

MINNESOTA CHATS

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Vol. 3

No. 45

Is There A Part For The University Man To Play In The Business Of Railroading?



Minneapolis, Minn.

July 2, 1924

WHAT has a college education to do with a railroad, or if you prefer, the railroads?

Involved in the reply must be an explanation of "the railroads", which happen to be so much more than a collection of ticket offices, Pullman berths, smoking rooms and convenient means of access to scenery. The ownership of railroads is a business problem. Railroad rates, important as they are both to the public and the roads, resolve themselves into a study in economics. Neither, in the strictest sense, is railroading.

Railroading is a matter of physics, and chemistry and metallurgy. It is a battle of huge engines and complicated bridges. It involves knowledge of the strain that a rail made of a certain type of steel will stand and of the amount of speed and weight and heat that the rail will resist.

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It is a vast picture puzzle of problems of grade, problems of power, problems of loading and unloading, of roadbed and signals. It involves mastery of power generated artificially with steam and electricity, and of natural forces, such as gravity, centrifugal force, and so on endlessly.

ENGINEERS MAKE RAILROADS PERFORM

It is not necessary to have a college education in order to buy a ticket intelligently, nor even to do intelligently a great many important tasks when a person reaches the point to which the ticket takes him. But those who direct the vast American railroad system are coming more and more to the belief that trained engineering skill is necessary if the ticket is to mean that the passenger shall reach his destination as quickly, comfortably, and safely as is possible. That means, of course, that it is even more important if the road is to move its freight in the most efficient manner, freight being many times as large an item in the railroad business as is passenger traffic.

The day when a man lolled back in a swivel chair and said to himself, "I have it; I'm going to build a railroad", just as he might say, "open a grocery store", belongs to the past. So is the day of the big financial manipulations in "the rails." Today no railroad can issue either stocks or bonds without the permission of the interstate commerce commission. More slowly, but just as surely, is passing the day when a fellow seeks a job as flagman or telegraph operator if he wishes to rise to the top in railroading. This is not because American life is becoming less democratic. There is no political or social theory behind it at all. It is a matter of cold fact, and the big fact is that railroading has become so complicated, so scientific and diverse, that the planning and supervision of its technical phases must be assigned to men with technical training. And fundamentally railroading is technical.

In view of all this, it seems strange that so few boys who enter college have in mind preparation for a railroading career. The public idea of the railroad man as the man employed as a brakeman or conductor probably has much to do with this. To every boy the locomotive engineer and the plump, jovial

chap who punches tickets with such a friendly "click-click" are the personification of railroading. In the romance of boyhood these two have the village fireman at a small disadvantage. But when the little fellow becomes a college freshman and a man, he puts away childish things and sees himself becoming the president of a bank or something else distinct from railroading.

Those who would seek information as to the part played by the professional engineer in the railroad business would have their eyes opened if they happened on a pamphlet recently issued by the American Railway Engineering Association, in which is set down a list of the committees appointed by that association to study its main problems during the coming year. There are 25 committees, each one of them assigned to a major problem of railroading. The committees run from 12 to 20 in membership. Every member is a trained engineer, for only trained engineers can belong to the association. Furthermore, every committee member holds an important position in railroading, most of them as actual railroad officials, though a few are consultants and some are professors of railway engineering in the Universities. The list alone tells the story of the importance of engineering education to railroading.

One committee seems worth a moment's special attention. "Co-operative relations with universities" it is called. Here is its program:

A PROGRAM FOR THE UNIVERSITIES

"A greater interest upon the part of railroad officers in assisting the universities to develop the best possible methods for the technical courses.

"A better means of bringing to the universities the results of our deliberations, where such can be made of value to them.

"A better means of bringing to the attention of the railroads the benefits of a technical education, thereby acquainting them with the qualifications of graduates of these courses for initial service in subordinate positions, and at the same time providing material from which men may be drawn for higher positions as they demonstrate their fitness.

"A means of stimulating a greater interest in the science of transportation among engineering students who may be inclined toward this branch of industry.

"A means whereby the facilities of the universities may be made more directly available for the research work of the Association by co-operative effort between their laboratories and the committees of the association.

"A means of stimulating a greater interest among university officials in the study of transportation and economics and impressing them with the importance of experienced men for such teaching."

"A means whereby the universities may be better enabled to educate the students regarding the value of transportation to the nation as a whole.

A. S. Cutler, associate professor of railway engineering at the University of Minnesota, is authority for the statement that the American railroads are eagerly on the lookout for the young graduates of an engineering college who complete with credit a course in railway engineering. He has records of a large number of graduates from that branch of Civil Engineering at Minnesota who now hold good positions. The beginning pay, he finds, is better than that of the average beginner in most other branches of engineering. There are splendid rewards at the top, and with railroad traffic today far above what was even dreamed of at the peak of wartime business, there seems little probability that the opportunities will grow fewer.

"The executives who direct 75 per cent of the mileage of the American railroads are engineers," Professor Cutler says.

That in itself is a reasonably strong statement of the situation. Many railways have engineers as their presidents, among them the Great Northern Railway, Chicago and North Western, Atchison, Topeka & Santa Fe, the Pennsylvania Railroad and the Canadian National Railways. As time passes more and more of the important executive positions in railroading are going to the college trained engineer

Young men for whom engineering studies have an appeal might do worse than to look up the rest of the story.

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No. 46

Normal Behavior Necessary To Success Head Of Child Guidance Clinic Asserts

Minneapolis, Minn.

July 9, 1924



PEOPLE whose behavior is such that other people find them pleasant associates in either business or social contacts are much more likely to achieve success than those whose behavior is erratic or unaccountable. Also, they are much more likely to lead happy lives.

Fundamentally, this is the reason for such ventures as the Child Guidance Clinic which has been in operation for nearly a year at the University of Minnesota and which has proved so successful that its work will be continued by local clinics in Minneapolis and St. Paul and by a third at the University.

Take for instance the boy who "rats." Rattng, according to Dr. Lawson G. Lowrey, director of the demonstration clinic on the University campus, is the current term for playing hookey from school. The boy who "rats" is on the way to developing a habit that will make things hard for him

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when he grows up. The person who is set at a certain task but then runs off and does something wholly different is a troublesome employee, a difficult friend. He may have trouble finding employers and intimates.

WHY DOES BOY WHO "RATS" DO IT?

For such a boy, the Child Guidance Clinic tries first of all to determine why he "rats." Next, it tries to cure him of his truancy habit by removing the cause. It also endeavors to show those with whom he lives how they can contribute to his cure by reducing or doing away with the sources of his ill-behavior.

Skipping school is, of course, only one among many forms of wrong behavior in children with which the clinic comes in contact. "Whatever the child's behavior is, the clinic's duty is to explain it through the things that are behind it," is the explanation given by the director. When a child's behavior is a source of distress to others, serious distress, that is, the clinic can be helpful; for, as Dr. Lowrey puts it, "the ability to make a satisfactory social adjustment is of the greatest importance to the success of the individual."

Early in the work of Child Guidance Clinics those who ran them classified behavior as normal or abnormal. Now they are asking instead, "what need or desire does the eccentric behavior satisfy?" or "from what is the child trying to escape when it acts this way?"

In a total of more than 250 talks which the director will have made by the time he closes the demonstration clinic on Nov. 1, he has tried to emphasize a group of four main services performed by such an institution. They are these:

Carefully to examine children showing behavior disorders and to map out for them a comprehensive plan such that they will achieve as much success in their social adaptation and life as their capacities will permit.

To treat the nervous child directly by modern methods with a view to curing the disorders.

To co-operate with existing agencies in the children's field and to aid in the solution of many problems that confront children's workers.

To spread knowledge of the more elementary facts of psychiatry so that it may help parents themselves to correct the behavior disorders of their children.

If "behavior disturbances" sounds a trifle obscure, the parents should know that these are usually very simple and easily recognizable things. They include habit motions of the type that includes nail-biting, frowning, and mouth twisting. Others are speech defects, convulsive nervous attacks of hysteria or breath holding; the conduct of the spoiled child who exhibits tantrums, stubbornness and tyranny. Sleep disturbances, truancy, timidity, excessive day-dreaming, abnormal curiosity, capricious appetite and retardation in school are other forms.

The real danger to the child is not, of course, in the action itself, but in the tendency which it indicates and the disorders of which it is the signal.

PARENTS MUST GUARD OWN ACTIONS

"Few parents have the slightest conception of the importance of the first five years of the child's life," Dr. Lowrey says. "The majority of his adult reactions are determined in that trying pre-school period. The mother is with the child 24 hours a day and she must take most of the responsibility for his conduct. She must quit "blaming it on father." She must stop blaming it on heredity. The parents a child is born with are not of half so much importance as the ones he lives with during his early years. If the mother is ill-tempered and grouchy, the child takes on habits of seclusiveness and unsociability. But he is born into a social order, not a hermitage. His early years should assist rather than retard his adjustment to the experience of living in a world inhabited by other human beings."

"Nervous irritability in otherwise normal children may be traced to various causes," he continues. "Nervous, irresponsible, capricious or unjust parents or teachers are very frequently to blame. Personal defects, such as crossed eyes, deformities, abnormal size may cause behavior disorders. In fact, they may arise from any physical cause that tends to make the child feel conspicuous or inferior. Causes may be

poor physical conditions, bad teeth or tonsils, or anemia. Dislike or shame for family or home, due to dirt, poverty, drunkenness, immorality or unfavorable newspaper notoriety is almost sure to manifest itself in more or less serious delinquencies on the part of the child in the home."

Those who are addressing themselves to the task of improving the lot of these unfortunate children at the University of Minnesota find that the response in the twin cities has been unusually fine. In St. Paul the Wilder Charities have undertaken to finance a continuation of the work for that city. In Minneapolis the Board of Education, Board of Public Welfare, Hennepin County Commissioners and the Central Council of Social Agencies have combined to support a clinic. Another will be maintained at the University. This one will also carry on work in some of the larger cities of Minnesota.

Only a suggestion of the field and the possible work has been given here. New and important problems are always coming to the surface as the task is carried on. Psychiatrists would like to know, for example, why it is that the law must compel children to go to school. Is it because of something in the makeup of the child or is it the fault of the school? If it is the school's fault, shall the blame be placed on the teacher, on the lessons, or on the "school activities" that are not a part of the regular course of instruction?

Whatever the ultimate discoveries in this respect may be, it is pleasant to hear that those in charge of the clinic have found fewer children in Minneapolis who were ill-adjusted to the schoolwork they were doing than they had encountered in cities where earlier clinics were conducted, Dallas, Norfolk, and St. Louis. The development of three permanent clinics following the demonstration has also added to their satisfaction over the results.

The University of Minnesota demonstration clinic has been financed by the Commonwealth Fund of New York. From Minneapolis Dr. Lowrey will move his demonstration clinic to Cleveland, Ohio.

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No. 47

Progress Of University Is Inevitable, Normal Development In Past Year Shows



Minneapolis, Minn.

Aug. 20, 1924

EVERY healthy organization can be depended upon to do some growing. There may be no special effort to stimulate growth. It may be the policy of those who direct it to strengthen and improve for the time being what has already been attained, but if the organization is a sound one, constructively governed on right principles, noticeable development is almost certain to take place.

The history of the University of Minnesota during the past year may be cited as an example. When the year began, President Coffman announced just such a policy as has been instanced. The University was to go along normally. No effort at intentional expansion or extension was contemplated. As a matter of fact, no effort at expansion was made; yet a backward look reveals that the year 1923-'24 was one of

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gratifying growth and development. Being a sound, healthily-governed institution, Minnesota had the virility and the impetus that made development inevitable.

SOME OF THE YEAR'S DEVELOPMENTS

Leaving growth of the physical plant of the institution for later consideration, one finds that a number of forward steps have been taken, more of them in the College of Science, Literature, and the Arts than elsewhere, that being the college with widest ramifications. In the department of Botany, which falls in that college, a major step toward a reorganization that has long been contemplated was taken in the employment of Professor J. Arthur Harris as its new head. Prof. Harris will come to Minneapolis in the fall after winding up the experimental work for the Carnegie Institution, in which he has been engaged for a number of years.

Because Botany is of great importance both culturally and practically, the establishment of the department on a new basis has received careful attention. Its bearing on agriculture is immediate, and much of the advanced botany is taught in the College of Agriculture. At the same time, it is one of the most popular courses in the Arts College. It will be the duty of the new head to coordinate and strengthen the work in these two fields, though his principle interest probably will lie in advanced scientific research and its application to Northwest agriculture.

Also in the Arts College, the past year has seen the reestablishment of Geography as a subject taught at Minnesota. Response of the student body to the courses offered by Professor Darrel H. Davis has led to the enlargement of the staff for the coming year and to a wider offering of Geography studies. As one of the new courses the Geography of Minnesota will be offered, paralleling in its field the course in Minnesota Geology that is now taught. Under the present organization of studies, Geography is a part of the department of Geology, as it had been before instruction in the former subject was temporarily discontinued some years ago.

Also in the College of Science, Literature, and the Arts, the past year saw the beginning of a course in Orientation, similar in purpose to courses which a great many leading

educational institutions have established during the past few years. The public has already been given a good deal of information about this course, which aims to give the student a co-ordinated view of the natural world and the world of man, the social organization of which each individual is necessarily a member. This course was first offered at the outset of the winter quarter. The experiment has seemed so successful that it will be offered to a much increased number of students when the new college year begins. Eventually, it may be a required study for all freshmen.

