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Spiritual Dynamic Powell's Subject At Graduation

Retiring Lecturer States Life Philosophy and Analyzes World on Eve of His Re- tirement

The great address entitled, "The Spiritual Dynamic" which the Rev. Dr. John Walker Powell delivered at the June, 1940 commencement, at the conclusion of the fifty years of his seldom-interrupted service to the University of Minnesota, will be reprinted in two parts in "Minnesota Chats" because of its length. The following comprises the first two of three sections into which his address was divided.

Only a day or two after he delivered his fine address Dr. Powell entered a Minneapolis hospital for a major operation from which, happily, he has now recovered. He retired from the university's service in June, at the age limit, but has since been appointed pastor of the First Methodist Episcopal Church and Wesley Foundation, a house of worship in the university district. There Dr. Powell will preach but will have assistance in conducting the social services of the Wesley Foundation.

"Not by might, nor by power, but by My Spirit, saith the Lord of Hosts," Zechariah 4:6, was the text for "The Spiritual Dynamic," in which Dr. Powell said:

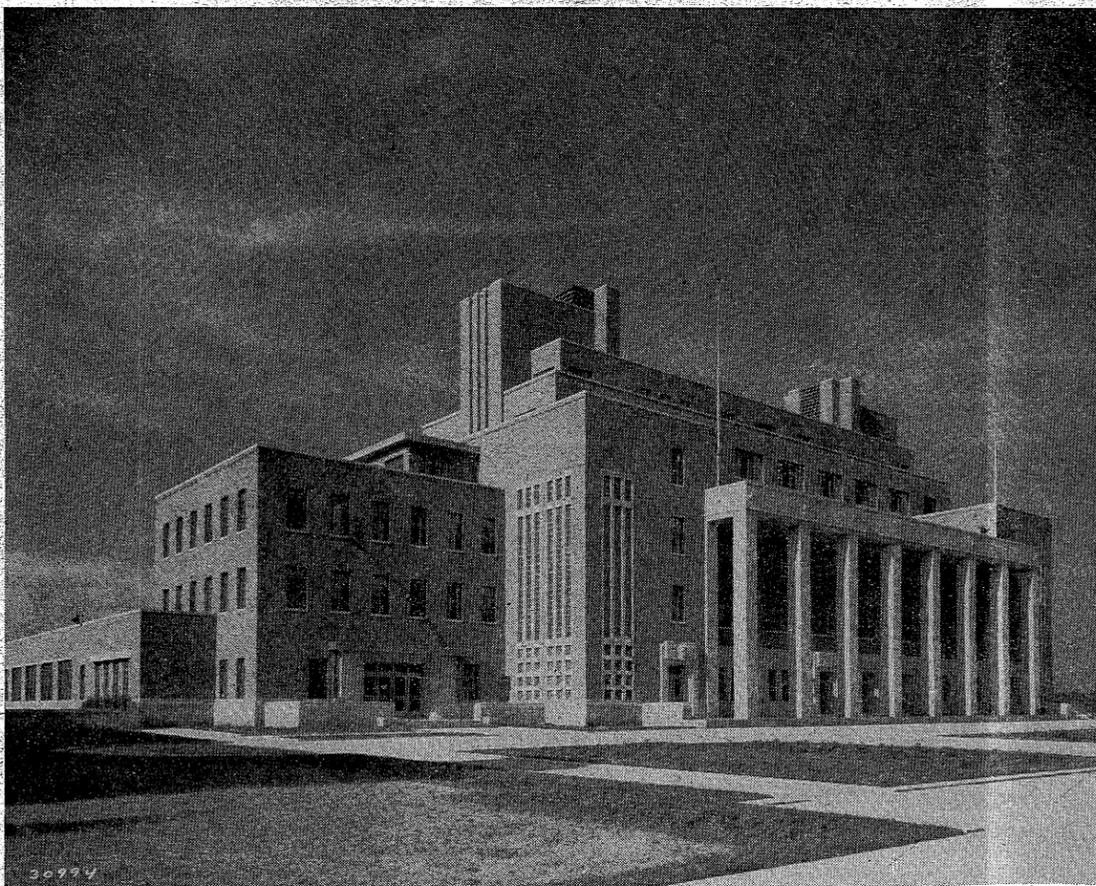
"I am not unmindful of the honor which has been vouchsafed me, that I should be asked to give this Baccalaureate Address, my Valedictory after fifty years of association with the University of Minnesota. I speak to you out of a heart filled to overflowing with the sacred associations of those years. Above this audience of graduates and their friends, I seem to sense another audience, the spirits of the men and women of the older day, who gave the best there was in them that the State we love might have in her University an effective agency whereby her young men and women might be trained and fitted for the responsibilities of citizenship. If I do not speak to them, I am speaking for them, seeking to interpret, as far as in me lies, the message they would give you in my place, the challenge of the older generation to the brave and generous youth of today, bidding them put forth the best and deepest there is in them for the service of the State, the Nation, and this war-torn, bewildered world into which you are entering.

"It is not an easy task that confronts me. To ignore the world of strife and confusion which roars about us on every side would be sheer affectation. While I speak, the mind of everyone of us is filled with forebodings which we cannot set aside. Can free institutions survive the possible victory of the Totalitarian Powers? Are the resources even of the modern world sufficient to carry the nations through a prolonged struggle without complete exhaustion? Whatever the outcome of the present conflict, how shall we go about the task of reconstruction? Upon what principles must it be based? What part shall America play in it all? What are the ultimate foundations of a just and lasting peace?"

"These questions cannot be ignored, yet they admit of no present answer. To echo the confusion of the press and the radio, to rehearse the things that everyone knows, or merely to speculate upon the outcome, would be futile. My task is at once simpler, and far deeper: to seek for the abiding significance of life itself, to explore the permanent values of human existence; in the words of a recent correspondent, 'to knit together unborn Tomorrow and dead Yesterday for a generation to whom the one is hearsay and the other rumor.'

"Commencement" for Both
"You and I share one experience together this morning. It is for us both a 'Commencement,' the clean, sharp end of one variety of experience and the un-

Minnesota's New Coffman Memorial Union Building



Dedication ceremonies for the splendid new center of student social life and extra-curricular activities will be conducted at 5 p. m. on Friday, October 25, first day of the two-day Homecoming celebration.

