to be turned in to the School of Agriculture for use as a loan fund for worthy and needy students.

Scholarships.—The number of Minneapolis Journal scholarships was sharply decreased, so that only four students attended the school as the result of aid from that source. There were two students on Brewster scholarships and one on the Cady Memorial Scholarship.

Curriculum.—New courses have been added in the past two years in the fields of farm finance, New Deal legislation, taxation, and books and reading. The business department has been made more complete with additional work in typewriting and shorthand, and revision of the school bookkeeping courses is under way to make them more applicable to farm co-operative organization systems of bookkeeping.

Project work.—Project work has been conducted on much the same basis as when reorganized in 1931, altho the scope of projects is being enlarged to meet the needs of students. The divisions continue to show splendid interest in project work and as it is now organized it constitutes a definite part of the regular school course. The work in the field has been carried on successfully, and the percentage of completed projects has been increasing each year.

Alumni interest and support.—With each year there comes a greater attendance at School of Agriculture alumni activities at University Farm; the alumni banquet and reunion this spring had the largest attendance to date. There have been many county alumni organizations formed, all of which are working in the interest of the school.

Student activities and organizations.—The interest in all student activities has increased during the biennium. An International Relations Club, organized a year ago, has developed keen interest in world economic and political affairs. A good library on these subjects has been started.

WEST CENTRAL SCHOOL, MORRIS

Enrolment and the drouth.—During the past two years west central Minnesota has experienced the most discouraging economic conditions in the history of the state. The low prices of farm products in 1932, together with the drouth condition of 1933 resulting in an almost total crop failure, have combined to keep many students out of school. As a result in 1932-33 the enrolment dropped to 187, while in 1933-34, because of additional student aid in the form of work projects, the enrolment was increased to 260. A total of 102 students was given work for part of their school expenses during the school year of 1933-34. The school should be reaching a much larger number of older rural youth than it is now doing. This group is unemployed and most of the individuals are not in school.

The 1930 census figures for Bigstone, Chippewa, Douglas, Grant, Kandiyohi, Lac qui Parle, Lincoln, Lyon, Pope, Redwood, Renville, Stevens, Swift, Todd, Traverse, and Yellow Medicine counties in west central Minnesota show some interesting facts relative to school enrolment. Out of a total of 10,992 boys and girls in the age group from 14 to 15 years, 9,666, or 87.9 per cent, were in school. In the group from 16 to 17 years 5,642, or 53 per cent, out of a total of 10,642

were in school, while in the 18 to 20 year age group only 3,081, or 21.6 per cent, out of a total of 14,248 were in school.

According to these figures there were 17,493 people between the ages of 14 to 20 inclusive not attending school. Unfortunately the census figures do not make a comparison of total population and farm population between these age limits. The closest approximation of how many of these boys and girls actually live on farms may be obtained by comparing the age groups 15 to 19. In this group there are 25,831 people of which 17,346, or 67.15 per cent, actually live on farms.

Assuming that the population figures for 1934 are the same as 1930, and the number out of school the same (or probably higher), it means that 67.15 per cent of 17,493, or 11,746, between the ages of 14 to 20 actually living on farms are not now attending school in this group of counties adjacent to the West Central School. Lack of funds is depriving many of this group from attending the agricultural school.

Curriculum changes to meet present conditions.—Realizing that changing conditions in agriculture have brought about a need for a shift of emphasis in subject-matter, the West Central School has been placing more emphasis on quality of product and economy in production. New courses that have a special value at this time have been added. A course in farm finance has been taught for the past two years, and was expanded to include a study of the Farm Credit Administration. A course on economics was also added. It is the aim in these two courses to give the student a foundation which will enable him to understand more clearly present economic changes in their relationship to farm people. In the Home Economics Department an "economics of buying" course has been given and a course in commercial clothing was added.

Home project work.—Freshman students are now required to complete five credits in one or more of the group of production projects. Second year students are required to carry a farm business project and one livestock management project. Third year students are required to carry farm management and leadership projects. Similar reorganization has been made in the girls' project work. The changes made indicate that the new plan will give the student a well-rounded program of farm or home practice work, better correlated with his school work than was possible under the former method of project registration.

The short courses.—The 4-H Club encampments of 1933 and 1934 were the largest ever held at the school. In 1933, 1,457 boys and girls attended the encampment. The enrolment for 1934 was restricted, better to serve those who attend, and all counties brought their maximum quota with 906 boys and girls in attendance. The women's encampment in 1934 was also the largest for several years and the various special days held during the year were largely attended.

NORTHWEST SCHOOL, CROOKSTON

School attendance.—A decided drop in attendance occurred during the year 1932-33 owing to the unusual economic distress experienced by the farmers in the Northwest School territory. The attendance in regular courses for 1932-33 was 184 as compared with 245 the previous year. The attendance for the year 1933-34 showed a decided increase with a total of 288, a figure approaching a normal enrolment.

4-H Club Short Course.—All previous attendance records for the 4-H Club Short Course were broken in 1932-33 with an attendance of 828 students as compared with 382 in 1931-32. A new record was made again in 1933-34 with a total of 1,009 students. The increase in enrolment was attributed to the reduction in fees, increase in number of paid county leaders in 4-H Club work, and improved economic conditions.

Women's camp.—The attendance at the Eighth Annual Women's Camp for 1932-33 dropped to 88 as compared with 109 for the previous year. Attendance at the Ninth Annual Women's Camp for 1933-34 increased to 101, with 52 in residence. Good interest has been maintained through the years in the adult educational work offered at the women's camp.

Farmers' Week and special days.—The Twenty-third Annual Northwest School Farmers' Week and Red River Valley Winter Shows, sponsored by the Northwest School and Station, held during February, 1933, equaled in entries the shows of former years. The attendance dropped to a figure between seven and eight thousand, due primarily to the severe blizzard weather. The total attendance for 1933-34 was about 8,000 but again was affected by adverse weather.

The Tenth Annual Livestock Feeders' Day, June 12, 1933, was attended by 250 farmers.

One hundred crops men gathered at the station for the annual Crops and Soils Day on July 17, 1933, for their annual meeting and inspection of field crops.

NORTH CENTRAL SCHOOL, GRAND RAPIDS

The crop conditions in north central Minnesota have been fairly favorable the last two years altho prices have been unsatisfactory. Many students have been kept out of school by financial troubles, but by doing all the work on the farm and in the buildings with student help, we have been able to offer employment to a larger number of boys and girls and have in this way maintained our increased enrolment.

Considerable permanent improvement work has been done on the farm and a large number of students have been given employment during the summers of 1932-33 and 1933-34 and have worked out their tuition for the coming year. More attention is being paid to the business side of farming and more stress will be laid on farm management work.

Short courses held during the past year were very successful. More than twice as many registered as had ever registered before.

Respectfully submitted.

W. C. COFFEY, *Dean and Director*

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 from July 1, 1932 to June 30, 1934.

Enrolment.—In the fall of 1932 the new requirements for admission to Engineering, Architecture, and Chemistry went into effect. As had been anticipated, there was a considerable drop in enrolment, especially in the freshman class. Undoubtedly the economic depression contributed to this as it also affected the total attendance at the University. Apparently the parents of students who had already begun university work made a special effort to keep them in college, so that the upper classes did not suffer like the freshman class.

Table I shows the fall quarter enrolment for the past four years, both for freshmen and for the total of all classes, and in the three groups, namely, engineering in general, the architecture group, and the chemistry and chemical engineering group. The large decrease between 1931 and 1932 in the freshman year accounts for nearly the entire reduction in the total enrolment. The influence of the change in architecture from a four-year to a five-year course, accompanied by the abandonment of the curriculum in architectural engineering, is evident.

TABLE I. COMPARISON OF FRESHMAN AND TOTAL ENROLMENTS FOR FIVE YEARS IN ENGINEERING, ARCHITECTURE, AND CHEMISTRY
(FALL QUARTER)

<i>Freshman Enrolment</i>					
Group	1929-30	1930-31	1931-32	1932-33	1933-34
Engineering	486	464	433	223*	184
Architecture and architectural engineering	70	76	51	25*	12
Chemistry and chemical engineering	111	160	135	86*	73
Total freshmen	667	700	619	334*	269
<i>Total Enrolment</i>					
Group	1929-30	1930-31	1931-32	1932-33	1933-34
Engineering	1,186	1,218	1,189	990*	877
Architecture and architectural engineering	260	258	219	158*	156
Chemistry and chemical engineering	282	390	423	369*	331
Total enrolment	1,728	1,866	1,831	1,517*	1,364

* Increased entrance requirements and five-year course in architecture take effect.

A change in the relative enrolments among the various curricula in engineering, architecture, and chemistry has taken place during this period. For many years electrical engineering has had nearly as many students as civil and mechanical engineering combined. During the past two years, however, electrical engineering has lost more than civil and mechanical engineering and therefore leads them by a

much smaller amount. The changes in total enrolment in the various curricula are shown in Table II.

TABLE II. COMPARISON OF ENROLMENTS BY CURRICULA FOR FIVE YEARS
IN ENGINEERING, ARCHITECTURE, AND CHEMISTRY
(FALL QUARTER)

Course	1929-30	1930-31	1931-32	1932-33	1933-34
Aeronautical engineering	229	237	225	186	181
Agricultural engineering	12	16	18	25	20
Architectural engineering	87	75	58	37	29
Architecture	157	167	146	110	117
Chemical engineering	211	315	299	241	221
Chemistry	71	75	124	128	110
Civil engineering	248	250	234	218	176
Electrical engineering	459	440	420	291	261
Interior architecture	15	15	15	11	10
Mechanical engineering	212	225	255	221	186
Pre-business	26	44	37	49	51
Miscellaneous	1	7	....	....	2
Total	1,728	1,866	1,831	1,517	1,364

Scholarship.—As was anticipated two years ago, when the standard of entrance requirements was raised in these colleges, the average scholarship during this biennium has been higher than heretofore in the freshman classes. This is indicated by the reduction in the percentage of freshmen who were placed on probation at the end of the fall quarter for failing to pass in 9 credits of work. During the previous biennium, this percentage was about 30. During the biennium just closed the percentage is about 18. While other factors enter into this question, such as the influence of the depression, financial worries, difficulty in obtaining part time employment, etc., the general opinion of our teachers is that the ability and seriousness of application of the present freshmen are definitely higher than heretofore.

Combined courses with Business Administration.—A new plan of five-year combined courses in engineering, architecture, or chemistry with business administration was established in the winter of 1933-34 to take effect in the spring quarter. It enables a student to complete the requirements for the Bachelor's degrees in both fields within a five-year period (for architecture, six years). For this purpose the School of Business Administration will accept a list of prescribed courses amounting to 74 credits in business subjects in conjunction with one of the regular curricula in engineering, architecture, or chemistry as satisfying the requirements for the degree of bachelor of business administration. The student receives his engineering degree upon the completion of the requirements of that course and his eligibility for the degree in business administration is not complete unless he has also completed his regular curriculum in the College of Engineering and Architecture or the School of Chemistry.

The business courses are intended to be spread over three or four years. Similarly, the engineering work of the senior year would be extended into the fifth year. Under this plan the student will be registered in the College of Engineering and Architecture or the School of Chemistry for the entire combined program. An adviser for the School of Business Administration approves the registration of these students in their fourth and fifth years.

Trends in technical education.—For the last decade or more there has been a pronounced tendency in engineering education towards the development of greater breadth of mind and interest through elective courses in certain fields. In particular, courses in economics and administration have been advocated for such election.

In connection with the recent depression and economic stress, the desirability of such breadth of election has been still further emphasized. While it is recognized that technically trained graduates will be needed to a greater extent than ever, probably, during and after industrial recovery, the training of technical students should prepare them, also, for the wider and more general fields of application, outside of strictly design and research activities, which will require large numbers of men trained in college with a background of fundamental science and technology.

To meet the changing conditions it is reasonable to arrange special curricula which will afford some specialization in certain recognized branches of engineering while maintaining the strong foundation of technical fundamentals. It should thus be possible to meet the desires of many students who wish to deviate, to some extent, from the established rigid curricula. At the same time, care must be exercised that the technical training in engineering be not weakened. The student taking a regular engineering course of established type, such as civil engineering, will expect to develop as in the past in a definitely professional engineering field.

Respectfully submitted,

O. M. LELAND, *Dean*

THE SCHOOL OF MINES AND METALLURGY

To the President of the University:

SIR: I herewith submit my report covering the period from July 1, 1932 to June 30, 1934.

The School of Mines and Metallurgy has suffered but a small loss in enrolment during the period covered by this report. In spite of the conditions confronting the industry, most of our graduates have secured positions.

New courses.—In response to numerous requests for courses in mining and petroleum engineering, to be used either as majors or minors towards advanced degrees, these courses have been prepared and approved and are now listed in the bulletin of the Graduate School. Before being admitted as a candidate for an advanced degree, a candidate must have completed an undergraduate course of study which is the substantial equivalent of that required for graduation from the corresponding course as offered by our school. This action places the Departments of Mining and Petroleum Engineering on a par with the Departments of Metallurgy and Metallography which for years have been offering graduate work.

There have been no changes in the curriculum required for undergraduates tho the subject-matter of various courses is being constantly revised in order to keep abreast of the changes and improvements in the various technical fields.

SCHOOL OF MINES EXPERIMENT STATION

Mr. E. W. Davis, superintendent of the station, has given me a statement of the station's activities, as follows:

Low grade ore experiments.—Appropriations amounting to \$8,000 were received from the legislature for experimental work on low grade ores. This work has been under the direction of Mr. John J. Craig. The money has been expended during the past year in completing the development and preparing plans for a commercial ore roasting furnace. The legislature also permitted us to carry over from the last biennium a surplus of \$10,000 which we had carefully saved from previous appropriations for the construction of this commercial ore roasting furnace. With this money available, a contract was prepared between the University of Minnesota and Butler Brothers of St. Paul, which specifies that we were to use this \$10,000 in the construction of a 250-ton ore roasting furnace at Nashwauk, Minnesota, and Butler Brothers were to construct the ore preparation and concentration plants which operate in connection with this ore roasting furnace. The work of constructing the furnace and the plant has gone ahead according to schedule. It is too much to expect this furnace and plant to operate satisfactorily on the first trial, but we hope that only minor alterations and changes will be necessary in order to secure satisfactory results. The contract states that at the end of the present ore shipping season, Butler Brothers have the right to purchase the furnace from the University at a cost equal to our expenditures on this job. If the operations of the furnace and plant are satisfactory, they will undoubtedly exercise this option, in which case these funds will be available next year for further experimental work.

The work done during the last biennial period by Mr. Durfee as field engineer, with the funds specifically appropriated by the legislature for the purpose, showed that there was sufficient low grade ore available on the Mesabi Range to provide an almost inexhaustible supply, providing satisfactory means for concentrating could be developed. Successful operation of this plant will constitute a direct demonstration of the possibility of commercially concentrating the really low grade ores of the state. How generally applicable this process may become depends largely upon the operating cost of the furnace; this is one of the points to be determined this summer.

I wish to call to attention that no patents have been applied for on this furnace or process. If operations appear to be satisfactory, the question of patents should be given consideration.

New equipment.—Little new equipment was acquired during the year 1933-34, except that a wet magnetic cobber was designed and assembled.

State service work.—The following tabulation indicates an increase in the number of state service tests:

	1932-33		1933-34	
	Number Tests	Gross Weight	Number Tests	Gross Weight
a. Large-scale tests ($\frac{1}{2}$ ton or more).....	18	1,220 tons	32	470 tons
b. Small-scale tests (less than $\frac{1}{2}$ ton).....	32	1,716 lbs.	190	950 lbs.
c. Samples submitted for assay and examination...	264		280	
d. Samples referred to other departments.....	5		3	

Assays.—The total number of assays made in connection with all work at the School of Mines Experiment Station during the past year was 7,999.

UNITED STATES BUREAU OF MINES

The co-operative agreement between the University of Minnesota and the United States Bureau of Mines was continued during the biennial period of 1932-34. Mr. T. L. Joseph, supervising engineer of the North Central Station of the United States Bureau of Mines, with offices and laboratories in the School of Mines Experiment Station, University campus, describes the work of his station as follows:

Personnel.—Due to reduced appropriations, on July 1, 1933, the technical staff was reduced from five to four men. Mr. T. L. Joseph continues as supervising engineer in charge of the station.

Scope of work.—Investigations were continued on the treatment and smelting of iron ores and manganiferous iron ores of the Lake Superior district. The character of the work, its relation to the long range program and to the industry can be illustrated by a brief résumé of how certain fundamental studies have led to improvements in industry and opened up promising avenues for future study.

The angle of approach to a study of large-scale operations was guided by the concept that the efficiency realized in the daily operation of a modern blast furnace depends upon the opportunity provided in the design of the furnace and in the preparation of the charge for securing maximum contact between 3,000 tons of raw materials and 120,000,000 cubic feet of gas. Laboratory studies on small

quantities of material have provided useful information on reactions involved in smelting iron ore, but the practical problem of providing an opportunity for these reactions to occur on a large scale has received comparatively little research and study. Economical smelting of iron ore demands large-scale operations, in which the problem of bringing large tonnages of iron ore, coke, and limestone in contact with a rapidly moving gas stream is of foremost importance.

An experimental blast furnace, erected by the University, made it possible for Bureau of Mines' metallurgists to develop methods for observing conditions in the interior of the blast furnace. These methods provided a tool for the blast furnace metallurgist, similar in some respects to X-ray studies in medicine and other fields, where attention is focused upon internal defects.

By means of these methods, surveys were made of several industrial furnaces operating under normal conditions. Many unexpected irregularities were found in industrial furnaces. Parts of the furnace were working efficiently, while in other sections little smelting work was being performed.

The diagnosis of internal conditions focused the attention of the entire industry upon certain features of furnace design and upon the desirability of improving the physical character of raw materials, particularly the elimination of fine ore, and proper size reduction of coarse, dense ores. Gas velocities as high as 300 miles per hour in the center of the furnace showed clearly the need for wider tops or better proportioning of hearth and stock line diameters to reduce excessive gas velocities in the upper part of the furnace. The production of flue dust, entailing an economic loss which in many cases has been clearly a mineral waste, has been reduced about 50 per cent by the recent adoption of wider top furnaces.

Non-uniformities in the furnace, traceable to the fine material in a great many ores—particularly those from the Mesaba Range—are being gradually corrected by agglomeration of current flue dust by sintering. Within the past two years, one or two plants have been sintering a large part of the fines in all the ores used, with very satisfactory results. A number of plants are using the methods developed by the Bureau of Mines to study the internal conditions of furnaces that are not operating satisfactorily.

As the concentration of low-grade iron ores increases, sintering or some other means of agglomeration will become more and more of a necessity because the untreated ores are already too fine to absorb large tonnages of fine concentrates.

The present and future work of the Bureau of Mines Station is being projected to supply fundamental information to aid in the definite trend of development in the industry towards a charge with more desirable physical properties. Various types of sinter have been studied to determine the most satisfactory combination of physical and chemical properties. The porosity, permeability to gases, and relative ease with which oxygen can be extracted are being determined for a wide variety of ores to ascertain the proper size to which various ores should be crushed for most efficient operation.

SERVICE TO THE MINNESOTA TAX COMMISSION

As the result of an agreement between the Board of Regents and the Minnesota Tax Commission made in 1909, the School of Mines and Metallurgy has acted in the capacity of consulting engineer for the Tax Commission since that time.

Mr. E. M. Lambert has been in charge of this work since the summer of 1918. He is assisted by Mr. L. S. Heilig. Since Mr. Lambert's last biennial report to the Tax Commission covers the period from September 1, 1930 to August 31, 1932, this report will cover the same period and extracts from that report will be included.

Object.—The ore estimates, as checked and submitted to the Tax Commission are used by it as a basis upon which to make the valuations placed upon the mineral deposits in the state of Minnesota.

Services.—During the biennium ending August 31, 1932, the School of Mines and Metallurgy has reported to the Tax Commission on a total of 103 properties. A total of 258,391,835 tons of bessemer, non-bessemer, and manganiferous iron ores is involved in these reports. Of these 103 properties, three were estimated by us for the first time. The report on one of these three was of a non-mineral nature while the other two showed 2,053,863 tons of merchantable ore. Thirteen reports were in the form of letters giving technical information of various kinds depending upon the requests of the commissioners.

Among the above mentioned 103 properties reported, 70 show a net increase of 62,441,071 tons, while 9 show a loss of 4,382,266 tons. The two years' work shows a net gain of 58,058,805 tons. These changes are due to new exploration work, development, reclassification, and advancement in beneficiating methods.

In addition to the above tonnage, we reported 34,667,702 tons of non-merchantable ore. Factors in determining the merchantability are: size of ore body in comparison with cost of development; location of deposit; chemical and mineral composition; physical structure; and cost of production. Much of this ore will eventually be placed in the merchantable class and taxed as such. When this ore will be taken from the non-merchantable class and placed in the merchantable class depends on several factors. Blast furnace operators may be convinced that types of ore other than those now being smelted may be advantageously used. Improved types of machinery may decrease the cost of production so as to include certain deposits which cannot now be mined at a profit. The factor involving the greatest tonnage, however, is that of beneficiation. By beneficiation is meant any process that improves the ore for sale purposes, such as the elimination of excessive silica, moisture, or extremely fine particles. The description of these processes has been discussed in previous reports.

At present the market price of iron ore is based on an ore containing 51.50 per cent iron in its natural state, with a premium or penalty for each unit or per cent in excess of, or below, the base ore, respectively. This penalty amounts to one and a half times the unit value for the drop from 50 per cent to 49 per cent and twice the unit value per unit drop below 49 per cent. This gives ores with high moisture content and correspondingly low natural iron content a low market value. An excessive amount of silica is also penalized.

A new type of beneficiated ore has been placed on the market during the past biennium, viz., sinter dried ore. The name refers to an ore which in its natural state contains an excessive amount of moisture. It is partly dried by dumping it upon unquenched sintered ore, thus utilizing the heat of the sinter for driving off moisture. Sintered ore is generally quenched by a spray of water applied to the ore as it is loaded in cars.

Field work.—Seven trips, requiring 22 days of field work, were taken by two men to the various mining districts of the state.

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. Each property is considered as a unit on its own merits. Any available information on the adjoining properties, however, is given consideration.

It is evident that a large amount of field work is essential for carrying on successfully the work for the Tax Commission. Personal inspection of the properties and mining conditions bear directly on all considerations and are valuable in keeping the staff in close contact with the progress of the industry.

Respectfully submitted,

W. R. APPLEBY, *Dean*

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, 1932-34.

The training of lawyers.—The questioning spirit of the times does not leave untroubled the persons responsible for the training of the lawyers for the future. Law faculties generally are in doubt as to the suitability and adequacy of the training that is offered, but there is great diversity of opinion as to the changes that should be made. The mere existence of doubt and discussion—the negation of a self-satisfied attitude—is of itself highly encouraging. It causes constant re-examination of objectives and methods and the testing of new ones. In this attitude lies the hope of future development.

Lawyers occupy a key position in society, and their training for that reason is highly charged with a public interest. As judges and advocates they wholly control the judicial branch of government. In the courts much of our law is made, legislative law is construed and applied, and the rights and duties of citizens to one another and to government are determined. Also in the legislative branch of government lawyers have, of all groups, the greatest influence. In short, lawyers occupy a strategic position for shaping the institutions and laws under which we live. Their activities in one way or another affect all people.

In a democracy no class is specially designated for leadership, but lawyers, because of their knowledge of existing institutions, are naturally expected to lead. Leadership is democracy's greatest need and the danger to democratic institutions lies in the failure to develop it. This leadership must be both in thought and in action. Specialists may discover new truths, but their ideas have no effect until they are accepted by the people. It is peculiarly the function of lawyers to apprise the findings of the specialists, and to apply them in the world of practical affairs. Lawyers' experiences fit them for this function and their contacts give them opportunity to exercise it. Living among the people and advising them as to their affairs, they develop an understanding of what is practicable, and are in a position to supply the needed leadership. For progress in a democracy requires three steps, the discovery of ideas, acceptance of them by the people, and their enactment as law.

In the early years of our history, lawyers were students of government and economics as well as of law. These men played a large part in the formulation of our institutions. In those days the great lawyer was generally interested in politics. In later times the education of the lawyer did not keep pace with the advance in general education, and leading lawyers were less interested in public affairs. They became absorbed in practice, and generally only the weaker members of the profession entered public life.

It is obvious that the education of a profession that exercises so wide an influence is of the highest importance, and is worthy of the most thoughtful consideration. Since lawyers play so large a part in determining the effect of the political, economic, and sociological thought of the times upon our institutions and law, they should be educated with a view to this function. They should be trained not only to take care of clients' interests, but also for public service and public leadership.

Law school courses have been too narrow for this purpose. They have been designed to give the student a technical training, but not to train him for the public aspects of the profession. In recent years the law schools have been requiring increasing amounts of college work for admission, but they have not specified the nature of this college work. Prospective law students are spending years in college on work that is of little value to them in their profession. They are not well advised, and their course is chosen with the view of qualifying for a degree rather than in accordance with their future needs. Too often they do not see the relation of their college work to their law work, and to their careers as lawyers. Because they do not yet understand the nature of law and the function of the lawyer, they do not realize what is important to them in a college course, and do not develop an interest in their college work. Many regard the college period as a time that must be served before they can get into a law school. In many universities six or seven years are being spent on a college and law school course. We should be able to get better results in this period of time.

There should be a better integration of the college and law school work. The college and law school courses should be united. Law and the other social sciences should constitute one course with sequences that would show their relations and stimulate interest. After two years in college, if not before, the student should enter upon the integrated course. With law as a major, he should combine courses in the other social sciences, particularly economics, government, and sociology. A minor should be chosen in one of those fields. There is little doubt that a seven-year course consisting of two years of basic liberal arts, two years of basic law, and three years of mixed studies would give better results than we are now getting from the separate college and law school courses. Our four-year law course is a step in this direction.

The selection of those to be trained.—The legal profession is suffering from the admission of many unqualified persons. Many more are being admitted than the profession needs. On the other hand, there are not enough capable students studying law. The qualifications of lawyers and the manner in which they perform their duties are of great public interest, but the standards maintained are insufficient. There are many law schools with low standards or no standards at all. Of the 190 law schools, less than one half have the approval of the American Bar Association. This is in striking contrast to the condition in medicine. There are less than one half as many medical schools, and all but four of them are approved by the American Medical Association. The low grade schools are sending out many graduates who have neither adequate educational equipment nor capacity to attain it. And even in many approved schools, the standards of capacity and scholarship are inadequate. The examining agencies of the states are endeavoring to exclude the unfit, but with none too great success. The candidates appear after spending three or more years preparing for the profession, and the pressure for their admission is difficult to resist.

There is a growing opinion in favor of a changed point of view in regard to admission to the bar. The practice has been to admit all showing a minimum of attainment. The suggestion is to select from those seeking to enter the profession the candidates best fitted to serve the public. Emphasis would be placed on selection rather than on exclusion, and the criterion would be qualification for public service.

This would require that candidates for the bar be examined before beginning the study of law. It would involve too great hardship if examination were postponed until the professional training were completed. So it is suggested that registration be required before entering law school, as well as upon completion of the law course.

The plan seems feasible. The most important factor in a lawyer's qualifications is his natural capacity for intellectual work. Important also is his interest in social, economic, and political questions. These qualities can be measured and those best qualified selected. Many now study law who lack the natural endowments necessary, and others seek the profession as a way of making a living who are not interested in the things in which a lawyer should be interested. This procedure would help to eliminate such and to save them from wasted effort and frustration, as well as to conserve the public interest.

Several states have recently adopted this plan in some measure. They have, however, exempted college graduates from the tests—a doubtful exception in view of the varying significance of a college degree shown by recent comprehensive examinations.

The plan would set an excellent example for all public service. The welfare of democratic institutions demands that the best fitted be called to service.

Curriculum.—The curriculum has been expanded in order to provide the additional subjects necessary for the four-year course. In accordance with the plan of giving the student a broader view of the law and stimulating his interest in the public aspects of the legal profession, courses on jurisprudence, judicial administration, and legislation have been added. Students in the four-year course are also being encouraged to take courses in other departments of the University in which they are interested particularly in the field of the social sciences.

Law School registration.—The registration in the Law School increased 18 per cent in the biennium. The registration was 265 in 1932-33 and 300 in 1933-34. The entering class of the last year was the largest in twelve years. The increase was in some measure due to the present lack of employment opportunities for college trained men. More than the normal number of college graduates entered the Law School several years after graduating from college. The maximum registration in recent years was 301 in 1921-22, as compared with 300 in 1933-34. Registration in other Minnesota law schools reached a maximum of 1,073 in 1923-24, and was approximately 400 in 1933-34. Registration in all law schools of the United States reached a maximum of nearly 49,000 in 1928-29, and was approximately 38,500 in 1933-34.

Law library.—The increase in the law library in the biennium was 8,652 volumes. The total is now 71,272 volumes. The library has added a number of rare items to its collection of session laws, periodicals, and reports. The special appropriations made to the law library have enabled the librarian to take advantage of present market conditions, and to procure books at reasonable prices which were formerly difficult to obtain, and which are likely to be again scarce and costly when normal conditions return. The library ranks eighth among the law school libraries of the United States.

Respectfully submitted,

EVERETT FRASER, *Dean*

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, 1932-34.

General status of the school.—The history of the Medical School in the past two years has not been marked by any great extensions or changes in policy. Rather this has been a period of scrutiny of our work and its results with a view to making the best use of our existing facilities. We believe we see an improvement in our services. We feel that the spirit of the student body is constantly improving. The teaching has risen in character, and activity in research has continued high. Clinical opportunities have been improved not by augmenting our physical plant but by increasing the effectiveness of the facilities already available and by taking advantage of the additional opportunities furnished us through the courtesy and co-operation of affiliated institutions.

Reduction in supply funds has been met in so far as possible by carefully planning budgets and watching expenditures. We are happy to say that, despite changes in funds available for instruction, we have lost no outstanding members of our faculty and, in fact, we have been able to improve slightly the status of some of the active young men upon whom the future of the school will depend.

This program was made possible by the full co-operation of the heads of departments and other members of the faculty. We wish to thank them for this co-operation which often involved great personal and departmental sacrifices.

Lectureships.—Three new lectureships have been established:

1. The Clarence M. Jackson Lectureship, the gift of Phi Beta Pi Fraternity, and in honor of the head of Anatomy. It supplies an annual stipend of \$50. The first lecture was given by Dr. Walter Bierring, president-elect of the American Medical Association, who spoke on "Historical Sequence of Medical Events."

2. The E. Starr Judd Lectureship in Medicine and Surgery, the gift of Dr. E. Starr Judd of the Mayo Clinic, and a graduate of the Medical School. This is an annual lectureship of \$250. The first lecture was given by Dr. Dean Lewis, president of the American Medical Association and professor of surgery at the Johns Hopkins University Medical School. His lecture was entitled "The Hypophysis, the Master Gland: Its Different Diseases, Their History and Its Relation to Other Glands."

3. Lectureship in the School of Nursing, the gift of the School of Nursing Endowment Fund (the Richard Olding Beard Fund). This is a special lectureship of \$150. The lectures will be given by Miss Annie W. Goodrich, dean of the Yale University School of Nursing, during the early fall of 1934.

Mayo Foundation—Medical School interchange lecture series.—This series was arranged and inaugurated in the fall of 1932. During the fall and winter of 1932-33 eight members of the Mayo Foundation presented lectures before the Medical School and eight members of the Medical School faculty presented lectures before the Mayo Foundation. These lectures were open to the public and were well received. The series was again offered during the fall and winter of 1933-34.

Research.—The Medical School has continued its activities in research both in clinical subjects and in subjects basic to clinical medicine. Each year copies of the published reports on these studies are brought together in a volume of "Contributions" which, we think, gives an index of the activity in scholarship in this

branch of the University. The Medical Research Fund forms a potent and much appreciated aid in the conduct of these original studies in the field of medical science and practice.

Fellowships.—The Minneapolis General Hospital Fellowship Fund, established in 1931, has been increased in such amount that it now supports seventeen fellowships: ten in medicine, two in ophthalmology and oto-laryngology, one in pediatrics, and four in surgery. While the hospital duties of these fellows are those ordinarily pertaining to residents, the educational emphasis involved in the fellowship relation cannot be overemphasized and is a credit to Dr. Charles E. Remy, superintendent of the hospital, who has devised and secured support for this plan.

In the spring of 1934 the Minneapolis General Hospital, in addition to the above fellowship gift, arranged for the support of five men of advanced rank—four in medicine and one in surgery. Their duties are to be those of senior residents, i.e., supervision and teaching of clerks and fellows and home visiting. This combination of teaching and study presents great possibilities for the development of able men.

Student body.—The question of the number of medical students has engaged the attention alike of the Medical School officers and faculty, and the profession in the state. The opinion is often expressed that too many doctors are being graduated. This opinion is based on arguments of social welfare and not on the presumable economic future of practitioners.

At the same time, it is recognized that limitation of medical students must be national in scope if it is to be effective. Limitation at Minnesota alone would merely have the effect of driving Minnesota residents to other and, it is believed, on the average, poorer schools. Any consideration of limitation, therefore, should be on a quality basis, designed to improve medical practice, and so set up that able students would not be excluded by financial conditions. This principle is in line with requirements for admission as always administered in this school.

It is to be noted that two thirds of the failures in the Medical School in recent years are among students who enter with an honor point-credit ratio of less than 1.25 and that in 1933-34 no student who entered with a "B" pre-medical average was in scholastic difficulty.

It is to be noted further, that the present limitation to one hundred freshmen taken in the fall and thirty in the winter is dictated by the facilities available and not by any theory of educational need. This type of limitation is common practice in other departments of the University where students often have to wait one or more quarters in order to be accommodated in particular classes. In the Medical School the situation is, perhaps, more acute, and a considerable number of students who fulfill minimum requirements cannot be accommodated.

In this connection the theory that the Medical School exists to prepare practitioners for the state seems to be fundamental. A large share of a student's education in this field is paid for by the state. The type of education involved is special and technical—and not primarily designed for preparation for citizenship or ordinary life. It seems that the state may well justify such expenditure to the extent of the social need but not as a right possessed by the individual citizen.

It is recognized that all these matters are highly complex and will demand attention of the best minds in the next few years.

R.O.T.C.—On June 30, 1934, the United States War Department discontinued the training of medical officers in all medical schools as part of the Reserve Officers Training Corps. We regret this decision, which was made on the assumption that medical officers receive adequate training for military service in the medical curriculum and that the funds of the R.O.T.C. should be devoted to training line and staff officers. We regret particularly the withdrawal of the excellent medical officers who have been detailed to this school through a series of years, all of whom have been most co-operative in the main purposes of the institution and have exercised an excellent influence on the student body. To the last of these instructors, Lieutenant-Colonel W. G. Guthrie, we especially express the thanks and good will of the Medical School and our regret of his transfer.

Comprehensive examinations.—The system was put into effect four years ago. The main point is that a student must demonstrate adequate preparation on each year's work as a whole and may not proceed to advanced courses until this is done. No student is dropped. If he fails, he may repeat the examination at the next regular period. Dr. A. T. Rasmussen is chief examiner.

In the 1933 examinations two sophomores made a straight record of "A" in all subjects. In 1934 two freshmen and one senior made the same enviable record.

State Board examinations.—The training and intelligence of our graduates is indicated by the fact that in five years only eight of our graduates (few, if any, of whom graduated in recent years) have failed any State Board examination. In that time six hundred graduates of the school have been examined in twenty-three states. The standing of our former students in these examinations has been almost uniformly high.

Respectfully submitted,

E. P. LYON,

Dean of the Medical School

RICHARD E. SCAMMON,

Dean of Medical Sciences

THE SCHOOL OF NURSING

The School of Nursing submits the report of the biennium July 1, 1932, to June 30, 1934.

Grading of schools of nursing.—The work of the Grading Committee has continued in the form of a second grading. From this report, one might conclude that the general direction this school should strive to take in its progress is toward smaller enrolment, shorter hours of duty, smaller nursing load, more hours of theoretical teaching, and a better prepared faculty.

The committee (which goes out of existence this year) will not formulate "standards" as such, but will list a set of practices which it considers educationally good. The stimulus which this committee has given to nursing and nursing education has been, and will continue to be, of inestimable value both in this and other schools.

The National League of Nursing Education is taking up the work where the Grading Committee left off. It now has a committee, of which the director is a member, at work on principles for a good school of nursing. These should be available within a year. The league also has a committee, of which the director

is a member, working with the American Hospital Association on essentials for a good nursing service.

Tabulation in the spring, 1934, of formal preparation of faculty members, including head nurses and assistant head nurses gave the following percentages:

Hospital	Postgraduate Work	Bachelor's Degree	Some College Work	High School Only
Minneapolis General Hospital.....	8.0	26.5	47.0	26.5
Miller Hospital	0.0	10.0	27.0	73.0
University of Minnesota Hospitals	21.0	13.0	58.0	29.0

Curriculum.—Since many student nurses carry work in the College of Science, Literature, and the Arts, the admission requirements to the School of Nursing have been raised to conform with those of that college. This has meant more careful selection of students which, in the last analysis, will provide not only better nurses, but also a financial saving to the hospitals, since they will not be housing so many poor students during the first year of residence only to have the students drop out just at the time they become valuable in the care of patients.

For approximately two years, plans have been under way for the inclusion of field experience in public health nursing in the undergraduate curriculum. At the December 12, 1933, meeting of the Advisory Committee of the school, final approval for a six-week period of such experience was given. This was later approved for trial by the Board of Regents. Accordingly, students were assigned to the Visiting Nurse Association in Minneapolis beginning March 22, 1934, and to the Baby Welfare Association in St. Paul beginning May 15, 1934.

Contingent upon the inclusion of public health nursing in the curriculum were several conditions, the most important being that students will hereafter pay for their own maintenance during the first quarter in the school, the hospitals providing substitute nursing service while the students are away for field experience.

A major interest in regard to the undergraduate curriculum has concerned itself with putting into effect the curriculum as altered in the preceding biennium. The group system of rotation has helped materially in avoiding uneven assignments and in securing better correlation of class and clinical work.

Another major curriculum interest has concerned itself with plans for an improved five-year course in which there may be elective major subjects other than the two or three now available and following which work may be arranged leading to a Master's degree.

All courses for postgraduate students have been revised; the chief change is the inclusion of clinical experience in the respective public health nursing fields—as, for example, infant welfare and nursery school for those taking pediatrics, prenatal and visiting nursing for those taking obstetrics.

A procedure and experience record book has been prepared in which, for the first time, we shall have a complete record of the clinical experience of each student.

Library.—Emphasis has been placed on improving library facilities in the various hospitals. At the Minneapolis General Hospital the nurses' library has been cataloged and a part time librarian (a trained person who is attending the University) is on duty daily. Instructors and students have co-operated in obtaining funds to procure ward libraries.

Dedication of Nurses' Hall.—The new Nurses' Hall at the University was dedicated October 27, 1933, during Homecoming Week. To everyone who through the years has been helpful in planning for this building, the entire faculty, staff, and student body are extremely grateful. The dedication of this building was held in the recreation room, and the dedicatory address was given by Dr. Richard Olding Beard, founder of the school.

For the first time since the school was started, we now have satisfactory living conditions for all students. The new hall is especially comfortable and attractive. It has served in providing not only better physical conditions, but also much better social conditions for the entire student body. The first joint capping exercises were held here April 6, 1934. In two of the residences, that of the University and that of the General Hospital, a hostess (or director) has been added to the staff. These have contributed much to the social and extra-curricular activities of the students.

Studies.—Six studies are reviewed:

A. Study of Head Nurse and Supervisor Activity and Division of Time in Care of Patients.—Using CWA workers (varying from 9 to 17) as timers, Miss Phoebe Gordon studied the total activities of 34 head nurses and supervisors (in three hospitals) for at least a week each. The following summarizes the findings of this extensive timing which have been tabulated to date:

Activities	Per Cent
Directly related to patients.....	15.6
Directly concerned with physicians.....	13.1
Housekeeping	33.1
Supervisory	22.5
Teaching	7.2
Pertaining to visitors.....	2.3
Miscellaneous	6.2

Calculating averages of amounts of time spent in subdivisions of care per patient per day throughout this study yielded:

Care of Patient	Minutes
Treatments and medications.....	55
Personal care	54
Housekeeping	16
Diets	11
Conferences and professional conversations.....	7
Errands	3
Supervision	2
Visitors and phone.....	2
Miscellaneous	5
Total	2 hrs., 35 min.

B. Bacteriological Study of Certain Nursing Procedures.—Working under the supervision of Miss Lucile Petry, a bacteriologist and a graduate nurse secured through CWA, investigated the bacteriological soundness of certain steps of the following procedures: temperature taking; perineal care of postpartum mothers; handwashing in communicable disease department; hypodermic technique. In experimenting with thermometer technique, a solution was tried which is practically 100 per cent effective in rendering thermometers free from bacteria. The newly adopted technique of scrubbing the hands without a brush in the communicable

disease wards was found safe. Certain other procedures were tested, revealing need for more thoro disinfection in some cases, and in all cases indicating that much of value could be found in further study.

C. Studies of Illness.—Using CWA assistance, a series of studies of illness among the students in the class of 1933 was made under the direction of the director. The findings of this particular study were based on too few students (171) to serve as a basis for definite conclusions. They indicate, however, among other things, increase of days' illness in proportion to increase of days' residence in the school. Report of this study in more detail will be printed in the *American Journal of Nursing*.

D. Relation between Efficiency of Student Nurses and Certain Personality Traits.—The Bernreuter Personality Inventory was given to 100 student nurses and scores studied in relation to records on efficiency rating scale. No significant correlations were discovered. The distribution of personality test scores corresponded closely to Bernreuter norms for college women. A coefficient of reliability was calculated for the efficiency report form and indicated need for effort to improve the form in this respect. This study was carried on by Miss Petry under the guidance of Dr. Herbert Carroll.

E. Tested Qualities of Three Hundred Graduate Nurses.—Three hundred graduate nurses, drawn equally from the fields of public health nursing, private duty and institutional nursing, were given a battery of tests and the scores studied by Miss Gordon, in co-operation with the Board of Admissions of the University and the Employment Stabilization Research Institute. The study revealed no profile of scores on these tests which could be labeled peculiar to nurses, differentiating them from women as a whole. Nor did it show significant enough differences between the scores of the best and the worst groups of the three hundred nurses to indicate any of the tests to be of great service in predicting success in nursing. The tests giving most promise were the "education test" (Pressey Classification) and the "arithmetic test."

F. Evaluation of Criteria for Selection of Students.—The records of the school have been made available to Miss Ruth Merrill (formerly University of Minnesota), Department of Educational Psychology, University of Rochester, and incoming students for the last eighteen months have been tested by her in an attempt to evaluate the criteria of selection. The study is composed of two parts: the first, to review the cases of 125 students who have remained in the school and a like number who have canceled registration; the second, to compose a battery of instruments of selection which may help in guaranteeing a consistently good type of student. Work is still in progress. The project was launched through the Board of Admissions.

Health of students.—In consultation with the Health Service, the School of Nursing committees have approved (action June 10, 1932) a much more careful physical check-up of students. Each student receives the usual complete physical examination on entrance and annually thereafter. In addition, all students receive Mantoux tests on entrance; those having a positive Mantoux receive chest X-rays also. One week before beginning the tuberculosis service, usually in the second year, the students entering that service have another Mantoux test, and those with a positive reaction receive a chest X-ray. One month following the tuberculosis service, each student again has a Mantoux and if it is positive, a chest X-ray as well. Finally, when the student finishes her course, she has a complete physical examination including a last Mantoux test, and (if the Mantoux test is positive) a final chest X-ray. The above plan enables the Health Service to check not only on the general health of the student, but also more closely on the incidence of tuberculosis, and particularly the effect on the student of her clinical experience in the tuberculosis nursing service.

Another improvement was made when the Students' Health Service complied with a request for examination of all students' feet with prescription of special shoes where the need for them was indicated.

In the case of affiliating students, the policy has been inaugurated of requiring them to be immunized before entrance, as are our own students, in regard to smallpox, typhoid, diphtheria, and scarlet fever. This procedure has kept communicable disease at a minimum.

Northern Pacific Beneficial Association Hospital.—A major administrative change of the biennium has been the withdrawal on January 1, 1933, of the Northern Pacific Beneficial Association Hospital from the undergraduate nursing program in the University. This hospital approved the association with the University School of Nursing, March 9, 1921. Since January 1, 1933, this hospital has staffed its services with graduate nurses and adjunct personnel, giving part time employment to as many graduates as possible who wish to study at the University. Mr. H. B. Smith, president of the Northern Pacific Beneficial Association, writes in part regarding this matter, "Should it develop that this hospital could serve the Central School by furnishing other training or service to the graduate nurse, this matter will be available for consideration by the Advisory Committee."

Registration in New York.—March 2, 1933, Dr. Hermann Cooper, Ph.D., of the Education Department of the State of New York inspected the school. Most of the recommendations of the 1931 inspection had been met. Dr. Cooper seemed pleased with changes made, except those in the libraries. Re-registration is expected within the ensuing year.

Part time duty.—On June 10, 1932, the Advisory Committee approved part time duty in the hospitals for graduate nurses wishing to study in the University. Those nurses performing nursing duties would receive meals in return for two hours nursing service daily, and maintenance in return for three hours service daily; while those performing non-nursing duties would receive meals in return for three hours service daily, and maintenance in return for four hours service daily. As a result of this policy, we have been able to assist many graduate nurses in carrying university work.

Association of Collegiate Schools of Nursing.—The Association of Collegiate Schools of Nursing in the United States was organized provisionally January 21, 1933. The year 1934 sees that organization being well established. The University of Minnesota School of Nursing has not been a member, tho it has, through courtesy, been privileged to send a representative to most of its meetings.

Student enrolment.—Student enrolment in the three-year course has dropped somewhat, altho the five-year enrolment has increased slightly. Affiliating students are decreasing in numbers due to the closing of many schools. We have, during the past two years, received students from ten schools which are closing—Bethesda at Crookston, St. Luke's, and George B. Wright hospitals at Fergus Falls, Ashton Memorial at Pipestone, Home Hospital at Slayton, Lakeview Memorial at Stillwater, and hospitals at Crookston, Dawson, Litchfield, Montevideo, and Owatonna. The students from these schools have helped markedly in the care of patients in the various hospitals, and when they have all completed their course, we shall need to replace their hours of nursing care with nursing service

from some other source. Postgraduate students first enrolled in the school August 27, 1931. July 1, 1932, there was an enrolment of 23 students compared with 44, July 1, 1934. Details of enrolment for all types of students may be found in the biennial report to the Advisory Committee of the school.

Conclusion.—In closing the biennium 1932-34, the faculty of the School of Nursing, as indicated in this report, is cognizant and appreciative of the advances made in some directions. It is critical of failure to progress in others. What the public and the nursing profession both need at present is quality, not quantity, in nurses. To provide this quality should be the aim of every university school. To ensure it, the school must require quality in faculty, in students, and in all other factors which go into the making of a nurse prepared adequately to give preventive and curative nursing care not only in the institution, but also in the community which she will be expected, as a graduate, to serve.

Respectfully submitted,

KATHARINE DENSFORD, *Director*

PUBLIC HEALTH NURSING .

The following report is for the curriculum in Public Health Nursing in the Department of Preventive Medicine and Public Health during the biennium 1932-34.

A study of the trend of affairs during the past biennium indicates certain definite changes and advances. While registration has been reduced in general there has been a distinctly upward turn in summer quarter enrolment. General standards have been raised; nineteen additional credits have been set up as either prerequisite to or a part of the certificate requirement. The field work has been increased so that at the present time we have four months of field practice under supervision in public health nursing and four weeks in social case work. Graduate public health nursing courses have been developed and already several public health nursing students have registered in the Graduate School to take their Master's degree in public health.

The Advisory Committee for Public Health Nursing Education in the practice fields has been enlarged to include eight or ten new lay members. Public health nursing education needs the support of an enlightened public, and through this committee work we believe a better and more complete understanding of nursing education problems will be experienced. These new members come from both rural and urban communities.

The director of the Course in Public Health Nursing has continued to make field trips throughout the state and to participate in professional and lay conferences.

We have been fortunate during the past year in having as our guest Miss Mary Beard, associate director, International Health Division of the Rockefeller Foundation. Miss Beard went on a brief trip throughout the state to acquaint herself with rural nursing in Minnesota.