Coupled in purpose with the Orientation course, and intended, like the other, to make for greater personal efficiency on the part of the student and his clearer understanding of the objectives and methods in the process of education, an expanded system of student guidance was initiated during the year past, with three faculty members detailed to that task. Rather than merely advising students on the studies they should undertake, these advisers make an effort to get at the actual problems of the students and to be of special, personal use to those with whom they work. It is partly their purpose to show the more gifted students how they can get the most out of college, but they also devote themselves to solving the problems of the student who has struck a troublesome snag and who needs assistance from older heads.

ADVANCES IN THE MEDICAL SCHOOL

Reorganization of the department of pediatrics under Dr. Frederic Schlutz has been an outstanding development of the year in the Medical School. Dr. Schlutz comes to the University as a full-time professor, thus settling the status of this department, which had been a matter of some controversy. This arrangement looks forward in part to the time when the Medical School will have the Minnesota Hospital and Home for Crippled Children as a part of its plant, when the gifts of William Henry Eustis shall have been received in full. Results of the interest other donors have taken in the Medical School have come to fruition during the year in the beginning of construction on two hospital additions. These are the Todd Memorial Hospital, for eye, ear, nose, and throat

cases and the George Chase Christian Memorial Cancer Hospital. Both will be connecting units of the Elliott Memorial Hospital. They will be completed about a year hence. Due to this enlargement, Dr. L. B. Baldwin, superintendent of the hospitals, has been put on a full-time basis.

Adoption of a new system of convocations, under which the student body is called together for All-University meetings only when it is possible to get a speaker who can command broad, general interest, has been another of the year's worth-while innovations. By putting this plan into effect, Dean F. J. Kelly has increased both interest and attention at convocations.

Much more than can be given here must be told of the year's additions to the physical plant of the University of Minnesota and of the development of plans for beautifying the campus. Most of these accomplishments have been the result of plans laid long ago, but just now matured. Among these has been the final removal of the Northern Pacific Railway tracks, leaving quiet and a considerable tract of property where formerly a gully, noisy with the rattle and roar of trains, had to be endured. The athletic Stadium, made possible by the gifts of many thousand loyal friends of the University, is approaching completion. It will be used for the entire football schedule of the present autumn. The new University of Minnesota library, under construction for two years, is in shape to serve the student this fall, and work has been begun on the Administration Building, a unit in the original Comprehensive Building Program, for which the 1919 legislature voted funds. Other additions to plant that the year has seen placed in service have been the splendid new Experiment Station of the School of Mines, the new Electrical Engineering Building, and a Storehouse and Shops building that houses the many departments for self-service by which the institution is able to make a wholesome saving. Thanks to the care and study bestowed on plans for the Electrical Engineering building by members of the department and by architects, it is said to be the most effective laboratory yet erected for the purpose of collegiate instruction in that swiftly growing field.

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No. 48

Minnesota Conference On Social Work Helps Sociologists Show Job To Public



Minneapolis, Minn.

Aug. 27, 1924

THE growth of interest in the individual's adjustment to the society in which he lives, and of the relationship of the two, with a view to mutual protection and benefit, has been one of the social and educational phenomena of recent decades. The scientific organization and administration of relief, the professional training of men and women to direct social work, and a realization that preventive measures are vastly more important than curative ones in the fight to eliminate maladjustments have been among the developments of the period.

While such spectacular inventions as the airplane, the radio telephone, the modern motorcar and the submarine have been commanding public attention, it is safe to say that equal progress has been made in knowledge of the causes of

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poverty and social unrest, the bases of family discord and child delinquency, the need for scientific care of women during the period preceeding or following motherhood, and the protection of children, both prenatal and in the important early years of life. To enumerate these things is only to suggest the whole, great body of new knowledge and training that the human race has won to its command in a relatively short period.

PROGRESS UNSENSATIONAL BUT SURE

Less is heard of the achievements of American universities in this general field of Sociology than has been told of the sensational progress in Medicine, let us say, or in the science of Education, or Electricity, or even Psychology, which bears a direct relationship to sociological studies. Inevitably social problems have aroused some public interest; yet, it is always the other family that is suffering poverty, the child on the other street who is delinquent, someone else's husband who has been arrested for non-support, if not for worse.

The fact that problems of this type have to come pretty close to home before the average mother or father fully awakens to their significance, fortunately has not been operative to influence universities. There the fullest realization of the importance of sociological knowledge and technique has been enforced, with the result that a swiftly growing number of students are finding the value of these studies, either as a glimpse of life or as the basis of a life work.

Only when the various studies and activities that come under the general heading of Sociology are thrown into relief by some such event as the forthcoming State Conference of Social Work, to be held at the University of Minnesota, September 6 to 12, does one grasp the diversity and extent of the University's assistance in the social field.

More than 3,000 students registered in Sociology courses at the University of Minnesota last year, according to Dr. F. Stuart Chapin, department head. While by far the greater number of these took the subject as a customary and interesting segment in the field of general education, a large number chose to pursue advanced work in it as gradu-

ate students, and many, between 60 and 70 in all, were enrolled in the training course for social workers, one of the important- semi-professional fields of university study.

Dr. Chapin divides the University of Minnesota's activities into two main branches: the study of Sociology, textbook, lectures, field work and investigations, and the training of social workers. Under both headings, faculty members and students have direct contacts with the social agencies of the Twin Cities and the state. They not only observe the workings of these agencies, but actually do important parts of the work. Several faculty members hold executive positions in social agencies, and about an equal number of persons whose main work is with the social agencies give part of their time to instruction at the University, or supervision of social work by students.

Last year, for example, a graduate student, working under Dr. Chapin's supervision, made an important study of the public poor-relief system in Minneapolis, which may prove to be the basis for a reorganization. Studies in special phases of the problems of divorce, unemployment, dependent children and unmarried mothers are being made each year by graduate students directed by Mrs. M. D. Mudgett, a member of the faculty. Prof. M. C. Elmer is president of the Hennepin County Tuberculosis Association and is active in several other agencies of that type. Frank J. Bruno, executive secretary of the Minneapolis Family Welfare Society, is a lecturer at the University, as is William Hodson, representative of the Russell Sage Foundation.

"U" AND AGENCIES HELP MUTUALLY

There is a double relationship between the social agencies of Minnesota and the Sociology department of the University, in that the agencies offer splendid opportunities to students, who work out problems for them, and the students, on completion of their University training, go out into the state to supply the increasing demand for social workers. The profession is a growing one, with a technique of its own, which must be mastered if the practitioner is to be a success.

Social work also is commanding more and more public support as the value of its accomplishments becomes known.

Students who work for such well-established social agencies as the Ramsey County Child Welfare Board, Hennepin County Child Welfare Board, the Juvenile Court, the Children's Protective Society and the Visiting Teacher Service enjoy a practical type of training for which nothing else could be substituted. The United Charities of St. Paul, St. Paul Dispensary, medical-social case work and work in settlement houses broaden the opportunities in many directions.

In view of the extent of this work at the University of Minnesota, which has one of the largest Sociology departments in the country, it is natural that the Minnesota State Conference of Social Work should have been made very welcome when it expressed a desire to conduct this year's meetings on the campus. It was decided that the University would be host to them at University Farm, with its ample facilities, tree-shaded campus and greater seclusion and quiet. This offer was gladly accepted by the conference.

Joined with the conference this year for the first time there will be an Institute of Social Work, meeting each morning, with special lectures and discussions on topics of outstanding interest.

Dormitories of the University of Minnesota College of Agriculture will be available at 50 cents a night to those attending the conference, and reservations can be made by writing to the secretary-treasurer, 836 Andrus Building, Minneapolis. No special trains will be run this year because travel converges on the Twin Cities in any case. There is direct and frequent streetcar service from both Minneapolis and St. Paul.

Apart from the participation of members of the Sociology faculty and the provision of a meeting place, the University will contribute to this year's conference through the lectures of teachers from other departments. Among these will be Professor Justin Miller of the Law School, Dr. Max Seeham of the Medical School, Prof. John M. Gaus of the department of Political Science and Dean Walter C. Coffey of the Department of Agriculture.

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Solution Of Low-Grade Ore Problem Called "Main Chance" for State Mines



Minneapolis, Minn.

Sept. 3, 1924

IN no field, with the possible exception of agriculture, is the University of Minnesota at work on problems more immediately connected with the future welfare of the state than in the field of mining. Viewing forestry for the time being as a branch of agriculture, which it seems destined to be if Minnesota's very great stretches of forest land are to be replanted to trees as a crop, one finds that Minnesota has two principal sources of new wealth. Both come from the ground. The products of agriculture are one of these. Something has sprung into existence where before was nothing. The products of mining also represent new wealth. Other values are added, of course, to products in both classes. Transportation of them adds to their value as they are brought to points of consumption where they are more needed. Manufacture adds value as wheat becomes flour, flour bread, or bread pie. Iron

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ores become pig-iron, iron becomes castings, or it is made into steel, which in turn is fabricated into locomotives, surgical instruments, girders, rails, or sewing needles. But the basic new wealth is the materials on which the carrier or the manufacturer has a chance to perform.

FIRST ORE "CROP" ALSO IS LAST

A moment's thought makes it obvious that there is a marked difference, however, between the creation of wealth from a field and from a mine. It is true that raising a crop takes from the soil a small fraction of the mineral plant foods that are necessary to the raising of future crops. Unless the field is to become barren this depletion must be met by fertilization. But it is even more strikingly true that mining an ore deposit removes all of the valuable mineral that current processes can extract. One crop of ore exhausts that field, once and for all. Man can not fertilize the seedbed. Nature required millions of years and conditions far beyond the control of man for the enrichment of the area. Unlike the production of agricultural wealth, the production of minerals leaves the field worked out.

When grain lands were abundant, the farmer whose soils were impoverished moved to new soils and was repaid with overwhelming crops from virgin earth. Now the limits of new agricultural land have been approached the world over, so scientific agriculture is teaching the farmer to raise crops on the old soil. This he can do forever. The miner, on the other hand, having worked one deposit, has no choice but to turn to another. Eventually he must come to the end of his diggings and move.

Fortunately for Minnesota, the miner of iron ore on the northern ranges has been offered an alternative for pulling out, once the end of the rich deposits has been reached, a conclusion probably no more than 20 or 30 years distant in time. He can not recreate his rich ore deposits, but nature has placed close at hand an apparently endless supply of ores that are less rich, the so-called low grade ores. At the Minnesota School of Mines Experiment Station they say now that proper handling of the lean ores will enable Minnesota to continue as

an iron ore producing state for as long as need be considered. What the farmer accomplishes by fertilizing his field, the miner will achieve by modifying his machinery and introducing processes for concentrating the lean ores into the equivalent of the rich ores he formerly found.

Mines experts at the University are seeking to present this problem in such a way that the public will realize its full significance. Without its ore deposits, Minnesota would be in much the predicament of a man who formerly had two arms with which to earn a living, but who now has only one. Minnesota will always have the earning arm represented by its ore deposits, because the deposits of low grade ores are practically endless. But the point is this: unless the industry of extracting and concentrating low grade ores is developed and encouraged this arm will hang useless when the high-grade ores which feed its nerves and muscles have been exhausted in the not-distant future.

There are various reasons why this is true. The principal one is that unless the lower grade Minnesota ores can be made commercially available at prices to compete with foreign ores, smelting companies will inevitably buy the foreign ores. In Nova Scotia, Cuba, and Brazil, to mention only a few, there are rich ore deposits, all reasonably near to water transportation, which offer competition to Minnesota mines. Even today such ores are shipped to our seacoast smelters. Minnesota ores are also in competition with deposits such as those around Birmingham, Ala., where there is not only the ore but the coal and limestone needed for smelting, all within a very narrow area.

MUST BUILD ASSET FOR STATE'S FUTURE

Solution of the problem of beneficiating Minnesota's low grade ores so that they could compete in the open market would be the greatest contribution to Minnesota's future economic welfare that could possibly be made, according to W. R. Appleby, dean of the Minnesota School of Mines. The need is made all the more pressing, he believes, by the fact that the public will be slow to understand the importance of this fact.

No one has any fear that Minnesota mines will be abandoned while they are furnishing such standard ores as can be extracted today. These are practically the finest to be found anywhere. Minnesota produces one fourth of all the iron ores that are being extracted in the entire world. But what of the time, not far distant, when these are gone? In a recent booklet discussing the future of the Lake Superior iron ore deposits, Edward W. Davis, superintendent of the Experiment Station, has pointed out that the low-grade ores must be made usable before the high grade ores are gone. The new material must be increasingly developed and encouraged as the supply of the old declines. Unless the low-grade ores are ready for use long before the rich ores are exhausted, mining companies will lose interest in the Minnesota field, will remove their machines, docks, and transportation facilities, and devote their attention to other deposits. If this were to happen, no power on earth could lure them back to the Minnesota low-grade ores, once they were established elsewhere.

There is so much difference between the preparation of high-grade ores for smelting and the beneficiation of low-grade ores, also preparatory to smelting, that the two are really different industries. Those who are most conversant with the problems point out that if the state is to enjoy wealth in low grade ores after the high grade are gone, a start must be made at once in the encouragement of the industry that is to mean so much in the future.