Geographer's Analysis of Cook County Shows Strong Trend Back to Forests

Area, Nevertheless, Can Support at Least Its Pres- ent population, Dr. Davis Says

Cook county, Minnesota, most easterly of the counties in the Arrowhead district north of Lake Superior, is amply able to support its present population, or even a larger one, Dr. Darrell H. Davis, head of the department of Geography, University of Minnesota, has found, but it must make a number of adjustments in the farming, forest, fishing and resort businesses on which it depends before it can do much better economically.

Among the changes Dr. Davis suggests is the abandonment of the complete county organization it now maintains, which has proved so expensive that Cook county has the highest debt ratio to assessed valuation in the state, with little prospect of making material reductions. Its per capita debt of \$112.53 is almost double the total for the entire state of Minnesota. The cultivated area of the country is decreasing.

Gradual enlargement of federal forest areas in Cook county upon the thin fringe of developed agricultural land along the lake shore threatens eventually to come near to exterminating agriculture, Dr. Davis wrote in a recent issue of "Economic Geography."

Among suggestions for re-establishing the economic life of the county he suggests greater care in the matter of destroying or marring beauty spots attractive to tourists, and some "readjustment of occupation, not involving any general or regimented displacement of the present farm population, but only the abandonment of a few peripherally located farms and concentration of agricultural operations in the better, more accessible areas. Production of certified potatoes should be expanded as a larger acreage is necessary for effective marketing of the high grade "Arrowhead Potato" it is possible to grow. Strawberries of excellent quality and good shippers, maturing late in July, are now grown in small quantity. Such berries would bring good prices in Twin City markets if production were expanded so that satisfactory marketing facilities could be established. The present diffi-

culty of securing pickers could be solved by a minor modification of the existing relief program.

"Fishing should be restricted to allow for restocking and provision should be made for disposal of above-average catches. Local agitation for a fish processing plant at Grand Marais is not justified by the volume of the catch. A freezing plant would be entirely adequate; the cost, both of construction and operation would be moderate and a market for the frozen fish is available.

Forestry Suggestions

"With most of the forest area already in government ownership, adequate future management of the resource may reasonably be expected, and eventually the county will receive revenue of some importance from the sale of forest products.

"Most of the original valuable coniferous forest has been cut and in many places burned over one or more times as well, but though little remains unaltered except in areas accessible only by canoe, scattered stands along some of the roads enable reconstruction of

Continued on page 2, column 4

Starts New Year As Head of 'U'



President Guy Stanton Ford

President Ford's Greeting to New Students Reprinted

The following greeting to new students entering the University was written by President Guy Stanton Ford.

To all of you who are joining the University of Minnesota community for the first time—members of the Class of 1944 as well as you who come from other institutions of higher education—may I extend a personal greeting as you enter upon a new series of experiences. I want you to realize that all of us—students, service staff, faculty, and administrative officers—will give you every possible assistance to aid you in securing the maximum benefit from the period you spend here.

Education is an individual and not a mass process. Finding one's self is the key to effective learning. The University of Minnesota is a large institution, yet the individual attention each student receives, the unusually complete guidance program which is provided, and the opportunities for participation in group activities are such as few institutions find it possible to offer. By discovering and making the most of your abilities, interests, and needs, you will be able to prepare for service in the field for which you are best fitted and select from the rich offerings available those studies and activities which will make the greatest contribution to your development.

In a democracy the state exists for the individual and not the individual for the state. Our University, maintained by the people of the state and open to all, is the strongest weapon which a democracy can forge to insure its survival. Your responsibility is to make the most of your opportunities. Thus, in later years, you will repay the legacy which the state has provided through the larger contribution that you are able to make to its welfare.

Your success is the concern of all of us. Inform yourselves about your University and the many services it provides. Take advantage of such of them as meet your needs and contribute to a well-rounded program. Call on us when we can help you. Thus, through the combined efforts of students and staff alike, we shall insure a greater measure of success in our common enterprise.

Changes Few as Minnesota's 72d New Year Starts

Entire Arts College Program to Be Studied With View to Adaptations

PROMOTIONS CITED

Loss of Foundation Support Forces Some Modifications in General College

The University of Minnesota's seventy-second year of active operation began Monday, September 30, when regular classes met on both the Main campus and at University Farm for approximately 15,000 students and other thousands of ambitious persons of all ages began studying in more than 200 evening classes of the General Extension Division.

In most respects the university is expected to continue on an even keel, at about the pace of a year ago, and with few major changes. Departure of Dean Malcom S. MacLean and decrease in gift support from educational foundations for the General College have led to some reorganization of the administration of that unit. Dr. T. Raymond McConnell, associate dean of the College of Science, Literature and the Arts, is directing chairman of what is called the General College advisory committee, which will administer that unit. The college will be maintained, President Ford has said, "as a means of caring for between 800 and 900 students who are now enrolled in it, and also to serve as a continued pattern for similar educational units."

Dr. John T. Tate, dean of the College of Science, Literature and the Arts, is eagerly looking forward this year to achievements in the project started in that college last year when Dr. T. R. McConnell was appointed associate dean to begin an important study and evaluation of the whole educational problem of the liberal arts college in a state university. It has become clear at Minnesota that the liberal arts college, where so many students start their higher education, has other functions than those of serving as the pre-professional training ground of those who are to branch off into law, medicine, business and education and the preliminary instruction of those who will continue towards graduate degrees in the arts and sciences. What the needs of the other students are, and how the College of Science, Literature and the Arts can adjust itself to serve them, are major questions in the present project, Dean Tate said.

"I have a fundamental and unswerving faith in democratic procedures, and whatever decisions may finally be made toward better adapting the college's procedures and curricula to student needs should, in my opinion, be made by the faculty itself," Dean Tate said recently. "To such faculty members as do not yet understand what is being attempted I'd like to explain that we expect to obtain all the pertinent information the faculty needs in order to make sound judgments on educational policies. This will be placed before the faculty, and if in their judgment changes should be made on the basis of those facts, they will be the ones to make the decisions."

"From the administrative end, Dr. McConnell and I will gather and present all the information we can get about the interests, abilities and needs of students; about the changing demands of society for different kinds of training, which may, of course, involve new types of courses or methods of counselling. These things must be known as a basis for sound conclusions, and it was to gather these facts that Dr. McConnell was appointed."