Through the interest of Miss Beard the itineraries of five fellowship students from foreign countries have included an opportunity to study rural nursing and rural health needs in Minnesota. Also, our first specific request for Minnesota public health nurse fellowships has been granted and Miss Olivia T. Peterson has

received a travel fellowship to continue for eleven weeks and to include a study of the nature of rural nursing and health conditions prevailing in other parts of the eastern United States and Canada. Miss Lois Carleton has been granted a study fellowship which will make it possible for her to earn her Master's degree in Teachers College, Columbia University. Both of these fellowships are granted and will be used in an effort to promote and develop more effectively rural nursing standards and procedures.

The employment of students who have completed their course has been very satisfactory.

Further extension and development of field training facilities in both urban and rural communities is important and to this end we are especially dedicated this coming biennium.

Respectfully submitted,

EULA B. BUTZERIN, *Director*

UNIVERSITY OF MINNESOTA HOSPITALS

I append the statistical report of the University of Minnesota Hospitals for the years July 1, 1932 to June 30, 1934.

No change has been made in the physical plant during this time other than the completion of the new Nurses' Hall. Under competent direction, the advantages of the excellent facilities of the new Nurses' Hall have made possible the development of an *esprit de corps* well worth the money invested.

There was an increase of about 10 per cent in the load of the Out-Patient Department in 1932-33 over 1931-32. A definite effort was made to stop further growth in the Out-Patient Department during the last year, and in spite of considerably greater pressure to admit patients, the total visits were held at exactly the figure for 1932-33.

By making comparatively minor shifts in the out-patient schedule, it has been possible to make considerable advance in the amount of training given to medical students.

Throughout these two fiscal years, the deepening of the depression and the poverty of large numbers of people in the state, has meant a continual increase in the number of people seeking admittance to the hospital. In order to hold the waiting list of fully approved patients to a minimum, admission rules have been made as strict as possible. In addition to the facts obtained by both the home doctor and the county commissioner, the eligibility of each patient admitted to the hospital is preceded by a careful study of the financial status of the patient and an investigation concerning the number of dependents for whom the patient is responsible, the occupation and amount of salary received, if unemployed, for how long; whether the home is owned or rented, the amount of rent paid, the amount of mortgage if any, taxes paid; whether the patient owns an automobile, carries life insurance, has savings or other sources of income, and the amount of his indebtedness; if the patient is a farmer, whether he owns or rents his farm, the number of acres and the value per acre, what produce he raises, the amount of stock he owns and the amount of his monthly cream check. In spite of the strictness of admission rules, the waiting list has been increased from approximately 200 to 750 at the present time. Throughout the last nine months the

hospital has taken practically no patients whose condition was not emergency in character.

A number of comparatively minor changes have been made during the last two years which have improved the functioning of the hospital. The very sick, immediately post-operative surgical patients have been concentrated in one station which has made possible better nursing care for this type of patient. Patients who are convalescent and able to walk about and care for themselves with a minimum of nursing supervision have been concentrated in one ward. This has resulted in substantial saving in operating expense without sacrifice of good medical procedure. Cases needing isolation technique have been concentrated in an isolation ward. The entire management of contagion in the hospital has been brought under the central administration of the hospital rather than the jurisdiction of individual clinical departments. This furnishes an additional protection against epidemic disease arising within the institution. A systematic examination for communicable disease in the personnel of the hospital has been initiated and protective immunizations administered. Routine physical examination of food handlers as well as systematic bacteriological checks of food sources have been enforced throughout the last year.

The distribution of supplies has been centralized in common storerooms. The handling of the clothes of patients has also been segregated in a central storeroom with the result that claims for lost clothing are no longer being made. Methods have been devised to systematize, simplify, and centralize the administrative and clinical records of the hospital. The simplification of record forms has resulted in economies of nursing time all of which has been reallocated to the care of patients. Administrative control over the expenditure of supplies within the institution has been extended by means of punch card accounting which makes possible an intensive program of conservation.

TABLE I. IN-PATIENT DEPARTMENT
Patients Admitted, Treated, and Hospital Days—July 1, 1931 to June 30, 1934

	1931-32		1932-33		1933-34			Sub. Per Cent
	No.	Per Cent	No.	Per Cent	No.	Sub. No.	Per Cent	
Patients in hospital at beginning of year	352	....	318	....	.....	302	....	..
Total patients admitted								
Private	379	6.8	368	5.8	510	...	7.5	..
Pay	995	17.9	917	14.4	955	...	14.0	..
Free	626	11.2	948	14.9	1,178	...	17.4	..
Eustis .....	.....	.....	.....	.....	.....	379	....	5.6
Teaching and research ..	.....	.....	.....	.....	.....	144	....	2.1
Charity .....	.....	.....	.....	.....	.....	407	....	6.0
Staff .....	.....	.....	.....	.....	.....	248	....	3.7
County	3,573	64.1	4,132	64.9	4,154	...	61.1	..
Health Service (not included in per cent)	1,252	....	1,229	....	813	...	....	..
Total	6,825	100.0	7,594	100.0	7,610	...	100.0	..

THE PRESIDENT'S REPORT

TABLE I—Continued

	1931-32		1932-33		1933-34			Sub. Per Cent
	No.	Per Cent	No.	Per Cent	No.	Sub. No.	Per Cent	
Total patients treated (dis- charged)								
Private	364	6.5	360	5.5	511	....	7.4	..
Pay	971	17.2	906	13.9	953	....	13.9	..
Free	601	10.7	852	13.1	1,226	....	17.8	..
Eustis						364	....	5.3
Teaching and research ..						153	....	2.2
Charity						403	....	5.9
Staff						306	....	4.4
County	3,699	65.6	4,393	67.5	4,161	....	60.9	..
Health Service (not included in per cent).....	1,184	....	1,239	....	766	....	....	..
Total	6,819	100.0	7,750	100.0	7,617	....	100.0	..
Total days of hospital care								
Private	3,560	3.0	3,188	2.7	4,496	....	3.8	..
Pay	11,459	9.6	9,178	7.7	9,994	....	8.4	..
Free	14,707	12.3	18,909	16.0	19,956	....	16.9	..
Eustis						10,663	....	9.0
Teaching and research ..						1,808	....	1.5
Charity						5,366	....	4.6
Staff						2,119	....	1.8
County	89,828	75.1	86,946	73.6	83,883	....	70.9	..
Health Service (not included in per cent).....	6,364	....	5,837	....	3,746	....	....	..
Total	125,918	100.0	124,058	100.0	122,075	....	100.0	..
Average days per patient								
Private	9.8	....	8.9	....	8.8	....	....	..
Pay	11.8	....	10.1	....	10.5	....	....	..
Free	24.5	....	22.2	....	16.2	....	....	..
Eustis						29.3	....	..
Teaching and research ..						10.5	....	..
Charity						13.3	....	..
Staff						6.9	....	..
County	24.3	....	19.8	....	20.1	....	....	..
Health Service	5.5	....	4.7	....	4.9	....	....	..
Total	18.5	....	16.0	....	16.0	....	....	..
Highest daily census	387	....	438	....	....	361	....	..
Daily average number of pa- tients	9.7	....	8.7	....	12.3	....	....	..
Private .....								..
Pay	31.3	....	25.1	....	27.3	....	....	..
Free	40.3	....	51.8	....	54.7	....	....	..
Eustis						29.2	....	..
Teaching and research ..						5.0	....	..
Charity						14.7	....	..
Staff						5.8	....	..
County	246.1	....	238.2	....	229.8	....	....	..
Health Service	17.4	....	16.0	....	10.3	....	....	..
Total	344.8	....	339.8	....	334.4	....	....	..

TABLE II. FINANCIAL STATEMENT—JULY 1, 1932 TO JUNE 30, 1934

	1932-33	1933-34
<i>Income</i>		
County patients	\$341,634.26	\$342,370.81
Pay services	59,884.20	59,425.21
Out-patients	43,045.67	38,700.35
Eustis patients	39,910.35	40,000.00
Health Service	24,496.76	24,530.86
University support	70,000.00	70,000.00
Total income	\$578,971.24	\$575,027.23
<i>Expenditures</i>		
Salaries and wages	\$301,437.77	\$277,387.23
Supplies, expense, and equipment.....	287,526.55	298,547.24
Total cost of operation	\$588,964.32	\$575,934.47
<i>Division of Cost of Operation</i>		
Out-Patient	\$105,080.00	\$ 99,287.00
In-Patient	483,884.32	476,647.47
Total	\$588,964.32	\$575,934.47
Cost per patient visit, Out-Patient	\$1.185	\$1.120
Cost per patient day, In-Patient	3.90	3.9045

TABLE III. OUT-PATIENT DEPARTMENT
Clinic Attendance July 1, 1932 to June 30, 1933

	New Patients		Increase or Per		Revisits		Increase or Per		Total Visits		Increase or Per	
	1932-33	1933-34	Decrease	Cent	1932-33	1933-34	Decrease	Cent	1932-33	1933-34	Decrease	Cent
Admission	5,369	5,193	176*	3.28*	....	....	....	....	5,369	5,193	176*	3.28*
Medicine												
General	692	552	140*	20.24*	15,761	15,974	213	1.35	16,453	16,526	73	.44
Cardiac	525	495	30*	5.71*	1,002	1,206	204	20.36	1,527	1,701	174	11.39
Chest	352	367	15	4.26	2,905	3,063	158	5.44	3,257	3,430	173	5.31
Gastro-intestinal	571	692	121	21.19	21	25	4	19.05	592	717	125	21.11
Metabolism	91	97	6	6.59	904	787	117*	12.94*	995	884	111*	11.16*
Neurology	772	827	55	7.12	1,062	1,172	110	10.36	1,834	1,999	165	9.00
Skin "L" clinic	165	110	55*	33.33*	7,468	7,983	515	6.90	7,633	8,093	460	6.03
Dermatology	898	775	123*	13.70*	3,379	2,601	778*	23.02*	4,277	3,376	901*	21.07*
Surgery												
General	1,044	1,425	381	36.49	4,651	6,193	1,542	33.15	5,695	7,618	1,923	33.77
Genito-urinary	298	429	131	43.96	3,553	3,536	17*	.48*	3,851	3,965	114	2.96
Goiter	79	123	44	55.69	442	473	31	7.01	521	596	75	14.40
Reconstructive	17	44	27	158.82	65	137	72	110.77	82	181	99	120.73
Tumor	455	473	18	3.96	2,042	2,424	382	18.71	2,497	2,897	400	16.02
Gynecological	66	50	16*	24.24*	660	669	9	1.36	726	719	7*	.96*
Orthopedic	522	490	32*	6.13*	946	1,057	111	11.73	1,468	1,547	79	5.38
Urology—female	269	291	22	8.18	783	979	196	25.03	1,052	1,270	218	20.72
Eye												
General	1,755	1,637	118*	6.72*	1,331	1,710	379	28.47	3,086	3,347	261	8.46
Refraction	1,015	911	104*	10.25*	159	165	6	3.77	1,174	1,076	98*	8.35*
Ear	628	538	90*	14.33*	3,223	2,852	371*	11.51*	3,851	3,390	461*	11.97*
Nose and throat	1,324	1,214	110*	8.31*	2,584	2,555	29*	1.12	3,908	3,769	139*	3.56*
Obstetrics	431	319	112*	25.99*	2,154	1,791	363*	16.85*	2,585	2,110	475*	18.38*
Gynecology	1,232	1,025	207*	16.80*	3,080	3,955	875	28.41	4,312	4,980	668	15.49
Pediatrics	1,445	1,266	179*	12.39*	4,193	4,568	375	8.94	5,638	5,834	196	3.48
Nutrition	182	149	33*	18.13*	404	386	18*	4.46*	586	535	51*	8.70*
Dental	426	357	69*	16.20*	1,438	2,522	1,084	75.38	1,864	2,879	1,015	54.45
Night clinic												
Genito-urinary	21	....	21*	100.00*	1,736	....	1,736*	100.00*	1,757	....	1,757*	100.00*
"L" clinic	22	....	22*	100.00*	2,020	....	2,020*	100.00*	2,042	....	2,042*	100.00*
Totals	20,666	19,849	817*	3.95*	67,966	68,783	817	1.20	88,632	88,632	....	....

* Decrease.

TABLE IV. OUT-PATIENT DEPARTMENT—SUMMARY

	1931-32	1932-33	1933-34
Number of patient visits	77,973	88,632	88,632
Number of services	105,357	115,780	111,385
Number of services per visit ..	1.35	1.31	1.257
Amount of patient fees	\$ 43,353.00	\$ 43,045.65	\$ 38,700.35
Average fee per patient visit ..	.5560	.4857	.4366
Cost of operation	105,080.00	105,080.00	99,287.00
Average cost per patient visit ..	1.347	1.186	1.120

TABLE V. AMOUNT OF SERVICES, PAY—JULY 1, 1931 TO JUNE 30, 1934

	1931-32		1932-33		1933-34		Increase of 1933-34 over 1931-32	
	Dollars	Per Cent	Dollars	Per Cent	Dollars	Per Cent	Dollars	Per Cent
Admissions	\$14,622.30	34.0	\$15,241.50	35.4	\$15,329.31	39.6	\$ 707.01	4.8
Registrations ...	1,478.75	3.4	749.80	1.7	241.50	0.6	1,237.25*	83.7*
Laboratory	1,668.25	3.9	2,055.50	4.7	1,589.50	4.2	78.75*	4.7*
X-ray	8,219.15	19.1	8,776.15	20.4	7,491.75	19.3	727.40*	8.9*
Drugs	9,870.05	22.9	10,292.05	24.0	9,320.50	24.1	549.55*	5.6*
Dental	605.00	1.4	392.75	0.9	362.45	0.9	242.55*	40.1*
Optical	6,583.00	15.3	5,537.90	12.9	4,365.34	11.3	2,217.66*	33.7*
Total	\$43,046.50	100.0	\$43,045.65	100.0	\$38,700.35	100.0	\$4,346.15*	10.1*

* Decrease.

TABLE VI. AMOUNT OF SERVICES, FREE—JULY 1, 1931 TO JUNE 30, 1934

	1931-32		1932-33		1933-34		Increase of 1933-34 over 1931-32	
	Dollars	Per Cent	Dollars	Per Cent	Dollars	Per Cent	Dollars	Per Cent
Admissions	\$2,561.26	40.4	\$4,442.50	45.9	\$4,215.54	47.6	\$1,654.28	64.6
Registration ...	2,385.85	37.6	2,997.35	30.9	3,112.30	35.1	726.45	30.4
Laboratory	117.25	1.8	183.75	1.9	79.50	.9	37.75*	32.2*
X-ray	416.00	6.6	1,002.00	10.4	529.10	6.0	113.10	27.2
Drugs	572.60	9.0	812.30	8.4	777.05	8.8	204.45	35.7
Dental	47.75	.8	53.25	.5	30.25	.3	17.50*	36.6*
Optical	238.55	3.8	195.31	2.0	116.47	1.3	122.08*	51.2*
Total	\$6,339.26	100.0	\$9,686.46	100.0	\$8,860.21	100.0	\$2,520.95	39.8

* Decrease.

THE PRESIDENT'S REPORT

TABLE VII. NUMBER OF SERVICES, PAY—JULY 1, 1931 TO JUNE 30, 1934

	1931-32		1932-33		1933-34		Increase of 1933-34 over 1931-32	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
	Admission	59,214	70.2	59,696	71.2	60,188	74.7	974	1.6
Registrations	2,992	3.5	1,416	1.7	127	.2	2,865*	95.8*
Laboratory	2,200	2.6	2,732	3.3	2,112	2.6	88*	.4*
X-ray	3,133	3.7	3,545	4.2	3,473	4.4	340	10.9
Drugs	15,423	18.3	15,536	18.5	13,924	17.3	1,499*	9.7*
Dental	560	.7	304	.4	275	.3	285*	50.9*
Optical	817	1.0	581	.7	427	.5	390*	47.7*
Total	84,339	100.0	83,810	100.0	80,526	100.0	3,813*	4.5*

* Decrease.

TABLE VIII. NUMBER OF SERVICES, FREE—JULY 1, 1931 TO JUNE 30, 1934

	1931-32		1932-33		1933-34		Increase of 1933-34 over 1931-32	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
	Admissions	10,215	48.6	17,769	55.6	16,776	54.3	6,561	64.2
Registration	9,524	45.3	11,998	37.5	12,431	40.3	2,907	30.5
Laboratory	142	.7	268	.8	88	.3	54*	38.0*
X-ray	180	.8	428	1.4	236	.8	56	31.1
Drugs	811	3.9	1,374	4.3	1,276	4.1	465	57.3
Dental	35	.2	37	.1	20	.1	15*	42.9*
Optical	111	.5	96	.3	42	.1	69*	62.2*
Total	21,018	100.0	31,970	100.0	30,869	100.0	9,851	46.9

* Decrease.

Respectfully submitted,

HALBERT L. DUNN, *Director*SOCIAL SERVICE DEPARTMENT OF THE UNIVERSITY OF
MINNESOTA HOSPITALS

The Social Service Department of the University of Minnesota Hospitals submits the following report, for the biennium, 1932-34.

Service to patients.—From July 1, 1932 to June 30, 1934 the department had an average of 7.5 social workers, and rendered medical-social treatment to 3,209 patients. The patients fall into three groups depending upon the causal relationship between sickness and environmental maladjustment, and the responsibilities of non-medical and medical social agencies sharing the patient's care.

I. Intensive medical-social treatment was required by 784 patients, because illness was either the cause or the result of social maladjustment. Therefore it was primarily the responsibility of the hospital social worker to help bring about adjustment correlated with medical recommendations.

II. A total of 1,672 patients was treated as slight service cases. This classification was appropriate for most within the group, because with some help in rearranging their natural resources and securing temporary assistance in order to make the facilities of the hospital available, they were able to manage their own affairs. The majority of these patients required help in locating and paying for board and room while securing clinic care, means of transportation, and interpretation of their medical-social necessities to their families or county officials. Other patients within this group should have been treated intensively, but the pressure of the numbers of patients involved and the poverty of local resources limited what could be undertaken, so only the most obvious and necessary needs were met.

III. Of this total of 3,209 patients, 753 were handled as steering cases for other social agencies. Social problems were under treatment before or at the time of the patient's illness, and by the non-medical agency the patient was referred to the hospital, with history to be interpreted to the doctor, and questions to be presented to him.

The total intake of patients was 2,431, of which 566 were referred by the out-patient physicians, 619 by hospital physicians, 170 by the hospital administration, 87 by hospital and clinic nurses, and 134 by the hospital social workers. This leaves 855 which were referred from sources outside of this organization. Of this number 692 came through nurses and social workers throughout the state, and 163 upon the request of the patient himself, some member of his family, or a private individual such as a minister or employer.

Over this two-year period the department carried a total average of 438.7 cases each month, or an average of 58.6 for each staff worker. The previous biennium reported an average monthly case load of 424.2 or an average of 59.4 for each social worker.

Altho case work is the primary function of the Social Service Department, it is well understood that through its work with individual patients the social aspect of some of the hospital functions has become evident. Thus it is appropriate that one of the following services may be extended to a patient and no other responsibility assumed by the hospital social worker: financial evaluation regarding clinic fees 629; discharge arrangements approved for hospital patients 3,298; reports to other medical and nursing organizations 1,627; patients directed to other community agencies 313; interpretation of medical condition or hospital facilities to the patient or a member of his family by conferences 3,995, by letter 2,165, by visit 154. This makes a total of 12,181. This type of service has grown enormously during the past year, due chiefly to the policy of approving the discharge arrangements of hospital patients inaugurated in the spring of 1933, and to the restriction of hospital admissions, resulting in a greater amount of clinic care. The monthly average number of such services rendered by the department was 424.3 or 53 for each staff worker during the first half of the biennium; and 590.6 for the department and 84.3 for each staff worker during the latter half of this period.

The outstanding feature of these two years has been the increase of patients referred to the hospital Social Service Department, and the difficulties in securing what was recommended because of the dearth of funds, or lack of community

resources. The majority of our patients are known to relief organizations or county agents, and there is an increased necessity for written reports to co-operating agencies, as well as requirement for adequate records in this department.

Educational responsibilities.—The field training of students of medical-social work has continued through the fall, winter, and spring quarters. Twenty-nine students, the majority of whom were doing graduate work, have received training. We have been requested to take students during the summer quarters but this has not been possible. It is hoped that arrangements to take summer students may be made later.

A new development has been a course for nurses given in the winter quarters of both years. The supervisor of medical social work in the sociology department taught the first half of the quarter and the director of the hospital Social Service Department taught the second half.

Respectfully submitted,

FRANCES M. MONEY, *Director*

THE SCHOOL OF DENTISTRY

To the President of the University:

SIR: I have the honor to submit the following report of the School of Dentistry for 1932-34. At the request of the faculty, the name, "College of Dentistry," has been changed by the Board of Regents to "School of Dentistry." This conforms with the designation most frequently used in institutions requiring two years or more of college work for admission.

New building.—The new building and equipment which have been in use since the opening of the fall quarter, 1932, are very satisfactory. The location, exterior appearance, interior design, finish, and furnishings make it one of the outstanding buildings on the campus and the equal of any in use for the teaching of dentistry. The arrangement of offices, lecture rooms, laboratories, and the facilities of the clinic are all a decided improvement and have added much to the efficiency of the work. They are greatly appreciated by students, faculty, and patients. Much favorable publicity has been received from dentists and others who have visited it.

Curriculum.—The faculty has been making an intensive study of our three-year curriculum. The relative importance, content, and number of hours devoted to each subject have been carefully considered and a number of changes made. The newer developments in dentistry are making it increasingly difficult to complete a full training in dentistry in three academic years. As a result of four years of study of dental curricula financed by the Carnegie Institute, the American Association of Dental Schools in March, 1934, adopted the recommendations of its Survey Committee that the course in dentistry leading to the degree of doctor of dental surgery be four years in length, with a pre-dental requirement of at least two years of college work. It is expected that most dental schools in the United States and Canada will adopt this so-called "two-four" plan of dental education. It is likely that Minnesota will find it desirable to lengthen its course from three to four years in conformity with this plan.

Combined degree.—In co-operation with the College of Science, Literature, and the Arts, a student may now earn two degrees in six years: the bachelor of arts degree from the College of Science, Literature, and the Arts upon the completion of three years of satisfactory work in that college and two years in the School of Dentistry; and the degree of doctor of dental surgery from the School of Dentistry at the end of the sixth year upon the completion of the course in dentistry.

Research.—More problems are being studied than at any previous time. For the first time in the history of the school, an outside firm provided funds this year for a scientific study of the ingredients commonly used in dentifrices. The study involved both laboratory and clinical work, and a report will be issued soon regarding the results.

University funds have provided aid for carrying on a statistical study on the frequency of dental caries under the direction of Professor P. J. Brekhus. Preliminary reports have already been issued.

A chemical study of carious and non-carious teeth is being made by Mr. W. D. Armstrong, who has been added to the staff as a research assistant in dentistry.

An investigation is being made into the frequency and causes of root absorption under the direction of Professor C. E. Rudolph.

School for Dental Hygienists.—The enrolment of young women in the two-year course has continued to indicate that there is a demand for graduate dental hygienists in private offices, schools, and public health institutions. Thirty-three states now license dental hygienists and in a number of them the two-year course is required. It has been rather a promising field of work for young women.

Respectfully submitted,

WILLIAM F. LASBY, *Dean*

THE COLLEGE OF PHARMACY

To the President of the University:

SIR: Herewith I submit the report of the College of Pharmacy covering the period from July 1, 1932 to June 30, 1934.

Standards.—Altho the college has taken no important upward steps in entrance or graduation requirements during the biennium, it has strengthened in many minor respects the four-year course established by the Board of Regents in April, 1926. Soon after the organization of the college in 1892 it offered a four-year optional course which became the obligatory and minimum course in 1926. This was the first minimum four-year course in pharmacy established in the United States, and its development and success were closely and keenly watched by some of the other colleges which had been anxious to adopt such a basis but whose administrations were skeptical of the need, and also feared the competition of colleges of lower rank. These colleges feared that individually they could not reach the desired standards and so they sought the help of the American Association of Colleges of Pharmacy (AACP). Our college had recommended the minimum four-year course to the association many years before. There was then formidable opposition and the only accomplishment was the sowing of a seed by us that in 1932 bore fruit when the AACP made it mandatory for all its members to go upon the minimum four-year basis. All AACP members are now on this basis. Those colleges entering upon the four-year basis prior to 1932 suffered no diminution in enrolment, as had been feared; the losses of the past two years came, not from newer and higher standards, but from the depression.

Because the earlier opposition to the four-year course was so general and formidable, it is surprising that practically the entire AACP membership is now agreeable toward higher standards and once more is looking to us for the leadership to bring about such requirements as would be represented in a minimum five-year course. This would consist of two years of academic preparation and three years of technical work in pharmacy.

Pharmacy in this country is now generally and definitely on the minimum four-year basis, but the requirement is regarded by increasing numbers of pharmaceutical educators and practitioners as merely a stepping-stone toward educational parity with dentistry and medicine. The leaders in pharmacy and many in the practical and manufacturing ranks do not admit a consistency in a lower standard for pharmacy than for other divisions related to individual and public health. The claim is everywhere strengthened and substantiated that pharmacy is a medical specialty; some claim it as the chief medical specialty. Indeed, medicine itself does not repudiate the claim to the degree it formerly did. Medicine has greatly modified its attitude toward pharmacy and no longer places obstacles in the way of its professional and social development. Rather, it welcomes such development, and there are many evidences throughout the country of an increasing fraternization of medicine and pharmacy. While it probably will be a long time before medicine will approve identical training for medical and pharmaceutical students through four years with specialization through three or four additional years after that, such a proposal is no longer regarded as entirely outside the

range of possibility. Medicine has many problems, and it recognizes that it can strengthen its own profession by a closer affiliation and co-operation with pharmacy and dentistry. In medicine, the thing most feared by some is socialization. Pharmacists and dentists recognize that medical socialization would involve them also; the three professions thus find themselves confronting socialized service sometime in the future. I am not considering this matter with regard to its relation to public welfare, which in all changes should receive first consideration. The weight of public opinion still supports the present individual medical service but it seems to me that there is no certainty of an indefinite continuance of that support.

I have introduced these matters because they are important in view of the next step pharmacy will be obliged to take, namely, the expansion of the present four-year to a five-year course, a step already taken by colleges of dentistry (and also by colleges of law, education, and business.) Where colleges have increased requirements from four to five years, the increase was made in the academic requirements because these colleges and the professions they represent have grown in the conviction that members of the professions especially need better intellectual and social status and outlook upon which to build the professional training. This conviction is beginning to permeate pharmacy, and when it has penetrated sufficiently the five-year course not only will be tolerated but demanded. There are evidences of this trend. I mention only two: At its 1933 convention the American Pharmaceutical Association (A.Ph.A.) went on record as advocating legislation looking toward the discontinuance of the present dual activity of so many pharmacists and of establishing, on the one hand, a purely professional, and, on the other, a commercial group. The second illustration is the recommendation of the 1934 convention of the Minnesota State Pharmaceutical Association (MSPA) that "The requirements of admission to and graduation from the College of Pharmacy of the University of Minnesota be so set as to raise and maintain the moral and intellectual standards of the profession." This recommendation was made in support of a five-year minimum course. On the convention floor a member was applauded for saying, "Not until pharmacy exacts from its members an intellectual and social parity with medical practitioners will the sick get the full measure of service expected by the State, because the State has made special privileged classes of physicians and pharmacists with the sole end in view of providing the utmost in the service needed by the sick." Support of the five-year plan was given by the MSPA at its 1932 and 1933 meetings.

Specialized courses.—At its meeting in February, 1934, the MSPA suggested that we change our four-year course in such a way as to permit students at the end of the second year to elect to spend the remaining two years in preparing for purely professional work in dispensing or manufacturing laboratories, or for salesmanship in the more commercial drug stores. Requests for inclusion of business subjects in our courses have been made from time to time, but we feel that pharmacists making such requests have been converted to an understanding that the College of Pharmacy was created for the purpose of teaching professional pharmacy and not business. The request of the MSPA is met by assuring those who made the recommendations that students who wish instruction in business subjects may register in the other colleges of the University offering such courses.

We also have had requests for short courses in "cosmetology." To these we

reply that well-trained pharmacists are qualified to make cosmetics and that no one not sufficiently trained should engage in their manufacture.

Formerly the college offered a course in clinical and chemical microscopy which was discontinued at the request of the Medical School. Requests for re-establishing this course are increasing and perhaps it should be reinstated if the five-year training is allowed.

The demand for pharmaceutical engineers, mentioned in my last report, has died out entirely.

Graduate work.—Graduate work in the college is increasing, and there are now 10 students. There has been careful selection of these graduate students and about 50 per cent of those applying were rejected. There was no room whatever for the graduate students in the Pharmacy Building, and space for them was made with temporary partitions in the sophomore pharmaceutical laboratory. In planning for larger quarters for pharmacy, provision for the unusually large number of graduate students should be borne in mind. There is opportunity to develop graduate work in pharmacy here. The high standing of the college brings applications in increasing numbers from graduates of other colleges. For the present the college must restrict the numbers to its space and equipment.

Medicinal plant garden.—About twenty species and varieties of plants, mostly conifers, were added to the medicinal garden this spring. By modest annual additions the garden is slowly being enlarged. It is still regarded as one of the most representative, in numbers of drug plants cultivated, but is still quite primitive in comparison with my ideal of an educational medicinal garden, or in comparison with some of the gardens found in Europe. If and when it is decided that pharmacy should have a new building in the medical group, there should be a medicinal plant garden on the river bank adjoining. This locality, on account of its topography and exposure, would make it possible to grow many plants that cannot be grown in our present garden. Medicinal plant cultivation for educational purposes must go much further before it will have reached a development comparable to the other fields of pharmaceutical education.

College relations with organized pharmacy.—The many contacts which the college has had for the past four decades were continued. Professor Bachman was re-elected for the fourteenth time as secretary of the MSPA. He has declined to serve again when his present term expires in 1935. I have had the honor of the twenty-ninth consecutive annual appointment to the chairmanship of the Scientific and Practical Section of the MSPA. Mr. Netz of our faculty did field work for the MSPA during the summer months of the past two years and also served as acting secretary of the association when injuries in an automobile accident made it impossible for Professor Bachman to carry the work.

On March 10, 1934, fifty years had elapsed since my entrance into pharmacy. Many references to this semi-centennial appeared in the current pharmaceutical journals. The Minneapolis Veteran Druggists' Association gave me a testimonial luncheon in January and another was given me in February jointly by the State Association and the Twin Cities Veteran Pharmacists Association. The Minneapolis Veteran Pharmacists Association gave me two separate testimonials. The Minnesota State Pharmaceutical Association at its February meeting presented me with an engrossed resolution of recognition and appreciation of my fifty years

of service. As another tribute the Alumni Association proposes to publish in book form a bibliography of my writings.

In November, 1933, Dean Rufus Lyman of Nebraska, a representative of the American Association of Colleges of Pharmacy, visited the college to inspect its plant and its work. Altho the college did not invite the inspection, it gave every assistance to Dean Lyman. There was considerable correspondence with the chairman of the Executive Committee of the Association preceding this visit in which the University took a position against outside agencies dictating or interfering with the administration of university affairs and standards. The association had taken action to inspect all member colleges, and did not feel an exception should be made in our case. After his visit Dean Lyman referred to ours as a "blue-ribbon" college.

College exhibits.—Demands for exhibits at conventions and during the annual Pharmacy Weeks are increasing. Not all of these can be met, but the college prepared and furnished two representative professional exhibits, one for the State Medical Association convention in St. Paul, May, 1932. The other was for the drug exhibition of the Northwest Pharmaceutical Bureau in Minneapolis, February, 1934. The college was given the space of three booths, rental free. The local pharmaceutical associations of the Twin Cities and the Medical and Pharmaceutical Interprofessional Relations Committee joined with the college in the exhibit. The many references to the exhibit were all in the superlative.

Enrolment.—The depression did not materially affect the enrolment of the college. During the first year of the biennium attendance reached 162; during the second, 153. Since establishing the four-year minimum graduation basis, enrolment has averaged around 150. These figures exclude the graduate students. As far as I can learn, this record has not been equalled elsewhere; every college of pharmacy from which I have had a report has suffered heavy losses in enrolment—some beyond 50 per cent, some almost to the vanishing point. Several colleges closed their doors because of diminution in student attendance.

There were 30 graduates in 1932-33, in 1933-34 the number was 35.

The analysis of the new enrolment, as usual, was sent to the American Association of Colleges of Pharmacy. Of the 48 students who entered in 1932-33, 31 had completed college work above high school as follows: 1, one quarter; 17, one year; 7, two years; 4, three years; 1, four years; 1, five years; and only 17 came directly from high school. Of the 43 new matriculants in 1933-34, 19 had one year of college training beyond high school; 7 had two years; 1 had two and a half years, and 1 had three years. The number directly from high school declined to 15. This indicates a healthy tendency toward better preparation for the technical work in pharmacy and a constant lessening of the number coming into pharmacy directly from high school.

The source of students for the two years is shown in the following tabulation:

	1932-33	1933-34
Percentage of new students from Minneapolis	27.5	28.8
Percentage of new students from St. Paul	22.5	26.6
Percentage of new state students from outside of Twin Cities	40.0	37.7
Percentage of new students from outside of state	10.0	6.6

Back to pharmacy movement.—Throughout the country there is a growing tendency among pharmacists toward the rehabilitation and strengthening of the professional aspect of pharmacy. Earlier I have referred to the action of the A.Ph.A. in 1933 looking toward the separation of the dual activities of most drug stores. The A.Ph.A. is the oldest, foremost, and most influential pharmaceutical association in the country and has always represented the highest professional standards.

The University Free Dispensary.—The work of the dispensary drug room, in which students receive valuable practical experience, is increasing. During 1932-33 the dispensary filled over 49,000 prescriptions, and in 1933-34 the number exceeded 52,000.

Wulling Trust Fund.—Fortunately the securities of the Wulling Trust Fund yielded the usual income which was expended for the purchase of additional historical items for the pharmaceutical museum nucleus.

During the period of the CWA three graduates worked on research projects.

Faculty activities.—The faculty maintained its extra-curricular work within and without the college, including its participation in U. S. pharmacopoeial and national formulary revision work. Much more work than usual was contributed to local, state, and national association committees.

Donations to the pharmaceutical museum.—During the biennium there were several donations to the nucleus of a pharmaceutical museum.

American Pharmaceutical Association headquarters building.—During the week beginning May 7, 1934, the new headquarters building of the A.Ph.A. was dedicated in Washington. American pharmacy raised nearly a million dollars for the purpose of establishing the national headquarters. The formal title of the building is "The American Institute of Pharmacy." The college at the University of Minnesota is greatly pleased with the establishing of this significant milestone in the development of pharmacy because the first formal recommendation and plan for the enterprise originated here in my presidential address to the A.Ph.A. in 1917. The University of Minnesota joined with many others who were interested in the building and made contributions of plants, photographs, etc.

Respectfully submitted,

FREDERICK J. WULLING, *Dean*

THE COLLEGE OF EDUCATION

To the President of the University:

SIR: I have the honor to report as follows for the biennium 1932-34:

Effects of the depression.—The economic depression which affected schools generally during the biennium has had a twofold effect upon this college. It has increased the financial difficulties of students who desire to prepare for educational work. It has drastically curtailed the opportunities for employment once the preparation is completed. From 333 placements of graduates in 1930 the number has dropped to 200 in 1932 and 145 in 1933. The year 1934 evidences a marked recovery, the placements for this year being well over 200. Not only did available positions become fewer, but the average salaries paid to those who received appointments decreased sharply. The average salary for all inexperienced graduates of the college in 1929 was \$1,252. In the immediately subsequent years the figures were as follows: 1930—\$1,254; 1931—\$1,233; 1932—\$979; 1933—\$855. For the year 1934 the average salary received is \$916, a slight increase over the low point of \$855 in 1933.

The lessened lure of almost certain employment, characteristic of the years 1920-27, plus the economic difficulties faced by students who desired to continue their education, caused a decrease of enrolment in the College of Education from the high peak of 2,027 in 1931-32 to 1,793 in 1932-33, and 1,695 in 1933-34.

The bearing of the situation thus indicated upon the future of the college and upon wise advice to prospective students is not clear. It is doubtful if even the achievement of full economic recovery will reinstate the large demand in the last decade for graduates of the college. The increased demand of the current year suggests that the low point has been passed and that as the public schools recover the need for new teachers will be considerably increased above the present level. It is fairly clear also that competition for good positions will in the future place a premium upon superior ability and extended training. These facts must be given weight in mapping the future plans of the college and in the guidance of students.

Higher education in Minnesota.—In my report for 1930-32, attention was called to the fact that the problems of this college were complicated by the fact that it is but one of a number of institutions in this state engaged in the preparation of teachers. This matter is so important for the future welfare of the state that I venture to mention it again and to include here a statement prepared by me in 1933:

What is the future of higher education in Minnesota? Every thoughtful student of our social institutions is aware of the urgency of this question. It will become more urgent in the immediate future. Its solution calls for educational statesmanship that will rise above personal and partisan interests and will conceive a reorganization of our institutions in the interest of the commonwealth. There is needed a comprehensive plan for the state as a whole, one that will care for all the youth of the state whose further training will be useful to them and serviceable to society; a plan that will conserve every valuable service now rendered by existing institutions and be adequate to all the future needs of the state. Leadership in the creation of such a plan should be taken by those who are familiar with the present situation and sensitive to educational needs, traditions, and standards. If those who are now in positions of leadership should fail in the conception of a wise plan, it is

certain that changing social and economic conditions will force changes in the present educational structure and that mandatory laws will be enacted by those who are less intimate with educational ideals and presumably less competent to formulate the best plan for the state.

Let us survey briefly the present situation. There were in August, 1933, thirty-one institutions in Minnesota which required that students who enter them shall have graduated from a standard high school. Some of these are junior colleges and offer but two years of college work. All the others offer four years or more. The following table lists these colleges, gives the location, enrolment (1933), and main sources of support.

INSTITUTIONS OF HIGHER LEARNING IN MINNESOTA, 1933

	LOCATION	ENROLMENT 1932-33	SOURCES OF SUPPORT
Universities			
1. University of Minnesota*	Minneapolis	13,225	A C D E
Colleges (4 years)			
2. Carleton College	Northfield	869	C D E
3. Concordia College	Moorhead	413	C D E
4. Gustavus Adolphus	St. Peter	353	C D E
5. Hamline University	St. Paul	503	C D E
6. Macalester College	St. Paul	471	C D E
7. College of St. Catherine†	St. Paul	594	C D E
8. St. Olaf College	Northfield	809	C D E
9. College of St. Scholastica†	Duluth	250	C D E
10. College of St. Teresa†	Winona	556	C D E
Colleges (accr. 3 years of work)			
11. Augsburg College	Minneapolis	232	C D E
12. College of St. Benedict†	St. Joseph	165‡	C D E
13. St. Mary's College†	Winona	227	C D E
14. St. Thomas College†	St. Paul	695	C D E
State Teachers Colleges			
15. Bemidji	Bemidji	395	A E
16. Duluth	Duluth	701	A E
17. Mankato	Mankato	732	A E
18. Moorhead	Moorhead	755	A E
19. St. Cloud	St. Cloud	1,202	A E
20. Winona	Winona	556	A E
Junior Colleges			
21. Concordia College	St. Paul	276‡	C D E
22. Duluth Junior College*	Duluth	409	B E
23. Ely Junior College*	Ely	154	B E
24. Eveleth Junior College*	Eveleth	387	B E
25. Hibbing Junior College*	Hibbing	511	B E
26. Itasca Junior College*	Coleraine	87‡	B E
27. Rochester Junior College*	Rochester	164‡	B E
28. St. John's University†	Collegeville	217	C D E
29. St. Mary's Hall (1 year)	Faribault	10‡	C D E
30. St. Paul Luther College	St. Paul	109	C D E
31. Virginia Junior College*	Virginia	172‡	B E

* Public control.

A. State taxes.

D. Contributions.

† Catholic.

B. Local taxes.

E. Fees.

‡ 1930 enrolment.

C. Endowment and trust funds.

tion. The significance of these facts will be apparent if we realize that the major cost of higher education to the student is the necessary travel, board, and room required when attending school away from home.

A second fact of great importance is the large number of young people who graduate from high school each year who cannot go to college. In the years 1929-32 sixty-nine thousand boys and girls graduated from high school in Minnesota. If we admit that the upper half of these graduates could succeed in college work and all such students had elected to go to school in 1932-33 there would have been thirty-five thousand college students in our colleges last year. If we place the limit at the upper two thirds there would have been forty-six thousand college students in 1932-33. As a matter of fact there were only twenty-six thousand. Any one familiar with conditions knows that there are thousands of boys and girls who desire to go to college and who by their past records give promise of good work in college who are denied the advantages of further education because it is too expensive to live away from home and pay in addition the required tuition, fees, and cost of books.

A third fact of major importance is that the colleges are financially distressed. Practically no one of them has sufficient funds to conduct its program as its directors believe desirable. Few of them can pay salaries comparable with good institutions in other parts of the country; gifts and contributions have decreased, in some cases almost to zero; values of trust funds have shrunk drastically; legislative appropriations are less; enrolments, and consequently tuition fees, are greatly diminished; student loan funds are exhausted.

All of these institutions except the junior colleges devote a large share of their energy to the education of teachers. The University conducts a College of Education which graduates more than five hundred teachers annually; the six teachers colleges are devoted wholly to the preparation of teachers; all the liberal arts colleges prepare teachers. From one fourth to three fourths of all the graduates of four-year colleges are prepared to teach. This excessive emphasis upon teacher preparation exists at a time when there are more than four thousand unemployed teachers in the state.

Destructive competition among institutions prevails, competition for the limited number of students who have the means to go to college, competition for legislative appropriations, competition for the favor of citizens able to contribute substantially to education; competition that goes far beyond healthy rivalry and strikes at the very continuance of institutions. There were unfortunate reflections of this competition in the last session of the state legislature without gain to any institution or group of institutions.

This discussion does not presume to suggest a plan for the reorganization of higher education in Minnesota. It does venture to suggest certain principles or needs which should be considered in any reorganization that is to be adequate.

1. The plan should be a state plan in the sense that it is conceived to meet all the needs in higher education for all the people of the state.

2. Because both good public institutions and good private institutions now exist the plan should be so conceived as to utilize both types of institutions. No worthy institution should suffer substantial injury as a result of reorganization. On the contrary such an institution should find it easier to accomplish its unique purpose in a complete state system.

3. The control of the plan should lie with some state agency so conceived and defined that individual institutions will have the largest possible liberty in developing their programs while at the same time dovetailing into a general system of higher education for the state.

4. The outlines of the plan should be so drawn that beginning with existing institutions with their present facilities it can be developed over a period of years reaching its full fruition at some time in the future.

5. The plan should provide for a great enlargement and liberalization of education in those matters which are intimately related to the common life, to general culture, and to preparation for citizenship in a broad sense. This enlargement should be provided primarily in the two years beyond the present high school, and calls for a reorganization of curricula in the interests of general education. This reorganization will involve the introduction of new materials and the elimination of some that now compose the standard college courses. The aim should be the development of what the California report describes as a program for "social intelligence."

6. Education of the type just indicated should be provided for a much larger number of young people than can be cared for in existing institutions with present facilities.

7. This type of education should be provided sufficiently near where young people live that they can avail themselves of its advantages without the expense involved in leaving home.

8. The plan should not encourage concentration upon a particular form of occupational education such as teaching, engineering, or medicine but should give reasonable protection against unwise oversupply of trained persons in any particular field.

9. Every socially justifiable interest intrinsic to higher education should be fostered and conserved. The liberty given to individual institutions should be such that they may follow differential programs and realize the peculiar purposes which they accept as their responsibility.

10. In the development of their individual programs institutions should be as free as possible from domination by the requirements of professional schools, graduate schools, or senior colleges. Each institution should be oriented toward the educational needs of its clientele. Its outlook should be horizontal as well as vertical. The criterion of its acceptability should be the demonstrated fact that it renders useful services to the students who come to it.

11. The plan should provide for the concentration in a single institution of those forms of higher education which can best be carried on in a single center. Clearly falling in this field are medical, dental, and legal education and most phases of graduate study in all fields. Here also would fall complete offerings in agriculture, business, education, and engineering. Here also would be included organized research.

12. Every institution should be required to live within the declared pattern of its charter, to avoid harmful competition with other institutions, to keep its program within the bounds of its income and to meet the accepted needs of the clientele which in terms of its charter it aspires to serve.

13. The plan should make adequate provision for financing every institution in keeping with its program through public funds, trust funds, student fees, and other dependable sources of income.

Can a program conceived in terms of these principles be developed in Minnesota? The answer to this question lies in the future. The development and fruition of such a plan will require sincere constructive imagination. It calls for the subordination of local, sectarian, and personal advantages to a state plan, the actuating spirit of which is the highest common welfare of all the people of the state. It calls for the subordination of immediate interests to a remote goal the accomplishment of which will avert the chaos and conflict that certainly lie ahead of existing institutions. It will guarantee to future generations of Minnesota youth the kind and amount of education which they will need and which the present situation gives no promise of affording them.

Minnesota should be fertile soil for the development of an adequate state system of higher education. It is the home of a virile population, capable of large scope venturesome enterprises. From the beginning of its history it has been educationally minded to a high degree and today it supports a soundly developed elementary and secondary school system. At the present time it contains a number of good colleges and a body of competent educational leaders. Should it respond to the present need in higher education it has the opportunity of being the first state in America to complete the structure required for the adequate education of all its people.

Minnesota Council of Education.—The incidence of the depression upon schools of every type has generated an awakened public interest in education. In an address to the annual meeting of the American Association of University Women on May 18, 1933, the writer called attention to the need for a greater assumption of responsibility for the schools by citizens of the state. The creation of an agency that would make articulate the interests of citizens was suggested in these words:

It would be a useful thing if there could be created from among those who are active in such organizations a citizens' committee on education whose business it would be to study the current problems of education, to serve as an agency for the dissemination of sound information, to distinguish between essential and superficial issues, to represent before governmental agencies the needs of education. Such a citizens' committee could in time speak

for the schools as can no organization of schoolmen, nor any other association whose reason for being is some personal concern or special group interest.*

Steps were taken to create such an agency in Minnesota at the time of the meetings of Schoolmen's Week in March, 1934. At a public meeting in behalf of education Judge John P. Devaney, chief justice of the Minnesota Supreme Court, spoke as follows, offering at the close of his address a resolution which was unanimously adopted.

When the Constitution of the State of Minnesota was adopted in 1858 its framers inserted these two provisions with respect to public education. Section one of article eight says:

"The stability of a Republican form of Government depending mainly upon the intelligence of the people it shall be the duty of the legislature to establish a general and uniform system of public schools."

Again in section three of article eight the Constitution says this:

"The Legislature shall make such provision by taxation or otherwise as will secure a thorough and efficient system of public schools in each township in the state."

The maintenance of the public school system in the State of Minnesota thereafter became a matter not of local but of state concern. The object of these quoted provisions of the Constitution was stated thus by Justice Ripley in a decision of the Supreme Court in the State of Minnesota written in 1871:

"To insure a regular method throughout the state whereby all might be enabled to acquire an education which will fit them to discharge intelligently their duties as citizens of the Republic."

These provisions of the Constitution were not a grant of power to the legislature—they were a mandate prescribing as a duty the exercise of this inherent power. It is well to have in mind that the framers of our Constitution and the courts of our state interpreting that Constitution from its inception, have proceeded in the belief that good government and the intelligent exercise of the franchise of citizenship cannot be continued in this state without popular education. It was apparently their belief that without popular education the form of government established by our Constitution would fail. Democratic government and popular education are inseparably united in its fabric. It was never more important to our people than it is at this time that we safeguard those principles upon which our Constitution rests and in which our democratic government has its being. When we see democracies failing the world over, we realize that the preservation of popular education was never more important to the state and the nation than it is today. The young people in these schools will, within a few years, become the responsible citizens of the state. By all the portents life promises to be for them vastly more complex, and wise conduct more difficult than it has been for their elders. If they are to be adequately prepared the schools must continue to improve and to function at a higher level than in the past. The welfare of these young people demands it; the safety and perpetuity of the state require it.