As long as Minnesota's deposits of iron ore are productive, mining will bear its considerable share of the state tax burden. The longer mining of Minnesota ore continues, the longer will this share of the taxes be held up from the shoulders of agriculture and other business. The mining companies are certain to provide their share of the taxes as long as the rich ores last, but it is far less certain that this source of revenue, of employment, and of business and developmental activity will continue once more there is nothing left but the low-grade ores. It is to help this industry get on its feet and reach a basis of permanence and strength that present experiments, both by the Minnesota School of Mines and by several private concerns, are being carried on.

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Vol. 3

No. 50

University Solves Football Ticket Problem As Stadium Nears Completion



Minneapolis, Minn.

Sept. 10, 1924

THERE is just one remarkable thing about the new athletic Stadium which is nearing completion on the University of Minnesota's campus, and which, by the way, is costing about \$700,000, not \$1,000,000 as has so often been said because that figure comes "trippingly" from the tongue. It is not especially remarkable that Minnesota should build a Stadium. Institutions with far less scholastic and athletic prestige than this have splendid stadia. It is not especially remarkable that the Stadium should have 50,000 seats and cost \$700,000. There are Stadia with far greater seating capacity, and some have cost as much as \$2,000,000. But it is remarkable, and splendid, that the far-seeing and right-minded men and women who for one reason or another are interested in the University of Minnesota should have responded so readily

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when the need was made known to them. This is not to say that it is surprising that they gave. That would be quite a different statement, open to misinterpretation. It's not surprising; it's remarkable, worth noting down in a corner of one's memory and pondering on from time to time.

THE AUDITORIUM IS ASSURED

These friends of the University, be it remembered, have pledged money not only to build the Stadium, but to build an Auditorium as well. Pledges of nearly \$2,000,000 in all have been received. That the Stadium will require less than half of all this money can be seen. The remainder, after making allowances for some shrinkages of performance under promise, will go to build an Auditorium in memory of Cyrus Northrop. Despite the fact that there has been some questioning about the Auditorium due to the fact that the Stadium has been built first, there is room for no manner of doubt that the Auditorium will go up as planned. Unequivocal statements to that effect are on record. For that matter, relatively few have ever doubted that the second half of the program would be started once the first half had been carried to completion. Unless the shrinkage of pledges is greater than now seems possible, there will be considerably more money for the Auditorium than has been put into the Stadium.

Erection of the Stadium with its vastly increased seating capacity by comparison with old Northrop Field, has brought the department of physical education and athletics face to face with a new problem. It must evolve a system for seat distribution that will be the fairest and most equitable that can be worked out. This it has set itself to do and seemingly has accomplished.

One of the first things decided was that last year's method of putting all mail orders for a given game into a "hat" and filling them in the order in which they were drawn out, must go into the discard. Many whose foresight had prompted them to send in early orders had their numbers drawn among the last and got poor seats, or fewer seats than they had ordered. This year orders will be filled in the order of their

receipt, after allowance has been made for the two groups to whom special priority has been granted.

These two groups, who will enjoy the priority privileges in the selection of seats, are those who purchase season tickets, costing \$12, the sum of the prices of all the individual home games, and those who have subscribed to the Stadium-Auditorium fund and have paid as much of the pledge as has fallen due. Season ticket holders necessarily win priority. They buy seats for the last game at the same time that they buy them for the first. These are the easiest sales to make, lump sales. They also are the purchases by real enthusiasts, otherwise they would not want seats for all games. No one will question, either, the fairness of giving some special rights to those who have given freely toward the construction of the Stadium. They have not bought the privilege, but they have shown the interest in athletics and in the University of Minnesota which entitles them to some reciprocal courtesy. This has been the theory underlying their privilege of priority.

FILL MAIL ORDERS AS RECEIVED

After the season ticket purchasers and the paid-to-date Stadium subscribers have been allotted their tickets, mail orders for the various games will be filled in order of their receipt. Those who will fall into this class of ticket buyers will be by far the largest group. All of them will be on an equal basis, whether they be alumni, faculty members, residents of the twin cities, or Minnesotans living in the most out of the way sections of the state. Their success in obtaining seats will depend on themselves; that is to say, it will depend on the promptness with which they send in their mail orders, accompanied by a check covering the necessary sum.

Above all else, those who order football tickets by mail must observe the dates on which mail orders close. Applications for season tickets will close on September 22. Stadium subscribers will be given priority up to three weeks before the date of any given game. Dates on which mail orders for games will close to the general public are shown in the following table.

Game	Game Date	Price	Orders Close
North Dakota	Oct. 4	\$1.00	Sept. 22
Haskell Indians	Oct. 11	2.00	Sept. 29
Michigan	Nov. 1	2.50	Oct. 20
Ames	Nov. 8	1.50	Oct. 27
Illinois	Nov. 15	2.50	Nov. 3
Vanderbilt	Nov. 22	2.50	Nov. 10

These are the dates of Home games. The Homecoming game will be that with Michigan on Nov. 1. The Illinois game, Nov. 15, will be celebrated as Stadium Dedication and Dad's Day. Two games will be played away from home, Wisconsin at Madison on Oct. 18, for which applications will close Oct. 6, and Iowa at Iowa City on Oct. 25, for which applications will close on Oct. 13.

Mail orders will be received only on application blanks issued by the department of physical education and athletics. This must be remembered by all who would use the postal facilities for obtaining their seats. Requests for these blanks and the orders sent in on them should be addressed to: Office of Football Ticket Manager, University of Minnesota, Minneapolis, Minn.

Season books at an adjusted price will be sold to students, as has always been done. The only other ticket privilege will be that granted to men who have won the "M" in athletics. They will be entitled to a season pass, good for one seat in a special "M" section that has been set aside for them. After all mail orders have been filled, seats will be placed on public sale in Minneapolis and St. Paul.

Dr. L. J. Cooke, football ticket manager, has requested the public to give him assistance to prevent ticket scalping. The number of tickets to Conference games that may be bought by any one person is six. No more than that number ought ever to reach the hands of a single individual. Each applicant will be held responsible for tickets allotted to him, as shown by the office records. Under a new system, it is believed that tickets sold to scalpers can easily be traced.

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Vol. 3

No. 51

University's Central Purchasing Office Proves Invaluable As Institution Grows



Minneapolis, Minn.

Sept. 17, 1924

LAST YEAR the University of Minnesota bought approximately \$1,100,000 worth of supplies and equipment. These it bought through its purchasing agent, an officer in the department of the University comptroller. Whenever the nature of the purchase made it possible, the articles were bought under the competitive bidding system after inquiries had been sent to accessible dealers handling those articles. All this is in accordance with laws of the State of Minnesota governing the conduct of the institution.

Time was when when the head of a University department who needed a desk, departmental office supplies, or laboratory materials, stepped out and bought them himself, provided his budget still contained the money to pay for them.. That period is now many years in the past. The reasons for discontinuing

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it were many and obvious. For one thing, the University of Minnesota grew, and then continued to grow, until the cost of operation reached a point where none but the most businesslike and painstaking methods of conducting its financial affairs were thinkable. Again, men who are paid salaries to be heads of important departments of instruction might better give their time to the job for which their training has specially qualified them, and leave the duties of purchasing agent to a man with training to qualify him especially for that work. In the third place, all the widely known advantages of quantity purchasing and centralized control of purchases and distribution are enjoyed under the present system.

HUGE VARIETY OF SUPPLIES REQUIRED

One readily understands that a University teaching such subjects as agriculture, chemistry, medicine, physics, and the like must have large quantities of supplies and materials. It must buy feed for animals and equipment for their care. It must have on hand the reagents and materials necessary to the performance of experiments in chemistry or biology, and the equipment and apparatus, some of it unusually expensive, that is necessary for experiments involving delicate weighing and measuring, or in the conduct of a University Hospital.

Enumeration of mere items could go on endlessly. The University of Minnesota must have table salt for its cafeterias and motor trucks for its storehouse department. In between these come a host of articles that fall into widely different groups. But in general, R. S. Callaway, purchasing agent, lists them in three main classes. These are, first, supplies for instruction; second, supplies for maintenance, and third, supplies for service enterprises. Supplies for instruction include the chemicals of the laboratory, the paper and chalk and erasers, desks, chairs and tables, that one necessarily associates with any school. Supplies for maintenance are the hammers, saws, wheelbarrows, lawnmowers and rakes that must be used to keep the buildings in repair and the grounds in condition. Lumber and roofing, drainspouts, hinges, and nails all fall into this class.

Articles in these two classes which the University buys are a net expense. Then it buys a large amount of other supplies which it turns over at cost plus overhead. These are the supplies for service enterprises conducted for the benefit of students. The cafeterias on the several campuses and the Students Health Service are the outstanding service enterprises. In the last year for which the comptroller's report has been published, 1923, \$500,495.67 was laid out for supplies and expenses for the service enterprises. This comes back from the students who eat in the cafeterias or pay the small fees that entitle them to the attention of Health Service physicians.

In addition to these expendible supplies, the University must buy permanent equipment. This is more in the nature of a capital investment. Equipping a new Library or Electrical Engineering building, as has been done the past year, exemplifies the expenditure of this kind.

HOW A PURCHASE IS MADE

All these things are bought through the purchasing department. When a purchase is instituted by some department head, he makes out a requisition which, in turn, is approved by his dean or other executive superior. The requisition then goes to the purchasing agent, who sends out inquiries, and buys where he can most advantageously according to the bids submitted to him. In case there is a question as to the wisdom of the purchase it may go to the comptroller or even be submitted by him to the regents, who have, of course, the final governance of all University business.

Incidentally, the estimate on the requisition, if it is for any considerable amount, is checked in the auditor's office against the amount remaining in the budget of the department ordering the supplies, so that the machinery of purchase need not be put in motion when no purchase is possible. Budgets, of course, are rigidly checked by the president before they are granted, and once fixed, are not enlarged during the current year.

An agency that assists the purchasing agent in getting the best results is the University storehouse, in which stocks of the things in constant use are kept so that repeated purchases

of small amounts may be done away with in favor of bulk purchases at lower prices and the convenience of having these articles on hand at all times in sufficient quantities. Stationery or various kinds, bulk dry groceries for the cafeterias, brooms, nails and like articles in constant demand by the custodial force or the department of buildings and grounds are kept at the storehouse in quantities sufficient to meet current demands but not in large enough amounts to tie up University funds unnecessarily.

In addition to the expected benefits, the establishment of central purchasing has had some advantages that had not been looked for. The comptroller and purchasing agent, under this system, get a bird's eye view of University needs that was not possible in the days when many people bought small quantities of the same things. In this way the University has become aware of the large amount of glass apparatus used in the laboratories, and has employed a glass-blower who makes these things much cheaper than they can be bought. It has discovered the need for a central scientific shop to make other apparatus at a saving, and has established it. The carpentry shop and metal working shop have been enlarged. In some instances seasonal purchases and conservative storage have been resorted to.

Meanwhile, the purchasing of \$1,100,000 worth of supplies and equipment per year keeps the purchasing agent and his assistant, C. A. Smith, going at top speed. In a recent mail they found requisitions for a "super-centrifuge" to separate liquids and solids at terrific speed, for cattle neck-chains, a carload of explosives, some skeletons for the Medical School and for an assortment of "exsiccati", that being the scientific name for dried plants used as botanical specimens.

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Vol. 3

No. 52

Public Insistence On Cultural Growth Expressed By State In Field Of Education



Minneapolis, Minn.

Sept. 24, 1924

TWO well dressed men were sitting in a hotel lobby one rainy afternoon last summer, engaged in earnest conversation. First they talked crops, then politics, then they spoke of fishing, which led them into a discussion of Minnesota as a whole, of its varied resources and industries, dairying, grain-farming, mining, lumbering and woodworking, livestock raising, manufacturing. It was not an argument on these points. It was more in the nature of a joint admiration society, both men praising the state of their birth and ranking it high among the commonwealths of the Union.

Both of these men were only human. Sooner or later a subject of disagreement was certain to come up. It came to light at the mention of education. One thought that education was in danger of being overdone. The other assumed the

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more general point of view, admitting that education has been made more accessible to the general public in the past few decades than it had ever been before, but predicting that the present would prove only an important milestone, that the future progress of education would be even greater than that of the past.

"Yes," countered the other, "the advantage of a thorough education can be shown readily enough, but I can't help wondering about the cost."

His friend thought the cost of education had increased, but hardly in proportion to the great increase in national and local wealth. He pointed out that careful studies and analyses had indicated the truth of this.

But the man who doubted was not one to give in readily.

"There are so many demands upon the resources of the state," he insisted. "It must spend millions on roads, millions on penal and correctional institutions and asylums, it must inspect our gasoline and food. It must conserve our forests and our game. The number of demands upon the state is increasing."

WHAT CAN STATE OFFER EXCEPT EDUCATION?

"True enough," said the other. "You're talking like a citizen who knows his state and is interested in seeing it carefully managed for the good of its people. Recognizing that you are such a person, I should like to ask you a question. 'What can a state do for the cultural and spiritual betterment of its people except to provide educational opportunities for them?'"

The doubter thought awhile, perplexed. No doubt an answer to the question occurred to him next day, or the day after, but for the moment he was stumped.

He might have pointed out that the maintenance of state parks, where the people of a state can see nature in its most perfect state, is a means of serving soul and heart as well as body. He might have shown that state activities having to do with the preservation of health contribute to the other than material welfare. But he could have said little more.

"State aid" in other than material things, must come chiefly from education.