Military Interest Up

Military matters are certain to play an increasing part in university life during a year when nationwide compulsory training of the nation's manpower is going into effect. Compulsory military training in colleges was not re-

Continued on page 2, column 2

Regents Ready To Choose Next University Head

Seventh Man to Direct Now Famous Institution Must Be Found Within the Year

A task that has confronted the University of Minnesota's Board of Regents only six times in the seventy-one years since the institution was opened, is now holding a considerable part of the attention of that body. President Guy Stanton Ford is expected to retire June 30, 1941, and his successor will have to be selected before that time. The topic is news at this time, a year in advance, because the presidency of the University of Minnesota may be considered the most important position in the state, a job whose occupant always has been, and must continue to be, of the greatest service to all Minnesota and all Minnesotans.

The Board of Regents has appointed a committee to give consideration to the problem and to receive whatever suggestions may be forthcoming. Heading the committee is the veteran regent, Fred B. Snyder of Minneapolis, who has worked for the interests of the institution as a board member since 1912 and before that upheld the university's cause in the Minnesota Legislature. With him on the committee are Regents Sheldon V. Wood of Minneapolis, E. E. Novak of New Prague, Albert J. Lobb of Rochester and A. J. Olson of Renville. This group will make the recommendation on which ultimately the entire board will act.

The Regents have asked the General Alumni Association of the University to "keep in touch" with the situation, and at the Regents' request the university faculty has named a committee of its members with whom the board committee may "consult and advise." On the committee of professors are Richard M. Elliott, head of the department of psychology, chairman; Dean Samuel C. Lind, head of the Institute of Technology; Dr. William A. Riley, head of the division of entomology and economic zoology at University Farm; Dr. Albury Castell, department of philosophy; Dr. J. C. McKinley, professor of neuropsychiatry; Dr. Lloyd M. Short of the department of political science, director of the university's Public Administration Training Center, and Dr. Edgar B. Wesley, department of history. The committee is broadly representative of the strong faculty elements, and should give the Regents material assistance.

The University of Minnesota's first president was Dr. William Watts Folwell, "Uncle Billy," historian of Minnesota, who served from 1869 until 1885. Then came the famous Dr. Cyrus Northrop, president until he was succeeded in 1912 by President George Edgar Vincent. Dr. Vincent was followed by President Marion Leroy Burton, who remained until 1920 and was succeeded by the late Dr. Lotus Delta Coffman, who headed the institution during its great, recent period of growth and development. President Guy Stanton Ford, dean of the Graduate School and "elder statesman" of the faculty during the Vincent, Burton and Coffman regimes, became president in the fall of 1938 after having served in that capacity for a year on two occasions during absences of Dr. Coffman. He will retire under the 68 year age limit next June.

So much of the state's future is tied up with the vitality and success of its famous educational institution that the Board of Regents is exercising the greatest care in selecting a man who shall serve as its head, possibly for the next fifteen or twenty years, during a period which, as even the most careless can see, will be one of vital importance on the life not only of the state but of the nation.

Five Architects Win Fellowships

Five out of twelve graduates of the University of Minnesota's School of Architecture this June had records sufficiently good so that they were awarded fellowships at Harvard or the Massachusetts Institute of Technology. Professor Roy Jones, department head, announced. Going to Harvard for a year's work beginning in September are Albert Arneson of Minneapolis and Charles Wiley of Milwaukee. Going to M. I. T. are Frederick Roth of Milwaukee, John Lindstrom of Minneapolis and Janet Bollum, Minneapolis.

New Dean of Graduate School



Dr. Theodore Blegen

Changes Few as New Year Starts

Continued from page 1, column 5 established by the peacetime conscription measure. On the other hand, enlarged quotas have been assigned to the Naval Reserve Officers Training Corps and the Civil Aviation Authority's flight and ground training program in the department of aeronautical engineering. Lt. Col. Charles A. French, head of the United States Army's ROTC on the Minnesota campus, also looks forward to increased activity in his unit, and while formal enlargement of the number he may accept for the advanced corps has not been ordered, he will step up his program, he said, by insisting on the highest academic standards among the young men who are accepted for the two-year advanced course.

No very great number of new faculty members above the rank of instructor has been appointed this year, but the list enumerates one of full professorial rank and two associate professors. Dr. Herbert Feigl will come to Minnesota at the beginning of the winter quarter, from the University of Iowa as professor in philosophy, filling the vacancy caused by the death last January of the revered Dr. David F. Swenson. New associate professors will be Dr. Lemen J. Wells, department of anatomy, Medical School, who comes from the University of Missouri, and Dr. Frank H. Kaufert of Mendenhall, Pa., who becomes an associate professor in forestry. Among other appointments are those of Henry Ladd Smith, University of Kansas, as lecturer in journalism; Bryce L. Crawford, Yale, assistant professor of chemistry; Earl G. Latham, Harvard, assistant professor of political science; Mary V. Guttridge, Teachers College, lecturer in the Institute of Child Welfare, and Charles O. Wilson, Ohio University, assistant professor of pharmacy.

Freshman Week was successfully completed last Saturday, and the first mass gathering of students will be the annual Freshman convocation, which President Guy Stanton Ford will address in Northrop Memorial Auditorium Thursday, October 3. Other October convocations will be: October 10, Louis Untermeyer, "The poet and the average man"; 17th, Wilfrid Laurier Husband, "How America lives"; 24th, Raymond Clapper, "Confessions of a Washington columnist," and October 31, Josephine Roche, woman industrialist and former Washington office holder, "Youth on today's frontier."

Faculty Promotions

Promotion of seventy members of the University of Minnesota faculty to higher rank than they held last year has been announced by President Guy Stanton Ford. The list includes 14 promotions to the full rank of professor; 27 to associate professor, and 29 others. Of the total 13 were from the Mayo Foundation staff.