Because of the splendid work that has been here undertaken, because of the progress that has been made, I propose, Mr. Chairman, that if there be a second and the motion meets the approval of those present, that we establish a permanent council of education for the State of Minnesota to be comprised of the Chairman, and the president or presiding officer of each of the organizations that have sponsored this meeting, the organization to be changed and extended as they may later will. I believe that if this is done, much can be accomplished in the fight to preserve our democratic form of government and our scheme of popular education.

The function of this Council will be as follows:

To study the problems of education in Minnesota from the standpoint of the public interest and the welfare of young people; to disseminate sound information concerning these problems and the best means of their solution; to report from time to time the results of its deliberations and of its findings to the citizens of the state.

* M. E. Haggerty, *Children of the Depression*, p. 18. (Day and Hour Series, No. 6.) Minneapolis: University of Minnesota Press.

Pursuant to this resolution the Minnesota Council of Education has been organized with the following membership:

AGENCY	NAME
University of Minnesota	L. D. Coffman, President
Minnesota State Department of Education	E. M. Phillips, Commissioner
American Association of University Women, Minnesota Division	Mrs. H. K. Painter, President, 4817 Fremont Ave. So., Minneapolis
American Legion, Department of Minnesota	M. F. Murray, State Commander, St. Cloud
American Legion Auxiliary, Department of Minnesota	Mrs. Howard Dressel, President, Citizens Aid Building, Minneapolis
Department of Conservation	E. V. Willard, Commissioner of Conservation, State Office Building, St. Paul
League of Minnesota Municipalities	S. T. Irvine, President, Red Wing
Minnesota Association of Commercial Secretaries	H. C. Jensen, President, Hutchinson
Minnesota Congress of Parents and Teachers	Mrs. E. L. Baker, President, 1734 Como Ave. S.E., Minneapolis
Minnesota Council of School Executives	Walter E. Englund, President, Superintendent of Schools, Ely
Minnesota Crop Improvement Association	C. L. Blanchard, Fairmont
Minnesota Bankers Association	D. J. Fouquette, President, St. Cloud
Minnesota Division, Daughters of the American Revolution	Mrs. May F. Wisner, Secretary, 3231 Blaisdell Ave., Minneapolis
Minnesota Education Association	Miss Daisy Brown, President, Stillwater
Minnesota Farm Bureau Federation	A. J. Olson, President, 600 Shubert Building, St. Paul
Minnesota Federation of Women's Clubs	Mrs. Thomas Mohn, President, Red Wing
Minnesota Junior Chamber of Commerce	L. E. Vorpahl, President, St. Cloud
Minnesota Public Health Association	Dr. E. A. Meyerding, Secretary, 11 W. Summit, St. Paul
Minnesota State Bar Association	Frank W. Murphy, President, Wheaton
Minnesota State Conference and Institute of Social Work	Miss Belle Mead, President, Jones Hall, University of Minnesota
Minnesota State Dental Association	Dr. C. C. Sparrow, President, 618 LaSalle Building, Minneapolis
Minnesota State Federation of Labor	E. G. Hall, President, 4124 Bryant Ave. So., Minneapolis
Minnesota State League of Women Voters	Miss Ruth H. Mitchell, President, 914 Marquette Ave., Minneapolis
Minnesota State Medical Association	Dr. F. J. Savage, President, 355 Lowry Building, St. Paul
Minnesota State Planning Board	Dean R. E. Scammon, University of Minnesota
Minnesota State School Board Association	Otto W. Kolshorn, President, Red Wing
Minnesota State Tax Commission	George E. Wallace, Commissioner, 55 E. 5th St., St. Paul
Minnesota Teachers Colleges	Frank A. Sheehan, Winona
State Livestock Breeders Association	W. S. Moscrip, Lake Elmo
Veterans of Foreign Wars, Minnesota Division	John B. LaDue, State Commander, 722 E. Como-Phalen Ave., St. Paul
Women's Auxiliary to the Minnesota State Medical Association	Mrs. A. A. Passer, President, Olivia
Author of the motion creating the council	Judge John P. Devaney, Chief Justice, Minnesota State Supreme Court

NAME	ADDRESS
Rev. William H. Boddy	25 Groveland Terrace, Minneapolis
Rev. David Bryn-Jones	1915 Colfax Ave. S., Minneapolis
C. E. Campton	Superintendent of Schools, Two Harbors
Alvah Eastman	St. Cloud
Rev. Frederick M. Eliot	807 Fairmount Ave., St. Paul
John W. Evans	Montevideo
W. H. Gemmell	Brainerd
C. F. Keyes	1218 McKnight Building, Minneapolis
Alexander King	General Superintendent, Oliver Iron Mining Co., Coleraine
Dr. O. E. Locken	Northwestern Clinic, Crookston
Glenn Mather	500 1st National Soo Line Bldg., Minneapolis
Judge John F. D. Meighen	Albert Lea
Mrs. A. A. Mendenhall	1747 Columbus Ave., Duluth
Rabbi Albert G. Minda	1919 Dupont Ave. So., Minneapolis
H. Z. Mitchell	Bemidji
Rev. Humphrey Moynihan	3817 Pleasant Ave. So., Minneapolis
L. A. Rossman	Grand Rapids
Parker D. Sanders	Redwood Falls
Charles L. Sommers	9 Crocus Hill, St. Paul
Rev. J. A. O. Stub	2016 Emerson Ave. So., Minneapolis
Judge Edward F. Waite	City Hall, Minneapolis

NOTE.—The personnel of the council may be expected to change as shifts are made in the leadership of the various organizations represented.

The functions of this council are indicated by a statement of policy which was adopted at the first meeting on April 17, 1934.

On motion a statement of principles bearing upon the purposes and activities of the Council was approved. This statement is given herewith:

1. The Minnesota Citizens Council of Education is designed to promote the thoughtful consideration of the problems of education as they are related to the public welfare in the State of Minnesota and in the nation at large.

2. The Council conceives its functions broadly. It seeks to understand the actual and possible values of educational institutions of every type to the modern social order and to promote the welfare and efficiency of these institutions as useful agencies in a continuously changing and growing society.

3. Because of the nature of the problems to be considered it is desired that the Council should be representative of the entire population of Minnesota. It is probably also desirable that there should be sufficient change in the membership from time to time to keep the Council constantly in touch with changing conditions.

4. The work of the Council will be projected on a long time basis. The fundamental problems of education are continuing problems and their solution can not be determined at once for all time.

5. The Council will be a deliberative assembly for the consideration of educational matters as they are related to the public welfare. It is intended that its deliberations shall result in the formulation of policies and modes of action that may be recommended to the citizens of the State for their consideration.

6. It is intended that the active advocacy of any proposals that are made shall be undertaken, if at all, by other interested agencies and individuals. The function of the Council will be achieved through the clarification of issues, the publication of information, and the arraying of arguments relating to important educational issues. The Council will serve its purpose through being itself an educational agency for the general public.

7. In carrying out its purpose the Council will engage in the following activities:

a. Receive from its own membership and from other agencies and individuals presentations of educational matters that are of public concern.

b. Provide full and free discussion of such matters as are presented to it.

c. Foster such useful studies as facilities and resources make possible.

d. Prepare and consider reports upon educational matters.

e. Sponsor public meetings in behalf of education when, in its judgment, such meetings would be useful.

f. Issue communications to the public covering such matters as it considers in the public interest.

8. It is recognized that the educational problems that may properly fall within the province of the Council are numerous. The pressing problem of educational support which bulks so large in immediate concern is only one among many. A complete enumeration of all the problems that require the counsel of citizens is not possible. Something of the range of matters that call for public consideration may be suggested by the following questions:

a. To what degree and in what manner can the schools be more effectively employed to combat the prevalence of crime and delinquency?

b. In what ways, if at all, can the schools contribute to a better understanding of the changing social and economic order? What are their resources? Equally important, what are their limitations?

c. In view of the actual and probable increase of free time for youth and adults, how may the schools be adjusted and developed so that this increased free time may be usefully employed, and human life enriched?

d. What changes in school organization and administration are necessary in order that educational institutions may be more effectively adjusted to other governmental agencies?

e. What changes in education are required by the conditions of modern life so that the schools may better fulfill their time-honored function of preparing young people for citizenship?

f. How should groups having special interests to be advanced through education operate in relation to the schools?

g. How can public opinion be led to require and to support a professional administration of public education free from political and partisan interference?

h. How shall existing institutions of higher education be adjusted to each other and what additional provision, if any, is needed in Minnesota?

Such questions are but illustrations. They will serve to indicate the fundamental nature of the problems which the Council accepts as its province for study and consideration.

Emergency education program.—Foreseeing the serious nature of the deepening educational crisis the president of the University and the state commissioner of education in 1933 proposed to the governor of the state the creation of an emergency educational council. The governor accepted this suggestion and appointed the council. The outcome of its activities was the presentation to the Federal Relief Administration in Washington and to the United States Office of Education of a proposal for an emergency educational program in the state. This proposal received sympathetic consideration at Washington and the main outlines of the Minnesota plan were accepted not merely for this state but for all states in which like conditions and efforts at amelioration prevailed. Federal funds were allotted ultimately for three purposes:

1. The partial support in college of youth otherwise unable to attend higher institutions of learning.

2. The development of educational activities in local communities of the state for the purpose of meeting the needs of unemployed young people in those communities.

3. A program of nursery school education.

The administration of this emergency program was delegated to the State Department of Education. During the year 1933-34 Professor Harold Benjamin, assistant dean of the College of Education, was loaned to the State Department of Education for the direction of this program. His services continued until August 1, 1934. Dean Benjamin has carried forward this emergency program while continuing to teach his classes and to assist with the administration of the College of Education. (See also the report of the university dean, pages 305-23.)

The Owatonna Art Education Project.—In December, 1931, the late Henry Suzzallo, then president of the Carnegie Foundation for the Advancement of Teaching, proposed that the College of Education undertake research studies in the field of art education. In response to this suggestion a faculty committee was appointed to formulate plans for such studies. This committee submitted certain proposals which were presented to the Carnegie Foundation. The following letter was received from the secretary of the foundation on October 25, 1932:

At its meeting on October 11, 1932 the Board of Trustees of the Carnegie Corporation of New York voted a grant of twelve thousand dollars (\$12,000; \$6,000 payable in 1932-33,

\$6,000 in 1933-34) to the University of Minnesota for support of researches into the validity of psychological and educational assumptions now prevalent in the field of art education, to be conducted under the direction of Dean M. E. Haggerty. This grant was approved by the Executive Committee of the Carnegie Foundation on October 7, 1932.

Following the receipt of this grant a number of preliminary studies were undertaken. The result of these studies was a decision to concentrate upon an effort to develop a new curriculum in art education for public schools, this curriculum to be the outcome of a study of the art needs and interests of a typical American community of moderate size. The city of Owatonna, Minnesota, seventy-five miles south of Minneapolis, was chosen. Work was begun in September, 1933, and is now in progress. Encouraged by the early success of the enterprise the Carnegie Corporation through the Carnegie Foundation has now made a further grant of \$20,000, making \$32,000 in all, which assures the continuance of the enterprise through a five-year period should events seem to justify such continuance. In January, 1934, Mr. Royal Bailey Farnum, at the request of President Keppel of the Carnegie Corporation, visited Owatonna and the University to study the project and to advise the corporation as to the need and wisdom of continued support. The scope and significance of the project are set forth in the report which Mr. Farnum filed with Dr. Keppel, portions of which are quoted here.

Reason for selection.—Owatonna was chosen as the best location for the art project for the following reasons:

1. In size and topographical setting it is typical of many other towns in the west.
2. It is far enough away from a large center to necessitate local attempts in satisfying demands for general shopping, musical or dramatic entertainment, and other social activities.
3. It is at the same time near enough to the University of Minnesota to make the study conveniently possible under their guidance.
4. It consists of a rather homogeneous group with only a scattering of foreign born.
5. The general character of the community lends ready sympathy to the experiment and has developed already wholehearted co-operation from all groups and persons involved.

Purpose of the project.—The following purposes and plans were formulated for me by Dean Haggerty:

1. To create a school curriculum in art based upon the assumption that art is a way of life for people in general, permeating their daily experiences in many ways and making life more interesting and more pleasant.

In building this curriculum an effort is made to disregard, in so far as possible, the traditional courses in art and by a study of the life of the community to derive new materials of instruction. In this effort it has become necessary to enlist the interests and co-operation of the community and to carry on a survey of all those activities in the community in which art interests play a part. In turn this leads to a program of adult education in art.

2. To demonstrate in the schools of Owatonna the practicability of a curriculum in art thus conceived for moderate-sized American communities in general. Contacts have already been made in a half-dozen communities near Owatonna and representatives of these communities have visited the Owatonna project. Plans are under way to bring the project to the attention of all cities in the State.

3. To prepare for the Minnesota State Department of Education a course of study in art that may be used for the State as a whole. The State Department approved the Owatonna experiment before it was launched and is watching it with sympathetic interest.

4. To develop a broader recognition of the place of art in the life of the people, to generate a widespread sentiment among citizens for the support of art education in the schools, and to give to art its rightful place in the cultural life of this generation.

5. To demonstrate to institutions of higher education that the study of art is worthy of recognition as a preparation for college, and thereby to liberalize the requirements for college entrance.

Future plans.—

1. A continuation of the present program in Owatonna for a sufficient time to secure its adequate development and to fix it as a permanent part of the educational program of that community is necessary. This includes art for all the classes in the schools, a comprehensive survey of the community, psychological studies among both adults and children, adult education activities, and summer projects to include art and craft programs for the town children, home landscaping, and art in relation to farms and farm houses.

2. It is proposed to formulate the philosophy underlying this project through a series of lectures to be given by persons with practical experience in art activities. These lectures will be given as public discussions in Owatonna and repeated at the University of Minnesota during the next year. When finished the lectures will be printed as a book that, in turn, can be used as a text for college classes studying art education.

The individuals selected for these lectures must be hand-picked; first, for their competence in the topic to be treated; second, for their ability to understand the small community and to pitch their discussions to the proper level; and third, for their ability to write the English language clearly and with some degree of charm.

3. It is desirable to begin at an early date to contact actively other communities and to extend the influence of the Owatonna experiment with a view to a state-wide development. The stage is set for this extension and can be undertaken next year under favorable auspices.

If the program can be successfully carried out and, therefore, convincingly presented to the state authorities as a phase of education having practical, social and aesthetic values to the people generally, it is further proposed that not only will it form the basis for new state courses of study but it will so influence school architecture that proper provision for education in the arts will be a state requirement in all future building.

Personnel on the project.—Dr. M. E. Haggerty, Dean of the College of Education, University of Minnesota, is the responsible head for the Owatonna Project.

Mr. Robert Hilpert, Assistant Professor in the College of Education, is in direct charge and gives three days a week of his time in Owatonna. His work is to direct the program and to make community contacts.

Mr. Edwin Ziegfeld, M.A. in Landscape Design at Harvard and B.S. in Education at Ohio State, is the Art Supervisor in charge of work in the schools.

Barbara Smith, graduate of Smith College, with a European Fellowship in Art, assists in teaching, talking to club groups, making out records, and doing necessary clerical work.

Qualifying examinations for senior students.—With a view to insuring that graduates of the College of Education recommended for state teaching certificates should be better qualified for their responsibilities as teachers, the College of Education has for the past two years made prerequisite to registration for the work of the senior year the passing of a series of qualifying examinations. These examinations, four in number, each requiring two hours, are given once each quarter, once at the opening of the fall quarter, and once during the summer quarter each year. Two of the examinations are intended to yield a measure of the prospective teacher's mastery of the major subject he or she expects to teach—one relating to the materials taught in the secondary or elementary schools and the other to the more advanced materials largely of the college level which impart a margin of scholarship necessary for more complete orientation and supplementary background.

With the assistance of Dr. Harl R. Douglass, professor of education and chairman of the Committee on Examinations of the College of Education, and other members of the staff in education, these examinations have been constructed, studied, and revised by members of the instructional staff of the thirty-two departments of the University involved, including the members of the staff of the University High School.

The third of these examinations has been devised to measure competency in written English and the fourth to cover the fundamentals of the professional training in education.

About 22 per cent of the students taking the examinations have failed in one or more of them. After further study many of these retake and pass the examinations. Some withdraw from preparation for teaching, and a few students withdraw before taking the examinations.

In addition to discouraging and eliminating some of the students less prepared to teach, the plan has operated to turn attention to greater proficiency in the ma-

terials actually taught in the lower schools. The plan also helps to protect from instruction by inadequately prepared teachers pupils in classes taught by student teachers, and to stimulate a greater interest and orientation on the part of more than a hundred institutions in the techniques of improved examinations, particularly comprehensive examinations.

Student aid.—During the biennium the faculty and students of the college published two song books through the Paul A. Schmitt Music Company. The first is entitled *Christmas Carols and Folk Songs* and the second *New Songs from Old*. A committee of the faculty arranged with the publishing company to receive the royalties from these publications and to apply them, through the Social Committee of the Faculty, for "defraying the expenses of social functions, for student loans, for student scholarships, or for any similar purposes that will in the judgment of said Committee promote the welfare of students in the College of Education." Thus far the sums received from these royalties have not been large but sufficient to enable the Social Committee of the Faculty to give financial assistance to a considerable number of students.

Regional Conference on the Education of Teachers.—In 1930 the College of Education inaugurated a regional conference on the problems of educating teachers. This conference, with one exception, has been repeated annually. In 1934 the meetings were held at the University on January 27 and 28. They were attended by presidents of colleges, teachers colleges, and universities, commissioners of state departments of education, and deans and heads of schools and departments of education. At this latest conference representatives from six states and over thirty institutions were present. Dr. E. S. Evenden of Columbia University, associate director of the National Survey of the Education of Teachers, was a guest conference leader. Interest in these conferences has continued to grow and they bid fair to become one of the genuinely important services of the University of Minnesota to colleges and universities as well as to the public schools.

In my biennial report for 1930-32 attention was called to the participation of members of this faculty in a number of significant educational investigations of national scope. Progress in these studies justifies further mention.

Federal investigation of secondary education.—The federal investigation of secondary education has now been completed and the report is published in a series of twenty-eight volumes. It gives the first comprehensive picture of secondary education in America. Professors Fred Engelhardt, Robert Hilpert, and Dora Smith assisted in this study and each prepared one of the twenty-eight volumes of the report.

National survey of the education of teachers.—The College of Education participated in a national survey of teacher education authorized by Congress and sponsored by the Office of Education of the Department of the Interior. It is being terminated in 1934 with the publication of a six-volume report. The report is the most thorough analysis ever made of American teacher education. It gives an overview not only of the practices, trends, and problems of teacher education, but of higher education as well. In general it was found that practices often lagged behind the expressed opinions of the faculties. The report urges more thought and experimentation and warns against the crystallization of majority practices.

The writer was an active member of the Board of Consultants which determined the policies and activities of the survey. Dr. W. E. Peik as principal specialist in curriculum research was in charge of the curriculum investigations in universities, colleges, and junior colleges.

Study of accrediting procedures.—This investigation, sponsored by the North Central Association of Colleges and Secondary Schools, under way since 1931, reached a point in March, 1934, where it was possible to propose to the association a new plan for accrediting higher institutions. The proposal was approved and is now the accrediting policy of the association. The action of the association is important to the University of Minnesota because it reverses the prevailing tendency of accrediting agencies to emphasize partial features of institutional value and places emphasis upon the total pattern of institutional competence. It provides for flexibility in institutional evaluation and destroys the tendency "to standardize" institutions into a fixed pattern. Aside from the importance of the new plan to the accredited status of the University, the action of the association will almost certainly influence the activities of other accrediting agencies and thus serve to relieve institutions from some of the restrictive accrediting practices now in use. President L. D. Coffman was chairman of the committee under whose auspices the investigation was made. Dean M. E. Haggerty was a member of the committee in charge of the study and directed a considerable part of the work. During this biennium he was on part time at the University while giving his services to the North Central study.

National Society for the Study of Education.—The National Society for the Study of Education was organized thirty-nine years ago to further the purpose described in its present title. Its chief activity during recent years has been to issue a yearbook on an outstanding current topic in the field of education. The thirty-fourth yearbook has been in preparation during the past three years under the general editorship of Professor L. J. Brueckner, chairman of the Yearbook Committee. The title of this yearbook, which will be issued in February, 1935, is *Educational Diagnosis*.

Respectfully submitted,

MELVIN E. HAGGERTY, *Dean*

THE SCHOOL OF BUSINESS ADMINISTRATION

To the President of the University:

SIR: This report covers the major activities of the School of Business Administration for the period July 1, 1932 to June 30, 1934.

Public services rendered by the staff.—As a result of the economic conditions that have prevailed during the past two years members of the staff of the School of Business Administration have been called upon to perform public services entirely apart from their assigned university duties. The administrations of the state and national governments have called upon the members of the staff for advice and counsel and private enterprises and quasi-public commissions have recruited personnel from its ranks. This is probably the first time that academic training, particularly in the fields of economics and business, has been generally sought in administrative and advisory capacities in the government service.

This sudden demand has caused a drain of the teaching staff from regular university duties and has created unusual problems of adjustment. Eight of the major members of the staff have been engaged on important public projects. These include such varied activities as serving in the capacity of economic advisers to the National Recovery Administration and other New Deal administrations, studying problems of taxation for the state, and serving as economists for special commissions on economic reconstruction.

As each of the men involved in this advisory work has been relieved of instructional duties, it has been necessary to find substitutes for his classes. While these adjustments have been difficult to effect, it has been possible to carry on the regular work of the school without seriously impairing its efficiency. Undoubtedly the experiences which members of the staff are gaining from their contacts with the important problems of the day will enhance their value as teachers in their several fields. In the long run, therefore, the curriculum of the school will be enriched by these experiences.

Special lectures and discussions.—In the report for the biennium 1930-32 considerable emphasis was placed upon the function of the school in providing the people of the state with information in the fields of economics and management. This program of service has been extended during the past two years. It has been accomplished in part through a series of public lectures and discussions conducted in the Northrop Memorial Auditorium. During the year 1932-33 these included addresses by Dr. M. L. Wilson, formerly of the Agricultural Economics Department of the Montana State College and later director of the Subsistence Homestead Project of the national government. Mr. Wilson, who was recognized as the author of the original Allotment Plan, discussed that subject. Professor Jacob Viner of the University of Chicago talked on the various proposals for inflation. Dr. Harold G. Moulton of the Brookings Institution in Washington discussed the subject of "International Industrial Recovery." During the year 1933-34 three subjects of immediate interest were presented by Professor Joseph Davis, director of the Food Research Institute, Ex-Governor Phillip LaFollette of Wisconsin, and Professor Irving Fisher of Yale University. The subjects

covered were "The Agricultural Administration Act," "The National Industrial Recovery Act," and "Current Proposal for Inflation," respectively.

A second series of public discussions was arranged in co-operation with the Extension Division and the university radio station WLB. Members of the staff, including Professors Hansen, Marget, Blakey, Myers, and Mr. Murray, talked on subjects involving banking and monetary problems, taxation, and unemployment insurance.

Another series of lectures was arranged primarily for students and members of the staff. This served in part to offset the drain of major members of the staff who were absent from the campus. Among those who contributed to this series in 1932-33 were Dr. Bryce M. Stewart, director of the Industrial Relations Counselors, who talked on the subject, "European Unemployment Insurance Plans"; Mr. A. W. Flux, late fellow of St. John's College at Cambridge and assistant secretary of the Statistical Department of the British Board of Trade, who discussed "Industrial Production in Britain and in America"; Dr. Fritz Rager, secretary of the Austrian Chamber of Labor in Vienna, who spoke on the subject, "Unemployment Insurance Systems in Europe"; and Mr. Rennie Smith, a former member of Parliament from the Labor Party in England, who discussed "The British Labor Party and the Economic Future of Great Britain." In the spring of 1934 Dr. Melchior Palyi, formerly president of the Deutschebank in Berlin, discussed the subject of "International Monetary Policy." Dr. Alonzo Taylor, director of the Food Research Institute of Stanford University, addressed the student body on "Producers, Consumers, and the Monetary Policy." Dr. Thomas M. Balogh, an English economist, discussed the subject, "England's Monetary Policy and Monetary Theory."

In addition to the special lectures and discussions which were officially arranged by the school, the undergraduate students organized a series of open forums. The subjects covered were taken in the main from various research projects conducted by members of the staff of the school and of the Employment Stabilization Research Institute. This was an impromptu movement on the part of the students and indicates a genuine interest on their part in the serious problems of immediate economic significance.

Research.—Some significant monographs have been added to the series of the "Studies in Economics and Business" that was started in the preceding biennium. Under the direction of Professor Vaile, three additional bulletins pertaining to the problems of distribution of consumer goods were completed. The study of taxation in Minnesota by Professor Blakey and others was also completed. In addition to these publications there were a number of other research projects pertaining particularly to business conditions in the Twin Cities and the Northwest that were not published in monograph form but were made available for the use of individuals and organizations concerned with economic and industrial problems in the region.

The index of business conditions in the Northwest that was originally constructed by Professor Richard L. Kozelka has been kept up to date and is being widely used. Furthermore, a series of cost of living index figures for Minneapolis and St. Paul has been constructed and continued on a semiannual basis. This is released twice a year to the public through the press. It has been used by

business concerns in adjusting wage schedules and in planning budgetary commitments. These indexes cover primarily the wage-earning income group. Another index is being constructed to show the cost of living for students in the University.

Curriculum.—The sequence in Department Store Training for Women which was started in the fall of 1932 opened an especially attractive field for graduates. The first group, consisting of eight students, was graduated in June of this year and all were placed in positions in Twin City department stores. During the past academic year a total of twenty-two were registered in this sequence.

A new combined course was organized in co-operation with the College of Engineering and Architecture. (See the report of the College of Engineering and Architecture and the School of Chemistry, page 215.)

The faculty of the school has adopted a plan for comprehensive examinations, the first of which was given in May, 1934. This examination covers the Core Group of courses required of all students in the school. The examination is general in character and aims to co-ordinate the various subjects, calling upon the student to utilize the tools and techniques acquired in attacking specific problems. It is hoped that this will aid in the process of integrating the subject-matter in the several specialized fields.

Effect of recent economic changes.—This is a period of economic uncertainty. Many changes are taking place in the form and structure of economic institutions. These changes, which are reflected in large part by the developments taking place under the New Deal program, directly affect the occupational opportunities and outlets for graduates in collegiate schools of business.

It is clear that business will be conducted under conditions that differ widely from those that prevailed in the past. There will be more governmental control in the administration of business. These changes in organization and control, however, will tend to increase rather than decrease the opportunities for effective service for adequately trained business executives. There was a pronounced increase in the demand for graduates from private industry during the past year. In addition to this demand the government and trade associations will need a great many persons equally well trained in the various economic specialties. This demand has already been felt and many of the graduates are employed in the state and federal departments.

Respectfully submitted,

RUSSELL A. STEVENSON, *Dean*

THE GRADUATE SCHOOL

To the President of the University:

SIR: The statistics shown in Tables I, II, and III present for the permanent files a partial record of the Graduate School through two trying years of depression, 1932-33 and 1933-34.

Registration and degrees.—The decline in sheer numbers has not been as striking as might be expected (Table I). The total for the first year of the biennium (2,768), is but little below the maximum in previous years. The total for this past year, (2,303), is a decline of about one sixth from the first year of the biennium. The percentage decline of foreign students was about 20 per cent, yet a total of 26 foreign nations was represented in the graduate student body with Canada furnishing a little more than 50 per cent in both years (Table IV).

TABLE I. GRADUATE STUDENTS ACCORDING TO DEGREES FOR WHICH THEY HAVE APPLIED

	Year 1932-33	Year 1933-34
Master of arts	1,233	929
Master of laws	0	1
Master of science	737	612
Engineering degree	13	1
Doctor of philosophy	613	559
No degree desired.....	172	201
Totals	2,768	2,303

TABLE II. CLASSIFICATION OF GRADUATE STUDENTS ACCORDING TO RANK

	Year 1932-33	Year 1933-34
Professor	1	2
Associate professor	2	2
Assistant professor	16	7
Professorial lecturer	2	3
Instructor	133	112
Teaching fellow	79	72
Assistant	233	187
Mayo Foundation fellow.....	244	206
Emergency fellow	0	22
Fellow	29	11
Totals	739	624

A tabulation of degrees granted shows a decrease from 1932-33 to 1933-34 in Master's degrees (M.A. and M.S. combined) from 302 to 217, or 28 per cent. The number of Ph.D. degrees, however, increased from 72 to 79. It is gratifying to add that a survey made in the spring of 1934 showed that of the Ph.D.'s completing work during the period June, 1933 to March, 1934, 26 were employed as

instructors, 20 were in industry, 13 were holding fellowships (3 on our own emergency fellowships), one was registered for more work. The 16 who had taken the degree in fields of surgery and medicine were all located in their professions. Only two were at the moment unemployed, and one of these had a position in sight. It was an excellent showing considering conditions in the educational and industrial world. One could be quite content if a survey next spring would yield the same results for the past year's crop of Ph.D.'s.

TABLE III. GRADUATE STUDENTS ACCORDING TO AMOUNT OF WORK FOR WHICH THEY HAVE REGISTERED

	Year 1932-33	Year 1933-34		
Men registered full time.....	494	432		
Women registered full time.....	194	186		
Men registered part time.....	606	536		
Women registered part time.....	302	340		
Men registered full time on the Mayo Foundation.....	231	196		
Women registered full time on the Mayo Foundation.....	13	1,840	10	1,700
<i>Summer Quarter.</i>				
Men registered full time.....	247	185		
Women registered full time.....	172	71		
Men registered part time.....	282	183		
Women registered part time.....	227	928	164	603
			2,768	2,303
Total men registered, 1932-33.....	1,860			
Total women registered, 1932-33.....	908	2,768		
			1,532	
Total men registered, 1933-34.....			771	2,303
Total women registered, 1933-34.....				

TABLE IV. FOREIGN STUDENTS REGISTERED IN THE GRADUATE SCHOOL

	Year 1932-33	Year 1933-34		Year 1932-33	Year 1933-34
Arabia	0	1	Korea	0	1
Australia	1	0	Mexico	1	1
Austria	3	3	Norway	2	2
Bulgaria	1	0	Philippine Islands	3	1
Canada	54	44	Poland	1	1
China	7	4	Porto Rico	0	2
England	2	1	Russia	4	1
France	1	0	Scotland	2	1
Germany	8	5	South Africa	2	2
Holland	1	1	Spain	1	1
India	3	5	Switzerland	1	2
Ireland	2	1	Turkey	1	1
Italy	2	1		—	—
Jugoslavia	1	0	Totals	104	82

The number taking advanced or professional degrees in engineering is small. That is as it should be for we propose to develop graduate work in those fields at Minnesota slowly and soundly. We have this year, for the first time, entrusted one department with the development and administration of the Doctor's degree. Electrical engineering, which can make strong programs both in its own field and the supporting basic fields of physics, chemistry, and mathematics, is the department having this privilege.

Reorganization.—The group committees and their chairmen, as members of the Executive Committee, have considered recently in informal discussions a plan I laid before them for the reorganization of the Graduate School. It is too early to report upon the plan. If developed and adopted, it will be a marked departure from our present policy in administering degrees above the Bachelor's degree. The preliminary gathering of the necessary data for a factual basis was made possible, I may add, as a CWA project.

Housing for graduate students.—Another interesting study was made in May, 1934, of the housing conditions of married students. It was not limited to graduate students, and could not be, for many professional and undergraduate students are married.

The study this spring, like the one several years ago, was made with the co-operation of the Dames Club, composed of wives of married students. This study, like the previous one, shows very unsatisfactory provisions in southeast Minneapolis for married students. Quarters are hard to find, the space and light and furnishings and study conditions are in most cases poor. The prices are relatively high, and in many cases above what the students feel they can pay. The comments added to the reports give a more moving picture of noise, dirt, shabbiness, lack of privacy, overcrowding, than do the detailed data which have been tabulated in my office. This report simply re-emphasizes what we all know, and what the previous report demonstrated, that the married student at the University is the forgotten man. His claim to consideration in any future housing plans of the University must take precedence over any other group. He does not want anything resembling luxury. He wants the minimum essentials at prices within his means. Private enterprise could furnish these, but it has not and apparently will not for another generation. The obligation of the University is inescapable.

Research activities.—It is more pleasant to report that in this decade research in all fields has developed very definitely and has added to the service and prestige of the University at all points. The support due to the research fund given by the Rockefeller Foundation, the special state support fund for medical research, the beneficent gift of the Mayo brothers in the Mayo Foundation, and the two-year support of the Employment Stabilization Research Institute by co-operating foundations are the major factors that have given our staff assistance, supplies, equipment, and an outlet through the University Press for their scholarly work (Table V). The totality of it is in quantity and quality unmatched in any previous biennium of the University's history. So significant and timely have been many of these studies that they have received national acclaim and application, and state and national governments have turned to our staff for aid and leadership. The very great importance of some of the work has really created a problem in holding our staff against insistent outside demands for their service.

TABLE V. GRANTS AND FUNDS FOR RESEARCH

	Number of Grants	Amount Granted	Amount Spent
1932-33			
Fluid research	61	\$65,629.42	\$57,234.41
Graduate research	33	12,757.55	10,475.16
Medical research	38	26,672.49	26,267.68
	132	\$105,059.46	\$93,977.25
1933-34			
Fluid research	63	\$61,734.02	\$52,287.84
Graduate research	32	12,939.70	10,014.91
Medical research	41	24,509.00	23,853.24
	136	\$99,182.72	\$86,155.99

The demand for trained men.—In such a crisis as the present, the American people are apparently willing to waive their supposedly God-given constitutional right to be misgoverned by ignorance and political incompetence and to ask somebody who knows. That means university staffs and university trained men. The need for such in public and privately managed business is truly great and inadequately met by present supplies. The university faculties must not be raided to supply it at the cost of efficient training for future leaders and specialists. Hitherto the public has been blind to the need and importance of trained experts in meeting complex social problems. Now their importance is seemingly appreciated, yet this is the very moment that the institutions that harbor or prepare them find the public blindly withdrawing or diminishing the necessary financial support. The demands of organized tax economy groups may save a few dollars now by slashing the support of public education but it is a temporary and illusory saving that may put our social present and future in the debtor column.

Dangers of rating graduate departments.—I might conclude with a congratulatory review of the rating given many of our departments in a recent survey of graduate school strength. I forbear for I think the survey a well-intentioned piece of ineptitude and inaccuracy. If it were accurate for this year, which it is not, it would not be trustworthy two years from now with the shifting or retirement of staff or the failure of support in this institution or that. The unfortunate part of it is that this rating will probably remain unrevised for ten or twenty years and be used as a guide by prospective students. They may come to Minnesota ten years from now to study in departments we have not been able to maintain at this present high rating. They will be going, that is certain, at the present to institutions where departments have been rated on past prestige and performance, but are now less adequate than those given no distinction. However, one has to be cheerful, tho irritated by the efforts of blundering but well-meaning organizations who seek to find some reason for being.

Respectfully submitted,

GUY STANTON FORD, *Dean*

THE MAYO FOUNDATION FOR MEDICAL EDUCATION AND
RESEARCH

Herewith is presented a brief summary of the finances and work in medical education and research of the Mayo Foundation from July 1, 1932 to June 30, 1934.

Financial statement.—On July 1, 1932, the balance in the foundation fund was \$14,775.25. During the year ending June 30, 1933, there was added \$81,576.97, income from the fund, and \$20,792.25 was added to the endowment account. During the year ending June 30, 1934, there was added \$97,376.59, income from the fund, and transfer to the endowment account was not made.

The total expenses for the year ending June 30, 1933, were \$357,603.47, of which \$77,475 was paid from the foundation fund and \$280,128.47 from the educational fund of the Mayo Clinic. The total expenses for the year ending June 30, 1934, were \$293,082.19, of which \$81,345.45 was paid from the foundation fund and \$211,736.74 from the educational fund of the Mayo Clinic. The balance in the foundation fund on June 30, 1934, was \$17,185.11. The amount budgeted from the foundation fund for the year ending June 30, 1933, was \$88,725, and for the year ending June 30, 1934, was \$92,565.

Faculty.—The number of members of the faculty in the Mayo Foundation is shown in Table I.

TABLE I. FACULTY CLASSIFICATION, MAYO FOUNDATION

	Professors	Associate Professors	Assistant Professors	Instructors	Total
Number on duty July 1, 1932 ..	26	31	31	52	140
Promotions .....	..	17	27	..	..
New appointments .....	..	..	..	17	17
Resigned .....	..	5	2	6	13
Number on duty June 30, 1934 ..	26	43	39	36	144

Applications for fellowships.—During each of the two years more than 1,100 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 for one reason or another. Some were advised to seek further training elsewhere and apply later.

On July 1, 1932, there were on file 119 formal applications for fellowships in the various specialties. During the two-year period there were received 1,083 formal applications. Of these 559 were completed.

An analysis of the 119 applications on file July 1, 1932, and of the 559 formal applications received during the period is shown in Table II.

TABLE II. ANALYSIS OF FELLOWSHIP APPLICATIONS, MAYO FOUNDATION

Fields	On File July 1, 1932	Completed	Nominated	Arrived During Period	To Arrive Later	Declined or Withdrawn	Still Open for Appointment June 30, 1934
Medicine	12	133	36	12	24	79	30
Dermatology .....	..	11	4	2	2	5	2
Neurology	2	6	1	..	1	4	3
Pediatrics .....	..	16	5	..	5	8	3
Total medical specialties	14	166	46	14	32	96	38
Surgery	39	234	40	11	29	195	38
Anesthesia .....	..	4	2	..	2	2	..
Neurosurgery	3	5	..	..	..	8	..
Obstetrics	4	20	3	..	3	17	4
Ophthalmology .....	..	6	3	..	3	1	2
Orthopedics	5	8	3	..	3	8	2
Oto-laryngology	8	13	4	1	3	14	3
Proctology	1	2	..	..	..	2	1
Urology	8	16	4	3	1	16	4
Total surgical specialties	68	308	59	15	44	263	54
Dental surgery	13	31	2	1	1	35	7
Radiology	11	16	4	2	2	20	3
Bacteriology	2	2	..	..	..	4	..
Biophysics .....	..	3	2	1	1	..	1
Biochemistry	3	5	2	1	1	5	1
Physiology .....	..	3	1	..	1	2	..
Pathology	8	22	6	2	4	15	9
Nutrition .....	..	1	..	..	..	1	..
Hematology .....	..	2	1	..	1	1	..
Total fundamentals	37	85	18	7	11	83	21
Grand totals	119	559	123	36	87	442	113

An analysis of the fields in which fellows in the foundation are majoring is shown in the Table III.

TABLE III. MAJOR FIELDS OF MAYO FOUNDATION FELLOWS

Fields	Fellows in Foundation June 30, 1932	Fellows Who Left or Transferred to Other Fields	Fellows Who Came or Transferred from Other Fields	Fellows in Foundation June 30, 1934
Medicine	67	51	27	43
Dermatology	7	5	4	6
Neurology	4	3	2	3
Pediatrics	8	6	4	6
Total medical specialties	86	65	37	58
Surgery	77	52	30	55
Neurosurgery	3	4	4	3
Obstetrics	8	5	1	4
Ophthalmology	5	4	1	2
Orthopedics	9	4	1	6
Oto-laryngology	11	9	4	6
Proctology	3	3	2	2
Urology	9	8	5	6
Anesthesia	2	1	1	2
Total surgical specialties	127	90	49	86
Dental surgery	4	3	2	3
Radiology	9	7	4	6
Bacteriology	1	1	..	..
Biophysics	2	3	2	1
Biochemistry	1	1	2	2
Hematology	1	1	..	..
Pathology	10	5	5	10
Physiology .....	..	..	1	1
Social service	1	1	..	..
Total fundamentals	29	22	16	23
Grand totals	242	177	102	167

The reasons for the 177 fellows leaving their fellowships during the period are as follows:

- 6 transferred to other fields
- 11 representatives of other institutions
- 15 on leave of absence, health, or financial stringency
- 3 majoring in dental surgery (two years)
- 12 with less than three years of residence other than above
- 52 with three years or more of residence without degree
- 78 with three years or more of residence with degree

Six of the 52 fellows who left after three years or more of residence without taking graduate degrees have submitted theses, which have been accepted, for degrees.

Aside from the eleven representatives of other institutions who did work of a definite research and clinical nature and are included in the tabulation given above, many persons—fellows or students from other institutions, representatives of other foundations, governments, universities, or other institutions—were on duty for short periods in the foundation.

Degrees.—Sixty-six graduate degrees were granted to fellows of the foundation during the period covered by this report. (See Table IV.)

TABLE IV. GRADUATE DEGREES GRANTED

Fields	Master's	Doctor's
Medicine	14	2
Dermatology	4	..
Pediatrics	2	..
Surgery	15	4
Neurosurgery	1	..
Obstetrics	1	..
Ophthalmology	1	..
Orthopedics	5	..
Oto-laryngology	1	..
Urology	3	1
Radiology	4	..
Bacteriology	1	..
Biochemistry .....	..	1
Biophysics .....	..	1
Pathology	3	..
Experimental surgery	1	1
Totals	56	10

Lectures.—Besides the lectures by members of the staff on two evenings each week from October to May, eleven visiting speakers gave lectures during the period. The list follows:

- August 2, 1932: Rev. Paul Burgess, Guatemala, "Guatemala Yesterday and Today"
 August 25, 1932: Professor Madison Bentley, Sage Professor of Psychology, Cornell University, "Mind, Body, and Soul in Psychologic Medicine"
 January 6, 1933: Dr. D. H. Newburgh, Professor of Clinical Investigation, University of Michigan, "The Importance of Dealing Quantitatively with Water in the Study of Disease"
 April 12, 1933: Dr. James B. Herrick, Professor Emeritus of Medicine, Rush Medical College, "Coronary Thrombosis; Past, Present, and Future"
 May 19, 1933: Richard L. Sutton, Kansas City, Mo., "Arctic Safari"
 October 26, 1933: Dr. J. Fletcher Robinson, Mysore City, South India, "Life and Work in India"
 November 13, 1933: Dr. Arturo Castiglioni, University of Padua, Italy, "The Medical School at Padua and the Renaissance of Medicine"
 December 14, 1933: Dr. Joseph L. Miller, Chicago, "Comments on Famous Physicians"
 February 19, 1934: Dr. Lowell J. Reed, Johns Hopkins University, Baltimore, "The Growth of Human Population"
 April 5, 1934: Dr. Herbert M. Evans, University of California, San Francisco, "Recent Researches with Reference to Pituitary Gland"
 April 20, 1934: Dr. Ralph C. Matson, Portland, Oregon, "Thoracoscopy, Intrapleural Pneumolysis"

The Mayo Foundation chapter of Sigma Xi has sponsored nine lectures during the period. The list follows:

- November 17, 1932: Dr. M. Luckiesh, Director of the Lighting Research Laboratory of General Electric Company, "The Human Seeing Machine"
 January 26, 1933: Dr. Walter H. Eddy, Columbia University, "Recent Development in the Vitamin Field"
 March 23, 1933: Dr. Martin Springling, Professor of Arabic at the Oriental Institute, University of Chicago, "The A, B, C from Their Origin to Present Value"

- October 19, 1933: Miss Grace Wiley, Curator of the Public Library Museum, Minneapolis, "Getting Personal with Poisonous Snakes"
- November 16, 1933: Dr. Lawrence M. Gould, Professor of Geology, Carleton College, "The Geology and Geography of Antarctica"
- January 18, 1934: Mr. Leonard Keller, Scientific Crime Detection Laboratories, Northwestern University, "Scientific Methods of Crime Detection"
- February 22, 1934: Professor H. H. Newman, Department of Zoology, University of Chicago, "Twins and What the Study of Twins Has Contributed to the Knowledge of Heredity, with Special Reference to the Inheritance of Disease"
- April 19, 1934: Dean Richard E. Scammon, University of Minnesota, "The Founding and Early History of Saint Bartholomew's, the Oldest Hospital in London"
- June 19, 1934: Dr. H. F. Helmholz, Mayo Clinic, "The History and Development of Tennis"

During each winter there has been given a series of exchange lectures by the Medical School faculty in the foundation and by the foundation faculty in the Medical School.

Publications.—A study of the publications by faculty and fellows shows that during the year ending June 30, 1933, 413 articles by faculty members appeared, 36 by fellows, and 99 by faculty and fellows jointly; that during the year ending June 30, 1934, 301 articles by faculty members, 32 by fellows, and 98 jointly by faculty and fellows appeared. The titles of articles by members of the faculty appear in reports published annually by the University. All papers are republished either in whole or in part in the annual volume *Collected Papers of the Mayo Clinic and Mayo Foundation*. The publications embody the completed research work of the period. The subjects are too numerous and touch too diverse fields to permit a ready analysis.

Respectfully submitted,

LOUIS B. WILSON, M.D., *Director*

THE GENERAL COLLEGE

To the President of the University:

SIR: I have the honor to submit the report of the establishment of the General College and of its growth during the period from July 1, 1932 to June 30, 1934.

The purposes of the college.—The General College of the University, approved by the Board of Regents at its meetings on February 11 and May 25, 1932, and launched the following fall, has now completed its second year. It has attempted to carry out the educational philosophy expressed by Dean Ford for the Committee on University Reorganization in its preliminary announcement of the college, and the further clarification in your open letter of March, 1932, both of which appear in the 1930-32 biennial report. Our experience over the two years has demonstrated the need for, and timeliness of, the experiment. The University through the new college is taking care of and giving valuable educational experience to those increasing numbers of students who for various reasons are forced to devote less than four years to their higher education.

Broad issues seem to be involved. Out of the materials of depression, out of the mixed good and evil of expanding technology and invention, out of the social, economic, and political lags, has been built a temporary dam. Against it the restless, unexpended energies of youth are pounding, backing up month by month. It appears to me that the General College offers to many—and should offer to increasing numbers in Minnesota—a useful power channel to develop and utilize for individuals and society a portion of this thwarted energy. It appears probable that, even if prosperity were to return with incredible swiftness, only a portion of the millions of young people now neither employed nor in school can be absorbed.

For the rest, many might profit from the kind of general study we are laboring to develop for them. This training is designed to make young people at home in the modern world by means of overview courses which survey from the layman's point of view the broad fields of human feeling, thinking, and activity. Our objective is to give these students a chance to make themselves supple and adaptable to change rather than rigidly prepared for a single occupation; to enlarge their vision to see the wholeness of human life; and to foster them in acquiring a sense of values in the many phases of adult living outside the strictly vocational. We hope that the great majority of these students may come to comprehend the problems that face them. It is admittedly important for the University to train for leadership in the professions and for research, but few become leaders, and those who do have dire need of support from understanders. The General College is trying to train understanders. It is further implied that in the future such general education may naturally and reasonably underlie higher special training.

The original name.—During 1932-33 this organization was called the Junior College of the University. The Board of Regents at its meeting May 9, 1933, changed the name to the General College of the University of Minnesota because

those who did not know anything about junior colleges thought the new unit was a preparatory school, or a rival of the long-established University High School. Those who knew, or thought they knew, about junior colleges conceived that we were duplicating the first two years of departmental and sequential curricula of the lower division of the College of Science, Literature, and the Arts. Some equanimity has now been achieved by renaming the new unit the General College of the University and reassigning the name, Junior College, to the lower division of the Arts College.

Other misunderstandings somewhat hampered the new venture. Students firmly set in the notion of intense specialization for everyone had difficulty in understanding the benefits of general training. Some believed the General College a dumping ground for incompetents instead of, in your own phrases, "an adventure in the field of higher education . . . intended to provide a superior intellectual opportunity for a body of students whose needs cannot now be adequately met by the existing organization of the university. Its courses should be open to the most gifted student in the university." Others, with no knowledge of the program organized, thought the courses might be too easy, not up to standard, not realizing that the only standard for a course is that it must stimulate the majority of the students to further self-propelled study. Fortunately, in the past year these misunderstandings have begun to clear away.

The registration.—At the opening of the General College in the fall of 1932 there were 400 students registered. Quarter by quarter the number has increased until, as we ended our second year, 1933-34, the registration was well over 700. It should, in my judgment, increase still further. We should have larger numbers enrolling from high school for the reasons outlined earlier in this report, and we should have more of those who, now in other colleges, would profit more from our offerings than from those in the various specialties. If we are privileged in time to enroll most of these in this college we shall serve two functions: (1) doing a greater service to these students, and, (2) releasing the professional colleges from the drag of students who, for one reason or another, fail to give their best efforts to the special training designed to produce leaders and researchers.