Hardly anyone will question that the state, merely another way of saying the collective people within certain boundaries, should provide for the enjoyment and comprehension of the less material things of life; for contact with literature, philosophy, art, ethics, the physical and social sciences. Under the Constitution a commonwealth in the United States must leave religion to the initiative and support of individuals or groups. It can not take a hand, and properly not, in the greatest of the spiritual forces. But even here the organization and practice of religion is a different matter from the study of religious thought. This last is one more of the fields opened to the public through institutions of learning.

In past centuries the state, not then a popular state, had moments of grandeur and indulgence, when it erected exquisite buildings, commissioned artists to paint or carve deathless works of art, or, in a more material phase, lavished wealth on triumphal processions, on pageants, feasts or public games. Some of these were inspiring. But the parks and palaces were not for the everyday man and woman to enter and enjoy. The great buildings were public buildings only in name. The periods of hunger and toil that stretched from one feast and pageant to the next were only somewhat more endurable for the average man than they were for the hordes of slaves.

STEADY EFFORT SUPPLANTS "OUTBURSTS"

Money snatched from the treasury of a conquered nation could be used by the overlords of those days for public feasts and debaucheries if the rulers saw fit, but today, when the public taxes itself for public purposes, it insists, above everything else, that the money be judiciously spent. "Judiciously" does not mean, however, that state funds are well spent only when they go to make sure that one burns pure gasoline, drinks pure milk, gets vaccinated, is imprisoned when he commits a crime, or receives asylum care if he loses his mind. These are material things, and the human being has a colossal yearning for advancement in things not material, as well as for softer beds, shorter hours, and more mileage.

Seek as it may for ways to satisfy a people's higher impulses, the state as such can answer the question in but one way, by providing education. The world has learned to organize and conserve its resources, so that now, in place of occasional outbursts of splendor as an expression of the yearning for better things, we have the steady, dependable efforts of the universities, of which anyone may take advantage, at any time. If he or she cannot give up an occupation and spend the entire time on a university campus, advantage can be taken of night extension classes, of lessons by correspondence, or of the publications, lectures and demonstrations in various fields which such an institution as the University of Minnesota conducts.

One need not assume, either, that the brilliance of past ages passed with the sporadic character of interest in culture and learning. Those who are living in the third decade of the twentieth century know all they need to on that subject. What of the rebirth of printing as an art, of the development of stage decoration, of the advances in sociology, economics, and psychology, of insulin, and the radio, the airplane, concrete, the Diesel engine and the products of coal tar?

It is hardly necessary to mention that the modern university organization combines in a peculiarly effective way opportunities for cultural growth with the chance to master a practical calling. Relatively a small part of the cost of education arises from the study of matters purely artistic and aesthetic. The great advantage that the modern system of popular education has over the ancient triumphs and splendors can be named. In those days the state improperly assumed the role of entertainer and host, squandered its funds, and left everyone the poorer, and most, none the happier. Education today produces men who on their individual initiative provide the nation's art and drama, music, literature and ethical inspiration, so that there is no need for the state to do these things. And together with them it trains other thousands who know best how to produce the raw materials, conduct the manufacture and commerce, cure the physical ills and struggle with the political perplexities of a nation that can never, by any chance, know as much as it should know to meet the problems that confront it.

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Vol. 3

No. 53

University's Own Child Guidance Clinic Will Travel State To Serve Communities



Minneapolis, Minn.

Oct. 1, 1924

NOW functioning under the grant of \$15,000 made by the 1923 legislature, the Psychiatric Clinic of the University of Minnesota is ready to carry into all parts of the state the work in mental hygiene for children which was so ably begun by the demonstration clinic conducted on the campus last year with the support of the Commonwealth Fund.

Unlike the demonstration clinic, the state clinic will not be alone in its field, since Minneapolis and St. Paul both have established local units to continue the work which proved its value in the year's trial and demonstration under Dr. Lawson G. Lowrey.

The University of Minnesota hospitals are also the Minnesota General Hospital, and the Psychiatric Clinic, operating

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with the hospitals as a base, is one more valuable instrument of service offered to Minnesota communities by the state through the University.

HOPE TO VISIT ONE CITY A MONTH

The clinic at the University will be available to serve as a travelling clinic and will visit at least one city a month, according to the plans of its director, Dr. G. S. Stevenson. He will decide which cities to visit on the basis of the need shown by the local groups that ask for the visit. The first program of the visiting clinic has already been held at Chisholm, and plans are under way for conducting a second at Albert Lea.

Such officials or agencies as a county nurse, school physician, superintendent of schools, child welfare board, a woman's club or group of businessmen may apply for the help of the Psychiatric Clinic in their community. Dr. Stevenson plans to meet these demands as fully as he can, although limited resources will make it necessary to hold down the schedule to about one trip a month, at least for the first year.

The director has outlined the functions and policy of the University Psychiatric Clinic as follows:

"The establishment of a mental hygiene clinic as part of the University Hospitals is an accomplished fact. This clinic will serve the state of Minnesota outside the twin cities.

"The work of this clinic will be carried on in three ways:

"1. Through stationary clinics established at the University and at one other center of population, not yet named.

"2. As a traveling clinic visiting cities elsewhere in the state.

"3. For special consultation service. This may be rendered either at the clinic's headquarters in Millard Hall or in the home community by the travelling clinic.

"The purpose of this clinic is to deal with defects, personality peculiarities, failures of habit formation, difficulties in getting along with companions, and other factors making for inefficient or unusual or unacceptable behavior in children. It will deal with problem children. Caring for these weaknesses in the problem child is a great help toward the elimination

of nervousness, waste of talents, delinquency and mental disease when the child grows up. In correcting personality flaws in children it will prevent the development and continuance of these elements in adult life.

"The personnel of the clinic during visits will be available for lectures dealing with matters of mental hygiene, or in more detail with the individual problems of children, on the relation of these problems to the problems of parents, and to problems of delinquency and mental disorder."

Local conditions will govern in part the selection of the community outside the twin cities in which the permanent sub-clinic will be established. It is certain to be in one of the larger Minnesota cities.

During the past year, Dr. Lowrey repeatedly called for public attention to the fact that "difficult" children are so because they are poorly managed by their parents, live in a home environment of unhappiness or squalor, or in some like way are subject to influences that hinder them from being normal and acting normally in their relationships with others. It often happens that the expert clinical worker, who has seen hundreds or thousands of children similarly handicapped and has come to know and recognize the usual causes of their misbehavior, can point out almost at once the conditions that affect the child's actions. Not all cases are simple, but when the cause of misbehavior is hidden, the clinic has the workers and the methods that are most likely to succeed.

HOW THE CLINIC WILL OPERATE

This can be shown by the clinic's organization and program. Besides the director it has the services of the clinical field worker, trained in child guidance, and of volunteer psychologists. When a community is to be served by the travelling clinic the field worker will make the first visit. She will make a thorough study of the group of children to be dealt with, determine their development, and learn what the environments are in which they live. This gives the basis for further work, and the psychologist will make the next call on the community. The psychologist makes a rating of the children's mental capacities, from which he can

tell whether the youngster's difficulties are due to natural incapacity or to something external that must be found and corrected.

After these visits have been made, the psychiatrist, Dr. Stevenson, will go to the community, make physical and mental examinations of the children, and by personal talks with them, glean whatever additional data he can. All members of the clinic will consult, compare notes and prepare recommendations for the guidance of those who are to supervise the corrective work.

Dr. Stevenson points out that the University Clinic must be principally a consulting service, giving its advice and assistance as far as possible, but relying to a great extent on workers in the various communities, both for gathering data on the children and for carrying out the policies best calculated to remedy the behavior disorders found during the examinations.

Meanwhile the staff will make its headquarters at Millard Hall on the University campus and will be available there, either for work in co-operation with the Minneapolis and St. Paul city clinics or for carrying on educational work. It is the plan of the director to speak before many groups.

Some cases will be found where it will be impossible to wait until the travelling clinic can arrange to study the community where they exist, or where the number of children involved is too small to make a clinic visit practicable. These children may be sent to the clinic headquarters for attention.

The effectiveness of the University's Psychiatric Clinic in spreading its work to various parts of the state will depend in large part on the co-operation given by local social agencies throughout Minnesota. It is these workers who will discover the children needing attention, and they should be the ones to enlist the help of groups or officials who will apply for the assistance of the travelling clinic.

Minnesota is one of relatively a few states in which psychiatric work in child guidance has been successfully launched, but the value of the program was shown so clearly by the demonstration clinic last year that steady progress may be expected in this field.

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No. 54

Medical School Provides An Intimate Contact Of Education With Community Life



Minneapolis, Minn.

Oct. 8, 1924

THE University of Minnesota, faculty and students, recently had the pleasure of hearing an address by the chairman of the American Medical Association's council on medical education, Dr. Arthur Dean Bevan. He is a man who for twenty years has been on the firing line in the battle for better medical education and better medical practice in this country. His memory goes back to the time when medical education was a matter of two lecture courses of twenty-six to thirty weeks each, possibly following a preparatory year of reading under a preceptor. So he spoke with authority at the cornerstone laying of the Todd Memorial and George Chase Christian Memorial hospitals when he said: "The truth is that in forty years a revolution has occurred. A new and great science, the science of medicine, has been born. This

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change has been so rapid and so great that even those of us who are in active work can reach back and touch the dark days when medicine was not a science."

POINTS OUT GOAL TO MINNESOTA

Later in his address, Dr. Bevan complimented not only the University but the entire state of Minnesota when he said: "President Coffman and the regents and faculty of the University of Minnesota, I desire to congratulate you and the people of Minnesota upon the splendid development that is going on in your medical school. I desire especially to congratulate you upon the fine buildings which you are beginning to erect today. They will be centers of medical teaching and medical research of the best type. I have had the pleasure of inspecting your medical school and I believe that you have the opportunity of developing here one of the great medical schools of the world.

"Build your school on such broad lines that it will belong not to the University alone, but to all the people of your state. Conduct it so that it will not only train general practitioners of medicine, specialists, and research men, but so that it will secure for the people of your state the best of preventive and curative medicine. Seek to master the great unsolved problems of the cause, the prevention, and cure of disease so that from your laboratories and clinics there will come great medical truths that will prove of service to all mankind."

The development of a medical school makes a university a part of the statewide community in a way that nothing else can do, he told his audience. But, he warned, hospitals must not be built and conducted with teaching as their sole or primary function.

"It is an economic wrong," said Dr. Bevan, "for a university to conduct a hospital for the sole purpose of teaching and research, and a sociological crime for a municipality to conduct a hospital as a boarding house for the care of the sick without regard for the educational and research functions of the hospital. From the interests of the community, therefore, this union of forces is demanded. We must bring about as soon as possible these affiliations between our universities

and our great hospitals which are so situated that they can secure the advantages of university connections.

"The best investment that any state can make," he said elsewhere in the address, "is money given for the adequate support of education and of medicine. There will always remain the great privilege and great opportunity for private endowment to assist medical education, medical research, and medical charities. It is interesting to note that the great endowments of Rockefeller and Carnegie, founded for the general benefits of mankind, have turned more and more to medicine as the surest way of accomplishing their fundamental purpose.

"The taking over of the medical school by the university has brought to the presidents and trustees of our universities a large and complex problem. Medicine has become such an important part of modern life that it touches every man, woman and child in the community, and when a university develops a medical department it at once assumes through that medical department a function which brings it for the first time in its history into the every-day life of the people. The medical school cannot be developed along the narrower lines of some departments of the university. The medical school drags the university into the practical, every-day life of the people through its hospitals, dispensaries and public health work, its maternity work, infant welfare work, its care of the blind and deaf and crippled children, and its nurses training schools. It influences not only the patients of these institutions but the people who manage and support them, and also the medical profession. This marriage of the university and of medicine can be productive of great good if both parties to the contract learn to do their part. The development of a medical school along the best lines will be a fine thing for the university. It will have a broadening effect. It will make the university a part of the community in a way that nothing else could do."

ASSOCIATION HAS BUILT NEW PROGRAM

Dr. Bevan outlined the work of the American Medical Association and contrasted present-day teaching methods with

those of the past.

"The people of this country are fortunate in having a well organized medical profession. The medical profession is organized in a great national association, the American Medical Association. Its avowed purpose is to elevate the standards of medical education and medical practice, and it has become a powerful instrument for good, both for the profession and the people of the country.

"In 1904 the association created the council on medical education and hospitals and began an active campaign which has resulted in a transformation of the old American medical school, with its marked limitations, into the modern American medical school, which ranks with the best in the world. Instead of the two years medical course, we now have a seven years medical course consisting of two years in the university devoted to physics, chemistry and biology; four years in the medical school proper, and at least one year as a hospital intern. During this period practically all of our medical schools which have survived this revolution have become the medical departments of universities. To quote from a recent paper by Abraham Flexner of the General Education Board, in which he reviews the progress of medical education:

"America, worse off than any of the European countries, bestirred itself actively. This activity is attributable to two factors: leadership and funds. The claim of leadership belongs to the council on education of the American Medical Association, to a few leading schools and to a few individuals. In response to the demand created by these leaders, funds have been procured by universities, through taxation, and from philanthropic individuals and organizations. The credit belongs not to the money but to the leaders, and primarily to the leaders in the profession and the schools. No other country has during this period produced anything like the systematic and energetic campaign carried on in recent years by those responsible for medical education in the United States."

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Vol. 4

No. 55

University Honors Incoming Freshmen As Stadium Witnesses First Gathering



Minneapolis, Minn.