Promotions announced were as follows:

From associate professor to full professorship: Henry E. Hartig, electrical engineering; Halvor O. Halvorson, bacteriology; Cecil J. Watson, medicine; William T. Peyton, surgery; Tremaine McDowell, English; Mitchell V. Charnley, journalism; William Lindsay, music; Abe Pepinsky, general education; George A. Pond, agricultural economics; Raymond N. Bieter,

Capt. Kelley Leaves Army Personnel Also Has Many Changes

Captain Frank H. Kelley, USN, who was assigned to the University of Minnesota a year ago to organize the new Naval ROTC unit, was notified September 10 that he must transfer within 48 hours to Milwaukee, Wis., to organize a Naval ROTC unit in Marquette University, one of eight new units being created this year by the Navy Department. Added to the Minnesota staff is Commander B. H. Colyear, USN, assigned as executive officer, and at least temporarily, to serve as commandant. He came to Minnesota from serving as executive officer of the USS Vestal. Lt. Commander Pullen and Lieutenant Walker, the other officers in the navy unit, have returned to duty following vacations.

Three officers have been transferred from the staff of the Army ROTC and four have been added, among them Colonel Kent Nelson, formerly medical officer of the unit, who has been returned to duty at Minnesota. Colonel Nelson, corps area medical officer last year with headquarters at Omaha, went on the retired list last spring, but was called back to active duty at his own request. The other three new men are all reserve officers who were graduated from the University of Minnesota, namely, Captain C. E. Calverly; First Lieutenant Eugene L. Hess and First Lieutenant William C. Rindsland. Major Thomas F. Maddocks, who was recently promoted from the rank of captain, will continue to direct the signal corps unit. Captain Calverly, who holds the Ph.D. degree from Minnesota in biochemistry, will be post adjutant.

Captain L. A. Zimmer has been transferred to Fort Crockett, Texas, on regular army assignment and Lt. Col. Coburn L. Berry, recently promoted from major, is stationed in Mankato in charge of a National Guard regiment. Lt. Col. Edwin L. Brackney, medical officer last year, also has been transferred to regular army duty.

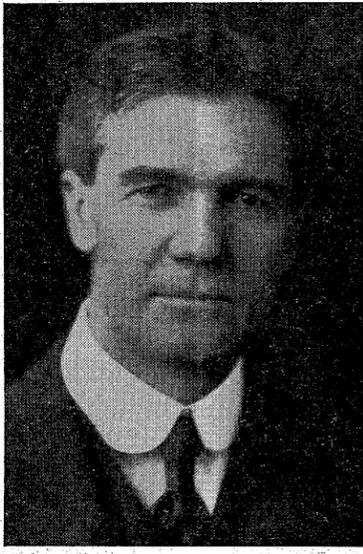
pharmacology; Earl B. Fischer, pharmacy; William A. O'Brien, Commonwealth Fund postgraduate medical education; Arthur J. Schwantes, to professor and chief of the division of agricultural engineering; Elvin C. Stakman, from professor to professor and chief of the division of plant pathology and botany.

From assistant professor or other rank to associate professor; Ernest C. Abbe, botany; William P. Dunn, English; Laurence Schmeckebier, fine arts; Alfred O. C. Nier, physics; Raymond F. Sletto, sociology; Howard W. Barlow, aeronautical engineering; Theodore H. Fenske, superintendent of West Central School and Station, Morris; Starke R. Hathaway, Psychopathic hospital; Wallace D. Armstrong, dentistry; Edward S. Bade, Law; Stanley V. Kinyon, Law; Wendell White, psychology, General Extension Division; Laurence R. Lundden, investment counsel; David H. Willson, history; James B. Carey, clinical associate professor of medicine; Lewis W. Thom, clinical associate professor of dentistry; Marcia Edwards, assistant to the dean, College of Education; Carl Nordly, physical education and athletics; Della G. Drips, Mayo Foundation; Howard K. Gray, Mayo Foundation; Samuel F. Haines, Mayo Foundation; Howard R. Hartman, Mayo Foundation; Howard L. Mason, Mayo Foundation; Charles W. Mayo, Mayo Foundation; Marschelle H. Power, experimental biochemistry, Mayo Foundation; Harry L. Smith, Mayo Foundation; Arthur C. Kerkhof, to clinical associate professor, Medical School.

To assistant professor: Ruth E. Lawrence, director, University Art Gallery; William G. Clarke, zoology; Fulton Holtby, mechanical engineering; Richard T. Arnold, chemistry Selmer A. Engene, agricultural economics; Henry C. Reitz, biochemistry; Phillip Hallock, clinical assistant professor of medicine; Charles J. Hutchinson, clinical assistant professor of medicine; L. Earle Arnow, assistant professor of physiology; Miland E. Knapp, radiology and physical therapy; William J. Simon, dentistry; Curtis E. Avery, English, General Extension Division; Donald W. Cowan, Students Health Service; Donald B. Lawrence, botany; Horatio B. Sweetser, clinical assistant professor of medicine; Claude J. Ehrenberg, clinical assistant professor of obstetrics and gynecology; Everett C. Hartley, clinical assistant professor of obstetrics and gynecology; Herman E. Hilleboe, clinical assistant pro-

A. P. and Lydia Anderson Fellowships Awarded to Student for First Time

Recipients Will Do Graduate Work in Botany and Zoology on Campus



Dr. A. P. Anderson (above) and the late Lydia Anderson, donors of new university fellowships.

The first two fellowships available from a fund given the University of Minnesota by Alexander P. and the late Lydia Anderson of Tower View, Goodhue county, near Red Wing, have been awarded for research in botany and zoology respectively. Valued at \$500 each for the present year, they represent income from a fund eventually to reach \$25,000. Mr. Anderson, the donor, is a graduate of the University of Minnesota and inventor of the processes that "puff" wheat and rice, which is patented.

The fellowship for work in botany has been given to William Edwin Gordon of Lyle, Minnesota, and that in zoology to Roger Fabyan Anderson, 1166 Burr street, St. Paul. Selections were made by a committee composed of Dean E. M. Freeman, Professor Ernst Abbey and Professor Dwight F. Minnich, head of the department of zoology.

The donor, Dr. Anderson, worked his way through the University of Minnesota and was graduated in 1894. He remained at Minnesota to take a master's degree and then studied in Munich, where he became Ph.D. in botany in 1897. After a brief teaching career at Clemson College and Columbia, he made his invention applicable to the puffing of grains and has devoted the remainder of his life to research and improvement on that and other processes. He met and married the late Mrs. Anderson, a native of Glasgow, Scotland, while he was teaching at Clemson, N. C. When the gift to the university was made she was joint donor.

ka, and Kansas or from Wisconsin, Illinois, and Michigan; nearly 50 per cent of all are from Minnesota, principally from the Twin Cities. Estimates indicate that the tourist trade brings about \$450,000 to Cook County each year.