The courses of study.—To the General College students we have offered free election among eighteen courses in the first year, twenty-five in the second. All are experimental. All are of the overview type and newly devised to meet the needs, interests, desires, and capacities of our students. They fall roughly into ten groups.

- | | |
|---|--|
| 1. Euthenics Studies
Euthenics
Human Development and Personal Adjustment
Physical Education
2. Psychology Studies
Practical Applications of Psychology
How To Study
Straight and Crooked Thinking
Biography | 3. History and Government Studies
Background of the Modern World
American Citizen and His Government
Functions of Government
World Politics
Biography
History of Minnesota
4. Current Affairs Studies
Current Affairs
Formation of Public Opinion
Current English Reading
University Lectures |
|---|--|

- | | |
|--|--|
| <ul style="list-style-type: none"> 5. Economic Studies <ul style="list-style-type: none"> Our Economic Life Basic Wealth Earth and Man Biography 6. English Studies <ul style="list-style-type: none"> Writing Laboratory Literature Composition Biography 7. Physical Sciences Studies <ul style="list-style-type: none"> Chemistry and Physics Technology Relations of Sound to Music Astronomy Biography | <ul style="list-style-type: none"> 8. Biological Sciences Studies <ul style="list-style-type: none"> Human Biology Physical Education Biography 9. Mathematics Studies <ul style="list-style-type: none"> Introduction to the Mathematics or Business and Current Affairs 10. Arts Studies <ul style="list-style-type: none"> Appreciation of the Fine Arts Appreciation of the Graphic Arts Special Courses in Arts, Music, and Dramatics Relations of Sound to Music Physical Education |
|--|--|

In each of these groups a comprehensive examination is offered. To win an associate in arts degree from the University, a student must pass creditably the examination in Contemporary Affairs each year of his residence, and four others, each in one of the nine remaining fields.

While all of the courses have attracted large numbers of students and stimulated the majority of them to read and study in the field, all are still in the experimental stage. They are being improved upon from quarter to quarter as we come, through the counseling, guidance, and examination processes to know our students better. This self-study towards the improvement of the curriculum will, of course, never be finished so long as the General College continues to exist.

The faculty.—The success of the courses, and the college is almost entirely due to the efforts and co-operation of the general university faculty. We have no faculty exclusively our own. All are members of the staffs of various colleges and departments. They are known for their teaching powers. All are teaching because they see the problems presented by the college and wish to share in their solution. In some instances, as with deans and heads of departments, the new course means a heavy additional burden. In others, instructors are relieved by their departments of our share of the teaching load. None are given additional compensation. I need not point out that these courses are difficult to teach, that the task of interpreting the findings of specialists, of demonstrating implications and interrelations, of absorbing into the lectures the developments within the contemporary world, takes every power of a teacher. Our faculty includes several deans and divisional chiefs, five of whom each offer from one quarter to three quarters of a course, with several of the other deans giving occasional lectures, the heads of seven departments, and other staff members of eight colleges. Our composite teacher is an associate professor. Let it be marked that these men and women teach freshmen and sophomores, and, in large part, students who will, through force of circumstances, have less than three years to devote to college. Because of this faculty, and because we take care of individual contacts to some extent by discussion sections, by the laboratories, and by counseling, we have few objections raised to the class size, in which lies our economy, even tho these classes range in number from sixty to over three hundred.

The development of examinations.—Because of the class size, the experimental and empirical nature of the courses, their new approach, the other activi-

ties of the faculty, the concentration on needs, interests, and drives of students, it was clear from the start that examinations would be a major problem. Economy demanded the fullest possible experimentation with the objective type. It was essential that we measure the outcomes and effects of the new instruction. We wish the examinations to do more than test each student's factual accumulations within the area of any given course. We try to design them so that they will reveal, as can nothing else except personal interviews and conferences which they supplement, the real necessities and focal points of student interest. When these are determined, we can constantly reshape our courses to meet them. We want, also, that they shall measure the student's knowledge of vocabulary, facts, laws, and principles, and his attitudes from every possible angle. As one of our examination counselors puts it, "We devise an instrument twelve feet high and four feet wide, knowing that no student is over six feet high and two feet broad, but some measure on one part of the scale, some on another. In each case we get a nearly true result in nearly all factors."

We hope that these examinations will demonstrate that study is continuous. We are trying to devise course quizzes and comprehensives that will cover too much for cramming. The student may learn by them that study is organic, that one may start with any given point in any given subject and, by tracing lines of inference and implication, soon find himself far off in other fields. Daily study in a spirit of exploration and adventure, we hope, may gradually overcome desultory habits and cramming. Our courses are already beginning to interweave: the textbook's last page is becoming the beginning of new study, not an end objective. The fire of interest kindled in one spot and properly fanned may run far into other matters.

In developing examinations to test the outcomes and effects of our instruction, the staff, counselors, and students have co-operated increasingly with the Committee on Educational Research which, at the request of the college, undertook the problem as one of its major projects during the past two years. Plans are laid for further research in this exceedingly difficult field. We are making progress and the results have enlarging value for us and may have wide use and application in other colleges of the University and elsewhere.

Through free election and more skillful and sensitive examining we appear to be nearing the point where we can gauge a student's progress from time to time, judge his pace, his capacity, his breadth and depth of comprehension so that those whose growth is slow may not be damned with stigma nor a feeling of inferiority, and those who come to us with rich backgrounds and facile minds may not be slowed down and dulled. Our marking system is being revised in the light of our experience to foster the urge towards exploration of new fields and wider ranges of familiar ones. We are coming to believe that until a student has absorbed what he wants, what he needs, and what his capacity allows in a field of study, he is not a failure but simply on his way up.

The counseling system.—Because we must know students better in order to build the right education for them, we have developed an intensive counseling and guidance set-up. It is our opinion that we have known and still know far too little about students and their needs, desires, attitudes, and abilities. Only by the most complete and thoughtful development of counseling techniques can we learn.

In 1932-33 the General College had three trained persons, and in 1933-34 five persons who gave much time to the study of this problem. During 1932-33, 489 and in 1933-34 more than 700 students each have been interviewed at least once; some of them, on their own request, many times.

Before the preliminary interview the counselor has in his hands the complete high school record, a theme written by the student, his principal's comments on him, his entrance test ratings. The purpose of the interview is to find out all possible information about the student. If it seems wise, as it does in some three quarters of the cases, he is referred to the University Testing Bureau where he may be given a battery of tests to determine his aptitudes, vocational interests, special skills, or academic achievements. A profile of the test records is returned to the college to become a part of the student's cumulative record and to serve as the basis of the following interviews. If the counselor believes some illness is interfering with study, a check is made with the Students' Health Service, followed often by reference for further physical examination. If there is evidence of home difficulties, the social worker visits the home. If there seems to be nervous disability or deep-seated emotional conflict, the student is examined by the university psychiatrist. All interview notes are dictated in brief and added to the student's confidential record, as are reports from other agencies. The result is that even with a large student body in large classes we often know more about students individually than do their intimates.

What we do with this information is far from mollycoddling, unless holding up an undistorting mirror and giving a student a clear picture of himself can be called that. This is done objectively, without drama or sentiment. The student is made, often for the first time, to see his problems clearly—the real purpose of counseling. We do not advise; we demonstrate alternatives. The selection and the following out of one or the other is his responsibility. Most students respond vigorously and quickly.

What counseling reveals.—By counseling we are discovering that many students coming to college are juvenile or adolescent in their attitudes and behavior patterns. Given a realistic picture of themselves and their situation, many of them begin to grow up rapidly. A few never will. We sometimes find them very ill, and not realizing it; we find them poor in purse, or downcast in spirit; we find them in the glorious riot of emotions of a first love affair; we find them sowing a wild oat or two; and we find some of the most sensitive and quick to learn befogged and befuddled by examination fright. To find these things and to do what we can to clarify them, to treat them, to see the students through and beyond them to cleared and firm ground is not pampering. Spartan rigorism in the application of rules may be heroic, but like many heroic things it is not intelligent or progressive or profitable. It is our hope and expectation that we may come to know much more than we now do about students so that we may give them what they need rather than what custom dictated their fathers should have. Without this knowledge our courses would sink into stereotypes, become standard surveys only, and we should justly fail.

There is another function of counseling, however, that should be more clearly seen and used. Only by coming to a real understanding of students, their desires, interests, drives, and necessities in terms of their college life and their

life-long personal and social urges and capacities can we give them the education they should have. Counseling and guidance of students must be for us the basis of curriculum planning.

The experimental courses.—A few of our special experimental courses warrant brief mention. Our writing laboratory is achieving unusual results. Students who formerly considered themselves inarticulate are stimulated to write and rewrite, sketch, polish, and lay in detail as I have never, in years of teaching English, seen it done before by so many. We do not neglect grammar, rhetoric, punctuation, but subordinate them to the main job of trying to get something said so that readers or hearers can share in it fully. Our experimental art studio laboratory augments the work of the lecturer in the Appreciation of the Graphic Arts. The principle upon which we set it up was, in simplest terms, that a student might learn to appreciate the qualities of etching lines by making them. It was in no sense our objective to make artists of any who attended the laboratory. We have many other courses in the University for them. But many of our students are discovering not only principles of appreciation but a keen personal delight in dabbling with clay and pastel.

We are likewise developing courses that are set up to tie together and blanket and augment all other courses. The first of these is How To Study, designed to teach the student techniques and skills applicable to his other concurrent courses. In Current English Reading two striking current magazine articles are reviewed before the class each week, and some forty more recommended for reading. Each article in the assignment is briefly described and reference is made to the course or courses upon which it may throw new light or give added information. The student then chooses the articles related to the fields of his interest and study. Need I say more of the success of this course than that any magazine recommended is worn to tatters within the week and a duplicate must be ordered for library filing. The students in the course, University Lectures, are assigned to attend special lectures given by visitors or staff men under the auspices of the University or a department. These lectures range in subject-matter from the recent excavations on the site of ancient Troy to Irving Fisher on "What Is a Dollar?" The students average three such lectures each week and, as in Current English Reading, the student follows his focus of interest. On each Tuesday afternoon at three-thirty they gather to report and discuss what they have heard with two instructors who divide the attendance on lectures between them. The fourth of these interlocking courses is Biography. For this class, fifty faculty members from many departments and colleges are asked to talk once or twice each during the year. Each is urged simply to sketch as richly, warmly, and personally as he can the life of some man or woman who has interested him. The subject may be long dead or still alive, a rascal or hero, great or petty, and from any field of human activity, or from any place. Students listen to these talks and then read two full-length biographies each quarter, again in the field or fields of their interest. These four courses are separately accredited, and students in them are tested in course examinations, but questions from each are carried over to the nine major comprehensive examinations in the end.

The development of visual education.—Interlocking with all courses is the Visual Education Department which was organized and began functioning at the

start of the General College, which has developed with it, and which has now grown to be an all-university service. This department has gradually built up its equipment, film and slide libraries, and catalogs of material to such a degree that it can furnish almost any class with efficient projection and almost any kind of available material. It sometimes serves as many as twenty classes in a single day with a variety of materials. It also has under way a dozen productions of films needed by the instructors of the General College for better demonstration.

The educational influence.—That the General College experiment is needed and timely is evidenced by the fact that it is attracting nation-wide attention. Its principles and processes are being widely imitated or adapted to local conditions in a variety of institutions. The University of Southern California was the first to set up a similar college, one which has been in operation for a year. Montana State, Missouri in several of its teachers and junior colleges, the University System of Georgia, the University of North Carolina, and the University of Iowa are planning these new curricula and methods for the 1934-35 school year. The public school system of the city of Chicago is launching three such colleges to replace the Crane Technical Junior College. The Oklahoma system, headed by the university, is reorganizing on the new pattern. Both the director and the assistant director are called frequently to help in the planning of the new curricula.

The outlook.—The outlook for the General College thus far seems favorable, altho there are many difficulties still in the way. Chief of these are various student attitudes. They are a little frightened at first, a little complaining when faced with comprehensive examinations. They feel safer if they can just get their "credits off," pile them up row on row. They resist being put on their own responsibility. In the beginning, they are confused by percentile ranks and progress charts instead of letter or arithmetical marks where a pass is a D or a 60 instead of the 10th-percentile. Hardest of all is the idea that a general background is quite essential both for home and leisure living, and for efficiency on the job. They have the specialist set. They feel that somehow the college is treating them shabbily if it does not give them in the shortest possible time the tools and skills of a trade which will guarantee them a job. They are quite sure at the start that only a sequence of economics courses will prepare them for business. Moreover, many students even now have the illusion that college *per se* brings money and fame altho they are less certain of it than before 1929. But these attitudes are changing; they are being replaced by more rational attitudes. Students realize that together—students, faculty, and counselors—we are attempting an experiment in a new field of socialized general education; that we are aiming—because education is a dynamic social force—to fill a present social need, to keep pace with social change, and perhaps, if we do our job well enough, to help breed and accelerate such change for the better.

Respectfully submitted,

MALCOLM S. MACLEAN, *Director*

THE UNIVERSITY COLLEGE COMMITTEE

To the President of the University:

SIR: I submit herewith the report of the activities of the University College Committee for the years 1932-33 and 1933-34.

Each year about 150 students have applied to the committee for curriculum adjustment. In the majority of cases it is found that by petition or special arrangement the needs of these students may be met in their regular colleges of enrolment. We urge such a procedure wherever possible because the needs of these students are thus brought to the attention of the Students' Work Committees of the regular colleges. Thereby is provided a potential means of reaching a great number of students who would profit by similar curriculum adjustments but who have not the initiative to apply for them.

Approximately 40 new students have been enrolled each year. An attempt to analyze their problems would lead merely to an enumeration of the individual cases. Many of them wish to combine courses in liberal arts with technical courses in the professional schools. A few wish to prepare for professions such as commercial art or landscape architecture for which there exist no regular curricula. Some of them are mature students who are returning to the University after several years of business or professional experience. Most of them have already completed two years of university work.

Not all of them are exceptionally able students. Indeed our most difficult problems are presented by students who, tho they have some special talent, are nevertheless weak in other fields which are traditionally regarded as essential to a liberal education. The University can and should provide these students with opportunities for achievement rather than failure. But where shall the line be drawn? To what extent shall a university degree be regarded as a measure of a student's stewardship rather than of his intellectual possessions? What is the mark of an educated man? There is, of course, no unique answer to these questions. They call for wisdom and judgment and I want to express my deep appreciation to the many administrative officers and members of the faculty who have given time to the serious consideration of our problems. During the years 1932-34 we have graduated 53 students, two *summa cum laude*, eleven *magna cum laude* and five *cum laude*.

Four years' experience with the direction of the University College has demonstrated to us the wisdom of providing such an educational unit in a large university. It should not grow very much in student enrolment. Indeed I think a measure of its successful operation will be its ability to find ways in which those curriculum adjustments which have merit may be assimilated by the regular colleges of the University.

Respectfully submitted,

JOHN T. TATE, *Chairman*

SPECIAL EDUCATIONAL UNITS

THE GENERAL EXTENSION DIVISION

To the President of the University:

SIR: I submit herewith the report of the activities of the General Extension Division for the biennium beginning July 1, 1932, and ending June 30, 1934.

This report includes all activities of the General Extension Division, inclusive of the work of those subsidiary bureaus or departments under which the work is organized for purposes of administration. Detailed statistical analysis of the points summarized here are on file at the office of the General Extension Division. The departments and the appropriate activities with which they are engaged are classified as follows:

1. The Department of Extension Classes, including the work of the late afternoon and evening university classes and also several short courses, including the nine-months Course in Embalming and Funeral Directing.
2. The Department of Correspondence Instruction, which prepares and conducts university courses by mail and also prepares and promulgates informal reading courses.
3. The Department of Community Service, which includes the University Lyceum, the Drama Service, the Bureau of Visual Education, and, as a collateral function, the University Broadcasting Service of the whole institution.
4. The Municipal Reference Bureau, which maintains a service of counsel, advice, and information for city officials and also maintains an affiliation with the organization of cities, towns, and villages of Minnesota known as the League of Minnesota Municipalities.

Effects of the depression.—The economic depression has had a severe adverse effect on enrolment in extension classes and in correspondence courses. There has been no apparent diminution on the part of these adult people of the desire for pursuing their higher education through the facilities furnished by the Extension Division. The difficulty has been the sheer inability of these adults to pay the very moderate tuition fees charged. Most persons who avail themselves of extension courses are job holders, and when unemployment became rife, it became a question with these people, not of education but of subsistence. The reaction from these economic conditions was not felt in the Extension Division for more than a year after the onset of the depression in the early months of 1930. Thereafter, with each succeeding year, the effects became more apparent and more devastating. The Extension Division had no resources from which to provide free tuition even if that move had been advisable, and it had no funds from which to provide loans or scholarships. In the year 1933-34, a fund of \$1,500 was provided by the Faculty Committee which had charge of the salary contributions, not derived from state funds. Loans from this fund to any individual were limited to \$50 a year. The \$1,500 provided was to be used wholly for extension class students who had good scholastic records and were unable to pay their tuition in extension classes. On the recommendation of the director of University Extension, loans were made during the year to 35 individuals to a total amount of \$559. It is anticipated that the fund will be more heavily drawn upon during the academic year 1934-35. In spite of these efforts, enrolments for the year 1932-33 fell off heavily and the loss continued at about the

same percentage during the first semester of the year 1933-34. The second semester, beginning February 1, 1934, showed a somewhat brighter picture. For the first time the rate of loss, as compared with the corresponding semester of the preceding year, was stayed. As a matter of fact, there was virtually no loss in the comparison of the same semesters. This would indicate that possibly the bottom has been reached and that beginning with the academic year 1934-35, we may begin to gain back the ground lost in the past two or three years.

Education and the future.—It seems quite clear that from the economic crisis there will emerge notable changes in our social and industrial organization, and that the changes which are now forecast carry with them significant implications with reference to education. Two such changes may be noted. One is that all signs point to a prolongation of the period of schooling before professional or business or industrial life is undertaken. Child labor is already abolished and the necessary readjustments to bring about the employment of the employable adult population will necessarily put up a bar against the employment of adolescents. Where the age line will be set, no one now may surmise, but it seems quite clear that the age for employment will be much higher than now. The second significant fact is that in the future—in the almost immediate future—there will be more leisure for everybody. The permissible weekly hours of labor are now being steadily cut by codes and other regulations. It may be predicted with some assurance that within the coming decade the average person in normal employment will work only thirty hours a week and that these hours of labor will be sufficient to produce for the worker not only a subsistence wage but a respectable standard of living. People will have much more leisure, which means they will have more time for play, for recreation, for entertainment; it also means that they will have more time for art, music, the drama, philosophy, literature. People will have more time for self-development, for the cultivation of taste and appreciation. Hundreds of thousands of people will at last have time to study the things they have always wanted to know about, to foster and stimulate that mental curiosity which is man's greatest asset. With the new leisure, with the new freedom from exacting and overburdening hours of toil, will come the rapid development of the whole ideal and purpose of adult education. This will mean opportunities of service to all agencies of adult education, including the University Extension Division. These divisions will make their contributions along the line of studies on the college or university level.

It must not be forgotten, too, that there are now opportunities for specialized education which can be obtained by the employed worker only through extension divisions. The problem of the administration of human relief, as now undertaken by numerous government agencies, calls for the training and the employment of great numbers of specially prepared case workers, field workers, and supervisors with scientific knowledge of the new approach to social problems. The participation of labor union people in the formation, organization, and administration of industrial codes calls for leaders with scientific training in the field of economics and the allied subjects. Moreover, these labor leaders must have intelligent followers. There are hundreds and thousands of adults in the organized labor movement who need instruction and training far above their present educational level and who, being employed people, can obtain this instruc-

tion and training only through university extension divisions or other educational organizations directed to the same end. We might widen the argument by stating that the need of a more highly educated citizenry in the whole country is being forced upon our attention from day to day.

Governmental problems, financial problems, and the general problems that have to do with human relationships are becoming increasingly complex. Moreover, they are affecting the lives of all the people to such an extent that every individual citizen feels impelled to devote some attention to them. It seems quite clear that a civilization of the complexity which is now developing cannot be managed for the best interests of the whole people by citizens who cease their education with the close of their formal schooling. It is becoming borne in upon our people that they must rapidly become better informed, more systematic thinkers, less swayed by emotions, more given to rational judgments. Such people will turn more and more to the universities and to other institutions of higher learning for guidance, and to them university extension must make its greatest appeal.

The learning abilities of adults.—Two years ago I called attention to the study being made at that time at the University, under the direction of Dr. Herbert Sorenson, of the learning abilities and social characteristics of those adults who had been in attendance in extension classes of this institution. Since then the results of Dr. Sorenson's researches on the mental abilities of Minnesota adult extension students have been published as a monograph by the University of Minnesota Press, under the title, *Adult Abilities in Extension Classes*. This study has attracted attention because it tends to show that those adults who make it a practice to attend extension classes are in no wise intellectually inferior to their younger contemporaries who pursue education on a full time basis on the University campus.

This Minnesota study by Dr. Sorenson came to the attention of the American Association for Adult Education. Through that association the University of Minnesota received a grant of \$10,000 from the Carnegie Foundation for the purpose of extending the scope of the investigation. It was felt that the results at Minnesota needed confirmation from similar studies pursued at other universities in different sections of the United States. This new study was placed in the hands of Dr. Sorenson, under the direction of a university committee of which the director of University Extension is chairman. During the past year Dr. Sorenson has extended the use of his tests and questionnaires to extension class students at the Universities of California, Virginia, Colorado, Utah, Kentucky, New Jersey, and Indiana. This study will be continued during the academic year 1934-35.

The group study plan.—During the year 1932-33, it became apparent that something should be done for the great numbers of high school graduates of the state who would normally go to college or to other higher institutions of learning, but who were prevented from so doing by lack of funds. These high school graduates were unemployed and constituted a grave problem for each local community. A plan was devised through which these high school graduates could be assembled in groups in the local high school building under direction of the board of education, and there pursue, by correspondence study, the studies ordinarily taken during the freshman year of the University. One person in each

group was required to register for the course and to pay the customary fee. The rest were permitted to use the same lesson material and to follow out the course under the direction of a supervisor. The supervisor was to keep the group steadily engaged at stated hours, and to see that regular lessons were sent in; and the university instructor's criticisms, when returned, were brought to the attention of the class. At the end of the course, or courses, a proctor was sent from the University to conduct the comprehensive examination over the whole course. The successful students were given extension credits on the books of the registrar of the University, these to become valid credits when the students had matriculated at the University and pursued successfully a year of work. The University entrusted the administration of the plan to the General Extension Division where it was handled in the Correspondence Study Department.

During the year 1932-33, only one school, Appleton, took up the plan and followed it to conclusion. The results at the end of the year were so satisfactory that it was determined to pursue the plan for another year. In the fall of 1933 a number of other schools asked permission to undertake the plan.

In the fall of 1933, it was announced that the Federal Emergency Relief Administration would contribute \$50 a month toward the employment of qualified teachers who had not secured positions. A number of towns took advantage of this opportunity to engage teachers to supervise these Group Study Correspondence courses. Some towns entered upon the plan ill-advisedly and without taking a preliminary, thoro canvass. These towns were forced to give up before much progress had been made. The following towns carried the plan through in its entirety, some completing the whole of the freshman year's work and others completing certain selected sections: Appleton, Olivia, Alexandria, Aitkin, Sauk Centre, Grand Forks, Balaton, Tyler, Albert Lea, Minneapolis, St. Louis Park, Brainerd. The detailed analysis of the results of examinations held under this plan are available in the office of the Extension Division.

EXTENSION CLASSES AND SHORT COURSES, 1932-34

	1932-33	1933-34
Summary of Extension Class Student Registrations:		
Total collegiate	4,922	4,542
Total business	1,994	1,913
Total engineering	805	706
Total	7,721	7,161
Net loss over previous year	2,315	560
Summary of Fees, Extension Class:		
Total collegiate	\$56,554.10	\$50,111.58
Total business	22,691.50	21,247.20
Total engineering	7,758.00	6,459.00
Total	\$87,003.60	\$77,817.78
Net loss over previous year	\$17,968.15	\$ 9,185.82
Total number of classes given	473	484
Total number of individuals in classes	4,879	4,479
Loss over previous year	1,264	400
Total number of short courses	13	19
Total number of kinds of short courses	9	9
Number of registrations in short courses	519+	813+
Total short course receipts	\$15,390.25	\$17,480.50
Gain over previous year	\$ 2,203.75	\$ 2,090.25

Extension classes.—During the biennium, regularly organized extension classes were conducted in Minneapolis, St. Paul, Duluth, Brainerd, Chisholm, Crosby, Eveleth, Hibbing, Virginia, Coleraine, Proctor, and Superior, Wisconsin. The above tabulation presents relevant data covering these activities, and short courses.

Course in Embalming and Funeral Directing.—Since 1921 the administrative control of the Course in Embalming and Funeral Directing has been entrusted to the General Extension Division. In June, 1932, the course was twenty-four weeks long. Beginning October 3, 1932, the course was lengthened to a university year consisting of three quarters of twelve weeks each. It was thought when the course was lengthened that there would be a falling off in the number of students because of the increased time, expense, and additional requirements. The results did not conform to these expectations.

MUNICIPAL REFERENCE BUREAU

While this report directly concerns the Municipal Reference Bureau, it also contains a statement of the activities in combination with the work of the League of Minnesota Municipalities.

Inquiry service.—In 1932-33 a total of 2,004 inquiries were answered by the staff in writing or by special report; in 1933-34, 1,836.

Publications.—Publications of the biennium included the *Minnesota Year Book* (which in 1932 was for the first time self-supporting), twelve monthly issues of *Minnesota Municipalities*, and a series of eleven pamphlets reprinted from *Minnesota Municipalities*. Nine special reports were also published.

Conferences.—During the biennium the bureau and the league have organized and sponsored many special conferences, schools, and conventions. There were more than 35 of these, and they include regional and district conferences, tax conferences, the Northwest Fire School, and others.

Emergency relief.—On September 29, 1932, Governor Floyd B. Olson appointed the chief of the Municipal Reference Bureau as Minnesota relief administrator to aid, in co-operation with the State Board of Control, in administering relief in Minnesota from funds secured through the Federal Reconstruction Finance Corporation. This arrangement continued for a six-month period after appointment. Later, on December 1, 1933, the chief of the Municipal Reference Bureau was appointed co-ordinator for emergency relief and the Civil Works Administration; this arrangement continued until May 1, 1934.

Finance data and ratings.—As a part of the emergency relief work, it was necessary to ascertain the financial ability, or lack of ability, of the local governments to meet local poor relief needs. To this end the bureau and the league prepared what we believe to be as complete an analysis as could be obtained under the circumstances.

The whole series of data was built on the principle of rating local governments on a relative basis, i.e., picturing each unit of government, for each factor of finance, comparatively with every other unit of government in the state. The results have been unusually effective—permitting the governor to certify with considerable certainty the financial needs of eligible relief areas to the authorities in Washington.

The finance study has also been of special aid to the Land Utilization Commission, appointed by the governor, and working under the chairmanship of President L. D. Coffman, University of Minnesota. Our charts and graphs, for this purpose, have been so arranged that it was possible (1) to allocate governmental costs and public finance data to geographic areas, and (2) to observe, comparatively and relatively, in the realm of local finance, the peculiar governmental problems of our so-called "cut-over" or forest areas.

Housing.—Mr. Ambrose Fuller, league attorney, officially acted as counsel and adviser to Mayor William Anderson's (Minneapolis) committee on housing and aided in drafting proposed legislation for introduction at the 1933 session of the legislature.

Federal aid for public works.—Immediately upon introduction of the public works bill to Congress, April, 1933, the bureau and the league office acted as information headquarters for cities and villages in Minnesota upon all phases of public works finance. This arrangement has continued throughout the period of this report.

STATE HIGH SCHOOL MUSIC CONTEST

The ninth and tenth annual sessions of the Minnesota State High School Music Contest, in which the University co-operates with the Minnesota Public School Music League, were held in May, 1933 and 1934. In spite of these years of financial depression the contest continued to thrive. There was a small loss in total number of schools participating throughout the state; still the total was about one hundred fifty schools, with approximately nine thousand participating pupils. There was no loss in the number of schools participating in the final contest, and each of the two years showed a gain in the number of pupils actually attending final sessions at the University. This total is about three thousand.

Ten years have shown great gain for the schools. Better music has been performed, for the contests and for other purposes. There has been a better type of performance and better attention to musical standards. There has come to be a more genuine interest in music. It is now taken as a subject with its own values for which it is worth striving. In order that a higher grade of accomplishment may be reached there has been more attention paid to the qualifications of teachers and to the facilities and necessary equipment. These achievements represent the objectives of, and their realization appears to be all the justification needed for, the contest.

During the past year the instrumental groups, particularly the bands, have made notable progress. This newest musical activity on the part of schools has been suffering somewhat from inadequate facilities and inadequate instruction. Better teachers are now becoming available and the contest has set standards of which the school patrons, as well as the participants, have become aware.

During the biennium the contest has adopted the rating system to replace the traditional method of ranking contestants in 1-2-3 order. Grades are given for quality of performance—A, B, C, and D—just as pupils are rated for individual performance. In any competition all who meet the standards of any one of these grades receive it. There is no limit to the number that may be rated "A" and there is no requirement that any competitor shall be rated "A." Results have

been excellent and the pupils and teachers alike are becoming more conscious of standards than they are of winning or of defeating a competitor.

RADIO

The years 1932-34 for station WLB have been marked by a great increase in the amount of favorable comment from listeners throughout the state. More time than in any previous years of the station's operation was devoted to planned programs of an educational nature. As a result of the withdrawal of Carleton College from the radio field, WLB received one and three quarters hours additional time on the air.

The following series of informative radio talks have been continued throughout the biennial period:

1. *Farm programs*, presented by the School of Agriculture and the College of Agriculture, Forestry, and Home Economics.

2. *Music appreciation programs*.—These consist of informal talks on the fundamentals of music appreciation, illustrated by electrical recordings. These are adapted to the use of schools throughout the state. WCCO joins in these broadcasts. A thirty-two page bulletin gives a synopsis of the course, with list of music used.

3. *Child Welfare series*, presented weekly by the staff of the Institute of Child Welfare.

4. *Minnesota history*, presented by the Minnesota Historical Society under the direction of Theodore C. Blegen, superintendent of the society.

5. *Modern languages*.—French, German, and Spanish. Each, half hour a week.

Among the new features introduced during 1933-34 were the following:

1. The broadcasting from Northrop Memorial Auditorium, 11:30 to 12:30 Thursdays, of all university convocations during the regular school year.

2. A series of talks on *Vocational Guidance* for school officials and high school seniors throughout the state. This series was arranged by the University Committee on Vocational Information under the direction of Dr. E. G. Williamson, director of the University Testing Bureau. Members of the faculty prepared and presented the individual talks.

3. Dr. John Walker Powell presented a weekly series throughout the year on *Great Authors and Great Literature*.

4. Miss Bridget Hayes gave a series of weekly talks on *Correct English Usage*.

5. University activities and services of state-wide interest were discussed in a regular weekly series by members of the administrative staff and by faculty members.

6. A short series of book reviews by Helen Acker, on current fiction.

Generally WLB offers the public types of programs not to be heard on other local stations. Faculty members are called upon to present discussions of important current problems. The language lessons which are of definite cultural value are not available elsewhere. The special recorded programs of classical music have met with great favor. Information of vital interest is broadcast to the farmers of Minnesota and the Northwest by the Agricultural Extension Division of the University Department of Agriculture.

During the year the mechanical effectiveness of the station was strengthened through the acquisition of new equipment to the amount of \$1,500.

WLB was on the air 368 hours in 1932-33, and 440.5 in 1933-34. In the former year 802 separate programs were prepared; in the latter, 936.

DEPARTMENT OF COMMUNITY SERVICE

The biennium has been an active one for the Department of Community Service. The Lyceum branch filled 358 engagements in the first year and 132 in the second. Lecture engagements numbered 331 in 1932-33, and 158 in 1933-34. Visual instruction increased, and 754 programs were furnished in 1932-33; 908 in the following year. In 1932-33, 199 communities were served; in 1933-34, 234. The drama service likewise increased. There were 1,143 requests filled during the biennium, and the number of plays on file in the library increased from 2,611 in 1932-33 to 2,800 in 1933-34.

CORRESPONDENCE STUDY

The biennium has been marked by three matters of especial interest: a research project within the department entitled "Survey and Repair of Correspondence Study Courses"; the consummation of a plan by means of which courses on the university level could be offered to groups of unemployed high school graduates in their respective communities; and the rewriting of forty courses already in the files of the department.

Work in Minnesota state prison.—The work in the prison at Stillwater continued throughout the past biennium with an average of 35 to 40 inmates registered. The lesson work is of high grade. The co-operation of prison authorities continues. The interest of the State Board of Control in this work is quite apparent.

Acceptability of correspondence work.—The opening idea of the Bittner-Mallory book, *University Teaching by Mail*, namely, that correspondence study courses serve "not so many handicapped students and lame credit seekers" as some suppose, but are increasingly acceptable to "mature and purposeful" students for adult education ends, is gradually seeping into the consciousness of the American public. The National Commission on the Enrichment of Adult Life (a national education association commission) suggests correspondence study instruction as a foremost serviceable and acceptable method of work for individuals, groups, and schools, not for exigent occasions only, but for general uses as well.

New registrations.—New registrations totaling 1,678 in 1932-33 dropped 22.5 per cent under the peak year of 1930-31. In the first half of 1933-34 new registrations dropped 25.9 per cent under the first half of 1932-33. The second half of 1933-34, however, surpassed the corresponding period in 1932-33 by 10.3 per cent. The final result for 1933-34 was 1,492 new registrations, or 14.7 per cent below 1932-33. The gain in the spring of 1934 seems to point to the coming of more normal business conditions.

The future.—What of the future? It was never so bright. The day of widespread adult education is at hand. With increased leisure and greatly enhanced civic responsibilities, mature people will turn more and more to things of the mind and the spirit. If "civilization is a race between education and catastrophe," men and women will strive to understand the world in which they live and to master its forces to the end that life may be made fairer and richer for all. To the attainment of that consummation, University Extension is destined to make a worthy contribution.

Respectfully submitted,

RICHARD R. PRICE, *Director*

THE SUMMER QUARTER

To the President of the University:

SIR: I have the honor to transmit to you herewith the report of the summer quarter for the period from July 1, 1932 to June 30, 1934.

Twelve administrative subdivisions of the University were represented in the summer quarters of 1932-33 and 1933-34.

The needs met by the summer quarter.—The summer quarter has become a center about which a new type of education is being built. The rapid changes in our social, political, and educational economy during the last four years have called for new ideas in education. As the summer quarter is largely a training school for teachers and leaders of various types, it is the logical place to introduce into the University new ideas in education. To that extent it becomes an experimental university. Courses have been offered in nearly all departments of the University even during the depression period when the strictest economy has been necessary. These have been planned in great variety because great variety is required to meet the needs of students representing all grades of academic achievement from the high school on through college and the Graduate School. The growth of the Graduate School in the summer quarter continues; at the present time its registration constitutes one third of the total registration in the summer quarter.

The responsibility for the summer quarter on the deans of the various colleges and on the various department heads increases with each biennium. The time is at hand when serious consideration may well be given to the idea of operating the University on a four-quarter plan. When such a plan is adopted, it should be done simultaneously by all administrative departments. Experiment with the four-quarter plan in the School of Medicine and the College of Agriculture indicates that unless the plan is universal there is much confusion and inefficiency in the administration of the summer quarter.

The change from the five-and-one-half-day week to the five-day week has proven satisfactory and has relieved some of the tension of the short summer quarters by allowing the students more time for reading. But the division of the summer quarter, into two terms of six weeks each, still crowds the program to its fullest capacity.

Special projects.—In 1933, we offered only one special project, a Conference on Education by Radio, led by Eugene J. Coltrane, special representative of the National Committee on Education by Radio, in Washington, D.C. The purpose was to discuss the problems of radio in education. Some fifty persons representing the Parent-Teacher Associations, women's clubs, radio stations of the Twin Cities and various educational institutions were in attendance.

Because one of the main factors in the present economic crisis is the destruction of international trade, it was thought timely to make a study of international relations during the summer of 1934. A brief conference was set for July 30 to August 3 to discuss vital topics of current international relations under the chairmanship of Professor Harold S. Quigley, of the Department of Political Science. Leaders were: O. B. Jesness, chief, Division of Agricultural Economics; Stanley Kuhl Hornbeck, chief, Far Eastern Division, Department of State; Quincy Wright, professor of political science, University of Chicago; and Denis

W. Brogan, British political scientist. Round-table discussions from the point of view of the middle western communities followed the main addresses.

University High School, 1933-34.—Provision for a summer session of the University High School was made first in 1932, with certain mental reservations as to the possibility of its success. After three summers' trial, the enrolment has increased more than 100 per cent. In addition to providing a laboratory of practice teaching for advanced students in education, the University High School is performing a service to Minneapolis students who, under present conditions, have little opportunity for employment and no other means of continuing their high school education during the summer months.

Convocations.—The weekly convocations were well attended and appreciated. The speakers on the 1933 program were: Dr. Haridas T. Mazumdar, political scientist and Gandhi follower of India; Will Durant, philosopher and lecturer of New York; Harold Start, lecturer and journalist; Samuel D. Rosen, lecturer of Chicago. The commencement address was delivered by Dr. Richard R. Price, director of University Extension at the University of Minnesota.

The convocation speakers for the first term of the summer quarter of 1934 were: John Langdon-Davies, of New York, English scholar and writer; Lorado Taft, of Chicago, American sculptor; Rollo Walter Brown, of Cambridge, Massachusetts, author and lecturer; Merryle Stanley Rukeyser, financial journalist, Columbia University; and S. Stansfeld Sargent, political scientist from New York. The commencement address was delivered by Jerome Davis, professor of practical philanthropy in the Yale Divinity School.

Special features.—Two of the special features of 1932-33 and 1933-34 were the series of dramatic recitals by Maud Scheerer and a series of book reviews by Miss Helen Acker. Both series proved popular and were increasingly well attended.

Drama and opera.—The technical and financial responsibility for the dramatic and operatic performances in the summer quarters of 1932-33 and 1933-34 was placed in the hands of the University Theatre and the University Singers organizations with excellent results. The character of these performances has improved and the educational value to the students engaged in their production has been enhanced.

Recreation.—The usual recreation program of athletics, social evenings, and educational excursions was conducted under the direction of Mr. Ralph Piper, of the Department of Physical Education. Attendance at all the recreational programs was maintained, and at the social evenings in the Minnesota Union the attendance reached the point where it was necessary to limit it strictly to summer quarter students.

A new feature added to the 1934 summer quarter was the Collegium Musicum led by Professor Abe Pepinsky. This is a non-accredited group of music lovers who assemble for the purpose of reading the musical literature of the seventeenth and eighteenth centuries. Public readings were given once a week throughout both terms of the summer quarter. A traditional institution in European universities, the Collegium Musicum was received with enthusiasm by the student body, the public, and the music critics of the newspapers.

Respectfully submitted,

THOMAS A. H. TEETER,

Associate Director of Summer Session

THE DIVISION OF LIBRARY INSTRUCTION

To the President of the University:

SIR: Herewith I submit a report on the Division of Library Instruction for the biennium from July 1, 1932 to June 30, 1934.

Registration.—The growing difficulty of meeting educational expenses and the uncertainty of employment at the completion of an educational course have adversely affected registration for both years of the biennium. In 1932-33, 87 were in attendance. Of these, 46 completed the required year of work. In 1933-34, 68 were enrolled, and 41 completed the year's course.

Altho the registration has been chiefly from Minnesota, 6 states have been represented during the biennium by former students or graduates of 22 colleges and universities, 7 teachers' colleges, and 5 junior colleges. Of the 1933-34 students, 20 entered with Bachelor's degrees and 2 with the master of arts degree.

The summer quarter courses in Library Methods have not only served the needs of teachers and others unable to be in residence longer than six weeks, but have enabled others to shorten their regular course, or to make the work of the regular year lighter. In 1933, 44 summer quarter students enrolled and 56 in 1934.

Some adjustments have been made in the curriculum and a course in Advanced Bibliography, under Mr. Harold Russell, reference librarian, has been added for the benefit of students interested in the reference and research aspects of library work.

Service to undergraduates.—A service not always recognized is given in the classes on the Use of Books and Libraries, in which from 250 to 300 undergraduates each year receive instruction in the use of the library. An extension of this instruction is desirable but not practicable because of the wear on the reference collection and the congestion at the catalog which larger classes would involve. A syllabus prepared by four instructors in this course has attracted wide attention and is being adopted for similar use in a leading western university.

The list of visiting lecturers on special topics has been shortened from lack of funds. A considerable number of librarians and social workers of note have generously given their time to present more varied and more individual points of view than would be possible in regular class work.

The division has been represented on the honor lists of every regular commencement since its organization six years ago and in every Phi Beta Kappa list since its graduates were granted eligibility in 1931.

Employment conditions, as in other lines, have been unfavorable. There has been a high degree of success among those who hold library positions. Many of the graduates and former students have testified to the value of the library training course in business, social work, and teaching, and in private life. It is most encouraging to find that its cultural and vocational transfer value has been proved by experience.

Respectfully submitted,

FRANK K. WALTER, *University Librarian*

THE INSTITUTE OF CHILD WELFARE

To the President of the University:

SIR: I submit herewith my report for the biennium 1932-34.

During this period the institute continued its three major activities: research in child development, the instruction and training of workers with children, and a program of parent education. To these a fourth was added in the form of a parents' consultation service for the consideration of child adjustment problems. As a center for the observation of children and the demonstration of teaching and training methods, a nursery school and experimental kindergarten were maintained.

The Nursery School and Experimental Kindergarten.—The Nursery School was in full day session during the academic years 1932-33 and 1933-34 and in half-day session during the first term of each summer quarter. The Experimental Kindergarten was in half-day session during both academic years and the first terms of the corresponding summer quarters. The new policy of charging tuition, instituted in 1932, caused a drop in enrolment. Altho the Nursery School was at full capacity, 36 children in 1933-34, the kindergarten was small, consisting of 16 children.

Research.—During the two-year period the institute was very active in research. Fifty new projects were undertaken during the biennium.

Table I presents a summary of all institute research projects, classified according to the university departments co-operating.

TABLE I. SUMMARY OF RESEARCH PROJECTS BY DEPARTMENTS

Anatomy	28
Dentistry	7
Pediatrics	20
Psychology	16
Home Economics	9
Physiological Chemistry	2
Education	11
Sociology	17
State Board of Control.....	7
Physical Education for Women.....	1
Institute of Child Welfare.....	135
	253
Less duplication caused by projects in which two or more departments are involved	15
	238

Of the 238 projects started since the inception of the institute, 145 have been completed, 44 are in progress, 9 have been combined with other projects, 39 have

been dropped, and 1 has been divided into several projects. Of those completed, results have been published for 87, there has been partial publication for 9, 5 are in press, 23 are in preparation for publication, and 21 are in thesis form being made ready for publication.

The series of projects involving the study of foster children begun in 1930 has been completed and the results will be published as rapidly as possible. A new series of projects concerned with the effects of the depression upon children and home life was started in 1933 and is nearly completed.

Instruction and enrolments.—In 1932-33 the courses offered by the institute were rearranged to meet changing conditions. 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. A new course, Human Development and Personal Adjustment, was also offered in the General College.

During 1932-33, the total enrolment in institute classes was 1,353; in 1933-34 the number was 1,270.

During the biennium, 74 students completed the curriculum in nursery school and kindergarten education and received the B.S. degree in the College of Education. This is twice the number of the previous biennium.

Much graduate work is carried on in the institute, not only by candidates for the M.A. and Ph.D. degrees with majors in child welfare, but also by those who minor in child welfare, and who utilize institute material for theses with majors or minors in other departments.

TABLE II. GENERAL SUMMARY OF PARENT EDUCATION ACTIVITIES

	1932-33		1933-34	
	No. Groups	Enrolment	No. Groups	Enrolment
Extension Courses				
Credit	6	69	6	61
Correspondence Courses				
Credit		39		11
Non-credit		61		64
Study Groups				
Minneapolis	4	46	13	349
St. Paul	5	155	7	175
Brainerd Center*	9	288	1	15
Other places	8	247	6	250
Lecture Series				
Minneapolis	1	106	2	77
Brainerd Center*	1	393	6	298
Other places	2	92	1	61
Agricultural Extension	132	1,807	120	1,594
Pre-parental Groups (Schools)				
Brainerd	8	380	8	364
Aitkin			2	439
Radio Listening-in Groups			68	552
Grand total		3,683		4,310

* Includes Aitkin and Nisswa.

A number of fellows of national organizations, and foreign fellows representing foundations, have spent varying amounts of time at the institute. Many persons, some from foreign countries, some from outside the state, and many from within the state have visited the institute.

Parent education.—The parent education program of the institute is carried on in a variety of ways, which are summarized in Table II.

In spite of a substantial decrease in the enrolment in parent education classes as compared with 1931-32, due to the establishment of tuition charges in 1932, there was an encouraging response to this phase of institute activity. The parental education program covered the three major cities of the state—Minneapolis, St. Paul, and Duluth—and reached out into a number of smaller communities, and into the rural areas as well. With the co-operation of the Home Demonstration Service of the Agricultural Extension Division an effective program was carried on in rural areas.

Of particular interest was the demonstration center in Brainerd. Here a parental education program reaching a very large portion of the community ran parallel to courses in pre-parental education given in the high schools with the co-operation of the local school authorities.

In the conduct of its parental education program the institute co-operates with many agencies. As in previous years, the majority of study groups and lecture series was organized under the auspices of parent-teacher associations. Other agencies were college clubs, churches, home centers, settlements, and mothers' aid groups. Courses dealing with the young child continued to be the most popular. Increasing interest was shown in the school child and in the adolescent and in courses dealing with other aspects of child and family relations.

Radio.—A new development in 1933-34 involved the listening-in groups, organized in co-operation with the State Congress of Parents and Teachers and stations WCCO and KSTP. The high proportion of the 68 groups organized which submitted reports on attendance and on the contents of the programs, indicates the interest manifested. In addition there were 49 informal groups. The WCCO series consisted of 20 lessons on the young child, and the KSTP series of 26 lessons on the adolescent.

The weekly institute program known as the "Betterson Family" was continued over WLB, the university station. KSTP, in Minneapolis, and WEBC, in Duluth, rebroadcast this program.

Parents Consultation Service.—During the biennium a new institute service was established, the purpose of which is the assistance of parents in problems of child adjustment and family relationships. On the request of parents, children presenting adjustment difficulties are examined by the staff, and parents, teachers, and others who know the child are interviewed. A weekly staff meeting is held at which cases are discussed and recommendations made. The Department of Pediatrics has co-operated in the physical evaluation of children who need it, and other university departments have been consulted from time to time. In the spring of 1933 when the service began, 10 cases were cleared. During the year 1933-34, 35 cases were cleared.

Other activities.—During the biennium the institute participated in many exhibits, including those at the State Fair, the state and district meetings of the Minnesota Congress of Parents and Teachers, the Federation of Women's Clubs, and the State Conference of Social Work.

Many lectures were given by members of the staff, 146 in 1932-33, and 190 in 1933-34. Traveling libraries were supplied to study groups as in previous years.

Conclusion.—The biennium has been marked by continuous service to the children of the state and nation. The institute has received much favorable recognition not only as a result of its many researches, and its effective program for training parents, but also because of the significant contributions made by the graduate students and workers trained in the institute who are found in every section of the United States.

Respectfully submitted,

JOHN E. ANDERSON, *Director*

THE COMMITTEE ON EDUCATIONAL RESEARCH

To the President of the University:

SIR: I have the honor to report for the Committee on Educational Research for the biennium 1932-34.

Personnel and activities.—The personnel of the committee has remained unchanged and seventeen members of the staff have given all or part time to the research projects under the committee's direction. In the main these projects fall within fields of investigation described in previous reports but many of the individual studies are new.