Oct. 15, 1924

THE first exercises ever held in the new Memorial Stadium at the University of Minnesota were, fittingly, in honor of the incoming freshman class. It was the second time that official welcoming exercises had been conducted for the University newcomers. Last year the gathering was experimental, but it succeeded so well that it undoubtedly will continue as a recognized event in the first week of the college year. Practically the entire student population attended, and there were hundreds of businessmen from the University district and residents of the neighborhood who turned out to take part.

President-emeritus William W. Folwell sat on the platform with President Lotus D. Coffman, who was the only speaker. He said:

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These exercises are held partly for the purpose of giving an official opening to the new university year, and partly for the purpose of welcoming into our circle those who are coming to us for the first time. We set aside a university hour and assemble the staff and the student body that we may in this public way assure the newcomers that we are pleased to have them associated with us in one of the greatest experiments society has ever undertaken.

COLLEGE EDUCATION MUST BE EARNED

To the freshman in particular let me say that we accept your presence here as an evidence of your desire for an education, and of your willingness to work for it. No one can ever confer a college education upon you; it must be earned. There is no magic wand that can be waved before your eyes that will dispell ignorance and make you learned and wise. There is no professor who can give you intellectual possessions that you are unwilling or unable to acquire. Your first and largest duty is to find out what you want to do and then to do it with all your might. It will require hard work over a long period of time for you or for any one else to advance into any region of exact knowledge.

Perhaps the upper classmen will permit me to say that the new year comes with a new challenge to them. They have now reached that point in their academic careers which justifies the institution in hoping and expecting that they will stand for those things which minister to and serve the ideals and traditions of this University at her best. Furthermore, a welcome from the President of the University to the incoming freshmen is not sufficient. For it to be effective, it should be manifest on the part of every upper classman. There rests upon those who have been here for several years the duty as well as the responsibility of assisting the freshman in becoming properly established in their new academic environment. This is no mean task. It requires sympathy, tact and co-operation.

We have not assembled here today primarily to glorify the institution or to utter a word of friendly greeting to the newcomers, or to deliver hortatory remarks to those who have been with us for several years. Our primary pupose is to re-

new our vows and to recall to our memories the true meaning as well as the true nature of the University. The University is a great co-operative social enterprise. It is an institution definitely provided by society in which the staff and student may and are expected to work together upon the common problems of becoming better educated, of disseminating knowledge, and of discovering new truths. One of the chief excuses for the existence of an institution of this character, an institution established by the state and supported by public funds, is destroyed if the bonds of mutual sympathy and regard and respect do not exist at all times between faculty and students. A disregard for these fundamental considerations disqualifies and unfits one for permanent membership in a university community.

UNIVERSITY MADE UP OF HUMAN BEINGS

The University is not something which exists in the abstract. In the final analysis it is composed of human beings. Youth, maturity and old age with all of their race long characteristics are mingled here for the purpose of transmitting the social inheritance of the race from one generation to another and of discovering new ways of helping mankind. It can be truly said that if the securing of intellectual results were the sole justification for the existence of a university, few college men and women would permit their sons and daughters to go to college. It could be easily shown that the most learned men that America has produced, the men who have contributed most to the broadening and deepening and heightening of our intellectual life have become constructive influences, less because of the college course than in spite of it. Men like John D. Long, in his "Autobiography" that describe his career at Harvard, and the corresponding chapters of "The Education of Henry Adams", look back with shudderings at the recollection of the aridities and sterilities of the college course of their day. Nor are these cases from ancient history in principle out of date, but they occur less frequently than in earlier times. With the enrichment of the curriculum, the wider choice of subjects allowed students, and a corresponding

improvement in the technique of college instruction, there has, I believe, been a marked change in this respect.

We have only recently appreciated the fundamentally important fact that education is something more than a process of impartation and acquisition of knowledge. While a college is concerned with things in the intellectual realm, it can hardly be said too emphatically, that it is also concerned with the making of sound character and the development of forceful personality. Intellectual training is only one of the factors in this development. Men with keenly trained intellects may have a vicious and even criminal slant on human life. Heredity may be the explanation, or it may be that unsocial environmental forces have been the determining factors. In making sound characters and forceful personalities, the University must play its part, and accept its share of responsibility, and its share is not limited to the impartation of knowledge, or even to training in methods of acquiring knowledge.

A college student discovers a many sided life. He discovers that a university is a community. It has its companionships, its amusements, its activities of various kinds, its perplexing problems and its temptations. We dare not and we should not take refuge in any narrow scholastic definition of education to excuse ourselves from failure to do our utmost in accepting the responsibilities associated with each of these. The heavy task and the imperious duty of making for this university Republic citizens who will cherish its best traditions, meet its new responsibilities and accept its opportunities is a serious one, and none of us, student or faculty, who faces the opportunity of contributing to the achievement of that task, dares shirk it.

We assemble in convocation upon this auspicious occasion at the beginning of a new year, when our hopes and ambitions are high, to dedicate ourselves reverently and devotedly to wield as powerful an influence as we can, not only on minds, but on hearts and character. In achieving this high purpose our motto and text at all times should be, Whosoever will be great among you, shall be your minister, and "whosoever of you will be the chiefest shall be the servant of all."

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Vol. 3

No. 56

New Library For University Students Provides A Treasure House Of Knowledge



Minneapolis, Minn.

Oct. 22, 1924

A LIBRARY is related to a University in much the same way that a theater is related to a play or a playing diamond to a baseball team. In each case the need of the latter for the former may be called reasonably obvious. There is little need, therefore, to explain why the University of Minnesota has completed and moved into the splendid new library building which it is to dedicate October 31st. Whatever criticism may be levelled against activities of vague bearing on the general objects of higher education, the provision of facilities for acquiring, preserving, and circulating books can be accepted as approximately basic in an institution of learning.

From a small institution twenty years ago, the University of Minnesota has grown into one where between 10,000 and

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11,000 students register for regular work in the course of a year, not including 4500 summer students and thousands in extension night classes, correspondence work, and short courses. Compared with the old library, where 350 might study at a given time, the new library, which provides for 1500 students at once, just about maintains the growth ratio of the institution as a whole.

LIBRARY ESSENTIAL TO RESEARCH

This is a brief statement of the most apparent need that is met by the new library. Other factors, less obvious but equally important, exist. Educational methods have developed steadily in the direction of investigation. The two main points of attack in investigation are the laboratory and the library. In the laboratory, a student finds out what comes about when certain materials are treated in specified ways, or combined according to given formulae. In the case of undergraduate students these combinations and treatments are usually prescribed because they demonstrate laws that one must comprehend if he is to make progress in studying his subject. Advanced students, on the other hand, use the laboratories more imaginatively, making new combinations and resorting to new treatments of available materials. From these efforts, not infrequently, come the discoveries of new truths, new applications of old laws, or new results of their working.

Side by side with the laboratories, in which old truths are demonstrated by beginners and new ones discovered by bolder experiment, stands the library. Here one finds the educational twin of experiment, the recorded thought and observation of others, together with the written record of past experiments; in other words, the whole world's greatest filing cases of accumulated knowledge.

Whereas the study of a subject used to be restricted chiefly to lectures and the perusal of one or two specified textbooks, the current method requires that the student delve into a great many books, not devouring all of them, perhaps, but gleaning from a multitude those passages that are most applicable and fruitful of information. It is outside the range

of possibility for a student to purchase all these books. Neither can the University buy enough of them so that every student may have one at a moment's notice. But the institution, if adequately supported, aims to obtain enough of them so that a just division of use makes it possible for them to go around. This involves careful supervision of the volumes, and this, in turn, can be provided only in a library.

To this second reason for the growing importance of a library in University life can be added at least a third. This is the vast increase in the world's knowledge, represented by a greatly increased number of books that are necessary to one who must keep abreast of all developments in his field. Not only is the body of knowledge on old subjects increasing, but new subjects are being brought within the range of human knowledge, and the works on each must find their abiding place on the library shelves.

A frequently heard assertion is that human knowledge has become so vast that one has no choice but to specialize if he hopes to obtain an effective mastery of some one branch. This is merely the reverse of the library's predicament, for the library can not specialize. It may specialize by division into departments, but it must maintain departments for at least all the fields of knowledge in which the University offers instruction. As the individual is forced to turn to a rather rigid restriction, the library is compelled to expand in inverse ratio.

LIBRARY INTERLOCKED WITH EVERY COLLEGE

Minnesota's new library is the finest building on the campus, and rightfully so, for it is the one educational department that is a part of all the colleges in the University. With the erection of the new building, the regents have adopted a policy of concentrating there most of the collegiate or departmental libraries that were formerly scattered through various buildings. Because of its specialized nature, the law library remains in the College of Law. Because of the distance between campuses the library of the College of Agriculture, Forestry, and Home Economics, stays at University Farm. But most of the other big collections have been

brought together under the central roof.

Besides making possible a more effective use of the greater collection, this arrangement will also contribute something to campus unity, in so far as it provides one more central point of contact for those whom diverse interests and specialties tend strongly to pull apart.

Set off against the increasing demand on college libraries are some interesting entries on the credit side of the ledger. It is true, for example, that University of Minnesota library books can be circulated 150 times, although the average number of times that a public library book can be loaned is only about 30. This is not because the students "never crack the book," but because they read their stint and at once return the volume. They must, for another volume is waiting to be read tomorrow. The book doesn't lie around the house and isn't subjected to the wear and tear of careless inattention. Then there is the further fact that the introduction to books and association with them which a university student enjoys may develop into a real flair for study.

F. K. Walter, the librarian of the University of Minnesota, says that the library problem is a triple one under the subheads of building, books, and service. Minnesota has a building now of which it can be proud; more important, a building that is adequate to the role a library must play in an effective university. Of books it may be said that no library has enough. Counting its entire collection, Minnesota has about 425,000 volumes, to which it is adding at the rate of 18,000 to 20,000 a year. Last year 19,000 volumes were added. All acquisitions are not net gains, of course, for books wear out in the course of time. Wear and tear are partially offset at Minnesota by the University's own binding establishment, where volumes can be dressed up anew without leaving the campus. About 5,000 volumes are bound yearly in this plant.

Service offers the most ticklish problem. Everything is done that resources make possible. There are a few complaints, but, as Mr. Walter says, a student will get up at five o'clock to stand in line for football tickets, but he squirms if he has to wait ten minutes for a library book.

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Vol. 3

No. 57

University Plans Its First "Dad's Day" On Occasion Of The Stadium Dedication



Minneapolis, Minn.

Nov. 5, 1924

ONLY a very small percentage of the students who attend the University of Minnesota are the children of graduates of the University. There is, of course, an increasing actual number of young men and women in the institution whose fathers or mothers were students at Minnesota twenty, twenty-five, or thirty years ago. But Minnesota was a relatively small institution in those days, and its graduates of two or three decades ago make up only a small fraction of the many families represented by a son or daughter in the University of today.

While this may seem unimportant, one can see in it the absence of an important link that connects many of the older institutions with the firesides from which they draw their students. There is a strong attraction drawing the children

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of Harvard, Williams, Dartmouth, Oberlin or Wellesley graduates to the campus where the father or other spent the college years. Some of these institutions go so far as to make it easier for those with the family heritage to enter.

CLOSER CONTACTS ARE FOUND DESIRABLE

Such a college probably has fuller assurance of the immediate and enthusiastic interest of its students' parents than can be commanded by a state university, to which hundreds of young people who succeed in high schools progress naturally as a logical step. And there is no getting away from the fact that a parent's intelligent interest in the son or daughter who is attending a college or university, in the young person's activities and accomplishments there, and in the institution itself, is a tremendously valuable asset to those who must keep it functioning serviceably.

This is a principal reason for the establishment at the University of such an occasion as Dad's Day, for which Nov. 15 has been set aside, or Mother's Day, which on a first attempt last spring turned out so splendidly. In a state like Minnesota, with a large area, and a population that has worked hard and grown swiftly, many of its residents coming from other and distant places, it can not be taken for granted that all, or even a large percentage, of its people are thoroughly familiar with the principal educational institution. So it is properly within the bounds of intelligent management and polite hospitality for the University to invite these thousands of parents to its campus for a day.

Contrary to a popular impression, there are more men students in the University of Minnesota than there are women. Whether it be true or not that the mother more readily understands the activities of the girls and the father those of the young men, there is ample field for the co-operation and interest of both. Men predominate overwhelmingly in such colleges as engineering and architecture, mines, medicine, law, dentistry, pharmacy, agriculture, and forestry, just as women are in the majority in education, home economics, the school of nursing and the college of liberal arts. Because of the majority of women in the College of Science, Literature, and the

Arts, the public gets the impression that there are more women. Much of the social life of the campus goes on among the students in that college, and by them rather than by the members of the more specialized colleges are most of the student activities carried on.

One must not, of course, lay undue emphasis on the fact that this part of the University is made up of women, that part, of men. Some great French writer once said, "I can never forget that my mother was a woman," implying that by inheritance he must have a considerable share in matters feminine. So it will be with the fathers on Dad's Day. The dads will visit their daughters as well as their sons, just as the mothers visited not only their sons, but their daughters also.

"Dad's Day" will be devoted chiefly to a practical demonstration of what a University is, how it functions, student life, educational opportunities, and the like. As a matter of fact, it will be just a typical morning in the life of the institution as far as class-room and laboratory work are concerned, and a typical gala day when the great afternoon crowds begin to assemble for the Minnesota-Illinois football game.