Little Land Cultivated

"At an early date, agriculture was even less important than today, yet even in 1930, only 1.5 per cent of the land was in farms and only 16.3 per cent of this area was in crops harvested. Fishing as well as agriculture played only a minor part in the early economic life of Cook County though today an important element in the areal economy. In similar fashion, the scenic attractiveness has assumed importance only recently, with improved accessibility and greater mobility resulting from good roads and automobiles.

Possibility of the presence of mineral wealth, at present as in the past, intrigues the local imagination and there is general popular belief in the existence of undiscovered valuable deposits, not substantiated by facts but apparently fostered by so much rock exposure and the frequent failure of the magnetic compass as a reliable indicator of direction. So far, however, no commercially exploitable deposits have been discovered and probably none exists.

"Fishing is a relatively important occupation everywhere along the north shore of Lake Superior, both actual and relative importance increasing with distance from Duluth and reaching their maxima in Cook County, where the industry affords employment to a larger number of persons than does agriculture. Of the 319 Lake Superior Master's Fishing Licenses issued in 1938, 157 or nearly 50 per cent were held in Cook County. Each helper is required by law to have a license, but only eight were issued in Cook County in 1938, as the requirement is evaded whenever possible, therefore the exact number of helpers is not a matter of record, though probably in excess of 100. Of the total catch of 6,047,485 pounds, valued at \$180,708.34, in 1937, the last year for which accurate data are available, 3,709,043 pounds or 61.3 per cent, valued at \$107,098.53 or 59.2 per cent of the total, were taken by Cook County fishermen operating from six major centers. (Grand Marais, 43.6 per cent; Holland, 15.77 per cent; Lutsen, 12.6 per cent; Tofte, 12.2 per cent; Grand Portage, 11.7 per cent; Schroeder, 4.0 per cent of the catch by volume.) The Grand Marais center, with 39.4 per cent of the fishermen with master's licenses, 43.6 per cent of the volume and 44.1 per cent of the value of the catch, is the outstanding fishing center in the county, the physical basis for this dominance being the harbor.

Forests Gain In Cook County

Continued from page 1, column 3

former conditions, and where fire has been kept out, the forest, though not commercial, adds to the scenic attractiveness. The area is still a 'wilderness,' except along the shoreline. Deer are numerous; bear are not uncommon; porcupine sun themselves on the side roads and moose are seen not infrequently. Both rivers and lakes afford recreational fishing and the forest affords hunting in the fall.

The area likewise profits from the fact that it lies astride the road to Fort William and Port Arthur, across the International Boundary, and from the historic interest which attaches to Grand Portage. Since the improved lake-shore highway has rendered the area easily accessible from the Twin Cities, resorts, including hotels, lodges, and cabin camps, as well as many private summer homes, have preempted much of the shoreline and are likewise scattered through the upland on both privately owned and leased tracts in the state and national forests.

"Most of the summer visitors come from Minnesota, or states to the south: Iowa, Missouri, Nebras-

professor, preventive medicine and public health; Thelma Dodds, nursing; Charles V. Netz, pharmacy; Francis M. Boddy, business administration; on Mayo Foundation, Byron E. Hall, H. Corwin Hinshaw, Charles H. Slocumb, Edward B. Tuohy, Marvin M. D. Williams; Edward W. Aiton, assistant professor and assistant 4-H Club leader for 1940-41.

Arthur J. Kittleon was promoted to be associate professor and state leader of Boys and Girls (4-H).

Horace T. Morse was promoted from assistant to the dean of the graduate school to be assistant director of the General College and assistant professor of education, College of Education.

Dr. Ogle on Leave

Because Professor Marbury B. Ogle, head of the department of Classics, will be away on sabbatical leave this year, Oswald C. J. Hoffman has been given the rank of instructor for one year to carry part of Dr. Ogle's work. Professor Robert Cram will be department head during Professor Ogle's absence. There have been no other changes in department headships in the Arts College.

Davis Preparing Manganese Report For U. S. Defense Board Committee

His Study Will Describe Efficacy of Chemical Methods of Treating Cuyuna Ore

A report on the available chemical processes for extracting ferro grade manganese from the manganese-bearing ore of the Cuyuna range, now being prepared by E. W. Davis, superintendent of the University of Minnesota Mines Experiment Station, will have an important bearing on the possible development of the state's manganese deposits.

Mr. Davis is preparing the report for the technical committee on manganese that is working with R. C. Allen, who is in charge of manganese resources under the Stettinius committee on American defense. It will be completed and will go to Allen soon.

The Davis report will deal chiefly with the so-called Bradley process, developed and patented by the late Wilson Bradley, who made the study of Cuyuna range-manganese ore his life work and who developed a chemical method for obtaining the ferro-grade manganese from ore of the Minnesota type. Bradley did his work in the laboratory and later tried it out in a small-scale experimental mill in the Mines Experiment Station on the university campus. The Davis report will also cover one other process, called the SO₂ process, which is not patented as the Bradley process is.

Mr. Davis is now building a small test unit in the Mines Experiment Station to determine whether all types of the manganese ore can be satisfactorily treated by leaching, for unless the manganese can be leached from the ore chemically there is no possibility of taking further steps. After making certain tests with this mill he expects to design a commercial unit.

On the technical committee to which he will report are many of the leading manganese experts in the country. Clyde Williams, director of the Bartelle Memorial Institute, Columbus, is chairman, other members being: O. C. Fieldner, chief of the technical organization, United States Bureau of Mines; Dr. Fred G. Cottrell, Washington, D. C.; James Critchett, vice-president, Union Carbide and Carbon research laboratories; John V. N. Dorr, Dorr Co., Westport, Conn.; Charles H. Herty, Jr., metallurgist, Bethlehem Steel Co.; Donne F. Hewett, principal geologist, United States Geological Survey; John Johnston, director of research, United States Steel Corporation, and Gilbert Seil, director of research, E. J. Levine Company, Philadelphia, Pa.

Late Season Baits Keep Down Hoppers

Pioneers who farmed on Minnesota prairies back in the Seventies tell of grasshopper flights that hid the sun. The swarms of insects settled on a community and devoured everything green in a few days.