The careful investigation of a fundamental educational problem is likely to be a laborious process and to require considerable time. As a study develops, new issues arise that require exploration; dependable results are apt to be thus delayed. Since the whole area of higher education has been so recently touched by research methods, the findings in individual investigations must frequently be regarded as tentative. Gradually, however, the methods of research applied to these problems are building up a body of dependable information that is certain to improve higher education to the great advantage of students. Without any great effort on the part of the committee to extend its services, its activities have grown because individual members of the staff and administrative officers have sought aid upon perplexing issues. Immediate service is thus rendered and the results of these studies accumulating over a period of time will constitute a scientifically determined groundwork upon which higher education can continue with assurance as to the soundness of its procedures.

Progress can be reported upon researches in four fields which have engaged the major attention of the committee during the biennium. Within each of these fields there are numerous separate projects.

1. *Examination studies.*—The General College has been the focal point of an elaborate series of investigations into the character and use of comprehensive and other examinations. Three monographs bearing upon these problems have been published, the latest entitled *Studies in College Examinations—An Experimental Investigation in the Construction and Use of College Examinations*. This volume in brief scope gives the report of experimental work.

In addition to the printed monograph, a large volume of typewritten questions has been bound and is available for further investigation. It is appropriate to add that the co-operative methods employed during the year 1932-33 in the General College have been extended to courses in other colleges.

2. *Studies on the relation of the University to the public schools.*—A group of studies in this general field has been brought to such a stage that publication soon will follow.

- I. Study of the Techniques Used To Select Entrants and Predict Success in the College of Engineering
- II. Study of the Success in the General College of Students Offering Irregular Pattern of High School Curricula for Admission
- III. Study of the Success on the College Level of Students of Low College Aptitude Rating
- IV. Certain Studies in the Use of the Intelligence Quotient Obtained in the Pre-secondary or Early Secondary Careers of High School Pupils As Predictive of College Success

- V. A Study of the Achievement of High School Pupils in Courses Taught on the College Level
- VI. A Comparison of Success in the College of Engineering of Students Presenting Academic and Non-Academic Patterns of High School Courses
- VII. A Study of the Achievement in English Composition of Graduating Pupils of Minnesota High Schools and of the Same Students at the Completion of the Freshman Year in the College of Science, Literature, and the Arts.
- VIII. A Study of the Achievement in Science and Mathematics As Predictive of Success in Advanced College Courses in the Same Fields in the College of Agriculture, Forestry, and Home Economics.

3. *Studies in physical education.*—Under a special committee studies in physical education have proceeded along two main lines. Mr. Herbert Wald has studied the relation of physical efficiency in men as related to activities in physical education. Miss Elizabeth Graybeal has perfected a series of motor ability tests for women and has studied the relation of physical activities to improved motor ability. Both of these studies are completed and soon will be available for publication.

4. *Board of Admissions studies.*—When the Board of Admissions was created it was empowered

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 the committee has the machinery for the study of such problems as will arise.—(*Report of the President for the Biennium—1930-32.*)

The policy of co-operation defined in this paragraph has been followed. The "machinery" of the committee has been available to the board and numerous studies bearing upon the entrance requirements of the several colleges have been made. These studies have thus far served to indicate the scope of needed further investigations which have been planned and are now under way.

The studies reported here are given as typical of the work of the committee. The complete list would comprise approximately a hundred separate projects dealing with the problems of university administration and the work of the several schools of the University. Directly or indirectly the work of every administrative unit of the University has been brought within the activities of the committee. Five separate publications have been issued. Approximately one hundred fifty members of the staff have co-operated in the work of the committee.

Respectfully submitted,

M. E. HAGGERTY, *Chairman*

EMPLOYMENT STABILIZATION RESEARCH INSTITUTE

To the President of the University:

SIR: This report covers the activities of the Employment Stabilization Research Institute for the period from July 1, 1932 to June 30, 1934.

Publications.—The Employment Stabilization Research Institute was organized in 1930 for the purpose of conducting a survey of the problems of unemployment in Minnesota. Funds for this project were obtained from the Rockefeller Foundation and the Carnegie Corporation. Originally it was planned to complete the entire project in a two-year period. This would have brought the project to a close in June, 1933. Certain of the studies had not been completed in the time allotted, however, and an extension was granted by the foundations to June 30, 1934.

The entire program of research as outlined in the original prospectus has been completed and the results of the investigation have been reported in a series of publications. The nature and scope of the study can best be indicated by noting the titles of the publications. These are listed below, classified into the two major studies.

A. Economic Aspects of Unemployment

- The Minnesota Unemployment Research Project, by Russell A. Stevenson.
- Employment Trends in St. Paul, Minneapolis, and Duluth, by William H. Stead and Dreng Bjornaraa.
- Monthly Employment Data for St. Paul, Minneapolis, and Duluth, 1931, by William H. Stead and Dreng Bjornaraa.
- 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 M. Petrowski, and Richard A. Graves.
- Operating Results of Manufacturing Plants in Minnesota, 1926-30, by George Filipetti, William Dachtler, and Judson Burnett.
- Mortality of Business Firms in Minneapolis, St. Paul, and Duluth, 1926-1930, by Ernest A. Heilman.
- Occupational Trends in Minnesota, by Alvin H. Hansen and Tillman M. Sogge.
- The Location of Manufactures in the United States, 1899-1929, by Frederic B. Garver, Francis M. Boddy, and Alvar J. Nixon.
- The Construction Industry in Minnesota, by Charles E. Artman, Arthur M. Borak, Kenneth T. Setre, and Roland S. Vaile.
- A Type Study of American Banking: Non-Metropolitan Banks in Minnesota, edited by Russell A. Stevenson.
- Seasonal Irregularity of Employment in Minneapolis, St. Paul, and Duluth, by Tillman M. Sogge, written under the supervision of Alvin H. Hansen.
- Proceedings of the Minnesota Conference on Unemployment Relief and Stabilization, November 17, 18, 19, 1931, edited by Russell A. Stevenson.
- A New Plan for Unemployment Reserves, by Alvin H. Hansen and Merrill G. Murray.
- Land Settlement As a Relief Measure, by Robert W. Murchie.
- Scientific Management: An Aid to Industrial Control, by George Filipetti.
- The Impact of the Depression upon Business Activity and Real Income in Minnesota, edited by Roland S. Vaile.
- An Historical Basis for Unemployment Insurance, by Industrial Relations Counselors, Inc.
- A Program of Unemployment Insurance and Relief for the United States, by Alvin H. Hansen, Merrill G. Murray, Russell A. Stevenson, and Bryce M. Stewart.

B. Individual Diagnosis and Retraining

- The Duluth Casual Labor Group, by Alvin H. Hansen, M. R. Trabue, and Harold S. Diehl.
- A Personnel Study of Duluth Policemen, by Harold S. Diehl and Donald G. Paterson, with the assistance of Beatrice J. Dvorak and Howard P. Longstaff.
- A Manual of Selected Occupational Tests for Use in Public Employment Offices, prepared by Helen J. Green and Isabel R. Berman, under the direction of Donald G. Paterson and M. R. Trabue.
- Social Consequences of Prolonged Unemployment: An Analysis of Five Hundred Cases, by Jessie A. Bloodworth.
- Commercial Correspondence Courses and Occupational Adjustments of Men, by Charles Bird, with the assistance of Donald G. Paterson.
- A Job Analysis of Manufacturing Plants in Minnesota, by Charles A. Koepke.
- Measured Characteristics of Clerical Workers, prepared by Dorothy M. Andrew under the direction of Donald G. Paterson.
- Demonstration of Individualized Training Methods for Modern Office Workers, by Edward G. Eriksen, Isabelle Gilliland, Agnes J. Kean, Gertrude Page, and Gertrude L. Hawkins.
- A Study of the Needs of Adults for Further Training, by M. R. Trabue and Beatrice J. Dvorak.
- Research Studies in Individual Diagnosis, edited by Donald G. Paterson.
- Vocational Interest Scales, by Isabel R. Berman, John G. Darley, and Donald G. Paterson.
- Employed and Unemployed Workers, by John G. Darley and Donald G. Paterson.
- Physical Findings among Various Groups of Workers, by Henry D. Rempel, under the direction of Harold S. Diehl and Donald G. Paterson.
- Differential Occupational Ability Patterns, by Beatrice J. Dvorak.
- Occupational Testing and the Public Employment Service, by John G. Darley, Donald G. Paterson, and I. Emerick Peterson.
- The Selection and Training of Modern Factory Workers, by Verne C. Fryklund.
- Proceedings of the Minnesota State Conference on Vocational Guidance, edited by Donald G. Paterson.

Financial and Investment Review.—The *Financial and Investment Review* was established as a monthly publication primarily in the interests of the rural bankers of Minnesota. It had been noted in studying the causes of banking difficulties in the state that many of their problems centered on investments. Bankers had been led to purchase bonds for the purpose of diversifying their investment portfolios. Their experiences with the particular bonds purchased had been far from satisfactory. Their unfortunate purchases were not entirely due to conditions prevailing during the depression. But they were a consequence, rather, of lack of adequate investment standards with which to judge corporate, governmental, and municipal bond issues.

The *Financial and Investment Review* has aimed to be of service to bankers in supplying this need. It has proved to be of benefit as evidenced by the reactions of bankers throughout the state. The function of this periodical is primarily educational in character. This is a continuing process and cannot be completed in a short period of time. The publication has, therefore, been continued and provision has been made for its publication during the year 1934-35.

Significance of the study.—The influence of the institute's activities has been felt beyond the limits of the state of Minnesota. Several members of the staff have been called upon to undertake projects similar in scope to those which they were conducting in the institute. Professor Alvin H. Hansen, who was chairman of the Committee on Economic Aspects, was appointed executive secretary of the Commission on Inquiry on National Policy in International Economic Relations of the Social Science Research Council and later as a member of the State De-

partment's Committee on Reciprocity. Mr. M. R. Trabue was asked to set up a similar project in New York City under the title of the Adjustment Service. The techniques and procedures which had been developed in the Minnesota study were incorporated fully in this project. Professor William H. Stead was appointed associate director of the United States Employment Service largely in recognition of the work done in directing the Minnesota Employment Office Project which was closely associated with the work of the Employment Stabilization Research Institute. Mr. Merrill G. Murray, who had been employed on the study of unemployment insurance, was appointed state director of employment for the state of Minnesota. Mr. O. D. Hollenbeck, who was contact supervisor, was appointed first as director of the United States Re-employment Service for the state of Minnesota and later as director of the Veteran's Employment Service in Washington. Mr. Dreng Bjornaraa succeeded Mr. Hollenbeck as director for the state of Minnesota in the United States Re-employment Service.

There have been other projects instituted in different parts of the United States and several foreign countries modeled on the plan at Minnesota. Representatives of the institutions sponsoring the studies have come to Minnesota to review the results of the investigation here.

There is contained in the publications of the institute a wealth of material pertaining to the people and resources of Minnesota. This affords a background for the development of planning programs in economics and industry and also in vocational education. There probably has not been amassed such a body of data for any other local region.

It is planned to summarize the results of the entire project in two volumes, one covering the economic aspects of the study and the other the project on individual diagnosis and retraining. This will be undertaken during the year 1934-35.

Respectfully submitted,

RUSSELL A. STEVENSON, *Director*

THE UNIVERSITY WORK-RELIEF PROGRAM

To the President of the University:

SIR: I submit the following report of the work-relief program from September 1, 1933, when it was first formulated, through June 30, 1934.

In the year 1933-34 the cumulated effects of the economic depression were severely felt by young men and women of college age and also by those college graduates who had found no opportunities for employment. On the one hand, were those who wished to enter the University but were unable to do so because funds were lacking; on the other, were the discouraged graduates who were seeking in vain for the work and self-dependence to which they had looked forward through the years spent in training. Between these two groups were the students actually in the University but dropping out in considerable numbers because of inability to finance their way any longer. It is not an exaggeration to say that the situation was serious. Young men and women who would normally have made adequate social and economic adjustment were being forced to stay at home, or shift for themselves under the most discouraging circumstances. Unsettlement rather than adjustment confronted them whether they were in school or out. To meet these abnormal needs, in part at least, the University developed a threefold work-relief program, much of which was carried out in co-operation with the State Emergency Relief Administration, the State Department of Education, and the Federal Emergency Relief Administration. The three phases of the program will be described.

WORK SCHOLARSHIPS FOR STUDENTS

At the outset of the fall quarter, 1933-34, three hundred work-scholarships were established with university funds. Holders of these were provided with work on the campus, paid at the prevailing hourly wage rate for the particular type assigned, and were allowed to earn up to fifty dollars for the quarter. These scholarships were renewed for the winter and spring quarters.

FEDERAL STUDENT WORK-RELIEF PROJECT

The Commission for Education of Unemployed Youth.—In the early spring of 1933, President L. D. Coffman discussed with some of his staff the problems confronting unemployed youth. Data were gathered showing that in the state there were increasing numbers of high school graduates unable to find work or continue their education. Financial difficulties were forcing students to leave the University. These facts were placed before Governor Floyd B. Olson who responded by appointing a state-wide Commission for the Education of Unemployed Youth. Mr. E. M. Phillips, then state commissioner of education, was named chairman. The commission held its first meeting on August 23, 1933, and President Coffman was made chairman of an executive committee named to outline the details of a pro-

gram. The point of view dominating the commission is summarized in a statement issued jointly by him and Mr. Phillips:

The problem of providing education for unemployed youth is of the utmost importance. Failure to do so will mean that society will pay heavily some fifteen or twenty years from now for its neglect. Governor Olson, in creating a committee composed of citizens and educators to study this problem, has acted wisely and in the public interest. Thousands of youth face idleness and discouragement at that time of their lives when normally they would be finding useful employment. Some of them are already adrift, detached from their homes and from the established habits of society. As individuals they face an uncertain future; collectively they constitute a grave danger to the future welfare and security of the State. The best thing to be done with these young people is to put them in school. There are 225,000 young men and women in this State between 17 and 24 years of age. Forty-eight per cent of the applicants for jobs are between 16 and 24 years of age. The number of unemployed youth may increase with the spread of the National Recovery Act. For society, through its governmental agencies and otherwise, to give increasing attention to the employment of older adults, for it to spend billions on public works, and fail at the same time to give corresponding attention to those who are to be its leaders and to serve its interests tomorrow, i.e., its youth, is the height of folly. The Governor, in our opinion, is to be commended on his willingness to have this problem occupy a central place in a program of state development.

In September, 1933, the Executive Committee had formulated a program of which one phase was concerned with adult education in the local communities in Minnesota, and the other with the proposal to place deserving youth into the colleges of the state. Federal relief funds were obtained for launching the adult program, and then attention shifted to the project for the college students. This had originally been formulated as an "educational grant" or subsidy to needy students, but was reshaped on a work-relief basis whereby the students would be paid for services performed and then apply the money so earned in entering upon or continuing their higher education. On November 16, 1934, the United States Office of Education gave its endorsement to the proposal and the Federal Emergency Relief Administration on the following day authorized a special grant to the Minnesota Emergency Relief Administration to try the work-relief program on an experimental basis. The funds were sufficient to employ 1,000 students in higher institutions of learning in Minnesota at a rate of \$15 a month for the remainder of the academic year 1933-34. To the federal grant Governor Olson and the Executive Council added sufficiently from special emergency state funds to make it possible to pay the students a maximum of \$25 a month in return for their services.

A special administrative office was created in the State Department of Education and Dean Harold Benjamin was loaned by the University to act as director of education for unemployed youth. He assumed this position in November, 1933.

By the end of the winter quarter it was apparent that the work-relief plan was a success, and on February 2, 1934, the Federal Emergency Relief Administration announced an extension to include all the non-profit-making collegiate institutions of the country.

The selection of students.—During the winter quarter (the experimental period) the university quota of federal students was 563, a figure set by the director of emergency education. With the expanded program covering all of the states, the university quota was increased to 966, which represented 10 per cent of

the University's full time registration on October 15, 1933—the date set by the FERA as the base for calculation of quotas.

The original registration of applicants for the federal aid was centralized in the State Department of Education. Since the program was a relief-work project, a definition of need was formulated. Students were declared eligible who came from families actually on public or private relief, or who were eligible for such relief. In February this was restated, and students became eligible if the sum of money received constituted the difference between starting or remaining in college, and not being in college. The application blanks, when checked by the director of emergency education, were forwarded to the institution the applicant desired to attend, and from these blanks each college chose its quota, using whatever criteria of selection it regularly employed in admitting students.

At the University, arbitrarily 100 of the total quota of 563 students were assigned to the schools of agriculture: Central School, 38; West Central School and Station, 27; Northwest School of Agriculture, 25; North Central School and Station, 10. These schools of agriculture close their sessions at the end of the winter quarter, and their quotas reverted to the main campus for the spring quarter.

To insure fairness in appointment, the University employed a social worker for a period of two months; she rechecked the blanks to establish need. Every effort was made to see that only deserving students were given the federal and state assistance and that there was rigid adherence to the spirit of the program.

The administration of the program at the University was under a special Committee on Work Relief for Students: Dean Malcolm M. Willey, chairman, William Middlebrook, William F. Holman, Rodney West, and Mrs. Dorothy Johnson. Thomas Minehan was named executive secretary for the committee.

Since the number of applications exceeded the quota, the committee was confronted with problems of selection. The following principles were adhered to in making appointments:

1. To be eligible for appointment a student must be in residence at the time he was applying, or previously have been a student at the University. (It was felt wiser to assist students who had already begun their college work rather than start new groups of freshmen. In the spring quarter this policy was modified, and transfer students and freshmen were accepted as federal students.)

2. Preference was given to students with superior academic records, except that all students from families actually on relief were accepted if otherwise the student was eligible to enter the University.

3. An attempt was made to maintain in the federal student group the same sex ratio as is found in the university student body as a whole: 40 per cent women, 60 per cent men. (Since the applications from women ran below expectation, the ratio was not maintained.)

4. A similar attempt was made to maintain the Twin City and non-Twin City ratio.

5. No student was eligible for appointment, without special approval of the office of the president, if a member of the immediate family was on the university payroll, or if another member of the immediate family was a federal student. (The intent was to spread the benefits as widely as possible.)

6. In the experimental period only residents of Minnesota were eligible for appointment, and only undergraduates were appointed. In the spring both non-residents and graduate students were included, altho the state supplement was reserved for Minnesota residents.

Of a total of 1,696 application blanks received (excluding schools of agriculture), 994 appointments were made. Some students resigned and the year ended

with 887 federal aid students. Of this total, 469 were appointed in the winter quarter experimental group, and were reappointed in the spring quarter but included as a part of the total university quota.

TABLE I. NUMBER OF FEDERAL STUDENTS ON PAYROLLS, JANUARY 8, 1934 TO JUNE 15, 1934

PERIOD	NUMBER
January 8-15.....	496
January 16-31.....	567
February 1-15.....	568
February 16-28.....	567
March 1-15.....	575
March 16-31.....	688
April 1-30.....	950
May 1-31.....	915
June 1-15.....	887

The largest group of rejections involved students who had never attended any college or university. These were deliberately excluded in the experimental period; in the spring quarter many of them could not enter because the university schedules did not permit starting courses of study at that time. Poor scholastic records, failure to establish a clear case for assistance, late filing of blanks, and failure to provide adequate transcript of grades were among the other reasons for rejection.

The work assignments.—The plan for aiding the students necessitated their employment at tasks assigned them by the institutions at given rates of pay. In the experimental period, the conditions of the grant required payment at the rate of 55 cents an hour, but when the program was made nation-wide, differential rates of pay were permitted. (At Minnesota the experimental group was continued through the year at the 55-cent rate since all plans were made with the students on this basis; all the new appointees were at differential rates.)

In making work assignments two points were kept constantly in mind: (1) all work must be useful; (2) no student should be assigned to a task that normally the University might expect to be performed by someone on its own payroll. Both were adhered to with scrupulous care.

There was wide variety in the tasks to which students were assigned. Members of the staff were requested to list all work on which students could be employed in various departments. Table II is impressive in its demonstration that the work of the students involved more than manual routine. Effort was made to place the students into positions that fitted their interests and were adapted to their existing skills. An attempt was made to allocate the students fairly among the various departments and administrative units of the University.

Residence of students.—Of the 925 students at the University on June 1, 1934, 876 were residents of Minnesota, and they came from 80 counties of the state. The largest group was from Hennepin County (393), the second largest from Ramsey County (122), and the third largest from St. Louis County (78). The

49 non-Minnesota students came from 14 states and the District of Columbia. North Dakota sent 13, Iowa and Wisconsin 7 each, and South Dakota 5; the remaining students were from various states.

TABLE II. WORK ASSIGNMENTS OF THE UNIVERSITY OF MINNESOTA
FEDERAL STUDENTS, AS OF JUNE 1, 1934, CLASSIFIED
BY TYPE OF PROJECT

TYPE OF WORK	MEN	WOMEN	TOTAL	DEFINITION BY EXAMPLES
Assistant—administrative.	6	4	10	Monitors, proctors, supervisors, etc.
Assistant—academic	28	20	48	Readers of examination papers, etc.; assistants to prepare illustrative material, problems, and other class material
Athletics	10	1	11	Teaching or supervising athletics, and gymnastics
Cafeterias and lunch	25	25	50	Assistants in cafeterias, dining rooms, and diet kitchens
Clerical	53	81	134	Typing, stenography, filing records, etc.
Farm labor	7	..	7	Care of animals, barns, etc.
Buildings and grounds	57	..	57	Work on buildings, grounds, golf course, building equipment, etc.
Library	50	31	81	Library work: compiling bibliographies, indexes, etc.
Service	61	26	87	Messenger, laboratory diener, orderly, garage service, care of Nurses' Hall, hospital wards, etc., art gallery attendants
Statistical	115	50	165	Scoring, tabulating, analyzing statistical data
Translators	5	5	10	Spanish, French, German, Arabic, Russian, Swedish, etc. Manuscript and dictionary translation
Technical	217	17	234	Preparation of slides, installation and care of laboratory equipment, testing ice cream, cheese, power plant survey, etc.
Janitor	29	..	29	Physical care of dormitories, hospital, etc.
Miscellaneous	1	1	2	Art model
Total	664	261	925	

Within the federal group, 53.7 per cent of the students were from homes within the Twin Cities, in contrast to 60.0 per cent from the Twin Cities in the student body as a whole; 41 per cent of the federal students were residents of Minnesota, excluding the Twin Cities. The data demonstrate that it was Minnesota students who received most of the assistance and that those outside of the Twin Cities came to the University because of the project in slightly larger numbers than the normal college distribution would have given reason to expect. Women came from Minneapolis and St. Paul in larger proportions than men, whereas the reverse is true when students from other sections of the state are considered. This presumably reflects the fact that men in the Twin Cities find more work opportunities than women, and are accordingly better able to help themselves, and also that men from outside the Twin Cities are more willing than

women to take the risks involved in coming to the University on a narrow economic margin.

TABLE III. DISTRIBUTION OF RESIDENCES OF FEDERAL STUDENTS AT THE UNIVERSITY OF MINNESOTA, BY SEX, AS OF JUNE 1, 1934

	TOTAL STUDENTS		MALE STUDENTS		FEMALE STUDENTS	
	No.	Per Cent	No.	Per Cent*	No.	Per Cent†
Twin City residents.....	497	53.7	339	51.1	158	60.5
Minnesota residents‡	379	41.0	289	43.5	90	34.5
Out of state residents.....	49	5.3	36	5.4	13	5.0
Totals	925	100.0	664	100.0	261	100.0

* The base is the total number of male students.

† The base is the total number of female students.

‡ Excludes Twin City students.

College, class, and sex.—The College of Science, Literature, and the Arts had the largest group of federal students (337), with Engineering second (122), and Education third (119). Agriculture and the Graduate School were the only other units with more than 50 students.

Sophomores constituted the largest sub-group (30.3 per cent), with juniors next (26.1 per cent), freshmen third (24.9 per cent), and seniors only 12.3 per cent of the total. Graduate students were 5.6 per cent of the group, and unclassified students 0.8 per cent. (See Table IV.)

Scholastic abilities.—Any student scholastically eligible to remain at the University was considered by the committee as eligible for appointment as a federal student, other conditions being met. A check on the scholastic standing of the original experimental group of federal aid students revealed that at the time of acceptance they were perhaps slightly above the general average of the University; certainly they were not an inferior group as some had predicted they would be. At the end of the winter quarter the scholastic standing of the same students was recalculated, thus making it possible to see the achievement of the original group during their first period on the campus. (In this analysis it is recognized that there are dangers in comparing grades from various colleges of the University since standards and systems of marking are not completely uniform; the results may also be affected somewhat by the fact that in some of the professional schools grades are given on a yearly basis, so that students from these schools, while included in the data for the "outset" of the quarter were not included in the "end of the quarter" group.) It is evident from Table V that there has been a gradual movement during the quarter toward the extremes, but it is impressive that the movement upward is stronger than that toward the lower grades. When the scholastic standings were considered on a sex basis, the women federal students are revealed as somewhat superior, with higher proportions of the better grades, and smaller proportions of the poorer grades. This was also true at the time of acceptance. It seems a safe conclusion that federal work-relief has, on the whole, contributed to better college work, which is not surprising in view of the economic security that it afforded.

TABLE IV. DISTRIBUTION OF FEDERAL WORK-RELIEF STUDENTS, UNIVERSITY OF MINNESOTA, BY COLLEGE, CLASS, AND SEX, AS OF JUNE 1, 1934

	SENIORS (1934)		JUNIORS (1935)		SOPH. (1936)		FRESH. (1937)		GRAD. STUDENTS		UNCLASSED		TOTAL		GRAND TOTAL
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	
Agriculture	5	4	10	4	21	11	14	5	..	..	3	..	53	24	77
Business	8	1	18	2	3	..	..	..	..	..	2	..	31	3	34
Chemistry	12	..	12	..	8	..	8	..	..	..	..	..	40	..	40
Dentistry	1	..	6	..	5	..	..	..	..	..	..	..	12	..	12
Education	14	19	18	33	12	10	6	5	..	..	1	1	51	68	119
Embalming*	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Engineering	24	..	44	..	28	..	26	..	..	..	..	..	122	..	122
General College	6	3	22	10	..	..	..	..	..	..	..	..	28	13	41
Graduate .....	..	..	..	..	..	..	..	..	37	15	..	..	37	15	52
Law	1	..	3	..	14	..	..	..	..	..	..	..	18	..	18
Medicine	1	1	8	..	12	..	17	1	..	..	..	1	38	3	41
Mines	4	..	3	..	2	..	5	..	..	..	..	..	14	..	14
Nursing .....	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
Pharmacy .....	..	..	4	..	6	..	1	..	..	..	..	..	11	..	11
S. L. and A.....	3	3	24	18	99	49	80	61	..	..	..	..	206	131	337
University College	1	2	1	1	..	..	..	..	..	..	..	..	2	3	5
Total	81	33	173	68	210	70	157	73	37	15	6	2	664	261	925
	114		241		280		230		52		8		925		925

* A special course in the Extension Division.

TABLE V. DISTRIBUTION OF GRADES OF THE ORIGINAL GROUP OF FEDERAL STUDENTS AT TIME OF ENTRANCE AS FEDERAL STUDENTS AND AT CLOSE OF ONE QUARTER OF WORK*

GRADE CLASS	PER CENT OF STUDENTS	
	At Outset (468 students)	At End of Winter (427 students)
A and B	11.3	19.2
C	49.8	49.1
D†	35.3	25.8
F	3.6	5.9

* Instructors had no way of knowing who were federal students in their classes.

† The tabulation contains students in professional schools in which "D" is a satisfactory grade for graduation.

Deferred tuition and fees.—At a meeting of the Board of Regents on October 28, 1933, the following action was taken:

Voted to authorize the waiving of tuition fees for students receiving Federal relief aid for college work with the understanding that the tuition waived must be paid before credit for the college work taken is allowed and with the further understanding that the University will grant such exemption only to students who are now enrolled or who were enrolled during the academic year 1932-33. Voted further to authorize the proper officers of the University to arrange housing and board for such students.

On February 16, 1934, the Board of Regents authorized the committee to waive the fees for any student when the need was clear. The committee also arranged for the deferring of other fees: laboratory, locker, student, deposit, etc. In every appointment the student was urged to make such payment as he could, and semi-monthly installment payments were allowed. Since the primary object of all students is to obtain the credits leading to a degree, students were willing and eager to pay what they could toward tuition and other fees.

TABLE VI. FEE AND TUITION ARRANGEMENTS AMONG THE FEDERAL WORK-RELIEF STUDENTS AT THE UNIVERSITY OF MINNESOTA, AS OF JUNE 1, 1934

	FEDERAL AND STATE AID	FEDERAL AID ONLY	TOTAL
Tuition paid	124	161	285
Tuition and fees deferred	202	57	259
Tuition only deferred	48	11	59
Monthly installments	167	155	322
Total	541	384	925

The committee arranged to house and feed all federal students who did not live in the Twin Cities or who were not living with relatives. The non-Twin City students were required, except with special permission, to accept these rooming and boarding arrangements as a condition of appointment. The students housed in Pioneer Hall and Sanford Hall were charged \$21 a month; those housed elsewhere, \$20 a month. In the agricultural dormitories 135 men were accommodated during the spring, and 36 were in Pioneer Hall. Ten women were in the College

Girls' Dormitory on the Farm campus, and 42 in Sanford Hall. For students housed at the Farm campus, transportation to the main campus on the intercampus car was provided without expense to the student. Meals were served at various university dining halls and cafeterias. The number of meal tickets issued to the federal group varies slightly from period to period, but is approximately 180. A special counselor, a CWA worker, and the secretary of the committee, Mr. Thomas Minehan, lived at the dormitory with the men and supervised the students. Group activities were organized, and a gratifying *esprit de corps* developed in these groups.

Three other needs confronting some of the students had to be met:

1. For federal students who had not paid the regular student fee, which includes a health service fee, arrangements were made to insure adequate medical attention. If special services were required, or prolonged hospitalization was necessary, an automatic loan to cover the costs involved was made through the office of the dean of student affairs. For this purpose the Staff-Employees Loan Fund was utilized. This loan was carried as any other student loan.

2. Where need for clothes and shoes became apparent, loans were arranged for non-Twin City students and the same funds were used as for health loans. For Twin City students an informal arrangement with social agencies made it possible to supply the necessary clothing in the few cases where students had no resources.

3. Lack of funds made it impossible for some of the federal students to supply their own textbooks. To meet this situation \$3,000 was set aside by the committee administering the Staff-Employees Loan Fund and placed at the disposal of the committee. Rather than purchase books for individual students, the committee with the co-operation of the librarian established a special reserve collection to include those texts in courses taken by the federal students.

On June 1, 1934, the expenditures from the special book fund amounted to \$391.92, with no outstanding orders; the free balance remaining was \$2,608.08.

All of this assistance was given the students without any stigma of pauperization. In no way were the individuals identified, outside the committee's records, as a relief group. To have allowed any poverty stigma to develop would have been fatal to the entire project.

The student work records.—A work-relief program can be justified only if the work to which the students are assigned is useful and adequately performed. To check the competency of the workers a rating sheet was mailed, at the end of the spring quarter, to all staff members under whom federal students were employed, with a request that their performances be graded A, excellent; B, better than average; C, satisfactory or average; D, poor; F, so unsatisfactory that worker might better have been dropped at outset. The standard employed in the rating was to be the performance of an individual had he been engaged in the open labor market.

It is difficult to question the success of the program with 72.2 per cent of the students graded B or better (excellent and superior) and 92.8 per cent of the group C (average) or better (Table VII). Only 7.2 per cent fell below average. These data reflect two facts: (1) the care with which students were placed, (2) the seriousness with which the students took the tasks to which they were

assigned. Table VII is a convincing argument in favor of the work-relief program. The work ratings showed no striking difference between men and women.

TABLE VII. NUMBER AND PERCENTAGE OF UNIVERSITY OF MINNESOTA FEDERAL WORK-RELIEF STUDENTS WITH GIVEN WORK RATINGS AT THE CLOSE OF THE SPRING QUARTER, 1934

RATING	NUMBER	PER CENT
A	306	33.1
B	361	39.1
C	191	20.6
D	55	5.9
F	12	1.3
	925	100.0

The schools of agriculture quotas.—The quotas and appointments of federal students at the schools of agriculture are shown in Table VIII. The projects were carried on at these schools in the same manner as on the main campus. Since the quotas were small, there was greater possibility of selection, and the schools of agriculture students as a group were of higher academic standing than the college group. The schools of agriculture end their year at the close of the winter quarter, and had no program in operation when the expanded quotas were allowed.

TABLE VIII. FEDERAL STUDENTS APPOINTED AT THE SCHOOLS OF AGRICULTURE OF THE UNIVERSITY OF MINNESOTA, BY YEAR AND SEX

	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		UNCLASSED		TOTAL
	Men	Wom- en	Men	Wom- en	Men	Wom- en	Men	Wom- en	Men	Wom- en	
Central School of Agriculture	5	1	7	3	9	5	2	5	1		38
West Central School and Station	7		9	1	6	4					27
Northwest School of Agriculture	7	4	3		3	3	4	1			25
North Central School and Station	4		2				1		3		10
Total	23	5	21	4	18	12	7	6	4		100
Grand total	28		25		30		13		4		100

Financial report.—All phases of the federal student program involving finance and time keeping were centralized in the office of the comptroller. Federal students were paid \$28,190.95 from state funds and \$57,118.86 from federal funds (Table IX). All board, room, and fee charges were handled through the federal student payroll office, and show charges of \$33,348.50 with net collections of \$33,336.13 (Table X). All administrative costs were carried by the University.

TABLE IX. DISTRIBUTION OF FEDERAL STUDENT PAYROLLS BY MAJOR DIVISIONS

	FEDERAL AND STATE AID			FEDERAL AID ONLY
	Total	Federal	State	
Main campus	\$65,596.94	\$31,427.56	\$20,941.60	\$13,227.78
Farm campus	15,516.66	8,356.28	5,570.86	1,589.52
Morris	1,856.25	1,113.75	742.50	
Crookston	1,652.46	991.47	660.99	
Grand Rapids	687.50	412.50	275.00	
Total	\$85,309.81	\$42,301.56	\$28,190.95	\$14,817.30

TABLE X. ANALYSIS OF FEDERAL STUDENT ACCOUNTS
JANUARY 1, 1934 TO JUNE 15, 1934

Room	\$ 5,225.15
Board	14,038.78
Tuition and fees	13,917.69
Chemistry cards	153.38
Microscope cards	13.50
Total	\$33,348.50
Less: Deductions from student payrolls	33,336.13
Net balance due	\$ 12.62

Concluding comments.—(1). A work-relief program for college students was at the outset admittedly an experiment. The feasibility and success of a work-relief program have been amply demonstrated, at least for this University. It has been possible to provide useful work to more than 900 students. The jobs assigned to them were not created for the sake of permitting students to go through the motions of working; they were tasks which the University wanted done but which could not have been done on its own budget. No member of the university staff was displaced in the accomplishment of any of these tasks. On the side of the student, the fact that 92 per cent of the work completed was graded average or better shows that there was a seriousness of purpose which in itself is surely reflected in an enhanced morale. There is a personal satisfaction from doing work at a fair rate of pay; interviews with countless federal students made this apparent.

(2). The committee administering the program at Minnesota was impressed with the morale and spirit that developed within the federal group of students. In the residence halls where the non-Twin City students were quartered, recreation and social programs were planned and carried out by the students themselves. Twice during the period the students held "an all federal student Dutch-treat banquet." On each such occasion the entertainment and program were of their own creation. At both the president of the University was a guest, and the second banquet was in honor of the Governor, who was the principal speaker. There was an enthusiasm at these meetings that was impressive. It is doubtful if any group of students on the campus at Minnesota has exhibited a more healthy and hopeful state of mind. And this was the group of students who it

was feared would hide their heads in shame and become supersensitive as "charity" students.

(3). No work program for college students could be considered successful unless it made satisfactory classroom work possible. There were those who had predicted that (a) the work-relief program would attract the poorer students academically, and that (b) the work demands would so cut into the students' time that college records would suffer. The program as carried out showed that such fears are ungrounded.

(4). The analysis of the application blanks that were rejected for various reasons testifies that there is still a group of recent high school graduates who should benefit by the work-relief program but have not done so as yet. The Minnesota experience suggests a broadening of the program to include more of these recent graduates who have not started a college course.

(5). At the University of Minnesota the conviction has developed among all those associated with the assistance of needy students that the work-relief basis of giving aid is preferable to all others that have been suggested. When all is said and done, what young men and women want now more than ever before is work, and this applies even to college students who are trying to put themselves through the courses of a higher education. Nothing contributes to the psychological and economic needs of such students more than work.

THE CWA PROGRAM FOR UNEMPLOYED COLLEGE GRADUATES

The \$50 scholarships and the federal work-relief project were designed to meet the needs of students in residence at the University, but they made no provision for the college graduates in the community who had received a degree but found themselves without work and no immediate prospect of obtaining it. The problems of this latter group of men and women, young for the most part, were both economic and psychological. While many had never sought aid from the private or public relief agencies, they were, in large numbers, at the end of their resources and in immediate need of financial assistance. But more than this, for young college graduates, filled with enthusiasm at having completed a college training, and looking forward expectantly to the satisfactions that come from taking one's place in the economic system, nothing is more demoralizing than to find every avenue leading to a job closed at the outset.

It was to assist these trained college graduates that the third phase of the University's program was inaugurated.

The Federal Civil Works Administration.—As background for the University's activity it should be recalled that in November, 1933, the Federal Civil Works Administration was established with funds allocated to it from Federal Emergency Relief Administration and Public Works Administration sources. The dominating philosophy of Federal Emergency Relief Administrator Harry Hopkins, was that work is preferable to charity. Throughout the period of its existence there were two types of projects under the CWA that were at various times differently distinguished. On one side were construction projects involving the expenditure of money for permanent improvements; on the other hand, projects more aptly characterized as "service enterprises"—for example, the numerous surveys undertaken in many fields, recreation programs, educational projects, etc.

The University of Minnesota sponsored projects of both types, altho the program for the unemployed college graduates was exclusively of the "service" category. To construction projects ordinary labor was assigned.

Two fundamental ideas permeated the federal CWA planning: (1) there was a desire to give relief to destitute people through work rather than through "charity"—that is, the CWA was in part a relief program; (2) there was a desire to relieve the critical unemployment situation by assigning to CWA projects individuals who were not actually on relief, but genuinely unemployed—that is the program was in part an unemployment program. Emphasis shifted from one to the other of these from time to time.

In operation, the CWA program throughout the country involved the approval by specially constituted authorities of projects submitted by recognized public agencies, to be undertaken with labor assigned from the public employment offices and paid from federal funds (CWA). In Minnesota the CWA program was administered by the State Board of Control, acting as the State Civil Works Administration.

At the University by the middle of December, 1933, two separate ideas came into juxtaposition. (1) The fact that large numbers of college graduates were without employment was evident. (2) It was apparent that the state and federal CWA program was going to grow and expand; its first month of operation had given employment to hundreds of thousands throughout the country. This question was suggested: Would it not be possible to formulate projects on the University campus that might be submitted for approval as CWA projects, and to which the unemployed college graduates of this and other universities might be assigned?

A university campus is the scene of many and varied activities. There are the researches of almost every department. There are tasks at the library calling for skilled help. There is bibliographical work that facilitates research and there is translating. At the hospital graduate nurses could be employed. Unemployed school teachers could be fitted into many tasks. The type of project contemplated was somewhat different from the CWA projects that up to this point were being approved by the state CWA. But it would only be necessary to receive consent from the state CWA authorities to submit projects and employment could be assured to large numbers of unemployed college graduates. In the third week of December, 1933, the state CWA officials expressed willingness to approve projects of this type.

The staff survey.—The first step in inaugurating the program was to obtain from members of the staff, in all departments, a brief summary of research in progress or so thoroly planned that it could be started, or any other specialized work, to which unemployed graduates could be assigned. There were 581 such projects. Accompanying this information was an estimate of the number and types of workers that could be employed, and the length of time the projects would last. From among these 581, there was a selection of those that could most readily be set up in the form required by the CWA authorities. As rapidly as they could be formulated, these projects were submitted to the state CWA for approval, which was obtained for more than 275 projects (in addition to construction work). During this organizing period, as well as later, the state officials co-operated in every possible way to speed the development of the University's program.

Personnel for CWA projects.—The projects submitted by the University were highly specialized and called for skilled personnel. It would not have been possible to use untrained workers. All workers for CWA projects, however, had to be obtained through the public employment offices, and, to be eligible for appointment, were required to be registered. When a project was approved by the state CWA, the necessary labor was requisitioned from one of these employment offices. The number of workers given employment by this university program is shown in Table XI.

The total number of projects approved called for nearly 1,000 workers, but because of delays in starting, inability to find workers suited to specific projects, shifts in quotas, and other unavoidable reasons, this full number was never employed. The CWA program throughout the United States terminated on March 31, 1934. In anticipation of the general demobilization, the University began bringing projects to an end in the first weeks of March.

TABLE XI. NUMBER OF WORKERS, MAN HOURS, AND PAYROLL TOTALS, BY PAYROLL PERIODS, UNIVERSITY OF MINNESOTA
CWA SERVICE PROJECTS

WEEK ENDING	NO. OF WORKERS	NO. OF MAN HOURS	PAYROLL TOTALS
Dec. 7, 1933	14	307.0	\$ 159.55
Dec. 14, 1934	26	778.0	453.20
Dec. 21, 1933	150	3,340.5	2,315.85
Dec. 28, 1933	183	4,701.7	3,243.06
Jan. 4, 1934	205	5,866.4	4,141.25
Jan. 11, 1934	396	11,057.7	7,382.05
Jan. 18, 1934	602	17,992.7	11,839.02
Jan. 25, 1934	646	19,512.5	14,537.05
Feb. 1, 1934	465	13,851.0	10,459.80
Feb. 8, 1934	461	13,834.5	10,360.80
Feb. 15, 1934	455	13,548.0	8,187.08
Feb. 22, 1934	440	13,070.0	7,912.72
Mar. 1, 1934	429	12,750.5	7,671.12
Mar. 8, 1934	405	11,524.0	6,922.48
Mar. 15, 1934	358	10,540.0	7,784.70
Mar. 22, 1934	366	10,638.7	7,317.45
Mar. 29, 1934	322	8,973.5	6,100.25
Mar. 31, 1934	45	684.0	306.00
		172,970.7	\$117,093.43

In the selection of the workers the University imposed certain restrictions. From the first the program was considered predominately a relief program. It is true that the CWA throughout the country was in part aimed for the relief of unemployment, but at the University an attempt was made to keep this aspect subsidiary. In emphasizing the relief need, the University was motivated by the desire to make the program benefit the needy college graduate. Had all unemployed individuals been accepted, the benefits of the CWA program at the University would not have been felt by the group for whom it was intended. At the time of his appointment to a project, each worker stated that "I understand that the

University CWA projects employing college graduates are financed from Federal relief funds and that appointments are based on need. I have no income and am in need of relief at the present time or will need relief in the near future unless I am continued on this project." Every effort was made to insure fairness of appointment, and to keep faith with the terms under which the plan operated.

No individual could simultaneously hold a campus CWA appointment and be enrolled as a student at the University, nor could he be eligible for CWA appointment if any member of his immediate family were on university payrolls, or had been appointed to a university CWA project.

It was impossible to submit for approval by the state CWA authorities all of the 581 projects reported by the staff. In making the selection these points were considered:

1. Since the purpose of the plan was to provide employment to needy individuals, no project calling for part time work was accepted.
2. Preference was given to projects calling for numbers of workers as against single workers.
3. Projects were rejected which were clearly personal and were interpreted as involving functions, the cost of performing which should be borne by individual staff members.
4. All requests for classroom assistance were denied, since every effort was made to limit the projects to tasks that the University could not normally be expected to carry on its own funds.
5. Projects were weighed, in so far as possible, on the basis of their contribution to the general purposes of the University.
6. Projects to give employment to women were favored at the request of the state CWA.
7. Since there were no funds to provide for transportation, projects involving travel were not approved.
8. Except in special cases, projects requiring additional money, beyond labor costs, were rejected.
9. Some attempt was made to balance the distribution of projects between departments and staff members.

Hours of work and rates of pay.—During the period of the CWA there were variations in hours of work and rates of pay. Construction projects called for a maximum of 30 hours a week; and at the outset, service enterprises ran 39 hours a week, but on January 19, 1934, these were also reduced, with few exceptions, to 30 hours. The workers on the CWA service projects were paid on a weekly basis, at rates set by the state CWA in consultation with the university administrators. The approved rates, and classification of workers, as of March 9, 1934 are shown in Table XII.

The adequacy of the personnel.—In evaluating the CWA program, two phases must be considered. (1) One may ask, "Did it give relief to individuals who were in need of relief?" The numbers on the payroll testify that it did. (2) One may also ask, "In giving the needed relief, both economic and psychological, did the workers that were assigned actually make contributions to furtherance of the projects? Was there a social gain from the program?" To check on this matter of the adequacy of the work accomplished, supervisors of all projects were requested, during February, to rate all of the workers that had been assigned to them. The standard in all cases was to be the type of worker that would have been employed on the job had the supervisor hired him in the open

labor market. Ratings were returned on 668 individuals; a few workers were not rated because of late start, inadequate basis of judgment, etc.

TABLE XII. STANDARD APPROVED RATES, AND CLASSIFICATION OF WORKERS, UNIVERSITY OF MINNESOTA CWA SERVICE PROJECTS, AS OF MARCH 9, 1934

CLASSIFICATION	WEEKLY RATE OF PAY	CLASSIFICATION	WEEKLY RATE OF PAY
Accountants	\$24.00	Lawyers	\$24.00
Architects	24.00	Librarians (trained)	21.00
Artists	36.00	Medical technicians	24.00
Bacteriologists	24.00	Metallurgists	24.00
Biochemists	24.00	Nurses (registered)	21.00
Biologists	24.00	Pathologists	24.00
Botanists	24.00	Pharmacists	24.00
Chemists	24.00	Physicists	24.00
Counselors	24.00	Punch card operators	18.00
Cytologists	24.00	Readers	21.00
Dentists	24.00	Research assistants	24.00
Draftsmen—junior	21.00	Social workers	24.00
Draftsmen—senior	24.00	Statisticians—junior	21.00
Engineers (all classes)	24.00	Statisticians—senior	24.00
Entomologists	24.00	Stenographers	18.00
Geologists	24.00	Translators	24.00
Horticulturists	24.00	Zoologists	24.00
Laboratory assistants	21.00		
Specialists and supervisors			

(Persons with advanced degrees or experience in special fields) \$24 to \$36.

Table XIII shows that the workers were generally satisfactory. These figures reflect the fact that the labor offices were co-operating with the university staff in selection of personnel, and argue for the wisdom of such co-operation on any work program calling for skilled labor. It is clear that at the University the worker had the satisfaction of doing work for which he was adapted; the University benefited by the excellent work that was accomplished.

TABLE XIII. RATING BY SUPERVISORS OF 668 WORKERS ON UNIVERSITY OF MINNESOTA CWA SERVICE PROJECTS

RATING	NUMBER	PER CENT
A (excellent)	315	47.2
B (better than average)	170	25.5
C (average)	151	22.6
D (below average)	27	4.0
F (inadequate)	5	0.7

No attempt has been made to evaluate in any quantitative manner the work accomplished on the projects, but supervisors were asked to comment on three questions:

1. Have the results accomplished justified, in other than relief terms, the effort you and the University have put into the project?
2. Has your research work been favorably furthered because of the CWA program at the University?
3. Have you accomplished work that normally would have been impossible or at least long delayed?

There was not a negative answer to these questions on projects that had gotten under way. It is evident that the staff was satisfied with the program; the only dissatisfaction came through failure to obtain for projects as many workers as were sometimes desired. No supervisor asked to have a project discontinued during the period for which it had been established; there was a constant request for extension of projects and the creation of new ones. Such comments as this are common:

The results justify our efforts many times over. The men are so interested in the work, and it is being so carefully done that the results are excellent. I am thankful indeed for the opportunity. My research work has been materially advanced because of the CWA, and I am accomplishing work that has been on hand for four years and which normally would have been delayed for another five years, apparently. I am more than satisfied with the results I am getting from the CWA.

The University's contribution.—In approving university projects, the state CWA administrators made no provision for other than labor costs. In sixteen cases the University provided some additional money for supplies or equipment. The total allotment was \$1,590.74. This figure, plus the cost of administering the program, represents the University's money contribution.