WILL SEE THE "U" IN ALL PHASES

The real purpose of the occasion will be to let fathers see the University of Minnesota just as it is. Classes will be continued throughout the morning, as they always are on Saturday, so that visitors may accompany their sons and daughters to recitation, lecture, library, or laboratory. They will hurry from building to building in the ten minutes between classes. They will follow the routine and share the inspirations of the students before whom lecturer and textbook are unfolding the world of knowledge. They will take lunch where their children do, visit their living quarters, and peep in at the shops where they purchase their little this and thats.

This will all be on the workaday side of the picture. Happily the University of Minnesota has been able this year to provide one of the most dramatic events in its history as a climax to the afternoon of "Dad's Day." This will be the dedication of the new Memorial Stadium, a structure which

represents not only affectionate remembrance of Minnesotans who have given up their lives in their country's defense but also the willing sacrifice of thousands loyal to the University of Minnesota who have contributed to make possible a Stadium and an Auditorium.

Dads who have not been familiar with the University will have a chance to see how much it means to the great many who have given for these two buildings in answer to the first call Minnesota ever made for the individual support of those who have a thorough belief in the excellence of the institution. Hundreds of fathers are planning to go with their sons or daughters to the dedication and football game.

Just prior to the football game the visiting fathers will be guests of the University at a luncheon in the Minnesota Union at which President L. D. Coffman will address them briefly and several of the visitors will be called on for short talks.

It is an axiom in the newspaper business, for example, that no amount of description at second hand can be substituted satisfactorily for a first hand view of the event that one is to describe. This is equally true of a place like the University of Minnesota. Fathers who have never been there will find one thing after another different from their preconceived ideas of them. In nearly every instance, one may assume, this difference will go on the credit side of the ledger, so that Dad will depart with a better understanding and a higher regard for the institution than he could have obtained had he not gone.

Minnesota is not stepping into an untried field in establishing a Dad's Day. Several universities in the Western Conference have made this event a yearly one, with results so satisfactory that at no place has its abandonment ever been considered.

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Vol. 3

No. 58

"Education and Learning" Is Theme At Dedication At University Library



Minneapolis, Minn.

Nov. 12, 1924

"THE terms 'education' and 'learning' are troublesome", Dean Frederick J. E. Woodbridge of Columbia University confessed in the paper on "Education and Learning" which he read at the dedication of the University of Minnesota's new library. What they may connote in any given contest, said he, depends very much on him who uses them. They are living words whose epitaph is not yet written, so that any stones you or I may set up to mark their resting place are premature. I ask their forgiveness, and yours, he continued, for any violence I may do them in using them primarily to distinguish between an emphasis on people and an emphasis on knowledge.

Arithmetic, for example, may be studied to further the advancement of him who studies it. I call that education.

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It may also be studied to further its own advancement. I call that learning.

HOW THE TWO THINGS DIFFER

Obviously, these two ends are not mutually exclusive, but they imply a difference in emphasis which is far-reaching and significant, a difference which is felt at once no matter what may ultimately be made of it. To approach a given subject or inquiry with the question, "What advantage is to come from it," and to approach the same subject or inquiry with the question, "whither does it lead?" are clearly different, even if the first leads to an answer to the second or the second to an answer to the first.

Education furthers learning and learning furthers education much as exercise promotes health and health, exercise. Yet such possible ultimate consequences ought not to obscure initial differences. It is one thing to advance education and another to advance learning, even if happily they meet at their journey's end. In getting an education the student may fall in love with learning. Then he is "standing in the need of prayer".

Contrasting education and learning as I have done, may lead to a consideration I should like at once to eliminate. I would avoid, if possible, any issue between the useful and the useless, the practical and the theoretical, the vocational and the liberal, the professional and the academic. In framing any scheme of studies for the young, the adolescent, and the mature, respect must be paid to the time of life, to human nature, to social and economic needs, and to the ends set for attainment.

Wisdom, whether prayed for or not, would advise, as in the Phaedrus, that what we are and what we have be friendly, pleading for some harmony between the inner and the outer man. And since "our circumstances determine our duties" there can be no greater error on the business of schooling mankind than that involved in paying heed to irrelevant circumstances. No subject is praiseworthy or blameworthy because it is remote and abstruse, or because it is immediate and practical. Every subject needs repeated evaluation in terms of time and circumstance.

Education and learning may both be called arts. They both involve the acquisition of a certain technique and imply a certain attitude of mind. In the one case the technique is psychological, based on an understanding of human nature, and the attitude of mind is regulative. In the other the technique is logical, growing out of the subject-matter involved, and the attitude of mind is both dogmatic and free. For education, putting its emphasis on people, presupposes an initial inquiry into human nature from which its technique is derived. To educate successfully it is needful to know as thoroughly as possible the individual to be educated, his capacities, his inclinations, his interests, his native equipment, his aptitude, his prospects of success, in short, all that is involved in measuring him to ascertain his quotient of intelligence.

It is also needful to know what he is to be educated for, whether it be for what his measurement indicates or for what either his ambition or his situation calls for. Education thus implies the regulative mind. It is administrative in spirit. It would be orderly and progressive, guiding the individual's growth either in the direction of its naturally indicated fruition or in that of its hoped for issue.

Learning, in contrast, putting its emphasis on knowledge, presupposes an initial inquiry into what is already known and accordingly derives its technique from a consideration of the methods which have proved successful, either in increasing knowledge or in making it clearer and more coherent. Its attitude of mind is consequently dogmatic in the face of inquiry. For it seems unnecessary to find out again what has already been found out, but necessary to leave inquiry free, because the final estimate of it will be made, not in terms of its purpose or intent, but in terms of its results. Controlled learning is really education, for it presupposes the latter's traits.

THE DIFFICULTIES IN EDUCATION

From this general statement of the two arts, it would appear that education is by far the more difficult. It is so difficult that I often wonder at the readiness with which we undertake it and the remarkable faith we have in it. Having been engaged with it the greater part of my life, either in at-

tempting to acquire an education myself or in attempting to see to it that others acquire one, I review my achievements sometimes with amazement and sometimes with despair. Yet we engage in education with a faith that is old. "As the twig is bent the tree is inclined." As a society educates, so will that society be, is a faith which was converted into practice long before it was expressed in words. There is perhaps no faith which has had a wider propaganda. There is no doubt of it. Our faith in education, although wonderful, is sound.

There is no doubt of it. But there is difficulty. When we are told that we are all products of our education, I wonder how it is possible for such products to educate themselves. This is a difficulty which success in education does not seem wholly to remove. Sometimes we are told that our success in educating animals affords an illustration of what we might possibly do with ourselves. We have all heard that if we devoted to the culture of human beings the care, attention, and selection we devote to the breeding of pigs and horses, we could in a few generations produce a race of beings free from the major defects of our present too imperfect human society. The illustration is always impressive. It overlooks a difficulty, however, which is readily disclosed by the fact that pigs and horses do not educate themselves. We need education just as pigs and horses do, but in this respect they are more fortunate than we in that they are not educated by their own kind. It is easy for us to play Providence to them. But it is not so easy to play Providence to ourselves.

Belittling education is neither proper nor prudent but I would stand for a moment amazed at the undertaking. How curious looks all this preaching to men that in order to live they must first be properly prepared, that they have native capacities which should be encouragingly developed, that they have duties and obligations which they ought to fulfill, that they should bend their energies to attain success or to push the race on a little nearer to some far-off divine event. To play providence to himself and his fellows is perhaps the most amazing thing man does. We may call it his glory or may call it his shame according to our mood. It is his fate. The school bell rings and the children go to school.

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Vol. 3

No. 59

Astounding Progress Of Electricity Reflected In New University Laboratory



Minneapolis, Minn.

Nov. 19, 1924

IN selecting electrical engineering as the branch of that great profession to receive first attention in its program of improving facilities and equipment, the University of Minnesota has paid practical heed to present day developments and the probable demands of the immediate future. Power is the cry of the world of practical affairs, and of power there are but three sources worth considering, coal, petroleum, and "white coal"—hydro-electric power. That is a matter of origins. In considering electricity one must go farther and consider the vast and increasing amount of coal energy that is transformed into electrical current for consumption. And on a lesser scale the same is true of petroleum.

The University's new electrical engineering building was dedicated on the night of November 1, 1924. Thirty-eight

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years earlier, the first course in electrical science had been offered by the institution. In his historical sketch of electrical engineering at Minnesota, Professor George D. Shepardson, head of the department, writes: "The University of Minnesota catalogue for the year 1886-87 and announcement for the year 1888 announced for the first time that the College of Mechanic Arts offered a course in electrical engineering. At that time Dr. Cyrus Northrop was president of the University, William A. Pike, C.E., was 'professor of engineering and in charge of physics', as well as director of the College of Mechanic Arts. Frederick S. Jones was instructor in physics and apparently de facto head of the new department of electrical engineering.

GAINS OF ELECTRICITY IN 38 YEARS

"The student registration in the College of Mechanic Arts consisted of four juniors and fourteen specials, the entire University then having 135 students of college grade, while sub-freshmen, special, and extension students raised the total to 546."

Professor Shepardson was called from Cornell in the spring of 1891 to become head of the department of electrical engineering. He taught for some time all of the courses in electrical engineering and also some sections in physics.

Growth of the department since that time, while great, need not be emphasized, for it could by no means be made as impressive as has been the phenomenal growth of electrical science itself from a period when feeble incandescents twinkled and curious experiments were performed, up to now, when many of the world's greatest engineering feats have to do with the harnessing and distribution of waterpower and its usable form, electrical current. Such a work as the Muscle Shoals dam and such a project as the Great Lakes-St. Lawrence Waterways program, contemplating mammoth power production in the St. Lawrence rapids, or the coal and water-power fed "super-power" circuits contemplated in the eastern United States tell the story far more effectively. On the popular side, radio telephony has multiplied public interest in electricity to an extent that seems incredible when one realizes that not

until after the armistice was it even announced that such a science had been developed. It was too precious a secret to be revealed until the last possible military advantage had been wrung from it in the world war. But today—people have their radios whether they got any bananas or not.

Minnesota's new electrical engineering building contains much of interest. Historical collections showing electrical progress in such fields as lightning, communication, measuring equipment, dynamos and motors, batteries, wiring devices, heating and chemical uses, and the like are being arranged. Plans are being made also for exhibit rooms, Professor Shepardson has announced. One will exhibit various electrical products along with working exhibits to show how different results are obtained by the use of electricity. These will be so arranged that by throwing a switch a visitor may put things in motion and see just how matters go. In a dark room will be installed exhibits showing right and wrong ways to apply light, showing also various effects that may be produced by electric lights.

It all seems marvellous, but not more marvellous than that electrical power is moving the cotton spinning industry from New England to the southern Appalachian states, making possible the million dollar salaries of those stars who primp under the Klieg lights, wresting fertilizer from the air, or enabling the resident of Montevideo, Minn., to hearken in as the band strikes up the national air at Montevideo, Republic of Uruguay.

BUILDING IS SCIENTIFICALLY ARRANGED

The front part of the new building is devoted to classroom and office uses, while a large extension at the rear houses the various laboratories. The electrical machinery laboratory occupies the first and second floors of the laboratory section of the building, galleries on both sides providing facilities for computation and for lighter experimental work. The upper floor is devoted to communication laboratories. The lower floor houses the service machinery and battery, the shop, laboratories for introductory and for precise work, and a few research rooms.

"Lighting being one of the prominent uses of electricity" writes the department head, "special attention has been given both to the general lighting of the building and to certain special applications. Something like twenty-five different kinds of lighting equipment (luminaires) are used in as many different rooms to illustrate modern practice, while the illumination classroom has a number of distinct types of lighting controlled by separate circuits. Careful attention has been paid to details, such as lighting the blackboards. These are supplied with special luminaries and are set on a small angle so that there is no glare from the windows."

Full provision has been made for radio telephony and telegraphy study and research in the new building, as well as for work in the older established branches of electrical communication, the wired telephone and telegraph. A pair of ninety-foot radio towers rise above the roof of the building, connecting with the communication laboratories, which have been placed conveniently on the top floor.

Electrical engineering students are not required to study military science beyond the drill course of the freshman year, but they are the only students in the University eligible to take the advanced military work of the signal corps, and a considerable number elect each year to do so. A captain in the signal corps, United States Army, is assigned as military director of this work, he and the regular faculty of the college co-operating in instruction and supervision.

The laboratory equipment in a modern electrical building covers a wide range. While the most conspicuous items are the various types of generators, motors, and transformers, with their controlling, loading, and measuring equipment, there are required standards for checking the instruments, a variety of equipment for demonstrating the laws that govern the flow of electricity in various kinds of circuits, and the laws underlying the commercial applications of electricity. Special equipment is used in measuring light and its effects, several rooms being devoted to photometry and demonstrations of lighting. Even to keep within sight of the present achievements in electrical communication requires a large amount of equipment. For each of these purposes the new building has been equipped as fully as the resources of the department would allow.

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No. 60

Beneficial Athletics For All Students Sought Through Use Of The New Stadium



Minneapolis, Minn.

Nov. 26, 1924

THAT the stress of modern life and the increase of sedentary occupations make it more necessary than ever for the young person to have a healthy body when he enters on his life work has become practically an axiom. Hard experience and cold facts demonstrate that health is a practically necessary attribute of the man who is going to make the most of his mental powers, just as a good mentality is, of course, requisite if one is to use his bodily machine to the best purpose.