Grasshoppers still move in flights, and recent movements of the insects into western Minnesota have greatly complicated the control problem, says T. L. Aamodt of University Farm, assistant state entomologist in charge of grasshopper work.

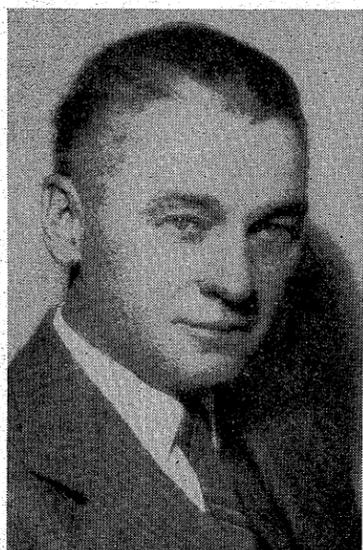
Several northwestern Minnesota counties that have had local infestation under control this year have reported grasshoppers coming in by flight during the past few weeks. They have gone to work with bait to stop the migrating hoppers from laying the eggs that will mean local infestation next spring.

The best defense against these hopper flights is vigorous baiting during the last summer and fall months, Aamodt says. For every female grasshopper poisoned at that time, the farmer kills about 300 potential hoppers for 1941.

"Although these grasshopper migrations are discouraging to Minnesota farmers, there is nothing for us to do but take the best known means of controlling them," Aamodt says. "Some day programs may be established whereby grasshoppers of this migratory type may be controlled in their breeding grounds in western states and Canada. The problem is much more difficult to handle in the sparsely settled prairie states where farmers try to hold down the hoppers until the wheat is cut and then trust to the weather to carry on."

A recent adult hopper survey

Institutes Survey Of Liberal Arts



Dean John T. Tate (See story on opening of university, page one)

Library Heads At University Solicit Gifts

Under the joint sponsorship of the University Relations committee of the Minneapolis Junior Association of Commerce and the Library committee of the University, a round table discussion of "How the Citizens of Minneapolis May Help the University Library" was broadcast on September 11, over Station WLOL. Participating were Dean Malcolm M. Willey, chairman of the University Library committee, Librarian Frank K. Walter, and two representatives from the Junior Association, Glenn Middlemist and William McCollum.

The purpose of the broadcast was to stimulate an interest in giving books and other library materials to the University Library. "We welcome donations of one or more copies of almost anything in print," said Mr. Walter, "duplicate copies of current textbooks (we can use many of them because they wear out rapidly); documents (federal, state, local); pamphlet material (no matter what subject); back copies of magazines; newspapers ten years old or more. We want manuscripts, especially old ones, and old account books."

During the broadcast it was announced that any resident of Minneapolis who has on his shelves material that he would like to give to the University should call either the Library (Main 8177, extension 400) or the Junior Association, Bridgeport 2125, in order that it may be called for. It was stressed that the size of library gifts is not important and that a single volume will be picked up as gladly as a shelffull of books. Arrangements for the pick up of materials will continue until October 15.

Two Minnesotans Get Research Grants

Two University of Minnesota men, one man formerly at Minnesota and one from Carleton College, have been granted awards by the Social Science Research Council to carry on researches found to be of national importance. Louis Guttman and Howard Rae Penniman have been named "pre-doctoral" fellows, Guttman to study mathematical problems and Penniman, political parties in the United States. Karl H. Niebyl, Carleton college economist, will conduct studies in the function of money. Edgar A. Schuler, formerly at Minnesota, now at Louisiana State University, will carry on work in the field of ecology. Dean Malcolm M. Willey is a member of the committee which recommends students for these awards.

has shown bad infestation in about 25 counties in this state. Baiting is being carried on vigorously in Kittson, Marshall, Norman, Big Stone, Swift, Yellow Medicine, Lac qui Parle, Chippewa and Lyon counties.

The annual egg survey to supply information for the infestation map for 1941 will begin September 15.

Gopher Football Program Heavy Right from Start

Minnesotans Will Meet Six Teams in Conference, and Nebraska

"One down and seven to go" might well be the byword of the 1940 University of Minnesota football squad this week. The Gophers have met Washington, the first opponent on a difficult eight-game schedule, but seven more games of similar difficulty, including six with Big Ten teams, lie ahead.

In the immediate foreground on October 5 is the Nebraska game at Memorial Stadium, the twenty-second in this non-conference rivalry. Fans will recall that the Cornhuskers trampled up the Gophers 6-0 at Lincoln last year. Reports that the Nebraskans have another veteran team indicate a close game.

A rest date on October 12 will mark the end of non-conference competition. The following Saturday, October 19, will find Minnesota at Columbus intent on making amends for the 23-20 victory the Buckeyes carried home from Memorial Stadium last fall. Then in succession, Minnesota will meet Iowa at the Stadium on October 26 in the Homecoming attraction, Northwestern at Evanston on November 2, Michigan at home on November 9, Purdue at home on November 16, and Wisconsin at Madison on November 23. The latter game will be the fiftieth between the Gophers and the Badgers.

For the first time since 1934, Minnesota has entered a season without a championship to defend or a championship prediction to fulfill. Neither is Coach Bernie Bierman making any championship claims for his squad, although his general attitude is optimistic.

Basis for the prediction that Minnesota will win its share of games is a group of 23 lettermen, including seven players who were in the starting lineup for the final game of the 1939 season. In addition, there is the usual group of reserves and some 30 sophomores.

The 1940 line, that must smooth the route for the ball-carrying Gopher backs and block it for the opposition, is developing satisfactorily under the guidance of Dr. George Hauser. Back for another season are such veterans as Fred Vant Hull of Minneapolis at tackle; Gordon Paschka of Watertown, Bill Kuusisto and Bob Smith of Minneapolis, and Helge Pukema

Dr. Clarence Mickel On Defense Board

Dr. Clarence E. Mickel, associate professor of entomology and economic zoology at University Farm, has received word of his appointment as a member of the evaluation committee in the field of zoology under the National Resources Planning board. He is one of a committee of five that will advise on the preparation of a national roster of scientific and specialized personnel in the various fields of zoology, to be available not only in the present period of emergency, but in normal times as well.

of Duluth at guards; Co-captain Bob Bjorklund of Minneapolis at center or end, and Co-captain Bill Johnson of Slayton at end.