The construction projects.—As a part of the CWA, but not a part of the special program for unemployed college graduates, the University completed a number of construction projects. Table XIV gives the relevant data.

TABLE XIV. NUMBER OF WORKERS, MAN HOURS, AND PAYROLL TOTALS, BY WEEKLY PERIODS, UNIVERSITY OF MINNESOTA CWA CONSTRUCTION AND REPAIR-WORK PROJECTS

WEEK ENDING	NO. OF WORKERS	MAN HOURS	PAYROLL TOTAL
Dec. 7, 1933	36	541.5	649.80
Dec. 14, 1933	116	1,918.5	2,183.80
Dec. 21, 1933	196	5,048.0	4,794.41
Dec. 28, 1933	228	6,018.2	5,467.74
Jan. 4, 1934	263	6,598.5	6,210.13
Jan. 11, 1934	227	5,285.5	4,880.75
Jan. 18, 1934	98	2,801.0	2,265.25
Jan. 25, 1934	118	2,045.5	1,493.63
Feb. 1, 1934	95	1,726.5	1,174.52
Feb. 8, 1934	62	1,251.5	865.42
Feb. 15, 1934	51	1,146.0	798.14
Feb. 22, 1934	50	1,026.0	636.60
Mar. 1, 1934	55	1,258.0	777.37
Mar. 8, 1934	40	824.0	516.08
Mar. 15, 1934	37	619.0	375.20
Mar. 22, 1934	31	732.0	402.30
Mar. 29, 1934	29	708.0	389.40
Mar. 31, 1934	7	112.0	60.00
Total		39,659.7	\$33,940.51

In forwarding these construction projects it was necessary for the University to provide necessary materials, since only the labor costs were contributed by the CWA. The total expenditure thus involved was \$10,575.59. With this ex-

penditure the University was able to accomplish work that otherwise would have remained undone, or for which it would have been required to expend far greater sums of money had the full costs been met from university sources. The project involved painting, cleaning, excavating, graveling, woodcutting, tree trimming, laying of sewers, replacing water mains, and similar activities both on the university campuses and at branches of the University throughout the state.

Concluding comments.—The University CWA work program was satisfactory from two angles: it gave needed employment to college graduates who were in need of work; it enabled the University to accomplish results in many fields of activity that otherwise would not have been accomplished.

The university CWA program and the unemployed graduates.—A period of economic depression brings hardships to youth. There is danger that unless college and university graduates are able to find work opportunities soon after they have obtained their degrees, there will develop a demoralization among those who have completed their college work, and subtle discouragement will grip those who are contemplating college careers. For the graduate there is not only the discouragement that deadens enthusiasm for living, there is also the loss in efficiency that follows the inability to put into practice the knowledge and skills that have been acquired in the years of training. There is obvious need, in these depression years, of some plan that will assist young men and women college graduates to make the adaptations that will tide them over the crisis period. One must believe that the inability of society to absorb college graduates is a temporary thing. The problem is to save for useful service the individuals who are momentary victims of unemployment, to prevent their loss of morale from becoming chronic.

The University of Minnesota CWA service program contributed toward this objective. It did not aim to give permanent employment; it sought to keep alive temporarily the interests of young men and women who were finding it impossible to obtain work. It was made work in one sense, but work that involved no waste motions; no work was asked for that was not a part of the total university plan and pattern.

The verbal testimony of staff members is virtually unanimous that the CWA workers under them were faithful and interested, and anxious to succeed at the tasks to which they had been assigned. When projects were stopped, as was the case because of necessary quota reductions, or natural termination, workers frequently volunteered to continue without pay. This was not permitted, however.

There is every reason to believe that the CWA program as developed at the University was successful. It relieved idleness with work in the field of the worker's major interest. It provided work that had meaning and significance. It placed the worker into an organization where he could function and do the part assigned to him, with the assurance that there would be a pay check, even though small. It combined, in short, economic security of a sort with the possibility of continuing activity in the lines for which there had been college training.

The CWA and the University.—At the same time that the college graduates were being given economic and psychological assistance through the CWA program on the campus, the University was also deriving benefits. These took many forms. It was possible to accomplish work that had long been planned but never undertaken because of lack of funds. At the library, to cite one example, ma-

terials were brought up to date, scattered collections were systematized and filed, and an endless variety of objectives accomplished which without CWA assistance for years would have been impossible.

Another illustration will serve to show how through CWA the University was able to make unexpected progress. More than ten trained chemists were placed in the chemistry laboratories and spent several weeks refining chemicals, and deriving from them chemical materials for which the University had need. Through this project hundreds of dollars were saved, but what is more important, in saving the chemicals it gave continued training to men whose life work was in the field of chemistry.

In the construction activities, and the repair work, the University was also able to utilize CWA labor to its own advantage, and to the advantage of the people of the state.

The costs of such a program, as was shown at Minnesota, are low, and especially so when considered in the light of the work accomplished. Furthermore, the project at the University was so organized and carried out that no regularly employed worker was displaced.

Respectfully submitted,

MALCOLM M. WILLEY,

University Dean and Assistant to the President

SPECIAL UNITS IN BEHALF OF STUDENTS

THE STUDENTS' 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 1932-33 and 1933-34.

These two years constitute a period of unusual financial hardship for students and it has been fortunate indeed in that no major epidemics of disease have occurred. During the winter of 1932-33 a wave of moderately severe influenza swept the campus and for a period of about six weeks the Health Service hospital was filled to capacity. The cases, however, tended to be mild and complications were infrequent so that the stay of most patients in the hospital was brief. Other communicable diseases occurred in small numbers but none developed in epidemic proportions.

Free clinics and agencies which offer medical service on an insurance or an annual fee basis are always confronted with increased demands for medical service during periods of economic distress, and the statistical summary of services rendered during the past biennium shows that our Health Service has been no exception.

The service which this department provides for students of the University consists of a complete physical examination of every student at the time of matriculation in the University; a personal conference during the fall quarter with all students who receive 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; dental examinations at the time of entrance and at such subsequent periods as may be desired; health examinations which are required annually of students in certain professional schools and are available on a voluntary basis to all students at any time; assignment to physical activities and adjustment of scholastic programs in accordance with physical capacities; certification of physical fitness for participation in inter-collegiate athletics; preventive vaccinations and inoculations at specified times; hospitalization for students who need this care; emergency service at all times; and consultations concerning personal and emotional problems, worries, etc. To the latter a psychiatrist is devoting his full time. In addition to this personal service to students a sanitary inspector arranges for the annual examination of all food handlers in the university cafeterias; makes periodic analyses of the water of the swimming pools and supervises the general sanitation of the campus.

Periodic health examinations.—Periodic health examinations, which include health conferences, are available each year to any student in the University and have been made an annual requirement by the faculties of the College of Education, the School of Dentistry, and the Medical School. Annual examinations are required also of students in athletics, in certain programs of physical education, in home economics training courses, in mine rescue work, etc. In 1932-33, 6,300 and in 1933-34, 6,111 students of collegiate grade received health examinations.

Medical service to students.—The total amount of service rendered to students has increased over a period of years until in 1932-33 and 1933-34 the number of

services exceeded 100,000. This increase was not only in total services but also in proportion to student enrolment (Table I).

TABLE I. VISITS TO THE HEALTH SERVICE (MAIN CAMPUS) FOR MEDICAL ATTENTION*†

Year	Number of Visits	Average Visits per Student of Collegiate University Grade
1926-27.....	24,333	2.22
1927-28.....	26,676	2.82
1928-29.....	26,668	2.71
1929-30.....	31,656	3.08
1930-31.....	39,112	3.40
1931-32.....	44,532	3.84
1932-33.....	47,261	4.26
1933-34.....	49,489	4.60

* In this tabulation the calls made by students at the health services at the agricultural substations have not been included because in certain years the attendance at these health services is greatly affected by epidemics of contagious disease upon those campuses. The summer quarter figures also have been omitted.

† These totals do not include visits for physical examinations, dentistry, hospitalization, excuses for illness, contagious inspection, eye refractions, vaccinations, immunity tests, physiotherapy, laboratory, or X-ray services.

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 are greatly increased.

Hospital care of students.—The hospital facilities for the care of students at the University are of the best and are utilized freely by students. Early hospitalization of all students who are ill is an essential part of an effective health program. The Health Service has a standing rule that all students with a temperature of 100 degrees F. or more shall be sent to bed in the hospital, and the matrons of various dormitories insist that every student who is ill enough to remain in bed shall either come to the Health Service or be seen by a physician in the dormitory.

As will be seen in Table II, in 1932-33 the number of student hospital patients was the highest in the history of the Health Service. This was due largely to the epidemic of grippe or influenza during that winter. In 1933-34, however, there was no such epidemic and the number of hospital patients and hospital days declined materially.

TABLE II. STUDENT HOSPITAL CARE (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
1929-30	880	85.6	4,426	5.0	No epidemic
1930-31	895	77.9	4,885	5.5	Moderate epidemic of mild influenza
1931-32	1,185	102.2	6,364	5.4	Moderate epidemic of mild influenza
1932-33	1,239	111.8	5,837	4.7	Moderate epidemic of mild influenza
1933-34	982	91.2	4,416	4.5	No epidemic

Immunizations.—Altho immunizations are not a requirement for entrance to the University the Health Service makes available to students immunization against smallpox, diphtheria, scarlet fever, and typhoid fever, and a large percentage of students avail themselves of this service, particularly for immunization against smallpox and diphtheria. In December, 1933, two cases of diphtheria occurred in students who had neglected repeated advice that they be immunized.

Mental hygiene.—In this department, during 1933-34, 227 new cases were treated as compared to 221 for 1932-33. In addition 80 cases were carried over for continued treatment. Of the 448 students, 172 were referred by physicians in the Students' Health Service, 138 came voluntarily, 34 were referred by deans or administrative officers, 28 by faculty, 18 by other students, 11 by social agencies, 8 by private physicians, 6 by parents, 11 by graduates of the University previously patients in the department, 12 by faculty counselors, and 10 from miscellaneous sources.

Altho the majority of the cases have been emotional problems not serious enough to be classified as mental illness, there have been during the past two years 8 cases of well-developed schizophrenia (dementia praecox), 5 cases of manic depressive psychosis, and 12 cases of neuroses of the obsessional or the compulsive types. For the rest, the problems seem to involve such factors as unhealthy family relationships, poor social adjustment, inadequate intellectual endowment, lack of vocational choice, sex conflicts, excessive and unwise extra-curricular activities, inadequate social and scholastic preparation. Strangely enough the economic depression does not seem to have affected the type of problem encountered, nor does it seem to have played a great part in the production of emotional disturbances except in so far as it has increased the necessity for vocational choice.

Tuberculosis control.—Tuberculosis still occupies first place as a cause of death of persons of college age. In the past, numerous cases of this disease were discovered each year by the Health Service, but most of them were in an advanced stage before they came to our attention. This meant that the patient's chances of recovery were small and that many of them had been infectious to others before they were removed from contact with the student body. For the past several years, however, more encouraging results have been obtained through an intensive program of early diagnosis. In the past it was supposed that at the age of twenty practically every person was infected, but our studies indicate that only 23 per cent of freshman university students and 29 per cent of seniors react positively to the tests.

A positive reaction to the test, in which the Mantoux technique is used, altho 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 those who react to tuberculin have any actual disease of the lungs. As a result of this routine examination 29 cases of moderately or far advanced, and 52 cases of incipient, tuberculosis were discovered during this two-year period. Such results leave no doubt as to the value of this project, because when tuberculosis can be diagnosed and treatment instituted before physical breakdown occurs, the patient is saved from years of invalidism and possibly from death itself, and associates can be protected from infection.

Other student disabilities.—Hay fever and asthma, dysmenorrhea, and diabetes all cause considerable loss of time in the student body. The Health Service staff

is paying particular attention to these, and special studies are under way which it is hoped will yield significant results.

Studies of the treatment of the common cold.—The common cold is responsible for more illness and disability than any other disease; hence, for several years it has been made a subject of special study by the Health Service. The prevention of a disease is most to be desired; but since none of the measures recommended for prevention of colds has proven effective, we have been investigating certain forms of treatment and have obtained very encouraging results. (See page 94.)

Health Service for faculty.—In January, 1931, the Board of Regents voted to make available certain facilities of the Health Service to members of the faculty who elected to pay the same annual fees as paid by students. Approximately 100 members of the faculty have been taking advantage of this service each year. Considering the size of the faculty and employee group this is a small number but those who utilize the service value it highly and feel that it makes a real contribution to their health and efficiency.

Students on federal aid.—Students who have been attending the University under the federal work-relief program have been cared for by the Health Service on the same basis as other students, whether or not they have paid their fees toward the support of the Health Service. When these students have been in need of special services for which charges are made they have been helped by the student loan fund. In general, it would seem that the physical condition of this group of students is not materially different from that of the rest of the student body.

Campus sanitation.—During the past year a sanitary inspector has been added to the Health Service staff in order that there may be constant and careful supervision of the sanitary condition of university kitchens, dining halls, cafeterias, dormitories, gymnasias, swimming pools, pasteurization and cold storage plants, etc. In the direction of this work the Division of Sanitation of the State Board of Health has been extremely co-operative and helpful.

Summary.—During the biennium just passed the Health Service has provided more medical service for students than ever before, and the number of students hospitalized in 1932-33 was the greatest in the history of the Health Service. In 1933-34, however, hospitalization was considerably lower than for the two previous years. At the same time special attention has been given to preventive and constructive services such as periodic health examinations, mental hygiene, immunizations, tuberculosis control, etc., and the members of the staff have been carrying on certain studies and investigations which should be of benefit both to the student body and the general public.

Respectfully submitted,

HAROLD S. DIEHL, *Director*

THE DEAN OF STUDENT AFFAIRS

To the President of the University:

SIR: During the past two years the most outstanding evidence of improving morale has been the reorganization of the All-University Student Council. The reorganization has been along the lines of increased membership, giving representation to all major group activities in addition to regularly elected members. This has been done in the hope that political maneuvering and control might be reduced to a minimum. There have also been added to the council three members of the faculty—a representative of the president of the University appointed by him, the dean of women, and the dean of student affairs. The council now has a membership of thirty or more. It meets regularly once a month. An executive committee, of which the three faculty members are a part, functions between regular meetings, reporting all actions back to the full council.

The plan originated by the Student Freshman Week Committee four years ago of having Dean Blitz and myself visit selected centers in the state each spring to talk to graduating seniors of high schools, parents, and teachers has been continued during the last two years. The talks have been roughly outlined by the students. They cover: "Should I go to college?," finding an objective towards which to work and prepare, and the common homely problems to be met and solved on entering upon a college or university course. It has been possible to give the most varied information in reply to answers asked by pupils, parents, teachers, superintendents, and principals after the regular talks are finished. So far we have visited thirty-five different centers. We have been very much pleased with the interest shown and our kindly receptions. This year we could not accept all of the invitations to talk, tho we did increase the number of our visits.

Fraternities.—There has been an increasing unrest and fear among the fraternities during the last two years, largely brought about, in my opinion, by existing financial conditions. This has resulted in increasing difficulties in the obtaining of new members in sufficient number to enable the groups to meet their overhead carrying charges.

There are a number of fraternity and sorority chapters living on the ragged edge, unable to meet current bills and therefore unable to make any effort to reduce past indebtedness. A few of these have applied to this office for help in straightening out their affairs. In each case it has been possible to adjust their affairs so as to enable them to live currently within their means and at least to make a gesture toward caring for past accounts.

A committee from the undergraduate group, and one from the fraternity alumni group, have been working most of the last year with the president of the University and this office trying to work out a plan under which, in co-operation with the University, the general situation of the fraternities and their relation to the University might be improved. This has come to be referred to as the "Minnesota Plan" and its essential features are summarized in the biennial report of the Interfraternity Council. (See page 335.)

Student publications.—The all-University publications—the *Daily*, *Ski-U-Mah*, and the *Gopher*—are all in sound financial condition. From the editorial standpoint there has been improvement in some respect, tho not in their understanding of their relation and responsibility to both the official University and their special constituency, the student body. There is a special subcommittee of the Senate Committee on Student Affairs at work at present on the problem of formulating a statement of the mutual relations and responsibilities of the University and the publications.

Hospital visitation.—The close contact of this office with hospitalized students has in the past been very helpful and appreciated by students. During 1933-34 it was necessary to eliminate this work, except in special cases, because of limited personnel in this office.

Student loans.—The following is a summary of the report of loans:

	Class						Grad.	Total
	1933	1934	1935	1936	1937	1938		
Ag. For. and								
H. E.	\$ 29.00	\$ 1,119.50	\$ 279.00	\$ 186.00	.....	.....	.....	\$ 1,613.50
Business .....	.....	822.75	130.00	.....	.....	.....	.....	952.75
Chemistry	50.00	437.05	156.40	91.80	\$ 50.00	.....	.....	785.25
Dentistry .....	.....	2,132.50	917.00	289.00	.....	.....	.....	3,338.50
Education	26.00	2,507.50	642.00	238.00	82.75	.....	.....	3,496.25
Eng. and Arch...	61.40	2,029.30	976.50	299.00	58.15	.....	.....	3,424.35
General .....	.....	108.50	217.95	24.00	63.00	.....	.....	413.45
Graduate .....	.....	.....	.....	.....	.....	\$1,580.25	.....	1,580.25
Law .....	.....	250.00	417.00	485.00	294.00	.....	.....	1,446.00
Medicine	210.00	4,000.30	3,656.50	1,685.00	590.00	\$30.00	.....	10,171.80
Mines .....	.....	308.00	127.30	.....	.....	.....	.....	435.30
Nursing .....	.....	26.00	.....	25.00	.....	.....	.....	51.00
Pharmacy .....	.....	311.00	137.00	268.00	.....	.....	(Uncl.)	716.00
S. L. and A....	98.00	541.00	527.10	1,454.85	231.50	.....	22.10	2,874.55
University .....	.....	125.20	179.00	.....	.....	.....	.....	304.20
Total.....	\$474.40	\$14,718.60	\$8,362.75	\$5,045.65	\$1,369.40	\$30.00	\$1,602.35	\$31,603.15

This tabulation represents totals from special funds and university trust funds loaned and approved through this office for the year 1933-34. This total shows a material decrease over the previous two or three years. The past year would normally have shown much heavier demands, but the special scholarships set up by the president and the Federal Emergency Relief Administration removed many students from the borrowing group. Total loans for 1932-33 were \$34,106.01.

Report of assistant dean.—Following is a summary of a report submitted by Dean Otis C. McCreery, assistant dean of student affairs:

As president of the Interfraternity Council, he approves the grade average for initiation of pledgmen, works closely with their executive committee, has

frequent conferences with chapter presidents in connection with their house problems, works closely with pledge captains in the matter of pledge training, has many interviews with parents and students relative to the student's pledging to a fraternity, and furnishes lists of non-fraternity men to the fraternities.

For the past two years a group of one hundred senior men have worked together with Dean McCreery in an attempt to carry on the Freshman Week contacts at least during the fall quarter. Following Freshman Week, this group attempts to visit all new out-of-town men students, visiting them at their rooms so that the contacts may be personal and so that a foundation for friendships may be laid. Each adviser is expected to fill out a report card giving factual information and subjective impressions of the adviser. This card is returned to the office of the dean of student affairs. This makes possible the early summoning of those freshmen who seem to be in need of immediate help and guidance from this office.

Especially at the end of each quarter there are many misunderstandings between householders and student roomers. Settlement of these rests with Dean McCreery.

The aim of the counseling service at Pioneer Hall is to furnish a plan of physical and social activities and to aid the individual student in his educational and personal problems. The first year of occupancy of the dormitory this plan gave fairly satisfactory results. The last year was very unsatisfactory. The new plan to be in effect this coming year of placing the hall on a departmental basis with a man director in charge, with sole responsibility for all phases of the organization, will, I believe, add greatly to the efficiency of Pioneer Hall.

It is hoped that for the coming year it may be possible to co-ordinate all freshman activities in order to make possible a year's program without overlapping and duplication.

Student finance.—It is with a great deal of satisfaction and pride that I submit a report on the progress of our plan of financial audit, guidance, and supervision. This work was started in a very meager way about twelve or fifteen years ago. There has been progress each year, also an increased understanding and seeking of our help on the part of students.

A development to which I have looked forward for some time, the help which might be offered to the individual student in budgeting and understanding his own financial problem, has also started voluntarily on the part of students, one hundred eighty-six of them having sought such help this year.

The organized work this year has accomplished the following:

- I. Aided materially in the self-education of all treasurers and business managers as to the value of proper business procedure and records.
- II. It has emphasized the value of sound and simple business records as providing the fullest information for accurate accounting distribution.
- III. It has strengthened the credit standing of all our groups with business firms.
- IV. Through group bidding and purchase, a decided reduction has followed in practically all purchases.
- V. A pride has been aroused in the individual and the group, resulting in closer and more personal contacts with this office.
- VI. It gives, for the first time, some idea of the magnitude of the business transactions of the student groups.

THE PRESIDENT'S REPORT

Following is a brief summary of the financial report as made to me by Mr. Carroll S. Geddes, financial adviser for student organizations:

1. ESTABLISHMENT AND OPERATION OF THE STUDENT ORGANIZATION FUND
October 1, 1933—July 31, 1934

Fund transferred as beginning balance		\$ 13,697.66	
Organization receipts—deposited			
Fall quarter	\$34,319.15		
Winter quarter	40,184.39		
Spring quarter	41,757.43	116,260.97	
Total funds deposited 1933-34.....			\$129,958.63
Organization withdrawals			
Fall quarter	31,872.69		
Winter quarter	33,931.12		
Spring quarter	45,472.93		
Total funds withdrawn 1933-34.....			111,276.74
Organization balance—July 31, 1934			\$18,681.89
Proof of balance			
Cash on hand.....		0.00	
Cash in depositories.....			
University State Bank.....	3,116.71		
Farmers and Mechanics Bank...	4,000.00		
Midland National Bank.....	4,000.00		
St. Anthony Falls—First Nat'l.	4,000.00		
Northwestern National Bank....	4,000.00		
Total cash on deposit.....			19,116.71
Less: collectable vouchers due and unpaid.....			434.82
Net cash on deposit to balance..			\$18,681.89

2. CONDITION AND DETAIL OF ORGANIZATION'S INVESTED RESERVE

The invested reserve or surplus of the organizations is as follows:

	Face Value
Minnesota Daily	\$25,500.00
Minnesota Ski-U-Mah	1,500.00
Minnesota Gopher	4,500.00
Business School Book Exchange.....	500.00
All-University Council	2,500.00
W.S.G.A. Board	2,000.00
Mortar Board	1,000.00
Total face value of bonds.....	\$37,500.00

These investments are all made with the approval of the comptroller's office and from bond lists as approved by the finance committee of the Board of Regents. On May 1, 1934, the above securities were valued as of that date and found to be worth \$32,050, or an over-all average of 85¾ per cent. In consideration of the general bond market, this is a very good average for such a list. None of the securities are delinquent in any interest payments.

Respectfully submitted,

EDWARD E. NICHOLSON,
Dean of Student Affairs

THE INTERFRATERNITY COUNCIL

To the President of the University:

SIR: I am hereby tendering a report of the Interfraternity Council for the years 1932-33 and 1933-34.

A number of interesting trends and developments in the fraternity picture reveal themselves upon perusal of fraternity records for the past two years. To what extent these changes in attitude are due to the depression is open to conjecture. At least the financial factor has had a great influence.

Fraternities throughout the country seem to have realized that the time has come for each chapter to check itself and determine just what contribution it is making to its membership. In the years up to 1928, the families from whom fraternities drew their members were sufficiently wealthy to allow for the luxury of fraternity membership without asking too pointedly what they were getting for their money. As surpluses disappeared, fraternities found their membership rolls being depleted because prospective members could not be convinced that membership was a necessity. Also, fraternities which could afford the luxury of inefficient and wasteful management up to 1928 without approaching the danger mark have found it necessary to take steps to insure a continuity of business-like management from one college generation to another.

I believe fraternity leaders have also achieved a better perspective of the relationship between university and fraternity and, altho the rank and file of fraternity members are lagging somewhat behind the leaders in this attitude, the trend of their feeling is encouraging. National fraternity officers have stressed repeatedly during these latter years that the fraternity must be an integral part of the university, fitting into its program and promoting its educational aims to justify a place on the campus.

At the University of Minnesota the feeling of need for a closer relationship between the University and fraternity, as well as the necessity for emphasizing factors of scholarship and morale, have culminated in a plan providing for a new system of counseling and business management.

In the fall of 1932 our Interfraternity Council sponsored a survey of all the fraternities in order to make the best techniques of various phases of fraternity life, as disclosed in the survey, available to all groups. This revealed a great difference in cost, type, and efficiency of management and personnel procedure between groups.

Last fall, as a result of the impetus furnished by this survey and conferences between active and alumni members and President Coffman, a "Minnesota plan" was worked out with the following provisions:

COUNSELLING

- a. A counselor, an alumnus of the fraternity, whose record makes him acceptable to the Graduate School of the University shall be placed in each fraternity accepting this plan.
- b. He is to be selected by a committee composed of representatives of the alumni and active groups of each fraternity and the dean of student affairs.
- c. He shall receive in lieu of remuneration the equivalent of his board, room, and any other house fees while so engaged with any group.

d. He shall, on call of the office of the dean of student affairs, provide reports as to the progress of his group.

e. The position may at any time be declared vacant by a unanimous vote of the committee.

f. All facilities of vocational and scholarship guidance are to be made available for the use of the counselor.

g. In general, the aim of the counselor should be to build up a scholastic tradition in the group and inculcate proper habits of study in each new member of the fraternity.

h. He should aim to raise the general cultural tone of the fraternity, and develop the potentialities of the fraternity for training in group living.

i. He should be the liaison officer between the members of the faculty and his men.

j. He should come to know each member of his group intimately enough to be able to advise them in the development of their physical and personality weaknesses.

FINANCIAL GUIDANCE

In order to offer fraternities the financial help commensurate with their needs, the plan has been divided into two parts, either of which may be subscribed to by the fraternity.

a. *Audit basis.*—Only for groups that have at present a suitable basis of operation. Services under this division will involve an audit each quarter, and at the end of the year a complete audit and statement reconciliation. It will be provided by the staff of the financial adviser of student organizations, and under his direct supervision, on an hourly cost basis. It is expected that this should not exceed \$50 for the entire year.

b. *Monthly maintenance and audit.*—In cases where the situation is in a neglected condition and groups desire closer contact with experienced business advice, another type of service will be offered. It will also be under the direct supervision of the financial adviser and will involve:

1. Installation of proper and complete accounting system if needed.
2. Monthly audit of records.
3. Monthly advice on maintenance of a budget.
4. Adjustment of creditor claims.
5. Collection of bad accounts of members registered in the institution.
6. Training and personal advice to financial officers of organizations.
7. Complete audit and setting up of statements.

This service, in the same manner as the former, will be on an hourly cost basis to the group. It is expected that in normal cases this should not exceed a total of \$100 for an entire year.

This plan will be studied constantly during its operation with an eye to improving it. It is planned to have the counselors meet together regularly to discuss common problems and to hear speakers on topics bearing on these problems.

The most pressing problem is the selection of these men. This requires careful consideration, since quite obviously this plan will stand or fall on the type of men selected. The development of this plan has been the principal task taking up the time and energy of the council this year, and if it accomplishes the things expected, it will justify the time spent.

Respectfully submitted,

OTIS C. MCCREERY,

President, Interfraternity Council

THE DEAN OF WOMEN

To the President of the University:

SIR: The dean of women herewith submits the following report for the biennium 1932-34.

The biennium just passed has seen little change from that of 1930-32, save that the continuance of depression conditions has meant lost opportunities to more of those graduates of high schools who, in normal years, would have come to the University, and to our own graduates who would have found suitable employment at the completion of their college courses. That the women at the University have been able to maintain so fine a morale as has been shown, speaks volumes for their own fundamental soundness. Their helpfulness to each other, their appreciation of their opportunities, and their seriousness of purpose, have all increased markedly. I take pleasure in reporting evidence of these trends.

First, the scholastic average of the women students has improved throughout the University. While the sorority average shows a drop from the three years of deferred pledging, this is directly attributable to the change from the rule requiring a "C" average for pledging. The rise in the average of scholarship for women students was greater than that for the student body as a whole. The figures follow:

	1932-33	1931-32	1930-31
Sorority average	1.29	1.39	1.435
All women	1.31	1.29	not compiled
All students	1.23	1.224	1.223

Second, the students have sensed each other's needs as never before. Financially, the Women's Self-Government Association has taken the sum of \$1,500 from its reserve funds, accumulated through the savings of many years, and has made this available as a loan fund, giving \$1,000 outright to the Students' Student Loan Fund, and placing \$500 with the dean of women, to be used as a special fund for women students, preferably juniors and seniors. Socially, the students are working whole-heartedly and imaginatively at means of improving the social facilities here at the University. While they look forward hopefully to the day that may see their successors utilizing adequate facilities in a fine student union building, such as Michigan, Wisconsin, and Iowa boast, they are not waiting for that distant day, but are trying to find ways to broaden the opportunities for more satisfying social life with the inadequate facilities on our two campuses, here and now. They are co-operating with the committee appointed by the president to study the situation. They are also carrying out plans from month to month to draw more students into social groups that shall meet those needs which the classroom and laboratory cannot fill.

HOUSING

Sanford Hall.—Sanford Hall has had a successful two years. The personnel is unchanged, save that we are now using student help wherever possible. While this means some loss in efficiency, we feel that this is more than compensated by the opportunity it affords for students to stay in college who would otherwise have been forced to drop out. The spirit has been splendid, and the students

working part time have found such duties no handicap to participation in all the life of the hall.

Nurses' Hall.—With the opening of the new Nurses' Hall this year, the dean of women felt that a new opportunity was offered for drawing this group of students closer into the general life of the University. Their hours and their former condition of residence had made them feel decidedly a segregated group. This year, therefore, has seen many conferences and many committee meetings on conditions of student residents in the Nurses' Hall. We have tried in every way to make this unit as near like the other residences for students as possible, and to provide adequate and attractive social life for the students in nursing. The director, Mrs. Jean Barnes, has been singularly successful in winning the confidence and affection of the students, and she has shown herself most co-operative, both with the administration of the School of Nursing and the University of Minnesota Hospitals, and with the dean of women, in trying to work out the problems occasioned by the difficult hour schedules which nurses must have, and their natural and legitimate desire for fuller social life. The start made has been a very satisfactory one, and the alumnae of the school are most enthusiastic in praise of the steps that have been taken.

Perhaps it is not too much to hope that before many years the women students of the University may have a dormitory on the river bank as beautiful and as adequate for their needs as the one which now houses the nurses. With the opportunity for fine playing fields, and for a suitable women's gymnasium adjoining, it would seem as tho this location across Washington Avenue and fronting on the river might well be set aside for the women's portion of the campus, and that we might look forward to a time when their buildings would be continuous from the Washington Avenue Bridge to Harvard Street.

Co-operative cottages.—Last fall seven buildings heretofore occupied by nurses were put in excellent condition and turned over to us for co-operative cottages for about seventy-five women. One of these cottages was exclusively for graduate women, and one for fifteen girls was equipped for light housekeeping. All rooms were filled during the fall quarter, but there were several vacancies in the winter and spring, mostly in the graduate house where some of the women were able to get work and left school. The expenses for each girl in the cottages per month were \$20, of which \$10 went for room rent, while the \$10 remaining covered all other expenses; the board included three meals a day, and the food was both ample and of first quality. Each cottage is in charge of a chaperon.

We also tried setting aside one cottage as a self-service project. Each girl did her own cooking, or two or three clubbed together. Many had felt that this would mean a material saving even over the low rate of the co-operative cottages. In actual practice this did not prove to be true. We shall probably continue the project at least one more year, since some girls who live near enough to bring a considerable part of their supplies from home prefer it.

Home Economics Dormitory.—We have continued to use the Home Economics Dormitory on the Farm campus for university students taking work there. Because this dormitory serves no meals, the social life is far less complete, and 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. Catharine 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 over problems, and to maintain more uniform standards. An organization of householders for men has been operating for about four years, and its work is similar to that of the organization for women.

Survey of housing conditions.—With the aid of the federal funds, it was possible to make a study of the housing conditions of the students who were in residence during the year 1933-34. We find that of the 1,393 women students from out of town enrolled in the University, 535 are living in university owned and operated houses, 298 in commercial rooming houses which are inspected and approved by the University, 210 in sorority houses supervised by the University, 130 working for board and room, and 220 living with relatives.

The University Nurses' Hall now housing 259 students, and Sanford Hall now housing 190, accommodate a far greater number of students than any one sorority or rooming house. The range in the number of accommodations in university houses is from 7 to 259; in the sororities 4 to 24; in the commercial rooming houses 1 to 20.

Of the 72 commercial rooming houses, there is only one that was built for that purpose. There are at the most, 6 other houses that have been remodeled to suit their present purpose. The great majority of these houses are more than twenty years old. Of the 21 sorority houses, 9 are either new or recently rebuilt.

All the houses and the sororities operated by the University furnish board and room, while only 10 of the commercial rooming houses do.

The survey of the toilet facilities shows that in the rooming houses one bathroom accommodates from 2 to 14 persons, or an average of 6; in the sororities from 3 to 12, or an average of 5; in the university houses from 4 to 7; or an average between 4 and 5.

In general, the university and sorority houses are in much better condition and furnish better facilities than do the commercial rooming houses.

STUDENT ORGANIZATIONS

Women's Self-Government Association.—The Women's Self-Government Association continues to grow in strength and prestige on the university campus. In 1932-33, under Miss Betty Mulvehill, and in 1933-34, under Miss Ethelmae Eylar, there has been no distinctive new line of departure, except perhaps that the Women's Self-Government Association was one of the first organizations to put itself into the hands of the financial adviser for student organizations. They have always done their work on a budget, and have lived within the limits of their income, putting away a small surplus each year for possible future expansion of their work. This year in surveying their situation, they decided that the present need of the students was so great that they would prefer to put money into circulation rather than to hold it in reserve, as has been already indicated in the report. They did this by adding \$1,500 to the two loan funds already es-

published at the University. In addition, they have given \$1,800 in scholarships to women students whose scholastic work was outstanding, and who needed financial aid. They are continuing their work in the bookstore; their work with new students is expanding; they are actively co-operating in all of the activities for student betterment, and they give unstintingly of their time, of their intelligence, and their efforts to make the campus a better place for all students, men as well as women.

Young Women's Christian Association.—Miss Lois Wildy who has been the secretary for the Young Women's Christian Association for several years, resigned at the end of 1932-33, and this year her place has been filled by Miss Jane Bradley. Miss Martha Collicot remained the secretary of this organization on the Farm campus. Miss Ina Ramsey was president of the Young Women's Christian Association during 1932-33, and Miss Elizabeth Perine and Miss Margaret Bushnell have filled the office of president during the year 1933-34.

The outstanding contribution of the Young Women's Christian Association has been the sponsorship of the discussion of international affairs, the continuation of the personnel committee in conjunction with the Women's Self-Government Association and the Women's Athletic Association, the work of the Social Service Committee, and the work of the upper class leaders of the freshman group. This work is done in co-operation with the campus sister work of the Women's Self-Government Association, and it serves to initiate the freshmen into university life.

Another of their helps to the campus was the sponsoring of the visit of Mrs. Grace Loucks Elliott of New York, who gave a five-day series of lectures and conferences on "understanding one's self" to students, faculty, and parents. Her time was used fully by university groups. Her visit took place in 1932-33, but we have felt the results of it in 1933-34 as well.

Mortarboard.—Mortarboard is the senior honor society for women. It has taken an active part in the formation of public opinion among students. It has co-operated in every way, both with the administration, and with other student organizations. Its influence is felt indirectly in many organizations.

Sororities.—The depression is having a serious effect upon many of the sororities. Perhaps these organizations feel the effect more directly than do any other student activities. This year we have had six groups on the campus with a membership of less than eight, and for a part of the year, there were four groups with a membership of less than four. This means a serious situation for the individual groups and for Panhellenic, since Panhellenic's undertakings must be gauged by the strength of its member organizations. So far, however, only one organization, Delta Phi Epsilon, has given up its membership, and had its charter revoked. All of the others are hoping to recruit enough members to keep in good standing next fall. Several are on probation because of small membership.

Shevlin Hall.—What was said in the previous biennial report regarding the provision for social facilities on the campus is truer today than it was two years ago. The inadequacy of our social set-up is more apparent all the time, particularly as our students are feeling the need for economizing in their social life, and are therefore trying to make use of all those inexpensive facilities which might offer such opportunities. In addition to the inadequacy of Shevlin Hall

and the Minnesota Union, the outstanding defect of our social life on the Farm campus is that there is no real recreational center there. A committee of students and faculty is now working on this problem.

Chaperonage.—The continued checking and reporting on the social affairs held by groups on the campus is proving to justify the time and labor that it takes. The reports on our student parties are much more favorable than they were a while ago, and the students are continuing to use the approved lists that have been made up at their request. There were fewer house parties given at the close of the spring quarter than in previous years, because of the expense involved. This year the number was so small as to be negligible. The reports on all of these parties were very favorable, and the groups have co-operated splendidly, both in consulting the dean of women about their plans and coming in to report on the functions after they have taken place. The resort keepers too have shown themselves most co-operative.

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 1932-34.

Vocational guidance has been defined as "the giving of information, experience, and advice in regard to choosing an occupation, preparing for it, entering it, and progressing in it." In the past, city high school students, both through their school programs and through municipal activities, were better informed vocationally than rural students, but this difference is lessening with increasing emphasis on vocational guidance in the small school.

In university counseling we find students' questions are far less general, far more specific than formerly. In many cases the urge for information is a financial one. The girl is often faced with her own support and also family obligations. The counselor recalled one girl who without embarrassment stated quite frankly that she possessed only one dress and laundered it nightly. Such a girl's time and expenses at college are a real sacrifice, and today she is far more critical of the worth of individual courses and the end results of her majors than she has been in the past.

The University has kept pace with changing conditions and the demand for more individual freedom in program making both by decreasing the number of required courses and by the establishment of the University College and the General College. The additional freedom of choice given the student necessarily requires more educational and vocational counseling facilities. The group just completing the work of General College also adds to the counseling work. The wider range of choice and increasing number of decisions left to the student herself should help to lessen in the future the tendency of some graduates to blame educational institutions when these same graduates are not interested in the practical work, or are unable to obtain positions, in the professions for which they took extensive training.

Vocational round tables were held on various professions with outstanding authorities from the Twin Cities as speakers. The favorable results of the round tables are often not immediately realized. Many times graduates have owed their later success to the help of the professional and business people who became interested in them during student days. At the present time good personal contacts are all important in job-seeking, either for part time, summer, or permanent work.

Aside from conferences on the campus the counselor, for convenience of students, both during the college year and the summer, makes appointments at the office of the Woman's Occupational Bureau. There is an increasing demand at the bureau for adult guidance, and information concerning the University General Extension Division.

Respectfully submitted,

KATHERINE WOODRUFF,

Vocational Counselor for Women

THE UNIVERSITY TESTING BUREAU

To the President of the University:

SIR: I submit herewith the report of the University Testing Bureau for the period from July 1, 1932 to June 30, 1934.

General problems.—General economic and social conditions of the past two decades have focused attention on certain college personnel problems. Increased enrolments, with their attendant increase in student mortality, and growing emphasis upon the economic advantages of higher education, have caused a trend with which traditional pedagogy has been unable to cope. Economic and occupational competition have become more severe in these years; the rapid rise of college enrolment reflects the social belief that education is the best insurance for security in later life. Altho there is evidence of the validity of this assumption for certain types of students, education must be more carefully defined and administered in terms of the needs of the individual student before it can achieve its greatest value. This very process of individualization represents the stumbling block of traditional methods. Extensive student mortality indicates a waste of human effort that looms as large as the waste of money and physical equipment; inadequate vocational orientation of students, with the resultant lack of adequate motivation, is equally productive of wasted energy and money. Finally, individual problems of maladjustment, either academic or personal, may become the basis of the more serious occupational and personal maladjustments of later life. Such problems as these, increasing in severity and frequency, are now recognized by educators and administrators, but their solution is rendered difficult by the complexity and extent of the training demands made upon educational institutions and by the heterogeneity of abilities possessed by students.

Colleges might conceivably continue to deal with problems of student mortality, lack of vocational orientation, and scholastic motivation in terms of a laissez-faire philosophy, thus placing the burden of achievement upon the individual student. Such an attitude is essentially an avoidance of the issue, and is no more feasible in education than in other social institutions. Nor will a more stringent selection of incoming students serve as a panacea for existing problems, were such a policy possible in a state university.

Purposes of the Testing Bureau.—It is for the purpose of applying guidance procedures to educational and vocational problems that the University Testing Bureau was established in the fall of 1932 by action of the Board of Regents, as an independent service agency, with the Board of Admissions acting as a general advisory committee.

Through this bureau the University attempts to apply to the problems of its own students the knowledge gained from years of experience and experimentation in student personnel work, student selection, motivation and counseling. This bureau is a service agency in the field of educational and vocational adjustment; it serves as a clinic in this field in much the same way that the Students' Health Service operates in the field of student health. It has and seeks no monopoly within the field of guidance but is a technical agency available for faculty advisers and counselors in their attempts to help students in their problems of adjustment.

By means of its technical services and its clinical work with individual students, the bureau has come to function as a method of co-ordinating the guidance efforts of faculty advisers and other personnel workers. Other universities have attempted to secure co-ordination within this area by organic consolidation of all personnel agencies within one department or by centralization of authority over personnel work in the office of one administrator. The University of Minnesota achieves such co-ordination with resulting efficiency by the co-ordination of efforts, not by centralization of authority. The University contends rightly that the effective guidance of students is the sole objective of its personnel work and to this end seeks to focus the resources and efforts of all its personnel agencies upon individual cases. That such a policy is justified in terms of the resulting improvement in work with students, without loss of initiative and individuality of any personnel agency, has been demonstrated. Naturally, a large part of the success of student personnel work is due to the co-operation of the counselors in the individual colleges.

College guidance work, as carried on by the bureau, is primarily concerned with problems which cannot be adequately adjusted elsewhere. It attempts a continuing study of the individual and a careful process of guidance toward his satisfactory adjustment in the academic situation, as preliminary to an ultimately satisfactory life adjustment. Such a program includes: an original, intensive study of the individual student which will synthesize interviews, psychological tests, health reports, high school achievement, work experience, and other pertinent data; a recommendation, from this available evidence, as to the broad occupational field which will yield the greatest satisfaction and the type of academic training necessary for this field; the collection of relevant personal data from many sources; the individualized interpretation of occupational and academic requirements and opportunities; a continuing follow-up and repeated study to determine the extent of the individual's growth and adjustment after he has been thus oriented, the establishment of friendly relationships between such students and members of the faculty; and finally, the co-ordination of all personnel workers dealing with the same student cases. This is essentially the framework within which the University Testing Bureau operates.

At present, the greater part of this counseling is devoted to helping students who are faced with the immediate difficulties of setting up tentative or final occupational goals and mapping out the proper training course for these goals. In the past it has been customary for students and faculty to ignore the need for guidance until some overt maladjustment has developed. Gradually this emphasis will be shifted to preventive work in individual academic and occupational adjustments which will be a natural continuation of the program of the Committee on Vocational Information, the present pre-college counseling work, and the eventual co-ordination and follow-up of counseling begun in high school. Continuity of counseling as students transfer from high school to college is necessary for effective guidance. Perhaps the end result of such preventive work will include a counseling program for all freshmen, but this will transpire only as the culmination of the development of the present program, and after an adequate demonstration of the effectiveness of this method of student guidance.

Two recent improvements in the University's personnel program constitute a

beginning of this continuous program. The revised application for admission will provide college counselors with a record of the efforts of high school counselors to help those students who come to the University and will make possible an early attempt on the part of the college counselors to continue previous counseling. Moreover, the new function of the University Testing Bureau's Committee on Vocational Information will permit early identification and work with students in need of guidance. The members of this committee interview each new student at the time of his first appearance on the campus, thus serving as a means of personalizing each student's first contact with the University. During this initial interview, the committee advisers explain briefly the registration procedure and answer questions regarding the various curricula or refer the student to a college adviser for more detailed information. These general advisers seek to identify those students in need of extensive guidance and to refer them to vocational advisers. After this initial work carried on during Freshman Week and at the beginning of the winter and spring quarters, the University Testing Bureau continues this counseling of these new students on a more extensive scale.

Methods of case work.—A student in need of guidance may be referred to the University Testing Bureau from a variety of sources. Problems of college entrance usually come from the registrar's office; college probation officers may refer difficult scholastic problems; faculty counselors in the different colleges may refer students with vocational or personal problems; transfer students or students petitioning for registration in special curricula are referred for counseling and recommendations; physically handicapped students are studied for recommendations to the State Department of Re-education; and finally, individual students come voluntarily to the bureau.

Regardless of the source of referral, the student receives, in general, the same type of service. The bureau's clinical tester first interviews the student to determine the nature and extent of his problem. Upon the basis of this information, those tests which will evaluate the educational and vocational possibilities of the student are chosen from a large battery of psychological measuring instruments. Other relevant data are collected, such as health service reports, scholarship standing, entrance test ratings and high school scholarship, and reports, when available, from other counselors or advisers. The collection of this material is made possible by the maintenance of the Faculty-Student Contact Desk, wherein all out-of-routine contacts between students and faculty are summarized for confidential exchange, and through which counselors' requests for relevant information about students are cleared.

Data from psychological tests are but one of several methods of diagnosing the student's educational and vocational possibilities.* The bureau does not base its diagnosis and subsequent recommendations upon one test alone but upon repeated testing supplemented by data of other types. The bureau seeks to learn all it can about each of its cases, within the limits of its staff resources and the availability of supplementary data. Thus, when the testing is completed and the student is ready for his interviews, the counselor has at hand an extensive body of relevant information which, in the subsequent interviews, is synthesized and

* Williamson, E. G., University of Minnesota Testing Bureau. *Personnel Journal*, Vol. 12, No. 6, pp. 345-55. April, 1934.

presented to the student to enable him to make a rational and logical decision about his specific problems.

By means of weekly staff clinics, the bureau secures more extensive data and more valid diagnoses of individual cases. These clinics are open to members of the university staff who counsel students and to selected graduate students who are securing professional preparation in the field of educational guidance or industrial personnel work. The clinics also provide a means of demonstrating the methodology of guidance used by the bureau and for securing criticisms and suggestions for improvement of procedures.

Three principles of guidance.—Three general principles of guidance deserve mention. (1) The function of a counselor is to help the student by providing him with data about his own aptitudes and interests and the educational and occupational opportunities which are commensurate with these abilities and interests. By means of this mutual attack on the student's problem he is able to foresee the outcome of various possible decisions he may make.

(2) Guidance on the college level is most effective when it deals with judgments of success or failure in meeting various standards as they occur in the student's professional training program rather than prognosis of success in subsequent occupational competition. This restriction does not preclude the latter type of prognosis but is based upon the recognition of the fact that the counselor knows less about the factors making for success in heterogeneous occupations than in the relatively more controlled conditions of college curricula. This guidance procedure, while not definitely validated, is more feasible since neither the counselor nor the student can exercise sufficient control over occupational trends and opportunities to put into effect specific occupational recommendations, even if occupational requirements were adequately understood. Training recommendations are usually made so that the individual student will achieve and understand his possible vocational versatility, as well as specialization, as the best provision for later economic security and life enjoyment, with due regard for possible future changes in the nature of his work.

(3) Because it is common practice to take test results too literally, the counselor must guard against this overemphasis by interpretation in terms of the individual student's background, rather than evaluating the student in terms of the specific test scores alone. These test scores can be caused by a multitude of factors, which must be utilized in interpreting the student's situation.

Advising the student.—When the interviews with the vocational counselor are completed, the student is then advised regarding a program of personal and professional training. If he is in need only of vocational information, he is referred to members of the Committee on Vocational Information and to the University Testing Bureau's extensive bibliography of titles dealing with the various occupations and professions. If his problem is more personal, he is referred to special service agencies on the campus: the Speech Clinic, the psychiatrist, the social case workers, How To Study classes, and the employment bureaus. If his problem is one of curricular selection, he is assigned to a faculty counselor. In cases where the student is referred to other counselors or agencies, a test profile and abstract of the vocational counselor's diagnosis and recommendations are sent to give the background of the case, and to secure co-ordination. A periodic follow-up of the

more serious cases is attempted each quarter by the bureau to determine whether the student is adjusting himself satisfactorily, or whether further work is needed. Many additional students return voluntarily for further advice. This follow-up work is, of course, co-ordinated with that of the student's adviser or counselor.