Universities and colleges have rightfully established themselves as leaders in the nationwide campaign for better health, more thorough recognition of the principles of hygiene, and the better use of leisure. This last, by the way, is one of

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the important problems to whose solution physical training contributes, as anyone who observes the increase in recent years of swimming, skating, golf, boating and horseback riding can testify.

In dedicating its new Memorial Stadium, the University of Minnesota has emphasized the fact that it must contribute to the physical well-being not only of the fortunate ones on the first team, but of all members of the University community. In the Stadium dedication program, President L. D. Coffman and the director of intra-mural athletics, W. R. Smith, made statements on this point which will bear repeating.

MEMORIAL SHOULD SERVE LIVING ALSO

"To be wholly effective as a memorial," said the president, "the Stadium must serve living generations effectively, besides preserving a realization of the gallantry of those who fell. It must contribute to the maintenance of moral and physical standards in keeping with the code of those it symbolizes. Their influence will be continued in the benefits this structure brings to succeeding generations, just as their sacrifices have assured for the time being the safety of those who remain.

"The Stadium will make a tremendous contribution to University unity and spirit when it brings our thousands of students together at a moment when they are inspired by a common enthusiasm. It will contribute to Minnesota spirit in the state-wide as well as the campus-wide sense. But to fulfill its possibilities, it must be more than the arena for exciting and colorful games. It must contribute directly to the wellbeing of all the students in the University.

"This result will be obtained through the support of a campus-wide program of physical education and beneficial exercises such as will be made increasingly possible from the funds which this playing field is certain to produce. Football is not for the few, although, in the last analysis, those who actually take part in the games are a small percentage of the male enrollment. With the Stadium an accomplished fact, the time has come when we can increase the attention we pay to

the physical training of every student. It is true that inter-collegiate athletics are expensive. It is not necessary to defend them on the ground that they make possible the larger program of physical education and exercise for all. The fact is however, whatever argument one employs, that the Stadium will make this larger program possible, and will in that way contribute directly to the health and wholesomeness of every person who enrolls at the University of Minnesota."

Mr. Smith's article said:

"The aim of Intramural Athletics at the University of Minnesota is to provide exercise and recreation in the form of athletic competition for every man enrolled or connected with the University who is not at that season of the year engaged in athletics. Voluntary competition creates a greater interest, and is therefore more beneficial than compulsory athletic class work. There are over six thousand men, including faculty and students, connected with the University. About seven hundred men were engaged last year in competition for varsity athletics. Varsity athletics include football, basketball, baseball, track, swimming, cross country, hockey, gymnastics, wrestling, golf and tennis. The Intramural Department must therefore provide participation in competitive sports during all seasons of the year for more than five thousand students.

FOSTER EVERY FORM OF ATHLETICS

"No one is barred from participation in intramural sports, except varsity letter-men and squad men from the sport in which they excel. There are no scholarship requirements other than that the student be required to carry a minimum of ten hours work per week. As long as he is permitted to continue his work in the University, he may take part in intramural athletics. Whenever possible the formation of teams and team play is encouraged. The students are divided into leagues such as fraternity, campus organization, boarding club, class, college, military unit, or any department, as units for team formation. In some of the sports like tennis, golf, cross country and the like, tournaments or meets are held in which students compete individually.

"Nearly every form of athletic activity is fostered in order that the individual may find recreation each season of the

year in that game he most enjoys. Most students prefer the team game rather than the sport which emphasizes individual activity. Basketball is one of the most popular intramural games. It does not require a great amount of training nor the purchase of expensive equipment. It calls for teamwork and co-operation, and serves as an outlet for pent-up nervous energy.

"Most people will agree that intramural athletics will play a greater part for the general improvement of the student body than any other movement. The morale and the class room work of these students will be greatly improved if they engage in a reasonable amount of play. The individual will be able to keep physically fit, and if the games are moderately indulged in, they will serve to produce a clearer mind to prepare for those sports or battles of everyday life in which the individual must compete after leaving college. It is not our object to make of every student a highly trained athlete, but to develop co-operation in competitive effort, and to instill respect for the officials and the spirit of the rules. These games should teach one to win or lose with a grace becoming to the higher type of man. Habits of clean living and clean play are always worth cultivating. Good sportsmanship is developed, and what is practiced in play is never forgotten.

"The new stadium will indirectly make it possible for us to work towards our ideal. A large amount of money is necessary to carry on intramural athletics which must be supplied from the income of varsity athletics. Many people criticize the fact that we spend so much time, energy and money on the few men composing our freshman and varsity squads. These criticisms usually come from individuals who are not well acquainted with the University situation. Whether they are right or wrong they will realize that it is impossible for every student to take part in varsity athletics. The rest of the student body must look to the Intramural Department for expression of the instinct for competition and bodily activity. Our success in intramural athletics depends upon the success of our varsity athletics. With the co-operation of faculty and students we hope to enroll every man on the campus in some competitive game each season of the year."

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No. 61

Consider The Great, Crested Flycatcher As 7000 Children Do In University Museum



Minneapolis, Minn.

Dec. 3, 1924

THE great, crested flycatcher, quaint bird, invariably builds its nest in a hole in some tree, thereby acquiring an interior in the natural-grain finish, a nifty, rustic exterior, and many other advantages, among which may be mentioned good drainage. This crafty bird is also famous for another custom. Projecting from the hole through which he enters his tree nest there is always the dried skin of a snake.

Now this does not indicate at all that the great, crested flycatcher is a regular Hercules among birds. Ornithologists do not claim that he stands at the door of his little domicile breathing defiance to the angry snake, which nevertheless advances to be pecked to death by the doughty father. The truth seems to be that the flycatcher, while he spends his days

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at something as apparently trivial as catching flies, puts in part of the night in thought, his head on one side, his great crest askew, or, if you will, on the bias. In this pensive posture he and all his contemporaries of the species, together with all his forbears for at least as long as they have been observed by ornithologists, have conceived the splendid idea of finding under the bushes a castoff snake skin and hanging it up on the doorbell, much as the health officer tacks up a red card in times of smallpox. This done, the bird, who would hurt a fly but nothing else, decides that he has sprayed his apple trees for that summer and settles down to a season of good hunting. Presently, out of sheer pride, his crest sprouts two or three new and splendid feathers.

IT TAKES YOUR MIND OFF YOUR TROUBLES

New surely in a world filled with two million share days, world prices, dehorned dreadnoughts and the boll weevil, one may be excused for pausing a moment and considering this great, yet little, crested flycatcher.

It is the interest created in him and his like that makes worthwhile the annual visits of six or eight thousand twin city school children to the Zoological Museum of the University of Minnesota, which is probably the chief cold-weather center of nature study in the state.. The exact number of children and grownups who visited the museum last year in organized groups was 6870, and in addition to these, many thousands of casual visitors dropped in and looked around.

This work is carried on at the University by Dr. Thomas S. Roberts, director of the museum, and by William Kilgore, Jr., its curator. The children come without expense to themselves, are shown everything and hear everything explained by one or the other of these two men, and go away feeling surer than ever that winter snows will not always cover the ground.. They quicken their interest in the wholesome and beautiful outdoors, and promise themselves that next spring and summer they will be more eager than ever to renew contacts with that splendid world.

Take as a typical example a visit to the Museum of a group of thirty or forty Boy Scouts, Girl Scouts, Campfire

Girls or Four Square Boys. An appointment for the visit is made several days in advance. Upon their arrival they are taken first to the basement of the Animal Biology building, to a room where motion picture equipment has been set up. Here they are shown a series of fascinating reels from wild life. Dr. Roberts and Mr. Kilgore explain the pictures, some of which are without "text," and operate the machine. Afterwards the children are taken through the Museum.

An effort is made to add something each year to the collection of wild life motion pictures in the Museum's files. Reels now on hand include pictures of the lives of birds, insects, small animals, also pictures showing the relationships between birds and flowers, such as pollinization and the like. One reel shows a mother turtle scooping out a hole in the sand and laying her funny, rubbery-skinned eggs. Another shows a mole busy at his burrowing, possibly in somebody's pet golf links. Birds are shown feeding their young; squirrels, storing up their hoards for winter.

WESTERN PRAIRIE BIRDS PHOTOGRAPHED

Two unusually interesting additions to these reels of motion pictures were made last summer when the men who operate the museum went to western Minnesota on a hunt for some of the birds native to the original prairie, which now has so nearly vanished. One of these was the marble godwit, a wader, which was found in far smaller numbers than there were when virgin prairie was almost limitless in extent. But there were still enough of them on occasional half sections of unbroken land to yield good pictures.

Of the other bird hunted with the camera, the burrowing owl, these naturalists learned to their surprise that there were more of them than there used to be. This is a philosophical creature who is willing to occupy a nice warm hole without being particular whether he ruffles his own feathers to dig it or not. In western Minnesota he affects badger and rabbit holes. Further west, in the Dakotas, he makes for the abandoned holes of prairie dogs. They found not only that he is increasing in numbers but also that Horace Greeley's famous advice has finally seeped through to his prairie fastnesses, with

the result that he has been moving steadily westward.

Mr. Kilgore reported that farmers in western Minnesota have learned the value of these burrowing owls, which live on beetles, young gophers, and mice, and are now protecting them and looking on them as friends. One man, in whose field they wished to dig up a nest to be photographed, would give his permission only upon their promise to restore all the fledgling owls safe and sound to their underground nest. This attitude has something to do with the gain in their census.

Minnesota small boys and girls who visit the Museum may be told, also, that eagles still live in Minnesota, the old bald eagles themselves in Itasca Park at least, and the osprey or fish eagle, by the shores of some of the largest lakes.

The public is fairly familiar with the splendid habitat groups in the University's Zoological Museum, in which such creatures as the deer, beaver, the caribou and the aquatic birds of Minnesota are shown in the most lifelike mountings, perfect in posture, with the background painted from nature and the herbage of the foreground reproduced exactly with actual or lifelike wax models of trees, grass, bushes, and flowers. It is much less familiar with the remarkable collection of bird skins housed at the museum, many of which were collected by Dr. Roberts and Mr. Kilgore privately before they were turned over to the museum. Hunters will find this collection ideal for identifying unusual specimens, and all who seek accurate knowledge of birds will find it of use. One of the practical uses to which it is put at present is the testing of Boy Scouts for their merit badges in bird lore. For the past year these examinations have been given by Mr. Kilgore. Sixty-five or seventy boys have been tested in that period.

Dr. Roberts is now building up a series of small bird groups in movable cases, in the hope that eventually he will have enough of these to permit sending them around to schools in Minnesota, which can use them in first hand study of perfectly natural mountings of the birds, nests, and typical foliage of their habitats. There is as yet too little money to make this distribution possible. He and Mr. Kilgore recently visited the Field Museum in Chicago to study its distribution method for small cases, of which it circulates several hundred.

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No. 62

Visiting Scientist Says Dentistry Should Be Taught As Branch Of Medicine



Minneapolis, Minn.

Dec. 10, 1924

IS dentistry a branch of the medical profession, or is it a calling for which the chief requirement is that a practitioner possess merely a highly developed mechanical skill?

When members of the Association of American Universities, most of them the presidents of universities or the deans of university graduate schools, met recently in Minneapolis they heard a spirited defense of the claim that dentistry is a branch of medicine, presented by Dr. William J. Gies, representing the Carnegie Foundation for the Advancement of Teaching. Dentistry, far from requiring mechanical skill only, he told the educators, is attended by difficulties due to the existence together of medical, mechanical, and artistic demands upon the practitioner.

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The next great forward step in dental education, said he, should come through placing it on a parity with medical education, dentistry being considered a specialty of medicine dealing with the oral region, diseases of the teeth, and of the tissues immediately adjacent. This is particularly true, he explained, because medical men have ignored to a great extent the causes of tooth decay and the affliction of parts of the body intimately connected with the teeth.

BOTH PROFESSIONS ARE HEALTH SERVICE TYPES

"Antagonism between medicine and dentistry cannot be explained on any basis of public interest or advantage," he went on, "for both professions are agencies for health service and cannot perform that service faithfully on any other conditions than those of earnest and effective co-operation."

Dr. Gies recommended also that higher intellectual standards be demanded for admission to dentistry, saying that such standards "by making its pecuniary rewards seem too long delayed, would tend to keep out of the dental profession individuals with acute commercial proclivities and strong mechanical bent who would be more useful and more appropriately occupied in one of the mechanical trades than in a profession. This higher educational standard," he said, "would repel those of low professional instinct, and would attract the high minded men and women to whom professional service makes its strongest appeal."

To this end he recommended increasing the number of pre-professional years in the medical curriculum from one to two.

"Pre-medical and pre-dental curricula could be made practically identical," he continued. "Pre-medical work and pre-dental work in the colleges could be more economically organized in one curriculum than in two.

"To think of dentistry as merely a mechanical art requiring little or no medical education or training is as unintelligent and as uninformed as to assume that abdominal surgery is nothing more than a mechanical art.

"Promotion of the public welfare requires that specialists in the prevention, cure and correction of dental and oral dis-

orders must be as responsible, intelligent, well-educated, thoroughly trained and broadly experienced in their art as any other type of practitioner of health-service. The dentist should be as competent to understand and to perform the health-service duties of dental practice as an eye, ear, nose and throat specialist in his particular field.

"Dentistry," said Dr. Gies, "will not be able to meet the full requirements of modern oral health service until dentistry attains the educational quality of medicine, but such educational equality does not require educational identity.