Few teams can boast a better pair of halfbacks than George Franck and Bruce Smith, a fact that provides assurance for at least a part of the Minnesota backfield. Franck, the sprinter who won honors as a Gopher trackman, has the speed necessary to make touch-downs together with long distance punting ability. Franck will probably run from left half.

Smith proved his worth as a sophomore last season by scoring six touchdowns. Since he is also a left half, there is still the question of whether Franck and Smith will alternate at that backfield post or whether one of them will be stationed at right halfback. In the former case, Bob Paffrath of Redwood Falls or Joe Mernik of Minneapolis will probably play on the right side.

Fullback also seems to be in capable hands, with Bob Sweiger, the Minneapolis sophomore who was a regular from midseason on in 1939, as the favored candidate. Also on hand are Ed Steinbauer, Owatonna veteran, and Sophomore Bill Daley, who played his high school football at Melrose.

Daley is rated as an outstanding sophomore prospect. So are Dick Wildung, a tackle from Luverne; Bernie Nelson of Minneapolis and Leo VonSistine of West DePere, Wisconsin, both ends.

Schmidt Discusses Wage Plan
Dr. Emerson P. Schmidt, associate professor of economics in the School of Business Administration, University of Minnesota, spoke to the Minneapolis chapter, National Association of Cost Accountants, an affiliate of the Manufacturers' Association of Minneapolis, Inc., Tuesday, September 17, on "Recent trends in employment regularization and annual wage plans."

One Sailor Jolly; One Serious



Their expressions revealed their moods as Comptroller William T. Middlebrook, left, and Dean Russell A. Srevenson, right, examined a torpedo before they started on a cruise aboard the USS Wyoming as guests of the Navy. Showing them the instrument is Lt. Commander Harold Pullen of the Naval ROTC staff.

Walter Named to New Defense Body

University Library Gets Collection of Material from Former Minneapolis Journal

Frank K. Walter, librarian of the University of Minnesota, has been made one of a committee of six appointed by the Association of College and Reference Librarians "to study and organize services of university and reference libraries for national defense." With him on the committee are library workers from Duke University, Massachusetts Institute of Technology, the Grosvenor library, Iowa State College and the Detroit public library. Mr. Walter is also consultant in a study being made by Iowa State College of "the use of books in specific courses of instruction."

Given Journal Materials
Through the good offices of Carl W. Jones, publisher of the Minneapolis Journal until its sale, and the cooperation of the Minneapolis Star Company, the University of Minnesota Library has received a collection of 2,325 items from the old Minneapolis Journal office library. In addition to the public documents and reference books usually found in newspaper libraries, there are many scarce pamphlets, catalogs, research reports, bulletins and miscellaneous periodicals and newspapers of decided reference value. Among the 400 books are a considerable number that were privately printed or issued in small editions. The outstanding item is the typewritten office index to the Minneapolis Journal in 47 bound volumes and covering the period from May, 1891, through the years with the exception of the year 1921.

Besides the gift to the library a considerable amount of manuscript material from the office files, representing numerous phases of actual newspaper activity, was given to the School of Journalism of the University.

The combined collection is valuable not only for the material itself but as representative of the operation of a leading daily newspaper for a very significant period of newspaper history during which the late Herschel V. Jones was the publisher.

Note from China
Acknowledgment of the receipt of two cases of exchange material sent by the University of Minnesota library to the "National Library of Peiping," now at Yunnanfu, China, has been received by Frank K. Walter, University librarian, in a letter from T. L. Yuan, director. The material was held for a considerable time at Haiphong before getting through, the Chinese librarian wrote, saying:

"As Chinese universities and scientific institutions have been forced to migrate to the southwest to carry on their work without books and journals, this notable gift from the University of Minnesota will aid materially the cause of education and culture in China, particularly at a time of our national emergency."

The Chinese official asked that special thanks go to Raymond Shove, head of the order department in the University library, for his efforts in making the shipment.

Sociologist Invents New Type Keyholder

Showing that talents are not necessarily limited to one field, Dr. Clifford Kirkpatrick, University of Minnesota sociologist and authority on women under the Nazi regime in Germany, has invented and patented a new type key container. Dr. Kirkpatrick's patent number is 2,208,372. His container has little knobs along its edge and when one of these is pressed, up pops the key one wants—at least if he knows which lever governs which key. Inventing it was fun, he says, and getting the patent even more fun. The patent is on stiff parchment and is decorated with insignia of the United States of America in full color. While waiting for the patent to go through he spent the summer teaching at Harvard.

Reserve Officer Called
First University of Minnesota professor in the Officers Reserve Corps to be called into active service, Professor Joseph A. Wise, who teaches structural engineering in the department of civil engineering, has gone to Annapolis for a year to teach in the United States Naval Academy. His rank in the reserve corps is lieutenant commander. He is now in Annapolis.

Spiritual Dynamic Topic of Commencement Address

Continued from page 1, column 1
known and unforeseeable beginning of another. You stand on the threshold of your life work, I at the end of mine. For both a curtain presently lifts, and we step out into a great adventure.

"Mine has been the world of Yesterday, yours is that of Tomorrow. My life span, brief as it has been and swiftly as it has sped, bridges the whole development of the world in which you live. When I entered the University fifty years ago, there was not in all the world an automobile, a motion picture, a long-distance telephone, an airplane. The electric light and the telephone were but a dozen years old, and had not come into general use. The trolley car had been introduced into perhaps a dozen eastern cities, but the Twin Cities still depended on horsecars. The X-ray and wireless telegraphy were still in the future, and radio was undreamed of. The means of transportation and communication, the methods of production which characterize the only world you know are scarcely older than you yourselves. More progress in knowledge and invention has been made in these fifty years than in the preceding fifty centuries.

"Is it any wonder that knowledge has increased faster than the mind of man could digest it? That the complexity of human relations has multiplied beyond the power of experience to organize and control them? That the very forces which we have evoked threaten to destroy us? I am beginning to realize, this morning, that the world of my youth is the day before yesterday. I am asking whether the Yesterday of power production, of mechanical progress, of comforts and luxuries, of ever-rising prosperity, may not be even now dying, while unborn Tomorrow dawns on a weltering chaos out of which you and your contemporaries must rebuild civilization.