A dictaphone record of every interview, a copy of every report to counselors, and extensive data regarding educational, vocational, and family history for each case are filed in a separate coded folder for each student. Generally speaking, the bureau has no inactive cases, the folders being in constant use by members of the staff for research, follow-up, additional tests and interviews, and reports to advisers, parents, and university administrators.

Extent of the service.—The extent of the service is found in the following statistics. No attempt has been made to publicize the bureau's services widely because of the limitations of staff and because of the desire to proceed carefully and empirically in the development of an adequate program. The fact that such a large proportion of students came voluntarily to seek aid, largely upon the recommendation of other cases counseled by the bureau, is an indication of the acceptance by students of the bureau's services.

During the biennium 1,932 new student cases were counseled. This does not include cases counseled in both years of the biennium. Of this number, 737 were pre-college cases, 531 were freshmen, 370 sophomores, 103 juniors, 46 seniors, 22 graduates, 41 unclassified students, and 82 non-college cases. The preponderance of pre-college and freshman students reflects the bureau's policy of early location and analysis of students' problems. Of these cases, 1,127 were men and 805 were women. Approximately 58 per cent of the total were referred by college authorities and counselors; 42 per cent came voluntarily.

TABLE I. DISTRIBUTION OF TESTING BUREAU CASES BY COLLEGES, 1932-34

Agriculture	38	Medicine	3
Business	19	Mines	2
Chemistry	16	Non-college	82
Dentistry	1	Nursing	16
Education	48	Pharmacy	2
Engineering	39	Pre-college	737
General College	288	S. L. and A.	606
Graduate School	23	Unassigned	2
Law	3	University College	7
			1,932

The number of cases alone is not an adequate index of the amount of case work involved. The data given in Table II are more representative of the extent of individual case service for the students grouped in Table I.

Including entrance test ratings available for these students through the annual state-wide high school testing program, ten sources of information are utilized in working with the average case. These data are actually preliminary, in many cases, to the counseling itself; they are nothing more than the basis for counseling.

TABLE II. CASE SERVICE OF TESTING BUREAU, 1932-34

Data collected from other agencies	
Grades	583
Health Service reports	750
Reports from other counselors.....	275
Total	1,608
Number of interviews (in addition to the preliminary interview by the clinical tester for each case).....	2,225
Reports to counselors and administrators	1,429
Data collected from students	
*Vocational interest tests.....	1,372
*Scholastic aptitude tests.....	2,072
*Special aptitude tests	1,599
*Achievement tests	2,434
*Reading tests	106
*Personality inventories	1,246
*Case history forms.....	1,488
Total	10,317

* These are additional to the regular university entrance examinations and represent individualized diagnoses of educational and vocational problems.

The synthesis of this material into alternative recommendations, from which the student may make a choice satisfactory to himself, takes place during the vocational interviews. For the two years under consideration, 2,225 such interviews were held, and, in addition, 1,429 formal reports were forwarded to college counselors and administrators. The clinical tester must also interview each case to determine the nature and extent of the problems. Inclusion of such interviews would bring the interview total up to 4,157, or a minimum of two interviews for each case. Inasmuch as the services of the bureau are based on a continuing study and follow-up of its students, the report of work done within a given time period can be no more than a static cross-section of services constantly being rendered. It is estimated that about one third of the students appearing in these summaries will return for additional counseling; many others will be subject to a follow-up by the bureau.

In regard to the types of students whom the bureau serves, it may be interesting to study the distribution of their abilities in terms of the College Aptitude Rating as one available index of their general academic capacities. A random sample of 467 students was chosen and distributed by percentiles on the College Aptitude Rating (Table III).

Apparently, the students who come to the bureau are not confined to any one level or area of academic ability. This diversity of abilities implies a similar diversity of individual problems, calling for individualized guidance work.

In addition to the individual counseling functions summarized in the foregoing data, the bureau gives and scores special tests for various units of the University, in addition to the regular entrance tests given to all new students. During this

biennium, approximately 1,600 such tests were given, individually or in groups. This figure includes individual entrance tests and re-tests for the Board of Admissions; Senior College culture tests in the College of Science, Literature, and the Arts; and some tests for special research studies in progress by various colleges of the University.

TABLE III. COLLEGE APTITUDE RATING OF SAMPLE OF TESTING BUREAU CASES

C. A. R. Percentiles	Number of Cases	C. A. R. Percentiles	Number of Cases
90—99	29	30—39	69
80—89	50	20—29	58
70—79	46	10—19	39
60—69	40	0— 9	15
50—59	61		
40—49	60	Total	467

Other functions.—The University Testing Bureau fulfills other functions in its regular routine of work. It supervises and administers the general university entrance examinations, which each entering student must take. Students who have not completed a full high school program also take these examinations, supplemented by special examinations required in the various colleges. Transfer students are also required to take the entrance tests for admission to some units of the University. As a supplement to the general entrance testing, some of the tests administered by the bureau are used for placement purposes, as in the freshman English courses.

The bureau acts as the technical agent of the Association of Minnesota Colleges in the supervision and administration of the state-wide testing program of high school seniors. Reports of the results of this program, which annually includes more than 20,000 high school seniors, are forwarded to high school principals and colleges throughout the state.

The test results from these programs are on file in the University Testing Bureau, and provide basic research data for many workers. This centralized arrangement saves large expenditures in basic testing, and also makes available basic data for the counseling of individual students.

The statistical and scoring services of the University Testing Bureau are also available for general research in fundamental problems of guidance and orientation, and general university testing programs. This service is provided on a cost basis to the various administrative and instructional units within the University. Increasing use is being made of this service as personnel problems and methods are subjected to experimental analysis.

Staff services.—The services of the staff are also being utilized in co-ordinated attacks upon educational and personnel problems. By means of a course in vocations, offered in the General College, the director of the University Testing Bureau attempts to disseminate the general principles upon which satisfactory vocational and life adjustments rest. Similarly, through the medium of the weekly staff conferences and clinics the machinery and methodology of guidance in actual

operation are demonstrated. Continued correspondence with high school principals and other guidance workers serves further to provide an exchange of information and ideas on common problems. Such services as these are important if the philosophy and ideals of guidance are to become more widespread.

The Committee on Vocational Information, appointed by the president, and including representatives from the major units of the University, acts as a source of first-hand information on occupational and vocational opportunities and requirements, to which students may be referred for guidance. This committee also functions during Freshman Week, in counseling all new students. This program, necessitating a staff of counselors and a complete testing and scoring service centralized in the Armory, was extremely successful. Approximately 200 cases were given intensive counseling during the five and one-half days of Freshman Week in addition to the general advising of all new students. This service was repeated in the winter and spring quarters with equally gratifying results in adjusting students' problems early in their academic careers, and will be repeated as a feature of Freshman Week in the fall of 1934.

The bureau's Committee on Vocational Information also sponsored a series of radio talks by representatives of the various curricula of the University. These talks, given during the months of April and May of 1934, are being prepared for publication, and will provide a general orientation and background for high school students faced with the necessity of making a choice of occupation and the necessary professional training.

Necessary basic research.—Underlying any service enterprise is the determination of its efficacy. Consequently a continuing research program must precede improvement in the counseling service. Altho the bureau is not, strictly speaking, a university research agency, nevertheless, it may contribute to the research functions of other agencies by means of the body of empirical knowledge resulting from intimate study of the problems of individual students. Many suggestions for needed research have been made to individuals or departments. The bureau also contributes to the completion of research by providing scoring services through its trained clerical staff. With respect to the analysis of its own problems and procedures, the bureau does function in a research capacity. During the past year several studies were begun with the purpose of adding to the body of knowledge about the educational and vocational abilities of college students. The bureau likewise benefits from personnel research conducted by such agencies as the Board of Admissions, staff members of the Committee on Educational Research, and members of psychology, education, sociology, and other departments of the University.

Some of the types of research being carried on by the bureau may be briefly mentioned under the following headings:

1. The isolation of guidance problems by detailed analysis of case histories to discover the types and frequency of specific problems.
2. The analysis of related aspects of guidance. This includes, for example, the vocational and educational plans of high school seniors compared with C. A. R. as an index of their general academic ability; and the clearance of counseling cases through the confidential exchanges of Minneapolis and St. Paul to discover the value of securing data from social work agencies for all registered students.
3. The construction of new measuring instruments in the field of social at-

titudes and attitudes toward vocational choices, to the end that more standardized judgments of the intangible aspects of individual adjustment may be available in counseling work.

4. The establishment of norms and standards. By objective testing in the various fundamental subject-matter fields, it is possible to set up tentative expectancy norms for different professional goal groups and for different class groups. Such norms are basic to the establishment of standards or critical areas for differing curricula. An analysis of test data available in the bureau, combined with empiric knowledge of related aspects of various curricula, may yield tentative norms useful in counseling students.

5. The validation of counseling by means of preliminary and continuing follow-up work to determine the effectiveness of the bureau's counseling program in terms of better orientation or adjustment for the individual student, or increased student satisfaction in academic and vocational situations.

The growth of education has entailed an increase in the responsibilities of the University to its students. The realization that the individual is more than a class-attending unit creates new problems of student adjustment. The student must be considered in terms of his demonstrated abilities and interests and must then be educated in terms of his individualized needs whether that education fits him for the highest professional career or the less complex requirements of ordinary citizenship. The University Testing Bureau, as a technical adjunct to the personnel program, attempts to contribute to the development of a plan of education consonant with individual needs by means of the methods of guidance and services herein outlined.

Respectfully submitted,

E. G. WILLIAMSON, *Director*

THE BOARD OF ADMISSIONS

To the President of the University:

SIR: The Board of Admissions was established in April, 1932, as an all-university organization. Its members are appointed annually and include the following: Harl R. Douglass, Clyde H. Bailey, W. T. Ryan, R. M. West (secretary ex-officio), and C. M. Jackson (chairman).

The duties of the Board of Admissions are defined as follows:

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.

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

While matters of general policy have been determined by the Board of Admissions, the actual routine administration of the existing rules has been delegated to Mr. R. M. West, who, as registrar of the University, is ex-officio a member and secretary of the board. This arrangement has proved very satisfactory.

Satisfactory working arrangements have been made with the existing entrance committees of the various colleges. The problem of the transfer of individual students from the General College to the various other divisions of the University is gradually being solved, with the friendly co-operation of all concerned.

The University Testing Bureau was established as an all-university organization upon recommendation of the Board of Admissions. (See report of University Testing Bureau, page 343.)

The need for improvement in the requirements for admission to the various colleges of the University is widely recognized. It is generally realized that the present requirements in most cases rest upon an empirical basis of largely unproved assumptions. Numerous educational studies in recent years have shown that graduation from high schools with approved curricula does not guarantee success in college studies. At the University of Minnesota, in general, nearly half of the admitted freshmen fail to graduate (see *Report of the Survey Commission*, VI, 1924 and VII, 1925). On the other hand, many without the traditional requirements have, when given the opportunity, demonstrated their ability to do satisfactory university work.

Dean Johnston's earlier studies (see *Report of the Survey Commission*, X, 1927) represent a valuable pioneer effort to ascertain the requirements for success in the Arts College. He found that the percentile rank of the individual student in his high school class gives a more accurate prognosis than his high school grades; and that a "college ability rating" (averaging high school rank with a general college aptitude test) makes it possible to establish with considerable accuracy a level below which college success is very improbable.

However, it is not to be expected that requirements which are adequate for the college of liberal arts will necessarily measure equally well the ability to do the work in the professional schools. A recent study by Mr. T. E. Pettengill,

assistant registrar, has shown that for most of the colleges at the University of Minnesota admitting students directly from the high school, the high school rank is a much more important factor than the college aptitude test in predicting success as measured by the university freshman grades. Another investigation (as yet incomplete) conducted by Professor Charles W. Boardman, indicates that students admitted without the conventional pattern of required high school subjects in many cases have done satisfactory university work. Similarly, in the professional schools such as Law and Medicine, with college requirements for admission, several studies in other institutions have revealed a discouragingly low correlation between the college grades and the subsequent performance in the professional curriculum. It is clear that further research is urgently needed to ascertain what admission requirements are really justified and appropriate in the various divisions of the University.

The time seems ripe and the conditions generally favorable for a thoro and scientific study of this important problem. The North Central Association of Colleges and Secondary Schools has recently abolished the fixed standards of admission requirements and now encourages a policy of enlightened experimentation in this field. The minimum of fifteen "Carnegie units" is no longer to be considered as an immutable requirement marking an invariable line of demarcation between secondary and collegiate work. It is now possible for the University to shift the entrance requirements both quantitatively and qualitatively, and by observing the results to establish what traits and studies are actually necessary or desirable as a prerequisite for success in the various fields of work at the university level.

With these conditions in mind the Board of Admissions during the past year has held numerous meetings with representatives of the various colleges of the University to discuss the general problem of admission requirements and the special conditions peculiar to the various fields. Through the assistance of Professor Harl R. Douglass, abstracts of the literature bearing upon the subject were supplied in advance of each meeting, and these summaries formed a useful basis for discussion. For each college, a subcommittee was formed including representatives especially interested and qualified to plan co-operative investigations for the improvement of the admission requirements in the corresponding division.

While the investigations will naturally vary in the different colleges, it is in general proposed to include a study of such variables as (a) the secondary school records (average mark, rank in class, various subject-matter grades); (b) pre-professional college records (average standing, honor point ratio, credits earned, grades in individual subjects); (c) scores on additional tests in high school or university (general and special aptitude, achievement, and ability); and (d) miscellaneous factors, such as size of high school, age at matriculation, health status, and other pertinent data. All these variables are to be correlated with the success in subsequent university work as measured by persistence, grades, and professional accomplishments. Each of these studies is conducted by the corresponding subcommittee, with Professor Douglass as technical adviser and general co-ordinator.

The earliest of these studies were undertaken in the School of Nursing and in the College of Agriculture, Forestry, and Home Economics. Both projects were carried on during the past year, and preliminary results of interest and value have

been obtained. Work is also actively in progress by the subcommittees representing Law, Medicine, Dentistry, Pharmacy, and the College of Science, Literature, and the Arts. Plans are also definitely formulated for similar studies in Business Administration, Chemistry, and Education. Investigations have likewise been authorized for the General College, Engineering and Architecture, and the Graduate School.

In the conduct of this comprehensive series of studies, the Board of Admissions is greatly encouraged by the spirit of co-operation shown by the faculty representatives of the various schools and colleges. We are also indebted to the Committee on Educational Research for the arrangement of financial support and other assistance. Student clerical help provided from various sources, including federal work-relief, has been utilized to great advantage in these projects. While the accumulation and analysis of the necessary records on an adequate scale is a huge task requiring a period of years for completion, the preliminary results already obtained justify the hope that the outcome will represent a substantial progress in our knowledge concerning the various factors involved in the requirements for admission.

Respectfully submitted,

C. M. JACKSON, *Chairman*

THE DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS

To the President of the University:

SIR: I submit herewith the report for the Department of Physical Education for Men for the academic years 1932-33 and 1933-34.

The department during the past two years, altho somewhat restricted due to economic conditions, has been able to carry on a program in physical education and athletics nearly identical with the program of the two previous years. In the fiscal year 1932-33 departmental receipts were approximately \$153,000 from intercollegiate sports and \$21,821 from state support. The departmental budget for the fiscal year, which had formerly been \$216,633, was sharply reduced to \$175,686 to meet this decline in revenue. A reduction in departmental expenditures was accomplished by elimination of some personnel, lower salaries for the entire staff, and curtailed expense of team travel and purchase of team equipment. By careful co-ordination of activities it was possible in the face of departmental budget limitations to increase the program in intramural athletics, physical education, and teacher training. At the end of the fiscal year 1933-34, the department had operated within its reduced budget, and receipts had increased so that they totaled approximately \$37,414 more than the expenditures for the year.

Significant activities.—Items of importance during the two-year period deserving of special mention are listed herewith:

1. There were additional activities and changes in intramural athletics, Physical Education, and Teacher Training Courses which will be specifically listed under separate headings.

2. Work started on the construction of the new sports building designed to provide two swimming pools, one with seating capacity of 1,200; four basketball courts for intramural play; additional facilities for wrestling, boxing, and gymnastic squads; classrooms and administrative offices.

3. There was reorganization of athletic field space necessitated by the erection of the new building.

4. The conference in 1932-33 eliminated the annual cross country meet. We dropped cross country as an intercollegiate sport but added it to our intramural program.

5. Mr. L. F. Keller in 1932 was appointed secretary and member of the National Collegiate Hockey Rules Committee. During the past two years Mr. Keller has edited and caused to be published each year a rule book governing this sport.

6. Mr. Ralph Piper was elected secretary of the Central Division of the American Physical Education Association.

7. The department, with the assistance of the news service, published a summer school bulletin on physical education. It was sent to all superintendents of schools, principals and teachers in physical education in Minnesota and adjoining states.

8. Our staff assisted and co-operated with the Shriners in arranging their program in the University Stadium at their National Convention held at Minneapolis, June 19-23, 1934.

9. The College of Science, Literature, and the Arts eliminated, for the school year 1933-34, the physical education requirement but allowed it to be elected with credit for graduation. For the school year of 1934-35 no credit will be allowed, thus eliminating all physical education for men in that college.

10. The department has adopted a definite program to create good will between the University of Minnesota and former "M" men, alumni, and the general public. I am listing herewith some of our activities:

First, we are active in assisting and helping the "M" Club organization.

Second, in 1931 a maroon and gold "M" button was made a part of the official award to all winners of the "M." We have during the past year presented an "M" button to all letter winners prior to 1931.

Third, the Athletic Department has presented to every student and former student who received the "M" award for intercollegiate competition a certificate of this award. The certificate recites the sport or sports and the year or years in which the award was earned and is signed by the chairman of the Senate Committee on Intercollegiate Athletics and the director.

Fourth, a Speakers Bureau of staff members has been maintained. Staff members have answered requests to talk on physical education and athletics at service clubs, alumni clubs, education meetings, high schools, churches, and some civic groups. The total number of engagements exceeded 500. In addition, we edited a moving picture film which included the outstanding plays from every game of the 1933 season. It was shown to 175 separate groups or clubs.

11. The Senate Committee on Intercollegiate Athletics awarded to Professor James Paige an honorary "M" for his long and meritorious service in intercollegiate sports.

Intercollegiate athletics.—The intercollegiate sports program at Minnesota includes all the sports listed in our last report with the exception of cross country. Since 1902 Minnesota athletic teams have won 32 conference championships. During the past two years we have won four Big Ten championships—two in hockey, one each in baseball and tennis. Our 1933 football team was undefeated but played 4 tie games. Francis Lund and Frank Larson were selected on All-American teams and Francis Lund was awarded the "Douglas Fairbanks Trophy," given to the season's most valuable player.

The intercollegiate program of the past two years shows an improvement over the years 1930-31 and 1931-32. We played 190 contests (114 conference and 76 non-conference) in 1930-31 and 1931-32, and 192 contests (93 conference and 99 non-conference) in 1932-33 and 1933-34. The decrease in conference competition reflects economic conditions. In 1930-31 and 1931-32 we won 112 contests, lost 74, and tied 4, while in 1932-33 and 1933-34 we won 121, lost 66, and tied 5. In 1930-31 and 1931-32 there were 1,006 varsity candidates for teams and 1,159 freshman candidates, totaling 2,165, while in 1932-33 and 1933-34 there were 962 varsity candidates and 1,754 freshman candidates, a total of 2,716, and an increase of 551. Credit for this fine showing in the face of reduced budgets is due to the fine co-operation of the coaching staff and our athletes. The records are included in the table on page 357.

Intramural athletics.—During the past biennium, various new sports or events were added to the intramural program and many of the existing ones were expanded. Ping-pong was added with 400 men taking part during the first season. Ice events were expanded from skating races to an ice carnival with hockey games, races, and fancy skating. The annual boxing show was changed to an "Indoor Sports Carnival" featuring the following events: basket-ball, tennis, volley ball, wrestling, relays, gymnastics, ping-pong, fencing, badminton, deck tennis, and boxing. All sports were organized for Pioneer Hall dormitory. Special tournaments for men living in the university co-operative cottages were conducted. Intramural activities of every type were organized for federal aid students living at Farm campus dormitories.

Expansion in the sports listed below was brought about in various ways:

Volley ball.—Made a two-quarter sport instead of one quarter. Number of teams participating doubled.

Handball.—Made a two-quarter sport. Novice tournament added.

Squash racquets.—Made a two-quarter sport. Novice tournament added.

Wrestling.—Freshman wrestling added.

Boxing.—R.O.T.C. tournament resumed after several years.

Rifle shooting.—Addition of fraternity team tournaments. Increase from 4 to 20 teams in one year.

Open tournaments.—Consolations conducted for wider participation.

In order to contact men without organization affiliations, a visiting campaign was carried on during the winter and spring of 1934. Students on federal projects were used to visit boys' rooming houses. Five hundred boys were interviewed and 300 of this group signed up for some form of intramural activity. Intramural handbooks were given to all men contacted.

Physical education.—The courses in physical education are offered by the department to men students for the purpose of providing instruction and practice in sports of a recreational nature in which men may participate in future years, and for recreation, regular exercise, and social intercourse.

Teacher training program.—The teacher training phase of the physical education program has continued to develop during the past two years as manifested by an increase in numbers and the apparent quality of those enrolled. During the year 1932-33 there were 162 men majoring in physical education and this number increased to 176 in 1933-34. The quality of our graduates is noticeably improving due to the general qualifying examinations of the College of Education and the more stringent requirement of the physical education curriculum. There is a great need, however, for a better method of selection of students and the department is working on a plan.

Tournaments.—Annually during the past two years the department has conducted the following tournaments, acting as agents for the Minnesota State High School Athletic Association:

1. State High School Track Meet
2. State High School Golf Tournament
3. State High School Tennis Tournament
4. State High School Swimming Meet
5. State Regional Basket-ball Tournament

We have also allowed our football and basket-ball facilities to be used by Twin City high schools for their championship football and basket-ball games. A metropolitan invitational indoor high school track meet has been sponsored for the past two years.

Respectfully submitted,

FRANK McCORMICK, *Director*

THE DEPARTMENT OF PHYSICAL EDUCATION FOR WOMEN

To the President of the University:

SIR: Herewith I submit my report on the Department of Physical Education for Women for the biennium 1932-34.

Studies.—Various studies relating to the work of the department have been formulated and are in process. These are by title:

1. Study of overlapping of courses in the curriculum for training teachers, by the Curriculum Committee of the department.
2. Study and preparation of tentative five-year curriculum for teacher training, by the Curriculum Committee of the department.
3. Written examinations in physical education motor activities.
4. Reliability and validity of vital capacity tests.
5. Basis of selection for posture training classes.
6. Possible correlation between posture and thoracic index.
7. Use of moving pictures in teaching diving.
8. Revision of personal rating form for major students.

Revised program of physical education for freshman and sophomore students.—

The study of the outcomes of physical education, undertaken through the co-operation of the University Committee on Educational Research with this department, has involved an experimental program which began in the fall of 1932 and has recently ended. In the preliminary report at the end of the first experimental year, the research fellow, Miss Elizabeth Graybeal, found significant differences between the experimental and control groups, in favor of the experimental group. The final report is not finished as this report goes to press.

For purposes of experiment the freshman class that entered in the fall of 1932 was divided at random into two groups of equal size. One group participated regularly in the required physical education classes while the other was not only not required but not allowed to participate. The numbers in these groups at the start and finish of the two-year experiment were as follows:

	Experimental Group	Control Group
1932-33	368	378
1933-34	61	74

The control or inactive group has been handled with the fact in mind that while those students were prohibited from enrolment in any motor activity or lecture class, nevertheless an attempt should be made to motivate the attendance that was required of them at regular intervals. The purpose of their attendance was to make reports on voluntary motor activity. The motivation consisted of lectures and moving pictures on matters of general interest, given by the kindnes of certain members of faculties outside of this department.

The program for the experimental or active group marks a departure from our former practice in that it has been based on the principle that individual differences in ability, needs, and interests should be the guide in advising or requiring selection of classes for enrolment. Individual differences were disclosed

by the following means: (1) the physical examination, which has always been indispensable for classification; (2) the photographic posture record, graded by the new Howe-MacEwan objective method; (3) written examinations in knowledge of any or all of the motor activities we offer; (4) a skills test in swimming, which was at that time the only standardized skills test that was available; (5) a written examination in health knowledge. In addition, for the use of the research fellow, the students took tests in motor ability and attitudes.

Five abilities from the fields of posture, fundamentals of movement, team sports, individual sports, and knowledge of the human mechanism have been used as the basis of the program. Swimming is no longer required as a specific ability but takes its place as one of the individual sports. If these abilities are not demonstrated by the tests or examinations in Freshman Week, the student is required to spend at least one quarter in a course in the field of each ability that is lacking. She is not required to take training in any ability which she already possesses but may exercise free election among the activities that quarter.

In most of the courses offered the students take an identical pre-test and post-test covering the quarter's work and the grade for the course depends largely on the improvement made.

The orthopedic and remedial gymnastics which have always been based on individual needs are being carried on as before.

The desirability of individualizing the curriculum has appealed to our staff for some time and we have incorporated this principle and practice into our program for all students required to take physical education.

The requirement.—The College of Science, Literature, and the Arts abolished its requirement in physical education by action of the faculty in the spring of 1933 and has subsequently rescinded credit for the courses in the former requirement, if elected. The effect on enrolment figures is shown by the following tables:

	1932-33	1933-34	Percentage Drop
Enrolment in all colleges			
Fall	1,530	893	42
Winter	1,792	693	60
Spring	1,489	832	44
Enrolment in College of S.L.A.			
Fall	1,053	361	66
Winter	1,214	249	80
Spring	971	403	57

The students registering in 1933-34 in the Arts College fall into two groups: the pre-Education group who would eventually have been held to a requirement by the College of Education, and the free election group. An analysis of the 1933-34 figures follows:

	Total S.L.A. Enrolment	Pre-Education	Free Election
Fall	361	225 62%	136 38%
Winter	249	149 60%	100 40%
Spring	403	237 59%	166 41%

The pre-Education students were given the tests after registration and received guidance in choice of courses. The remainder of the Arts College students received neither classification nor guidance.

It is impossible to predict the ultimate effect of the abolition of the requirement in physical education by the College of Science, Literature, and the Arts. By it the students are thrown entirely on their own initiative in regard to taking physical education. It remains to be seen how many who are interested in it can resist the pressure exerted by time demands of transportation, scholarship, self-support work, and social contacts.

Teacher Training Course.—The present economic condition places a premium on the teacher who is able to teach in more than one field, and our advisers have been urging and assisting students to equip themselves to teach at least one minor as well as the major.

A new and more refined rating form for personality traits has been a valuable adjunct in advising students and evaluating them for the Bureau of Recommendations.

The alumnae mention practice teaching as one of the most valuable experiences provided by the University. It is therefore unfortunate that at this time opportunities for practice teaching have been greatly reduced.

As a result of the difficulty in securing teaching positions there has been a drop in the enrolment of physical education major students from 118 in 1932-33 to 75 in 1933-34.

Trends in physical education.—The present trend of student interest toward individual activities at the expense of team games continues to go on. The program content of the department makes an effort to satisfy this trend. An analysis of enrolment in required classes, 1933-34, shows 269 students in team sports, and 1,367 in individual sports. In the activities sponsored by the Women's Athletic Association in 1933-34, 130 individuals participated in team sports, and 542 in individual sports.

Need of new building.—The inadequacy of the present building is especially emphasized by the constantly increasing demand of students for sports of individual character. The present building was planned for activities in large groups. Indoor instruction in tennis, golf, archery, needs space which does not exist in our building. Whereas 100 can be accommodated in a class in gymnastics on one of our floors, only 10 should be taught at one time in golf, and yet the same large floor is the only space for it.

Recreation.—Opportunity was offered the students in 1933-34 to use for recreation a few scattered hours in the late morning and early afternoon. The late afternoon hours were already open to students for recreation and it was hoped that the earlier hours would appeal to those who lived at a distance. A wide choice of activities was called to the attention of students. Twenty-five per cent of those taking advantage of these hours were Science, Literature, and the Arts students.

A further means of popularizing sport was innovated by demonstrations in golf, tennis, and swimming by women experts in those fields. It was hoped to stimulate enthusiasm in our women students by showing them what had been accomplished by members of their own sex. Both men and women students attended the demonstrations in audiences ranging from between one to three hundred.

Women's Athletic Association.—This student organization has had an admirable record during the past two years. It is an earnest, intelligent group of young women, vitally interested in making a contribution to the life on this campus.

They fill a unique position on the campus and are definitely meeting the recreational needs and interests of a large group of university women. The records show that during 1933-34, 819 individual girls participated in W.A.A. activities 4,537 times. "Open house" was instituted in the winter of 1932-33, and 471 women participated during 1933-34.

For the first time, in the spring of 1934, the association invited men students to participate in certain of its activities, namely tennis and archery. Tournaments were run off in both. The board is planning to continue a certain amount of this mixed participation next year.

A development which may be significant of a trend occurred this spring when our student dancing organization, Orchesis, pooled its efforts with the Masquers to put on a recital.

This year was the seventh anniversary of the first Minnesota College Play Day, which originated with the University of Minnesota. The purpose of the Play Day is to foster enjoyment of sport, to make new friends, and to discuss mutual problems.

This year the first annual meeting of the Minnesota Athletic Association of College Women was held during the afternoon of Play Day. It was organized in 1933 under the leadership of the University of Minnesota and membership is open to women's athletic associations in colleges, universities, teacher's colleges, and junior colleges. Its purpose is to build up and improve women's physical activities, to discuss common problems, and to help individual schools.

In 1933 our Women's Athletic Association sent two delegates to the national convention of the American Federation of College Women, held at the University of Texas. They tendered an invitation to the federation to hold its next convention, in 1936, at the University of Minnesota and this was accepted.

An experimental adult recreation program.—An experiment providing recreation for an adult group of women was launched during 1933-34. Women faculty members, employees, graduate students, and faculty wives were invited to use the facilities afforded by the gymnasium on Tuesday evening and late Friday afternoon. Altogether 1,003 persons participated.

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 1932-33 and 1933-34.

The following table of the placements and earnings through the employment bureau service reveals a significant increase from 2,814 placements in 1932-33 to 3,376 in 1933-34, and a more than proportionate increase in earnings from \$93,441.32 in 1932-33 to \$134,202.88 in 1933-34. These increases of 20 per cent and 44 per cent, respectively, would seem to indicate a decided improvement in employment conditions.

PLACEMENTS AND EARNINGS, UNIVERSITY EMPLOYMENT BUREAU

TYPE OF EMPLOYMENT	APPLICANTS REQUESTED				APPLICANTS ACCEPTED				AMOUNT EARNED
	Men		Women		Men		Women		
	1932- 33	1933- 34	1932- 33	1933- 34	1932- 33	1933- 34	1932- 33	1933- 34	
Athletic events....	601	1,063	..	..	601	1,063	..	..	\$ 4,180.16
Carpenter	4	..	..	..	4	..	..	..	6.70
Chauffeur	14	61	..	..	14	60	..	..	1,989.95
Clerk—soda foun- tain	4	2	..	..	4	2	..	..	615.50
Clerk—store	27	41	4	..	27	37	4	..	3,148.30
Cook	2	..	10	17	1	..	10	15	1,625.30
Draftsman	9	7	3	..	9	7	3	..	234.35
Electrician	3	6	..	..	3	5	..	..	8.25
Housework .....	..	..	201	255	..	..	138	111	27,471.30
Janitor	11	25	..	..	10	22	..	..	2,412.25
Laboratory helper..	1	..	..	..	1	..	..	..	65.00
Library .....	..	..	..	1	..	..	..	1	360.00
Manual labor	2	..	..	..	2	..	..	..	60.00
Musician and entertainer	24	79	3	1	22	78	3	1	1,018.20
Nursemaid .....	..	..	18	25	..	..	18	23	946.70
Odd jobs	168	163	..	..	167	162	..	..	1,401.03
Office work	216	100	715	519	215	100	714	514	27,599.50
Oil station .....	..	1	..	..	..	1	..	..	720.00
Service jobs	40	72	3	5	37	67	3	2	11,185.30
Settlement house .	6	5	1	5	5	4	1	1	3,795.00
Summer resort and camp work	9	10	8	1	8	10	8	1	4,086.00
Telephone operator.	..	..	1	6	..	..	..	6	1,715.00
Translating	8	6	4	5	8	6	4	5	466.95
Tutor and teaching	31	41	11	22	29	39	11	21	957.75
Usher	15	..	..	..	15	..	..	..	7.50
Waiter	361	319	82	70	319	256	62	60	56,649.61
Miscellaneous	32	46	5	6	32	45	4	6	5,146.05
Sales on commission	19	147	3	3	19	147	3	3	2,253.50
Permanent full time	13	22	14	25	10	20	10	22	47,390.00
Non-students									
Cook .....	..	..	5	7	..	..	5	6	3,765.00
Maid .....	..	..	7	7	..	..	3	5	391.50
Office .....	..	2	2	7	..	2	2	7	9,160.00
Service .....	..	1	..	1	1	..	..	1	1,325.00
Temporary office..	..	..	245	433	..	..	245	432	5,487.55
Grand totals.....	1,020	2,219	1,345	1,420	1,562	2,134	1,252	1,242	\$227,644.20

These figures do not include any of more than three hundred placements (1933-34), with reassignment in winter and spring quarters, of the University \$50 scholarship students, or 469 placements of federal students in the winter quarter, with an additional 456 in the spring quarter. Adding these to the regular activities of the Employment Bureau, the totals become 7,315 placements and \$357,954 earnings. The execution of the administrative plans of both the university scholarships and the federal relief project was the task of the Employment Bureau.

The University Stenographic Bureau, operated under the Employment Bureau, has grown rapidly during the biennium with a total of 1,398 manuscripts typed and a total income of \$2,860.38. Of these manuscripts, 81 were theses varying from ten to four hundred pages in length. The bureau has made an effort to establish a reputation for fine manuscript work and through careful selection of typists has been able to keep its rates at a minimum figure. While it has not been possible to have all of the work done by students, of the total expended for wages, about 75 per cent was earned by students.

During the fall quarter of 1933-34 the director devoted some time to the reorganization of the offices of the Dairy Husbandry Division. Because of the pressure of increased responsibilities it has not been possible thus far to give such help to many other departments that have requested it.

There have been but few changes in the university clerical staff; only 21 permanent appointments were made during the biennium.

Respectfully submitted,

DOROTHY G. JOHNSON, *Director*

THE UNIVERSITY LIBRARY

To the President of the University:

SIR: I submit herewith a summary report of the University Library activities for the biennium 1932-34. Financial statistics have been generally omitted as they are available in final form in the annual reports of the comptroller.

Increased use of the library.—Two outstanding features of the library work of the biennium have been the increased amount of library work done by and for students and faculty; and the handicaps in the way of decreased regular appropriations for this work. The library has very properly shared in the budget cuts due to the disturbed economic conditions of the past two years.

The increase in work seems to be due in part to a more serious attitude toward their class work on the part of undergraduate students and, in still greater part, to the increased demands made by advanced and graduate students and the faculty.

The relatively high cost of advanced work affects the library quite as much as it does the laboratory or the working hours of the faculty, instructor, or consultant. Most of the faculty and student body recognize the impossibility of providing everything needed for consultation on every subject considered in classes or in theses. A minority insist on personal service in the form of inter-library loan, or purchase, at institutional cost. A resolution of the Library Committee of the University Senate has shifted much of the cost of such service from the general book funds to the departmental book funds. It seems only reasonable to insist that personal service involving specific financial outlay should be paid for individually as it is in other parts of the University.

The increased demands made on the library staff are most encouraging educationally as an indication of a desire to use library facilities better. The number of persons not active members of the university staff or student body who desire library privileges is increasing. This includes many faculty members of other colleges in the state, many alumni who desire to keep up with current progress in their respective fields, former graduate students completing their theses, and citizens with a serious interest in advanced study in many fields. As far as it can be done without interfering with regular university work, this privilege has been granted, as a courtesy, to applicants who present satisfactory evidence of their needs and their ability to use the library to advantage. This is a direct contribution of the library to the cause of adult education in the state.

The practical result of this increased interest in books has been that the regular library staff is no longer adequate to give satisfactory service. It became necessary in 1933-34 to reduce the hours of the library schedule. The restriction in the number of pages and messengers would seriously have crippled the direct service to readers if help had not been given from CWA projects and federal aid students, who also aided greatly in making available for our own use and for exchange purposes, a great mass of books and pamphlets received as gifts, but which could not be arranged and recorded earlier because of insufficient staff.

The library collection.—When general social conditions are considered, the library has made satisfactory progress in increasing its collection. The increase

in recorded volumes for the biennium (exclusive of the schools and stations) has been 74,232 (39,958 volumes for 1932-33, and 34,274 for 1933-34). The total number of recorded volumes in all branches of the library (including law and agriculture) is 757,054. There are in addition 7,511 volumes in the school and station libraries at Crookston, Grand Rapids, and Morris. Our relative rank among the college and university libraries of the country has changed only from tenth to ninth altho we have ranked third or fourth on the number of registered students. Our book funds have not at any time kept pace with even the reasonable demands made upon them. The difficulty has been increased during 1933-34 by the greatly diminished value of the dollar in purchasing the foreign books and periodicals which are essential in any field of research. Books of American origin have not decreased in cost. Every attempt has been made to purchase second-hand copies and "remainders" at the lowest possible rates. Only purchases of demonstrated value have been made and emphasis has been laid on filling gaps in our collection rather than extending it into new fields. Nevertheless, our acquisitions are 5,684 less than during the first year of the biennium.

Documents and pamphlets.—The resources of the library have been increasingly useful to a considerable number of expert workers and consultants on federal and state projects and commissions. It has been fortunate that the relief assistants have enabled us to organize our public document and pamphlet material in part for the use of these experts. The direct value of this material in social and economic investigations emphasizes the desirability of the organization of a documents department with a competent staff as soon as conditions make it possible. It would be an asset of great value not only to the University but to the state as well.

Fine arts material.—The organization of an art gallery in Northrop Memorial Auditorium suggests the need of an increased, better organized collection of prints and books dealing with the fine arts. Material is being collected as opportunities arise, but the collection available for study and reference is not adequate. It is unfortunate that libraries like ours seem destined to receive little or no assistance from outside sources interested in promoting art appreciation.

It is no routine duty, but genuine appreciation which prompts a reference to the active co-operation of the Library Committee, and the faculty and student body generally in enabling us to make the library as valuable as possible to as many as possible. The unreasonable and selfish exceptions only make the general attitude more conspicuous.

Respectfully submitted,

FRANK K. WALTER, *University Librarian*

THE GEOLOGICAL SURVEY

To the President of the University:

SIR: I herewith submit a report of the work of the Minnesota Geological Survey during the period from July 1, 1932, to June 30, 1934.

The survey was allotted \$12,500 for the biennium begun July 1, 1932. This sum was chiefly in support of field work connected with projects outlined in earlier biennial reports to the president.

Investigations completed.—The following investigations were completed and the reports are ready for distribution.

1. A bulletin on rock fertilizers (limestone and marl) was issued as Bulletin 23, 193 pages, of the Minnesota Geological Survey, under the authorship of C. R. Stauffer and G. A. Thiel.

2. A bulletin on the Rove slate of northeastern Minnesota was issued as Bulletin 24, 103 pages, of the Minnesota Geological Survey, under the authorship of F. F. Grout and G. M. Schwartz.

Investigations in progress.—1. Professor F. F. Grout is engaged in the study of certain granitic areas in Lake and Cook counties. The results of his investigations will be published in a bulletin of the Minnesota Geological Survey.

2. During 1934 Dr. F. F. Grout and Dr. G. M. Schwartz will investigate certain anorthosite areas along the north shore of Lake Superior. Research on the uses of anorthosite has been carried on by a large feldspar company using material that was supplied them by the Minnesota Geological Survey.

3. The investigation by Dr. G. M. Schwartz of the foundation rocks of the metropolitan area, including Minneapolis and St. Paul and suburban centers near them, was actively continued. This area has a radius of 25 miles from a central point between Minneapolis and St. Paul. The field work for this investigation is nearly completed, but there remains considerable clerical work, organization of the data, and preparation of maps and sketches.

4. While Dr. C. R. Stauffer was on leave of absence during the summer of 1933 no work was done on the stratigraphy of southeastern Minnesota. In 1934-35 this study will be continued. His investigations have yielded much information which has been the basis for a number of preliminary papers in the *Journal of Geology* and similar publications. One of the main problems in this study is the determination of contacts between formations, many of which are vague and difficult to follow, and hence are often in dispute. This is especially true of the Cambrian sandstones along the St. Croix and Mississippi rivers where much work has been accomplished and much remains to be done. It is planned to run a series of plane-table sections along certain streams and to establish contacts on a sea level base, so that the more difficult determinations may be checked against others that are readily determinable.

5. Dr. G. A. Thiel was engaged in the investigation of the architectural, structural, and monumental stones of Minnesota, and the results of his work are to be published soon as a bulletin of the Minnesota Geological Survey.

The stone industry in Minnesota began over a century ago when limestone was quarried to build a part of Fort Snelling. From this small beginning in the early history of this territory, the industry has progressed, with periods of fluctuation and retardation, until today it has become second, as to value, in the mineral production of the state. The stone industry now gives employment to hundreds of people, including administrators and salesmen, quarrymen, stonemasons and carvers. Early geological surveys demonstrated that the state is endowed with an almost unlimited supply of a great variety of building material and the results of these surveys were published in earlier reports by the Minnesota Geological Survey. Since the publication of these reports new varieties of stone have been located and quarried for commercial purposes, and numerous new properties have been developed in widely separated regions within the state. Furthermore, great strides have been made in the methods of quarrying and fabricating stone. Modern machinery has eliminated much of the tedious manual labor, and wastage has been greatly reduced by the utilization of by-products.

The purpose of Dr. Thiel's report is to inform architects, building contractors, and real estate firms as to the merits of the various structural and ornamental stones quarried and fabricated in Minnesota. Until recent years our stone products were used more extensively in distant states than within our own communities. Our stone enjoyed a national reputation for beauty and adaptability before its merits were fully recognized by our local builders. Even today many architects and structural contractors do not realize that we have more than fifty distinct varieties of architectural stone quarried and fabricated within this state.

Since earlier reports have described the general geologic structures and the geologic history of the state in detail, those subjects are given only brief consideration in this bulletin. The main body of the report is devoted to descriptions of the various types of stone and the quarries where they are produced.

6. During the field season of 1933 Dr. J. W. Gruner continued the detailed mapping on the Vermilion iron range east of Ely, and it is planned to do additional work in this area during the season of 1934. A large area is involved, and the work is necessarily slow, but the importance of the iron deposits justifies painstaking and detailed methods.

7. Dr. G. A. Thiel will begin in 1934 an investigation of the water supplies of central and southern Minnesota. No such survey has been made of a considerable part of the state lying between the Twin Cities and Duluth. The article on the water supply covering the southern part of Minnesota was written about twenty-five years ago and since that time new data have been collected. Where necessary, corrections will be made of maps and sections. Due to the depression of the water level, the problem of water supplies at some places has become a vital one. The information obtained by this investigation should be of great interest to the State Board of Health, to municipalities, to civil and industrial engineers, to well drillers, and to all other citizens of the area.

8. Dr. C. E. Dutton was engaged in the collection, study, and preparation of material to be issued as an educational bulletin on the iron ranges of Minnesota. This bulletin will be similar in plan to Bulletin 20 of this survey, which was issued in 1925. It is intended for the use of tourists and others so that they may more fully appreciate the geological and other natural features to be seen along the public highways.

General services.—In addition to the special investigations outlined above, 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 may profitably be operated within its borders. This service is rendered without charge to all applying, and the demand has steadily increased in recent years.

Respectfully submitted,

W. H. EMMONS, *Director*

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 July 1, 1932 to June 30, 1934.

Museum.—The material growth of the museum during the past two years has been satisfactory and all that could be expected in the limited accommodation available. Through the courtesy of Dr. D. E. Minnich, head of the Zoology Department, additional space for the display of medium sized and small groups has been granted to the museum. The walls of the main entrance hallway on the first floor of the building have been lined throughout on both sides with small artificially lighted groups which presents an attractive and pleasing effect to visitors on entering the front door. One of the long, narrow rooms on the third floor, used heretofore for miscellaneous purposes, was placed at the disposal of the museum and made possible the installation of a considerable series of medium sized groups under very favorable conditions. The 92 original water color paintings from which the illustrations for *The Birds of Minnesota* were made have been handsomely mounted and labeled and placed on the third floor in a specially lighted multiplex floor case where they form a most pleasing and valuable exhibit. These paintings, which cost approximately \$9,000, are now the property of the University and will have an increasing interest and value as time goes on.

Attendance.—As heretofore the general public has been invited to the museum on Sunday afternoons in January, February, and March with a gratifying attendance. The week-day attendance continues to increase and is as large as is desirable in a building where lecture and laboratory work are in progress much of the time. No record of the actual attendance can be obtained under present conditions. The Sunday afternoon attendance is usually equal to the capacity of the halls. The total for the two years was 11,221, an average of 449 for each day. The largest for any one day was 805. Illustrated lectures were given each Sunday by a member of the staff.

New exhibits.—No large habitat groups have been constructed because of lack of adequate room. Six medium sized groups with plant accessories and colored transparent backgrounds have been completed and placed on exhibition. Sixteen portable groups have been added to the loan series, provided, where appropriate, with colored backgrounds and wax reproductions of flowers and plants. Two non-portable groups have been installed on the third floor in the ends of large habitat groups.

Accessions to museum.—A considerable amount of material has been added to the museum during the biennium, chiefly by donation. Special mention should be made of a large collection of birds' eggs presented by the late Mr. E. S. Stebbins of Minneapolis.

Study collections.—The entire study collections of birds, birds' eggs and nests, and mammals have been moved to a large, well-lighted room where they can be used under much improved conditions. The bird collection has been entirely rearranged and indexed according to the most recent classification.

With the active co-operation of Dr. Samuel Eddy of the Zoology Department a good beginning has been made toward collections of reptiles, amphibians, fish, shells, and skeletons.

Publications.—The director has written the text for an edition of the colored plates from *The Birds of Minnesota* which the University Press will issue September 1, 1934. This will make a handy single volume with one page of generalized text for each plate. The bimonthly contribution to *Bird-Lore* of an article on Minnesota seasonal ornithology has been continued by the director.

Photography.—One thousand three hundred and sixty-three feet of new motion picture negative film have been made and 3,591 feet printed from this and old negative; 1,581 feet of 35 mm. film were reduced to 16 mm. film for use in the small projectors that are now employed so generally. Dr. Robert G. Green donated 495 feet of 16 mm. print taken on a trip to Hudson Bay. This, combined with film taken by Mr. Breckenridge at the same time, completed an interesting and instructive series of pictures. There have been added also 321 negatives, 381 prints, and 37 lantern slides.

Co-operation.—Grouped here are such activities as the school lectures both at the museum and outside, lectures to various organizations and special groups, loan of portable school groups, slides, motion picture reels, specimens, etc., and assistance rendered to other departments of the University and to Boy and Girl Scouts.

A total of 200 illustrated lectures was given with an estimated attendance of 20,527, of which 96 were to school children with an attendance of 12,553. The remaining lectures were to miscellaneous audiences. Mr. Kilgore gave 144 of these lectures; Mr. Breckenridge, 45; and the director, 11.

Motion picture films, lantern slides, and specimens have been loaned to a considerable number of teachers to be used in lectures and demonstrations, thus bringing the museum's material before hundreds of children and adults who would not otherwise be reached.

A large correspondence asking for information on many subjects has been answered and teachers and students have been supplied with free printed literature. In return, our correspondents have sent a large amount of information in regard to the natural history of the state which has been entered and indexed in the museum files.

Mr. Kilgore has examined 85 Boy Scouts for bird study merit badges.