"At present there are 43 dental schools in the United States, thirty-three of which are contained in or affiliated with universities. Only twenty-two of the forty-three schools—one more than a majority—required work in an academic college for admission in September, 1924, at least one year of such work having been first exacted effectually by fourteen schools in 1921 under the leadership of the Dental Faculties Association of American Universities. Minnesota is one of the universities enforcing this requirement.

"Very few practicing dentists in this country have been students in an academic college. Practically all of the graduates of dental schools in this country, including those of 1924, have been trained in institutions where the professional curricula were based on academic requirements ranging from 'possession of a good English education' to graduation from a high school.

NEED NOT FEAR DEPLETION OF SUPPLY

"Those who urge that dental education be continued on a high-school basis in order to prevent depletion in the supply of dentists and consequent interference with their distribution, also magnify the significance of temporary losses. They disregard the ultimate gain in number of practitioners that may be expected to follow removal of the stigma that dentistry is an ignorant profession and therefore inferior. They ignore the circumstance that loss in the number of poorly educated and uninspired practitioners would constitute a relative gain for the profession in character, and for the public in quality of oral health service. They fail to appreciate the fact that uni-

form geographic distribution of dentists is unattainable under any normal social and economic circumstances, and that even over-production would not enforce such distribution, but would develop congestion in centers of population.

"In 1900 the number of dentists for each 100,000 of total population was 37; in 1910 the number was 43; in 1920 it was 53. This steady gain in number and percentage of dentists was made on an inclined plane of requirements in both the preliminary and professional phases of dental training."

Under such a plan as Dr. Gies is recommending, a dentist, instead of seeing only the teeth and mouth of a patient, as is now usually the case, would also inquire into and keep careful records of the state of the patient's health, particularly as it affects or is affected by conditions of the teeth and mouth. They would plan their operations to meet not only the local requirements, but also the possibilities of systemic consequences as well; would also note and recognize the significance of all outstanding symptoms of disease, and would warn or advise the patient accordingly, or explain his need for a physician's attention.

"Dentistry can be made much more effective than it is by improvement and extension of the medical phases of its service, but dentists should also be more thoroughly educated in the mechanical principles of oral readjustments and reconstructions," Dr. Gies explained. "The prospective improvements in dental education are complementary, not contradictory. The importance of a correct understanding of mechanical principles in the reconstructive and artistic phases of dentistry emphasizes the need for improved education and more perfect training of dentists in all aspects of their art. Many mechanical phases of dentistry are now practiced in a way that is very largely empirical or that is productive of pathological consequences. Sound application of scientific, biological knowledge and of mechanical principles in dentistry are demanded by every consideration of faithful professional service."

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Vol. 3

No. 63

Education Is Made Of "A Number Of Things," But One Can Put A Finger On Many Of Them



Minneapolis, Minn.

Dec. 17, 1924

WHAT is education? Although the question is asked so prominently and impertinently, there is no intention of answering it here; at least, no effort will be made to answer it in its entirety. Education, no doubt, is something abstract and difficult of comprehension,—a matter of imparting and acquiring information, revealing capabilities, of changing attitudes in the direction of nobility. These phases of education must be explained elsewhere.

What is the diamond you may be wearing in a ring on your finger? No doubt there is a chemical formula describing it exactly, much more exactly than a philosopher could answer the question, "What is education?" Science probably

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has theories as to when the exquisite crystal of your diamond was formed and what natural conditions made its formation inevitable. Much of its story lies in a mysterious realm into which exact knowledge is gradually extending. The element of mystery is an integral part of the diamond as you know it, but the diamond is also a result of other things. Adventure and hardship have gone into its discovery. Toil has been devoted to mining it. Ships have borne it from the place of origin to the cities where those lived who had the skill to cut it. Coal for power, and metals for machinery, and many skills, mechanical, artistic, business, have entered into its completion and marketing. These are all comprehensible things. And they are parts of the diamond you wear, now that they have influenced it.

ELEMENT OF MYSTERY IS RATHER SMALL

The analogy between the diamond and education can easily be made. Education may be, in part, a mysterious process, to be grasped and explained by philosophers and metaphysicians. But there are plenty of places where any one may lay hold on it. When we use the phrase, "money spent for education", we are not referring to money mysteriously dissipated, from which, as from an Alladin's lamp, miraculous results suddenly appear. Money spent for education goes in great measure for ordinary, every day things, as can be seen when a person takes a good look at the accounts. In this sense, coal is education; so are electricity and gas. Money spent for raking leaves on the campus is spent for education just as money used in the purchase of the latest foreign volume on relativity would be. Education may mean the gasoline used in motortrucks to haul supplies about a university campus, just as it may mean the rare earth metals bought for use in an experiment in advanced chemistry.

What do the parents who are giving their young people opportunity for secondary or advanced schooling do with the money which they spend on "education?" Do they spend it on radium, or do they buy shoes, and serviceable suits and dresses, books, gloves and lunches with it?

There is no intention of saying here that such basic and

routine expenditures as those for fuel, cement and electric lights play a predominant part in a university budget, or that they should. Vastly more important to the young people are the talent and inspiration and knowledge and skill of the human leaders who direct and clarify their studies. Many times as much money is spent by the University of Minnesota each year for salaries of faculty members as goes for the maintenance and operation of the physical plant. But that fact does not change the line of argument materially, for the teachers' part in education is purchased by enabling them to pay for groceries and clothes, books, recreation, and rent or taxes which make it possible for them to continue their leadership and dispense their special knowledge.

The fact seems to be that the money spent for education is spent chiefly to enable teachers and students to live while they are carrying on the processes of education, and to keep the necessary plant in operation as a place where they may carry on those processes. This certainly detracts nothing from the esthetic or practical value of education, nor from its significance. On the other hand, it should explain away some of the vagueness and mystery that seem always to attach to the process of "spending money on education." There is really very little prestidigitation about it.

SPEND FOR CARLINE; INCREASE EFFICIENCY

Another fact worth remembering is that money spent for something that seems remote from education may increase greatly the productiveness of money spent on direct educational efforts. There is an example of this at Minnesota in the inter-campus streetcar line which connects the main campus in Minneapolis with University Farm in St. Paul, the site of the College of Agriculture, Forestry, and Home Economics and of the Central Experiment Station and Central School of Agriculture. Incidentally, this is the only state owned railroad line in the United States, according to Dean E. M. Freeman of the College of Agriculture.

Figures prepared by Dean Freeman show that students in agriculture, forestry, and home economics take 75 per cent of their required first-year work and 50 per cent of their

sophomore work on the main campus, where they also take a varying number of courses in their junior and senior years. Provision for these studies has been made on the main campus. To duplicate them at University Farm would not only be wasteful, but prohibitive in cost. The dean's figures show that provision at "U" Farm for laboratory courses in botany, chemistry, and bacteriology, all of which are now provided on the main campus, would cost from \$50,000 to \$60,000 a year. Many other courses in the College of Science, Literature, and the Arts, in the Medical School and other professional schools are available to students of agriculture because the state spends around \$20,000 to operate the inter-campus carline, a total that is offset by about \$6,000 in incidental receipts. Students and faculty members ride free. The arrangement is as much to the advantage of students on the main campus who take courses offered at the College of Agriculture as it is to students at the latter place who want main campus subjects.

The items may seem small by comparison with the sum spent for salaries in the aggregate, but it is interesting to know that heating plant fuel was "education" to the extent of \$97,000 on the main campus last year, that furniture repairs cost \$3,857., and that \$5,379 was spent for watchmen to guard the property of the University.

Some of the other items that few would think of as education, although they really are, would be: coal and ash handlers, \$978; janitors' salaries, \$59,000; laundry, \$4,737; telephone service, \$15,134; electricity, \$17,857; water and ice, \$6,100; gas, \$4,796; baling waste paper, \$1,728.

These are the figures one must compare with the cost of coal that turned the delicate machinery used in changing a dull, unprepossessing stone into the handsome diamond of a woman's ring.

Even when an institution sets out to buy so delicate and astoundingly valuable an element as radium for use in education, it buys chiefly the toil and materials expended by those who extracted it from the natural deposit, and the skill of those who made it available. The subject of money spent for education may well be transferred from the abstract to the category of concrete things.

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No. 64

Way To Medical Leadership In Northwest Shown For Minnesota As Gift Is Promised



Minneapolis, Minnesota
December 24, 1924

A SIGNIFICANCE far beyond that of the "punch" afforded by large figures is to be found in the splendid gift of \$1,250,000 offered by the General Education Board to the University of Minnesota for the development of its Medical School.

Chiefly, the offer signifies that a body which has made the most thorough and exhaustive study of medical education has selected the twin cities as one of the few most favored locations in the United States in which to develop a permanent and principal center of medical instruction.

The decision has come, no doubt, from a realization that at Minnesota there is now in existence a strictly first class Medical School, a going concern with high standards, an

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excellent faculty, and a record of accomplishment,—this joined with the fact that such a school is especially worth while if it is situated at a population center that will certainly provide medical cases in large number and wide variety. This means ample material for the clinical study of medicine, which is the method universally recognized as the most effective.

GIFTS BY CITIZENS SHOW UNDERSTANDING

Another influence has been the very marked evidence that Minnesotans have been awake to the importance of medical study and have themselves made a splendid start on the up-building of the University Medical School. The Mayo Foundation for graduate study, with a principal fund of more than \$2,000,000, the gift of William Henry Eustis, eventually to pass the \$1,000,000 mark, and such bequests as those for the George Chase Christian Memorial Cancer Institute and the Todd Memorial Eye, Ear, Nose, and Throat pavillion clearly show the attitude of Minnesotans toward an institution whose principal object is to alleviate the suffering of humanity.

The program for improving the Medical School contemplates the completion of that college's facilities and equipment on a scale that will serve the state for 50 years. This will involve an expenditure of \$3,600,000, and the General Education Board's gift is contingent on the University's securing the additional \$2,350,000 that will be necessary to make up the full amount.

President Coffman has pointed out two ways in which the remainder may be raised. Because the program will complete the facilities for medical education in Minnesota, it will offer a last chance, he believes, to those who may wish to give money for memorial buildings to be used in the battle of science against disease and suffering. Persons who wish to make a gift in memory of some member of the family will find in the building program units ranging in cost from about \$160,000 to \$450,000, any one of which may be named as a memorial.

The alternative, state appropriations, may be made either directly or by an extension of the comprehensive building program appropriation beyond the year 1930, when it is due to

terminate under existing law. It is President Coffman's view that extension of the building program would be preferable, because that would lead to no increase in taxes, while at the same time a more intelligent plan of expansion could be worked out over the longer period. All that the General Education Board requires is that the money be assured ultimately. Fortunately, there is no condition of any kind connected with the gift, other than that the University raise the additional money that will be needed.

One of the most appealing items in the program of expansion will be the erection of a Nurses' Building. Minnesota established the first University School of Nursing in the country and has continued it under standards that have made it a model for study by those who subsequently have established schools of nursing. Under a close working agreement, nurses at Minnesota get training in a number of excellent hospitals in both Minneapolis and St. Paul, while at the same time they follow the scientific course of training laid down for them by the Medical School authorities. The nurses themselves, the University administration, and many women, who naturally enough consider this problem of peculiar interest to themselves, nursing being a women's profession, have long been interested in obtaining an adequate headquarters for the school, including satisfactory quarters for the student nurses. This is one of the improvements that is certain to come with the expansion of Medical School facilities. It is near the head of the list.

CITY HOSPITAL WILL BRING BENEFITS

The plan to purchase land adjacent to the present medical campus and turn it over to the City of Minneapolis as a site for its new General Hospital, provided the City Council approves, is one that has aroused interest throughout the medical schools of the country. This project has practically unanimous approval among those who understand the methods of medical education. It also has the hearty approval of the Minneapolis Board of Public Welfare, which joined with the University of Minnesota in the petition sent the General Education Board.

Dean E. P. Lyon of the Medical School explained at the meeting at which the program was made public that effective clinical study in medicine depends in large measure on the presence of enough emergency and acute cases to give the students an opportunity to observe patients suffering from ailments of every type. The hospitals of the University, as state hospitals under the General Hospital Act of 1923, receive from various parts of the state chronic diseases and cases that can be moved considerable distances. This, however, can not be done with acute cases, with emergency or accident cases, nor with cases of infectious diseases. Except as the students go outside the University for their year of internship, they see too little of such ailments. Bringing the General Hospital onto the campus will thus complete the cycle of material that is necessary to a well-rounded education in Medicine and surgery.

There is nothing startling in such an arrangement with a municipality. As a matter of fact, it will not change the relationships between the University and the Minneapolis General Hospital in any but the geographic sense, for there is already a working agreement of the closest kind between the two. Many seventh year medical students serve as interns in the City Hospital, and their instruction is in the hands of the University Medical School. The site would be in the hands of the city as long as the General Hospital might be maintained there.

"In geographic location, it is obvious that the University of Minnesota has more than a local significance," said the successful petitioner to the General Education Board. "It must continue its educational leadership, not merely in the state, but for the entire Northwest. In this vast domain there is no other complete medical school from Wisconsin to the Pacific coast.

"As a part of the University of Minnesota, the Medical School has unusually favorable relations to the state. It is the only medical school in the state, with no handicap of competition. It has the cordial co-operation of the State Board of Medical Examiners in maintaining high standards of medical education."