Field work.—From July 26 to September 7, 1933, Mr. Breckenridge accompanied Dr. Robert G. Green and party on an expedition to the Hudson Bay region. The object of the expedition was to determine the presence or absence of tularemia in the birds and mammals of that northern country. Other field work during the two-year period has been largely confined to the Twin Cities area.

Museum donation fund.—Mr. James F. Bell has continued his monthly contribution of \$75, amounting for the two years to \$1,800. The \$1,000 gift of Miss Constance Everett was deposited in this fund and expended for the purchase of 20 steel-jacketed cases for the bird-study collection.

Respectfully submitted,

THOMAS S. ROBERTS, *Director*

FIELD SECRETARY AND GENERAL ALUMNI ASSOCIATION

To the President of the University:

SIR: I submit herewith a report on the work of the field secretary of the University and the secretary of the General Alumni Association for the years 1932-33 and 1933-34.

Alumni Board.—The directors for the year 1933-34 were as follows: George R. Martin, Law '02, vice-president of the Great Northern Railway Company, retired, president; Orren E. Safford, Law '10, lawyer, vice-president; Thomas F. Wallace, Arts '93, Law '95, president of the Farmers and Mechanics Bank, treasurer; E. B. Pierce, Arts '04, secretary; Rewey B. Inglis and Eva Blaisdell Wheeler, representing the College of Science, Literature, and the Arts; Fred A. Otto and Jay C. Vincent, Engineering and Architecture; Albert C. Arny and Parker O. Anderson, Agriculture, Forestry, and Home Economics; Leo McNally and C. F. E. Peterson, Law; James B. Carey and Thomas Dickson, Medicine; Coates P. Bull, School of Agriculture; Joseph Shellman and Lewis W. Thom, Dentistry; Walter H. Parker, Mines and Metallurgy; Charles V. Netz, Pharmacy; Robert J. Mayo, Education; Frank J. Tupa, Business Administration; Elizabeth Bruchholz Avery, Robert J. S. Carter, Caroline M. Crosby, Albert C. Godward, Dr. Olga Hansen, Dr. Ray R. Knight, Ben W. Palmer, Dr. Erling S. Platou, Orren E. Safford, and Dr. O. S. Wyatt, directors at large; Dr. W. F. Braasch, first district; Dr. W. L. Burnap, ninth district; Charles G. Ireys, Charles F. Keyes, Henry F. Nachtrieb, and Edgar F. Zelle, honorary members.

Alumni Weekly.—The alumni publication is steadily increasing its subscription list and growing in favor among its many readers. It is of inestimable value in uniting the graduates of the university and stimulating their interest in the problems and program of the institution. Volume 32, including the issues between June, 1932, and July, 1933, was one of the largest volumes in the history of the publication, with a total of 558 pages. In the annual Magazine Awards contest, sponsored by the American Alumni Council, the *Minnesota Alumni Weekly* was awarded second prize in competition with 147 alumni journals. The series of articles on Minnesota history that appeared in the *Weekly* was pointed out as one of the finest contributions of the year to alumni journalism. Volume 33, published during 1933-34, totaled 560 pages of news and comment about university and alumni activities together with other special material of interest to alumni readers. Pictures of university scenes and events and of individuals were used freely to supplement the editorial content. The staff co-operated with the faculty and students in presenting special numbers relating to homecoming, Pioneer Hall, and the dedication of the new Nurses' Hall. The level of the editorial content was enhanced by frequent articles on current problems, educational and otherwise, submitted by members of the faculty. The *Alumni Weekly* is edited to be of the greatest service to the alumni body and to the University through the publication of information which will bring to alumni a clear understanding of the activities and problems of the University and its faculty.

Alumni advisory committee.—This group, numbering more than one hundred, is composed of selected alumni located throughout the state. They have met regularly twice a year since 1928 at Homecoming time in the fall and on Commencement Day in June. On each occasion they meet at luncheon with the president of the University and the Board of Regents to discuss the problems of the institution which they may be of assistance in solving. These men help in a very vital way in interpreting the needs of the University to the people of their communities. The last meeting was held June 18, 1934, in the Minnesota Union.

Alumni gatherings.—While the depression has slowed up alumni activities with respect to local meetings, those that have been held were characterized by an interest and enthusiasm as fine as in the more prosperous years. Interest in the General College has been quite general. Director MacLean has been generous in giving a great deal of his time, and in response to the requests for information concerning this new venture, has appeared at a number of our alumni gatherings in the state. Our local alumni units, while sponsoring these gatherings, have thrown them open to the general public so that many citizens have shared in the profits of these occasions.

Our records show the following functions held under alumni auspices:

1932-33.—October 4, General Alumni Board meeting; October 28 (Homecoming), Alumni Advisory Committee luncheon, medical alumni meeting, dental alumni dinner, general alumni dinner; October 29, dedication of Dentistry Building; November 16, engineering and chemistry alumni in Washington, D.C.; November 18, "M" Club banquet; November 19, bronze bust of Dr. H. L. Williams presented to the University by "M" Club; November 24, Thanksgiving tea, New York City; December 4, New York City; December 9, Chicago alumni football dinner; December 10, Big Ten University Club at New Orleans; December 16, Albert Lea; December 19, Fergus Falls; December 20, Moorhead; December 21, Crookston; December 22, Detroit Lakes; December 29, Big Ten Alumni Mardi Gras, Minneapolis; January 1, Schenectady; January 28, American Alumni Council, District VI, at Lincoln, Nebraska; February 3, General Alumni Board meeting; February 11, New York City; March 3, Range alumni at Hibbing; March 15, Big Ten Club, San Francisco; March 23, Milwaukee; April 10, Chicago; May 18, Rochester; May 31, Cloquet; June 19 (Alumni Day) Advisory Committee luncheon, class luncheons, general alumni dinner.

1933-34.—October 3, General Alumni Board meeting; October 27 (Homecoming), Advisory Committee luncheon, general alumni dinner, dedication of Nurses' Hall; November 3 (eve of Northwestern game) Chicago; November 10, St. Louis; November 14 (Michigan game) Detroit; November 24 (eve of Wisconsin game) "M" Club; November 30, Thanksgiving tea, New York City; December 6, Moorhead; January 16, Alexandria; January 30, Alumnae Club, Minneapolis; January 31, American Alumni Council, District VI, at Ames; February 14, Duluth; March 12, Milwaukee; April 9, Olivia; April 16, Alexandria; April 26, Fergus Falls; April 28, Grand Rapids; May 2, Winona; May 8, Ely; May 11, New York City; May 14, Albert Lea; May 25, Bemidji.

Alumni Day.—On Alumni Day, June 19, 1933, the Classes of 1883 and 1908 held special reunion luncheons at noon in the Minnesota Union. The custom of

having the twenty-five-year class assume certain responsibilities in connection with the alumni dinner was followed, with the Class of 1908 in charge. A special effort was made to secure a large attendance and approximately four hundred were present at the dinner.

On June 18, 1934, the Class of 1909 held its silver anniversary reunion at noon and served luncheon to more than a hundred of its members. This class also had charge of plans for the alumni dinner. Representatives of all the quinquennial (five-year) classes were on hand for this gathering and the attendance was more than four hundred. The Alumnae Club of Minneapolis, under the leadership of Mrs. Estelle Ingold, most graciously held an open house luncheon in Room 201, Minnesota Union, for members of the older classes from 1875 to 1883. Quite a number attended and expressed their gratification for the occasion and their hope that the plan would be continued.

Homecoming.—The student body celebrates homecoming on the day of the most interesting or attractive home football game. Last year, 1933, the homecoming game was with Iowa. The dinner on the eve of the game is arranged by the Alumni Association. It has been the practice in recent years to invite the alumni of the competing institution who are located in the Twin Cities and environs to share the occasion with Minnesota graduates. Needless to say, this plan has met with considerable enthusiasm. Last fall the Iowa group turned out in goodly number. Speakers on the program included President Coffman, Coaches Bierman and Solem, Directors McCormick and Lauer, and Mr. Updegraff, Conference representative from Iowa. In 1932 a similar occasion included the Northwestern alumni. Director Wilson and Coach Hanley of Northwestern University were present and spoke briefly. In 1934 Michigan will be invited to share the dinner with us. It is believed that such occasions do much to create a finer feeling of camaraderie and good will between the institutions involved.

Respectfully submitted,

E. B. PIERCE,

*Field Secretary of the University and
Secretary, General Alumni Association*

THE UNIVERSITY PRESS

To the President of the University:

SIR: Increasing national and international as well as local recognition of the work of the University Press has been a gratifying feature of the biennium, 1932-34. We could fill many pages with laudatory reviews and comments on individual books and authors and on the high standards maintained by the press.

As the publication program of the University Press is very largely determined by the research activities of the University as a whole, it is natural that during this period the social sciences should have received especial emphasis. The bulletin series of the Employment Stabilization Research Institute, begun in November, 1931, has reached Volume 3, No. 3, 939 quarto pages. The final volume of this series will be issued in the fall of 1934. Among several supplementary volumes published for the institute are *An Historical Basis for Unemployment Insurance* and *A Program for Unemployment Insurance and Relief in the United States*, which seem likely to assist materially in the formulation of national policies in this field.

Seven numbers of the Studies in Economics and Business have been added to the series. Number 4, *Taxation in Minnesota*, by Roy G. Blakey and associates, is "a thorough and scholarly compilation of fact and recommendation, such as is nowhere else available in readily accessible form."

A volume dealing with another important aspect of the economic and social life of the state, and of significance for other states with similar problems, is *Land Utilization in Minnesota: A State Program for the Cut-Over Lands*, the final report of a committee appointed by Governor Floyd B. Olson under the chairmanship of President L. D. Coffman.

The American Farmer and the Export Market by A. A. Dowell and O. B. Jesness gives local problems a national and international setting. *University Training for the National Service*, the proceedings of a conference arranged by Professor M. B. Lambie, directs attention to opportunities for public service, opportunities that seem likely to continue to grow.

Current affairs, especially questions of public policy, are the subject-matter of the new Day and Hour Series, 32-page pamphlets, designed to make available "information and interpretations that are of more than passing moment and worthy of a larger audience than that which gathers in the lecture halls" of the University. Eight numbers have been published during the biennium:

- I. *Science and Civilization*, by Guy Stanton Ford.
- II. *Farm Relief and the Domestic Allotment Plan*, by M. L. Wilson.
- III. *Balanced Deflation, Inflation, or More Depression*, by Jacob Viner.
- IV. *International Economic Recovery*, by H. G. Moulton.
- V. *Land Settlement As a Relief Measure*, by R. W. Murchie.
- VI. *Children of the Depression*, by Melvin E. Haggerty.
- VII. *The A.A.A.*, by Joseph S. Davis.
- VIII. *Chinese Politics Today*, by Harold S. Quigley.

In the historical field, Professor A. B. White's monograph, *Self-Government at the King's Command: A Study in the Beginnings of English Democracy*, takes us far from Minnesota and back in time to the thirteenth century. Closer home comes Professor A. L. Burt's *Old Province of Quebec*, and still closer, *Five Fur Traders of the Northwest*, diaries edited by Charles M. Gates, both volumes published jointly with the Ryerson Press of Toronto, Canada. The latter work was sponsored and financed by the Minnesota Society of the Colonial Dames of

America and is a notable example of the valuable and permanent contributions to the cultural life of the community that may be made by public-spirited citizens through the agency of the University Press. A similar project is a history of transportation on the Upper Mississippi, by Dr. Mildred L. Hartsough to be published by the Press in the fall of 1934 for the Upper Mississippi Waterways Association.

The history of education in Minnesota has been enriched by two university presidents. *William Watts Folwell: The Autobiography and Letters of a Pioneer of Culture*, edited by S. J. Buck, was published in 1933 on the one-hundredth anniversary of Dr. Folwell's birth; *The State University: Its Work and Problems*, a selection from the addresses delivered by President L. D. Coffman between 1921 and 1933, was published in May, 1934.

In literature and belles-letters few publishers can boast works of greater distinction than *Mythology and the Renaissance Tradition in English Poetry*, by Douglas Bush, and the plays, essays, and letters of Oscar W. Firkins. The press published in 1932-33 two volumes of plays, *The Bride of Quietness* (now in a second edition), and *The Revealing Moment*, and took over from Longmans *Two Passengers for Chelsea*, twenty-four plays in all. A volume of *Selected Essays* and one of *Memoirs and Letters* followed in 1933-34, and one or two monographs remain to be published during the coming year.

Three volumes have been added to the Minnesota Geological Survey, one to the College Problems Series, and two to the Child Welfare Monographs, the latter completing Dr. Mary Shirley's three-volume work entitled *The First Two Years: A Study of Twenty-five Babies*. The first of two volumes into which have been gathered the unpublished papers and data of the late J. Arthur Harris was published in the spring of 1934 under the title, *The Physico-Chemical Properties of Plant Saps in Relation to Phytogeography*. The second, to be called *J. Arthur Harris, Botanist and Biometrician*, is almost ready for the press. In press for more than a year, Professor Josephine Tilden's *The Algae and Their Life Relations: Fundamentals of Phycology*, in which is summed up the life work of this international authority, is scheduled to appear in the fall of 1934.

The first edition of 5,000 copies of Dr. Thomas Sadler Roberts' monumental *Birds of Minnesota*, issued in June of 1932, was sold before the end of 1933, with the exception of a small number of copies in de luxe binding. The proceeds of the sale have financed a second edition of the color plates. They are ready for publication in three forms: a popular "trade" edition, *Bird Portraits in Color: Two Hundred Ninety-five North American Species*, with new text by Dr. Roberts, prepared to cover the entire range of the birds depicted; the same book in a dark, flexible binding, designed for field use; and a portfolio of loose plates without text but with a 16-page index, containing both common and scientific names. In these forms the plates promise to have wide use.

Space does not permit even enumeration of a great variety of tests, scales, texts, syllabi, and similar materials issued or handled by the press. The growing volume of work (our output has doubled in the past three years) has taxed the staff to the utmost. Our quarters are ill-adapted to our needs and already outgrown. If we are to continue to meet adequately the increasingly heavy demands made upon us, both staff and quarters must be enlarged.

Respectfully submitted,

MARGARET S. HARDING, *Managing Editor*

THE MINNESOTA UNION

To the President of the University:

SIR: I submit herewith the report of the Minnesota Union for the years 1932-33 and 1933-34.

The Union is controlled by a Board of Governors composed of students elected by their constituencies, two faculty members elected by the faculty members of the Union, and one alumnus selected by the Board of Governors of the General Alumni Association. A full time manager is employed to carry out the policies of the board and to have charge of the building.

Following is the report submitted by Mr. G. Ray Higgins, the manager:

Board members.—Students (1932-33)—Fred Bauman, Robert Conary, John Glas, Ralph Helstein, Harry Heltzer, Phillip Lund, Douglas McIntosh, Kenneth McWilliams, Peter Pankratz, Milo Peterson, George Porteous. (1933-34)—Stanley Bloom, William Brussell, John Clarey, John Cohen, Robert Conary, Robert Hill, Charles Lantz, LaVerne Peterson, Harry Peterson, Richard Pfeil, George Porteous, William Zieske. Faculty (1932-33 and 1933-34)—E. B. Pierce, J. C. Sanderson. Alumni (1932-33 and 1933-34)—Stanley S. Gillam.

Survey.—The biennium just passed found the Union more firmly entrenched in the life of the men students of the University than for any similar period during the past decade. In spite of a decrease in enrolment, the daily traffic in the building has greatly increased as may be surmised from the figures below. The completion of the \$40,000 alteration program mentioned in the last report, combined with the increased effort on the part of the Union Board of Governors to meet the demands of the increased number of students under economic strain, has produced this result.

Attendance at group functions.—The following list indicates the type of meetings held; the figures show the number of persons attending.

	1932-33	1933-34
1. Business meetings without charge		
Religious	1,261	1,120
Fraternal	1,565	2,435
Faculty	1,636	3,480
Miscellaneous	6,555	15,458
Total	11,017	22,493
2. Group dances and parties.....	14,410	16,570
3. Dining groups	39,393	39,985
4. Number of meals served in cafeteria.....	51,009	68,264

Building improvements.—Entering the past two-year period with a deficit of several thousand dollars as a result of the improvements of 1932, the Union, by means of economies, has been able to establish a balance of approximately \$9,000. With this sum as a basis, the Union Board is preparing to continue its plan of building improvements. Redecorating and furnishing the ballroom and main lounge will be among the first undertakings.

Plans for the purchase of a new soda fountain and billiard equipment are completed, with the expenditure of \$5,000 from the earnings of those departments.

THE PRESIDENT'S REPORT

Union finances.—Where the Minnesota Union dollar came from and how it was spent in 1933-34:

INCOME		Per cent
Student fees		44.1
Game rooms		48.8
Miscellaneous (rentals, etc.).....		7.1
		100.0
EXPENSES		
Operating salaries		10.3
Administration salaries		9.1
Operating expense of game rooms.....		22.1
Cost of servicing non-revenue producing rooms.....		17.8
Social program		5.1
Depreciation on equipment.....		12.5
Debit from 1932 alterations.....		4.6
Reserve for future improvements.....		18.5
		100.0

Campus Club lease.—In 1925, when the east wing of the Union was constructed, it was agreed that for a period of ten years the yearly rental of \$1,500 would revert to the University to reimburse it for its share in the expense of building. At the end of that time the wing was to become the property of the Union Board. The Campus Club, in anticipation of the expiration of its lease in the fall of 1935, requested the board to renew the lease at the present rental for a period of five years. The Union Board agreed to a two-year renewal.

Agricultural branch.—In 1932 the Board of Governors of the agricultural branch of the Union completely redecorated and refurnished its quarters on the Farm campus. In 1933 an additional room was secured and turned into a greatly needed reading and study room. During the past year this board has joined in the general student movement to secure an adequate center for the social life of the agricultural students of the University.

Respectfully submitted,

E. B. PIERCE, *President,*

Minnesota Union Board of Governors

THE BUREAU FOR RESEARCH IN GOVERNMENT

To the President of the University:

SIR: The work of the Bureau for Research in Government has been carried on under the supervision of the University Library for the past year. The bureau as a separate agency suspended operations with the beginning of this biennium, but the University Library in connection with its public documents work is continuing the special service formerly rendered by the bureau collection. The Municipal Reference Bureau of the University continues its co-operation with the Library in matters of personnel and the administration of the bureau library.

Respectfully submitted,

OLIVER P. FIELD, *Director*

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

To the President of the University:

SIR: The following report covering the work of the Military Department for the period 1932-34 is submitted:

During this period, the work of the Military Department has been highly satisfactory. Every effort has been made by the officers in charge of instruction 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 elective Advanced Course, which follows the first two years' Basic Course, has fitted the highest type of young manhood for commissions in the Reserve Corps, and there have been several more applicants in the various units than there are vacancies.

The Cadet Officers' Club, which includes every member of the Advanced Course, and also the military fraternities, have been very active the past year in promoting good fellowship among their members, in both a military and social way. Meetings are held at intervals during the year, at which times the students become better acquainted with each other and with the military faculty members. At most of these meetings, some event of educational value takes place; for example, during the past year, we have had lectures on military history by well-qualified men.

A company of the National Organization of Pershing Rifles, established two years ago at this University for selected Basic Course students, has been of great assistance in improving the morale among the first and second year students of the Cadet Corps. Attractive uniforms were provided for them this year; they have taken part in various ceremonies about the Twin Cities; and competed in a drill exhibition at Green Bay, Wisconsin, during May, giving the University of Minnesota reason to be proud of this group of young men.

The rifle teams of the past two years have been exceptionally successful. During the school year 1932-33, the team won the national intercollegiate cham-

pionship, the Big Ten telegraphic championship, and the Big Ten shoulder-to-shoulder championship; also the Seventh Corps Area championship. They took third place in the mid-west section in the Randolph Hearst matches. During the school year 1933-34, they won the Big Ten shoulder-to-shoulder and telegraphic championships, and finished first and third in the midwest section of the Randolph Hearst matches. Mr. Hearst awarded the winners of these matches one large, sterling silver plaque and one smaller one, which were presented by Dean O. M. Leland at formal parade of the entire Cadet Corps. Mr. Hearst sent a movie newsreel man from Chicago to take movies of the presentation of the awards.

The annual inspection for this year was held May 21-23, 1934, and was conducted by the Seventh Corps Area R.O.T.C. officer, Omaha, Nebraska, Colonel Richard H. McMaster, field artillery, who represented the commanding general of this corps area, Colonel G. F. N. Dailey, infantry, Major T. W. O'Brien, medical corps, Captain T. R. Phillips, coast artillery corps, and First Lieutenant A. C. Boll, signal corps. The War Department has given us the highest possible rating—that of "Excellent"—for 1933 and for 1934.

The recent action of the Board of Regents in doing away with the compulsory feature and making basic courses in military training optional, furnishes us with new problems which must receive attention in the future.

I wish to thank you at this time for the co-operation and support that you have always given me during my tenure of office as professor of military science and tactics.

Respectfully submitted,

L. R. FREDENDALL,

Lieutenant Colonel, Infantry, P.M.S.&T.

INDEX

	Page		Page
Absence, leaves of	126-30	Agriculture, Department of (con- tinued)	
Academic fraternities. <i>See</i> Fra- ternities.		report of director (continued)	
Academic Interfraternity Council. <i>See</i> Interfraternity Council.		long time adjustment.....	197-98
"Academic mind," defined.....	5-6	national adjustment programs..	197
Academic sororities. <i>See</i> Sororities.		need for new knowledge.....	198-99
Addresses. <i>See</i> Lectures.		research, program of.....	199
Administration, honors	150	trends in land values.....	196-97
Adult education		staff honors	145-47, 152-54
adult abilities in extension classes	287	Agriculture, Forestry, and Home Economics, College of	
library's contribution to.....	367	report of dean	210-11
movement	25	co-operation with federal relief programs	211
necessity of	16-17	curriculum	210-11
plan for	17-18	employment	211
University as a center of.....	17-18	Home Economics Dormitory...	338-39
Advisers, changes in system of....	194	problem of	211
Advisory Committee	191	registration	168, 210
Agricultural Adjustment Administra- tion	199-200, 206	Agriculture, schools of	
Agricultural Economics, Division of	196, 200	contribution of	47-48
Agricultural Experiment Station		enrolment	43, 44, 48, 211, 212, 213
report of director	200-206	libraries	368
animal breeding and genetics..	204-205	purpose of	47
animal disease control.....	205	report of director	211-14
cheese, new type produced....	204	Central School	211-12
contributions of	200-202	activities and organizations .	212
forestry	206	alumni interest	212
insect control	205	curriculum	212
land utilization	202-203	enrolment	211
plant breeding nurseries	203-204	loan funds	211
projects, new	202	project work	212
publications	206	scholarships	212
Agricultural Extension, Division of		North Central School	214
report of director.....	199, 206-10	Northwest School	213-14
adjustment programs	206-207	attendance	213
contacts	210	Farmers' Week	214
emergency activities	207-208	4-H Club Short Course.....	214
farm marketing, financing, etc.	209	Women's Camp	214
4-H Club work	208	West Central School	212-13
personnel	210	curriculum, changes in	213
projects		enrolment	212
farm	209	home project work.....	213
for young people.....	208	short courses	213
home	208	All-University Committee, creation of	99
production	209	All-University Student Council, re- organization of	331
recreation	208	Alumni Association	
Agriculture, Department of		report of secretary.....	374-76
report of director.....	196-214	Advisory Committee	375
agriculture and other industries	197	Alumni Board	374
conditions in Minnesota.....	196	Alumni Day	375-76
co-operation with state and fed- eral recovery programs	199-200	alumni gatherings	375
drouth situation	199	<i>Alumni Weekly</i>	374

Page	Page		
<i>American Journal of Nursing</i>	231	California report on junior colleges	41, 46
Anderson, John E., report of.....	296-99	Carnegie Foundation	258-59
Appleby, W. R., report of.....	218-22	Certificates, number conferred.....	178
Appropriations. <i>See</i> Funds.		Chaperonage	341
Architecture, School of. <i>See</i> Engineering and Architecture, College of.		Chemistry, School of	
Art		report of dean	215-17
Little Gallery	99	combined courses with Business Administration	216-17
loan collection of prints.....	99	enrolment	215-16
paintings by local artists.....	99	scholarship	216
PWA collection	100	trends in technical education..	217
Art education	258-60	staff honors	147
Artists' Course. <i>See</i> University Concert Courses.		Child labor	20-21, 22
Arts College Intermediary Board..	191	Child Welfare, Institute of	
Athletics		report of director.....	296-99
activities	355-56	enrolment	297
intercollegiate	356	instruction	297
statistical table	357	miscellaneous activities	299
intramural	356, 358	Nursery School and Experimental Kindergarten	296
receipts	355	parent education	297-98
tournaments	358	Parents Consultation Service..	298
Awards, educational, scientific, and research	143-55	radio	298
		research projects	296-97
		staff honors	150, 155
		Civil Works Administration projects.....	163-64, 200, 202, 230-31, 268, 367
Bell, John W., death of.....	135	Civilian Conservation Corps.....	206
Benefactors, defined	67	Coffey, W. C., report of.....	196-214
<i>Birds of Minnesota</i>	372, 373	College reports	187-282
Blitz, Anne Dudley, report of.....	337-41	Colleges, in Minnesota.....	27
Board of Admissions		Collegiate students. <i>See</i> Students.	
report of chairman.....	352-54	Collegium Musicum	294
admission requirements, problem of	352-54	Committee	
duties	352	All-University	99
establishment	352	Alumni Advisory	375
membership	352	Educational Research	300-301
studies planned	353-54	University College	282
studies	301	Vocational Information	345, 350
Board of Regents, changes in.....	125	Comptroller, report of.....	181-85
Boardman, Charles W., study by..	353	buildings	184
Boquist, Harold S., death of.....	139	colleges	184
Builders of the Name.....	67-81	endowment	185
convocation	86-87	equipment	185
Buildings		expenditures	183
construction and improvements..	160-64	income, sources of.....	182
number and value of.....	184	land	184
Buildings and grounds.....	157-64	staff	184
Bureau for Research in Government, report of director	381	student loan funds.....	185
Business Administration, School of		students, enrolment of.....	184
report of dean	263-65	Confederation of Learning.....	34-36
curriculum	265	Consolidation of colleges	
effect of economic changes....	265	list of consolidations.....	28
lectures and discussions	263-64	trend toward	27-30
public services rendered.....	263	Convocations	
research	264-65	1932-33	85-89
staff honors	148-49, 154-55	1933-34	89-90
Butzerin, Eula B., report of.....	233-34	Summer Session	294
		Co-operative cottages	58, 338

	Page		Page
Copavin	94	Diehl, Harold S.	
Correspondence study	292	patent	94
enrolment	174	report of	327-30
Countryman, Gratia A., address by	76-79	Division of Agricultural Extension.	
Curriculum		<i>See</i> Agricultural Extension Division.	
expansion of	21-22	Dormitories	54-58
need of an expanded	22-23	answer to objections raised.....	55-58
CWA program	316-23	policy with regard to erection of	54
Davis, E. W.	93, 218	Drill. <i>See</i> Military training.	
Dean of student affairs		Dunn, Halbert L., report of.....	234-40
report of	331-34	Eckles, Clarence Henry, death of..	135-36
All-University Student Council	331	Eddy, Henry Turner, Builder of	
financial report	334	the Name	79-81
fraternities	331	Education	
hospital visitation	332	art	258-60
publications	332	changes for the future.....	24-26
report of assistant dean.....	332-33	community education	15-16
student finance	333-34	costs of	20-21
student loans	332	expansion of	21-22
talks to high school seniors...	331	fads and frills.....	20-22
staff honors	150	for citizenship	14-15, 23
Dean of women		for intelligence	14
report of	337-41	for leadership	23
chaperonage	341	in Denmark	25-26
housing	337-39	in England	19, 25
conditions	339	in Russia	19
co-operative cottages	338	necessity	10-12
Home Economics Dormitory	338-39	need for better	22-24
Nurses' Hall	338	new situation	26-27
rooming houses	339	parent	297-98
Sanford Hall	337-38	penalties of neglect of.....	19
morale, maintenance of.....	337	reorganization of	24-26, 29
scholastic average	337	standards	25
Shevlin Hall	340-41	<i>See also</i> Adult education.	
sororities	340	Education, College of	
student organizations	339-40	report of dean	250-62
Mortarboard	340	effects of depression.....	250
Women's Self-Government		emergency education program..	258
Association	339-40	enrolment	250
Young Women's Christian		federal investigation of second-	
Association	340	ary education	261
staff honors	143	higher education	250-54
Deaths	133-39	institutions of	251-52
Degrees, number conferred.....	176-78	reorganization of	253-54
Densford, Katharine, report of....	228-33	Minnesota Council of Educa-	
Dentistry, School of		tion	254-58
report of dean	243-44	National Society for Study of	
building and equipment.....	243	Education	262
curriculum	243	National survey of education	
degrees	243	of teachers	261-62
research	243-44	Owatonna Art Education Proj-	
School for Dental Hygienists..	244	ect	258-60
staff honors	148	qualifying examinations	260-61
Depressions, prevention of.....	19	Regional Conference on Educa-	
Devaney, John P.....	255	tion of Teachers.....	261
Dibell, Homer Bliss, death of.....	137-38	student aid	261

	Page		Page
Education, College of (continued)		Field, Oliver P., report of.....	381
report of dean (continued)		Field secretary and General Alum-	
study of accrediting proce-		Association	
dures	262	report of secretary.....	374-76
staff honors	149, 151	Alumni Advisory Committee..	375
<i>Educational Diagnosis</i>	262	Alumni Board	374
Educational, scientific, and research		Alumni Day	375-76
awards	143-55	alumni gatherings	375
Eells, W. C., on junior colleges....	41	<i>Alumni Weekly</i>	374
Emmons, W. H., report of.....	369-71	homecoming	376
Employment Bureau		Fine arts. <i>See</i> Art.	
report of director	363-64	Finney, Ross Lee, death of.....	138
clerical staff, changes in.....	364	Firkins, Oscar	78
earnings	363-64	Folwell, William Watts, Builder of	
placements	363-64	the Name	70-72
University Stenographic Bureau	364	Ford, Guy Stanton, report of....	266-69
Employment Stabilization Research		Forestry. <i>See</i> Agriculture, For-	
Institute		estry, and Home Economics, Col-	
bulletin series	377	lege of.	
report of director	302-304	Forestry and erosion camps.....	12, 13
<i>Financial and Investment Review</i>	303	Founders, defined	67
publications	302-303	Fraser, Everett, report of.....	223-25
significance of the study.....	303-304	Fraternalities	50-53, 331, 335-36
Endowment	185	co-operation with purpose of in-	
Engineering and Architecture, Col-		stitution	51-52
lege of		in relation to dormitories.....	56
report of dean	215-17	problems	50-51
combined courses with Business		solutions for problems.....	52-53
Administration	216-17	Fredendall, L. R., report of.....	381-82
enrolment	215-16	Freedom	
scholarship	216	academic	4-5
trends in technical education..	217	educational	3-4
staff honors	145, 151-52	Freshman and sophomore require-	
Enrolment. <i>See</i> Registration.		ments	192-93
Entomology and Economic Zo-		Funds	1
ology, Division of	200	appropriation by Legislature....	1
Erikson, Henry A., address by....	79-81	from athletics	182, 355
<i>Essential Nature of the Law</i>	76	maintenance and mill tax appro-	
Examination studies	300	priations	1
Expenditures	183	revenues	1
reduction in	1	sources of income	182
Extension students. <i>See</i> General		Geist, Emil Sebastian, death of... 138-39	
Extension.		General Alumni Association. <i>See</i>	
Faculty		Alumni.	
appointments	126	General College	
changes in	126-39	experimental study	46
deaths	133-39	registration in	167, 170, 171
honors conferred upon.....	143-55	report of director.....	275-81
leaves of absence	126-30	counseling system	278-80
promotions	131-33	courses of study.....	276-77
resignations	130-31	experimental	280
Science, Literature, and the Arts	190-91	educational influence	281
Farnum, Royal Bailey, report of... 259-60		examinations	277-78
Federal funds	258	faculty	277
FIDAC Medal award.....	81-82	original name	275-76
		outlook	281
		purposes of	275

	Page		Page
General College (continued)		Honors to staff members. <i>See</i> Faculty.	
report of director (continued)		Housing of women students.....	337-39
registration	276	Human welfare, elevation of.....	19
visual education, development of	280-81	Hutchinson, John Corrin, death of	136
staff honors	149		
General Extension Division		Income. <i>See</i> Funds.	
enrolment	174	Indoor Sports Building.....	160-61
report of director	285-92	In-Patient Department. <i>See</i> University of Minnesota Hospitals.	
adult abilities	287	Institute of Child Welfare. <i>See</i> Child Welfare, Institute of.	
classes in	288-89	Intercollegiate athletics	356-57
community service	292	Interfraternity Council	
correspondence study	292	report of president.....	335-36
departments of	285	fraternities	335-36
depression, effects of.....	285-86	Minnesota Plan	335-36
education and the future.....	286	Inter-institutional co-operation.....	30-31, 34
group study plan	287-88	Intramural athletics	358
high school music contest.....	290-91	Issues, present day.....	19-20
Municipal Reference Bureau..	289-90		
radio	291	Jackson, C. M., report of.....	352-54
short courses	288-89	Johnson, Dorothy G., report of...	363-64
Geographical distribution of students. <i>See</i> Students.		Johnston, J. B.	
Geological Survey		report of	189-95
report of director.....	369-71	studies by	352
general services	371	Junior colleges	
investigations		establishment of	39-50
completed	369	movement of	25
in progress	369-71		
Gibbs, J. Willard.....	80	Kendrick, Benjamin B., proposal of	34-36
Gifts	105-22	Knowledge, human, interdependence of	32-34
1932-33	109-15	Koos, L. V., on junior colleges....	41
1933-34	116-22		
from Mayo Properties Association	105-108	Land	184
salary savings by staff.....	108-109	Land and buildings.....	159-64
<i>Gopher</i>	332	Land-grant colleges, waste and duplication in higher education...	30-31
Graduate School		Lasby, William F., report of.....	243-44
report of dean.....	266-69	Law School	
classification of students.....	266-67	report of dean	223-25
degrees granted	266	curriculum, expansion of.....	225
demand for trained men.....	269	law library	225
housing	268	registration, increase in.....	225
rating graduate departments...	269	selection of law students.....	224-25
registration	266	training of lawyers.....	223-24
reorganization	268	staff honors	154
research, grants and funds for	269	Lawrence, James Cooper, death of	134-35
staff honors	143, 150-51	Leadership	9, 10, 223
		Lectures	
Haggerty, Melvin E., reports of..	250-62, 300-301	convocations	85-90
Harding, Margaret S., report of..	377-78	Sigma Xi	84-85
Health Service. <i>See</i> Students' Health Service.		special	82-84
High school graduates, number of in Minnesota	13, 44	Lee, Thomas George, death of....	136-37
High School Music Contest.....	290-91	Leland, O. M., report of.....	215-17
Homecoming	376	Liberty	
Home Economics. <i>See</i> Agriculture, Forestry, and Home Economics, College of.		intellectual	4
		political	10

	Page		Page
Library		Military Science and Tactics, Department of (continued)	
report of librarian	367-68	report of professor (continued)	
collection	367-68	inspection	382
documents and pamphlets	368	National Organization of	
fine arts material	368	Pershing Rifles	381
increased use of library	367	rifle teams	381-82
relative rank	368	Military training	58-63
Library Instruction, Division of		legal status of	59-60
report of librarian	295	present status of	62-63
curriculum, change in	295	reasons for	60-62
employment conditions	295	Mines and Metallurgy, School of	
registration	295	report of dean	218-22
service to undergraduates	295	curriculum, changes in	218
Little Gallery. <i>See</i> Art.		enrolment	218
Lyon, E. P., report of	226-28	Experiment Station	218-19
		activities	218-19
Mahoney, Stephen, death of	133	appropriations	218
Mayo Foundation	107, 108	assays, number of	219
Medical School interchange lecture series	226	equipment, new	219
report of director	270-74	low grade ore experiments	218-19
degrees	273	ore roasting furnace	218-19
faculty	270	state service tests	219
fellowships		service to Minnesota Tax Commission	220-22
applications for	270-71	beneficiated ore, new type of	221
major fields	272	field work	222
financial statement	270	market price of ore, basis of	221
lectures	273-74	merchantability of ore	221
publications	274	report of 103 properties	221
staff honors	150	United States Bureau of Mines	219-20
Mayo Properties Association, gift from	105-108	personnel, changes in	219
Mayo, William J.	105-108	work of	219-20
McCormick, Frank, report of	355-58	staff honors	149
McCreery, Otis C., report of	332-33, 335-36	Minneapolis General Hospital Fellowship Fund	227
MacLean, Malcolm S., report of	275-81	Minneapolis Symphony Orchestra.	
Medical School		<i>See</i> University Concert Courses.	
report of dean	226-28	Minnesota Athletic Association of	
comprehensive examinations	228	College Women	362
fellowships	227	Minnesota Council of Education	254-58
lectureships	226	creation	255
Mayo Foundation—Medical School interchange lecture series	226	function	255
research	226-27	membership	256-57
R.O.T.C.	228	statement of principles	257-58
State Board examinations	228	<i>Minnesota Daily</i>	332
status of the school	226	Minnesota Geological Survey. <i>See</i> Geological Survey.	
student body	227	Minnesota Plan	331, 335-36
staff honors	147-48, 155	counseling	335-36
Men's Union. <i>See</i> Minnesota Union.		financial guidance	336
Merging of colleges. <i>See</i> Consolidation of colleges.		Minnesota Union	
Middlebrook, W. T., report of	181-85	report of president	379-80
Military Science and Tactics, Department of		agricultural branch	380
report of professor	381-82	Board of Governors	379
Advanced Course	381	building improvements	379
Cadet Officers' Club	381	Campus Club lease	380
		financial statement	380

INDEX

391

Page	Page
Minnesota Union (continued)	
report of president (continued)	
group functions	
attendance at	379
survey	379
type of	379
Mitchell, William D.	59
Money, Frances M., report of	240-42
Morrill Act	58, 59, 60, 63
Morrill Land Grant	60
Mortarboard	340
Municipal Reference Bureau	
conferences	289
emergency relief	289
federal aid for public works	290
finance data and ratings	289-90
housing	290
inquiry service	289
publications	289
Museum of Natural History	
report of director	372-73
accessions	372
attendance	372
co-operation	373
donation fund	373
exhibits	372
field work	373
growth	372
photography	373
publications	373
study collections	372-73
Music, State High School Contest	290-91
National Defense Act	59, 62
Newsreel Theatre	101
Nicholson, Edward E., report of	331-34
Non-accredited students. <i>See</i> Students.	
Norris, J. Anna, report of	359-62
North Central School of Agriculture. <i>See</i> Agriculture, schools of.	
Northrop, Cyrus, Builder of the Name	72-74
Northwest School of Agriculture. <i>See</i> Agriculture, schools of.	
Nurses' Hall	160, 338
dedication of	230
Nursing, School of	
report of director	228-33
Association of Collegiate Schools of Nursing	232
curriculum	229
enrolment	232-33
grading	228-29
library	229
Northern Pacific Beneficial Hospital	232
Nursing, School of (continued)	
report of director (continued)	
Nurses' Hall, dedication of	230
part time duty	232
registration in New York	232
students, health of	231-32
studies, reviewed	230-31
Obituaries	133-39
Oppenheimer, William H., address by	74-76
Orchesis	362
Ore roasting furnace	93, 218-19
Out-Patient Department. <i>See</i> University of Minnesota Hospitals.	
Owatonna Art Education Project	258-60
personnel	260
plans for the future	259-60
purpose of	259
reason for selection	259
Paige, James, retirement of	125-26
Parent education	297-98
Partridge, George H., death of	133-34
Pattee, William Sullivan, Builder of the Name	74-76
Pavements, cast iron	93
Pettengill, T. E., study by	352-53
Pharmacy, College of	
report of dean	245-49
American Pharmaceutical Association headquarters building	249
back to pharmacy movement	249
college relations with organized pharmacy	247-48
enrolment	248
exhibits	248
faculty, activities of	249
graduate work	247
medicinal plant garden	247
origins of students	248
specialized courses	246-47
standards	245-46
trend toward five-year course	246
University Free Dispensary	249
Wulling Trust Fund	249
Physical Education and Athletics, Department of	
report of director	355-58
activities	355-56
financial status	355
intercollegiate athletics	356
statistical table	357
intramural athletics	356, 358
physical education	358
teacher training program	358
tournaments	358
staff honors	150

Page	Page
Physical Education for Women, Department of	
report of director.....	359-62
enrolment	360
experimental adult recreation program	362
experimental study of freshman group	359-60
need of new building.....	361
recreation	361
requirement abolished	360-61
revised program	359-60
studies	359
Teacher Training Course.....	361
trends	361
Women's Athletic Association	361-62
Physical education studies.....	301
Pierce, E. B., reports of.....	374-76, 379-80
Pioneer Hall	
counseling service	333
enlargement of	54-58, 160
Pipe organ	100
Pollard, John A., on consolidation of colleges	29-30
Price, Richard R., report of.....	285-92
Professional fraternities. <i>See</i> Fraternities.	
Public Health Nursing	
report of director.....	233-34
Advisory Committee, enlargement of	233
employment	234
fellowships	233-34
trend of affairs	233
Public service, necessity of training for	6, 7, 8
PWA projects	
enlargement of Pioneer Hall.....	54, 160
Indoor Sports Building.....	160-61
Students' Health Service addition	161
Radio groups, WCCO, KSTP.....	298
Radio station, WLB	
report	291
service to citizens.....	94-95, 264
Ray, Bruce Lee, death of.....	139
Regional universities, need for....	31-32
Registrar, report of	165-79
Registration	
Agriculture, College of	210
collegiate students	
by quarter	170-71
by schools and colleges.....	167-69
comparative figures	175
Education, College of	250
Registration (continued)	
Engineering and Architecture, College of	215-16
General Extension	174
Graduate School	266
Law School	225
Library Instruction	295
Mines and Metallurgy	218
Pharmacy	248
Physical Education for Women..	360
Science, Literature, and the Arts	189, 190, 191
subcollegiate students	172-73
summary	174
Roberts, Thomas S., report of....	372-73
Rooming houses	57
R.O.T.C.	228
Sanford Hall	58, 337-38
Sanford, Maria L., Builder of the	
Name	76-79
Scammon, Richard E., report of...	226-28
Schools, society's chief agency....	22-24
Science, Literature, and the Arts, College of	
report of dean	189-95
advisers, changes in system of	194
Advisory Committee	191
Arts College Intermediary Board	191
budget	190
curriculum, revision of.....	191-94
efforts made to gain.....	192
purpose of	191
faculty, size of	190, 191
freshman and sophomore requirements	192-93
morale	191
needs of	194-95
registration in	189, 190, 191
relation of instructional costs to teaching load.....	190-91
Senior College courses, mode of defining	193-94
state of the college	189-91
student credit hours	189, 190, 191
teaching functions of.....	189
unfortunate practices among students	192
staff honors	143-45, 151
<i>School and Society</i> , excerpt from..	29
Senior College courses, mode of defining	193-94
Shevlin Hall	340-41
Short courses, enrolment	174
Sigma Xi lectures	84-85
<i>Ski-U-Mah</i>	332
Society	
changes in	24
growing complexity of.....	22

	Page		Page
Sommers, Charles L., address by..	70-72	University Health Service. <i>See</i>	
Sorenson, Herbert, study by.....	287	Students' Health Service.	
Sororities	331, 340	University High School, summer	
<i>Southwest Review</i>	34	quarter	294
excerpt from	36	University of Minnesota	
Springer, Franklin Wesley, death of	137	attendance, increase in	1
Staff. <i>See</i> Faculty.		buildings, number and value.....	184
State Tax Commission	196	center of adult education.....	17-18
Stevenson, Russell A., report of..	263-65	colleges	184
Student credit hours.....	189, 190, 191	Concert Courses	100-101
Student loan funds	185	endowment	185
Students		equipment	185
certificates conferred	178	expenditures, reduction in.....	1
collegiate enrolment	167-71, 184	land	184
degrees conferred upon.....	176-78	library	367-68
General Extension	174, 184	relation to public school studies..	300-301
geographical distribution of....	179	staff	184
non-accredited, admitted on basis		standards, maintenance of.....	2
of entrance tests	95-96	student loan funds	185
Students' Health Service		students	184
report of director	327-30	University of Minnesota Commit-	
campus sanitation	330	tee on Educational Research	
cold, treatment of.....	330	report of chairman.....	300-301
immunizations	329	activities	300
medical service	327-28	personnel	300
mental hygiene	329	studies	300-301
periodic health examinations...	327	University of Minnesota Hospitals	
services summarized	327	report of director	234-40
student hospital care.....	328	admission rules	234
students on federal aid.....	330	financial statement	237
tuberculosis control	329	improvements in functioning..	235
visits to Health Service, num-		In-Patient Department	235-36
ber of	328	Nurses' Hall, completion of...	234
Subcollegiate students. <i>See</i> Stu-		Out-Patient Department	
dents.		attendance	238
Summer quarter		growth of	234
library methods	295	summary	239
report of associate director.....	293-94	services	
convocations	294	amount of	239
drama and opera	294	number of	240
needs met	293	waiting list	234
recreation	294	Social Service Department re-	
special features	294	port	240-42
special projects	293-94	educational responsibilities....	242
University High School.....	294	service to patients.....	240-42
Tate, John J., report of.....	282	University of Minnesota Work-	
Technical institute, new type of		Relief Program	
school	25	report of university dean.....	305-23
Teeter, Thomas A. H., report of..	293-94	CWA program	316-23
Tournaments	358	CWA and the University...	322-23
United States Bureau of Mines...	219-20	hours	
University College Committee	282	man hours, number of....	321
University Concert Courses	100-101	work hours	319
		worker hours, number of..	318
		pay, rates of	319, 320
		payroll totals	318, 321

	Page		Page
University of Minnesota Work-Relief Program (continued)		University Testing Bureau (continued)	
report of university dean (continued)		report of director (continued)	
personnel		principles of guidance	346
adequacy of	319-21	problems	343
classification of	320	purposes	343-45
number of	318, 321	research	350-51
rating of	320	staff services	349-50
selection of	318-19	University Theatre	294
program	317		
projects		Vocational counselor for women,	
construction	321-22	report of	342
selection of	319	need for vocational guidance....	342
types of	316-17	vocational round tables.....	342
staff survey	317	Vocational Information Committee	345, 350
University CWA and un-employed graduates	322		
federal student work-relief project	305-16	Walker, Hudson, curator of fine arts	99
Commission for Education of Unemployed Youth	305-306	Wallace, Thomas F., address by..	72-74
distribution of residences of students	308-10	Walter, Frank K., reports of...295,	367-68
by sex	310	War, prevention of.....	19
distribution of students by college, class, sex	310, 311	West Central School of Agriculture. See Agriculture, schools of	
fee and tuition arrangements	312-13	West, Rodney M., report of.....	165-79
financial report	314-15	Wiley, Malcolm M., report of....	305-23
housing	312-13	Williamson, E. G., report of.....	343-51
needs of students met.....	313	Wilson, Louis B., report of.....	270-74
number on payrolls.....	308	WLB. See Radio station, WLB.	
scholastic abilities	310, 312	Women's Athletic Association....	361-62
schools of agriculture appointments	314	open house	362
selection of students	306-308	Orchesis	362
student work records.....	313-14	Play Day	362
work assignments	308	Women's Self-Government Association	339-40
classified by project.....	309	Woodruff, Katherine, report of....	342
work scholarships	305	Wulling, Frederick J., report of... 245-49	
University Press			
report of managing editor.....	377-78	Young Women's Christian Association	340
new titles	377-78	Youth	
University Singers	294	hope in education.....	22-24
University Stenographic Bureau... 364		in local community	13-14
University Testing Bureau		in Minnesota	12
report of director.....	343-51	number in college	10
advising the student.....	346-47	number in secondary schools....	10
distribution of cases		number working	10
by college aptitude rating... 349		penalties of neglect of.....	19
by colleges	347	present day issues	19-20
extent of the service.....	347-49	quest for understanding.....	14-15, 23
methods of case work.....	345-46	ratio of youths to adults.....	21, 22
miscellaneous functions	349	serving youth	
		necessity of	36
		program for	13
		unemployment of	10-12