"It is with all this in view, that I have chosen for my text the words of an ancient Prophet, whose people after two generations of bondage in a foreign land, had returned to their ancient Capitol and were struggling, out of poverty and infinite distress, to build anew their national life:

"Not by might, nor by power, but by My Spirit, saith the Lord of Hosts."

"It requires something deeper than intelligence to gain the mastery of human problems. A power far mightier than that of mechanical agencies must be brought into play if man is to be greater than the machine, if the forces of evil are to be brought under control, and peace and order be established once more in the life of the world.

Simple Values Precious

"The first thing that impresses us, as we confront the disaster which has overtaken civilization, is the fact that the simple values of everyday life have all at once become precious and altogether desirable: The right to life, liberty, and the pursuit of happiness. The home, the family, the simple pleasures of the common life. Friendship, and neighborliness; the right to read and to think and to dream; the significance of beauty, of bird songs and the spring flowers, of music and pictures, of great architecture and noble sculpture, of poetry and thoughtful books. All these things take on new meaning when we see them swept to destruction before the ruthless determination of a mad lust for conquest and power. They are worth dying for. Peace itself is all at once discovered to be a priceless thing, an ultimate good so precious that it must be purchased, if need be, even at the price of war. A parlor pacifism shrivels to nothingness before the reality of a world on fire.

"The moral values have likewise taken on new significance in the lurid light of bursting bombs and cities on fire. Honesty and decency, truth, justice, love, mercy—these are not idle dreams. They are the main pillars on which the structure of civilization is built. If these fall, nothing can stand.

"Justice, good and truth were still Divine, if, by some demon's will Hatred and wrong had been proclaimed Law through the worlds, and right misnamed."

"If we will think for a moment, we shall see that these human values, the dreams and hopes of man, his moral ideals, his spiritual aspirations, are the net result of ages of experience. Man is so made that he has never been content with the bare mechanics of living. Clothing was used for ornament before it was required for

protection. The cave man drew pictures of the chase upon the walls of his cavern. The most primitive tribes are fond of bright colors, and have some sort of music, if nothing more than the rhythmic beating of tom-toms. Poetry is older than prose. Beauty, so far from being a mere ornamental addition to life, is a fundamental necessity, an integral part of life itself. By it primitive man, chipping his spear-heads into symmetry and fashioning ornaments of schist or bone, bore witness to his spiritual nature, and by it he, being dead, yet speaketh."

"The dawning moral instinct of mankind found expression in tribal and family loyalties, which soon expanded into the whole field of human relations. It is not enough to say that moral standards are merely the outgrowth of tribal customs. The real question is, whence came these customs? Expediency is one thing, the sense of right and wrong is something different. It cannot be derived from expediency, but stands in its own right. There has never been found a tribe of savages, however degraded, who did not have a sense of sin. The oldest known fragment of literature is a group of penitential psalms, embodied in a still more ancient tongue in the literature of Babylonia, four thousand years ago. Religion itself is as old as history. It is the fashion to say that it originated in man's fears in the presence of the mysteries of Nature. But why did it take the form of worship? The expression of the religious impulse may have been crude enough,—but so also were primitive music and art.

Man's Kinship with Spirit

"From the dawn of human thought, the recognition of values has been inseparably related to a world-view, a way of thinking about life itself, which we call spiritual. Man can no more rid himself of his sense of kinship with the mysterious powers which manifest themselves in Nature than he can stop breathing. The greatest seers, the noblest characters, the wisest teachers in all ages have been those who lived in closest relation with these powers. "No man hath seen God at any time." Our profoundest speculations carry us no nearer to an understanding of His essential being than a child may grasp. We have nothing to do with these abstruse mysteries, yet all experience teaches that when men lose sight of God, the nerve of moral endeavor is cut.

"Most of our philosophy of values has to do with their modes of expression. But the capacity for recognizing and appreciating values is underived. It cannot be reduced to anything else. It is simply a part of the essential constitution and structure of the human personality. It is one of the weaknesses of present psychology that it concerns itself merely with the complex processes through which the mind of man operates, and deliberately ignores the unfathomable mystery of the mind itself.

"The loftiest reaches of art, the noblest insights of the moral nature, the most inspiring religious motives, are implicit in the crudest efforts and the weirdest superstitions of the savage. Our ideals of justice, of honesty, of social responsibility, of mercy and common decency, were foreshadowed in the Egyptian Book of the Dead, which is older than the Pyramids. They motivated the Code of Hammurabi, set up in the Temple of the Sun God in Babylonia in the days of Abraham. They are summarized in the Ten Commandments of Moses. They are envisaged in the philosophy of Plato and the Ethics of Aristotle; in the teachings of Confucius and the Eight-fold Path of Guatama Buddha. They were set forth with immortal eloquence by the Hebrew Prophets, and find their highest expression in the teachings of Jesus and Paul. They are deep-rooted in the history of the race. They are validated by the experience of a hundred generations. They do not rest on external authority, but are the expression of the fundamental intuitions of the human spirit, and stand in their own right.

Why Lose Moral Values?

"At this point you are asking why, if all this be true, has it come to pass that today, when the intellectual mastery of the problems of life and nature is at its height, it is precisely these moral and spiritual values which are brought in question. Why is it that, so far from being the dominant factor in the life of the world they are frankly repudiated by the

Totalitarian philosophies, and that even among those who profess them they seem to have lost their vitality and are helpless before the triumphant march of brute force and crass materialism. Why is it that religion itself seems to have been dissolved out of the life of the modern world, and that greed and selfishness seem dominant in our whole civilization?

"The answer is, first, that man is after all an animal, slowly and painfully working his way upward out of brutishness, through thousands of years of struggle. Even yet his higher impulses are overlaid by animal instincts and desires. The perception of higher values grew by slow degrees, and has had to fight an unending war with brute nature. Man 'partly is, and wholly hopes to be.'

"For the rest, we must go back to an earlier observation. The mind of the modern world is swamped by the enormous mass of new knowledge dumped upon it in the last three hundred years, and our intelligence is still grappling with the resulting problems. The increased complexity of the social order has distributed responsibility, and dulled the sharp edge of our moral perceptions. More than this, it has vastly increased the difficulty of applying our moral ideals to concrete situations. We do not even now know what 'justice' means in the relations of Labor with Capital, of producer and consumer, of the citizen and the state, to say nothing of the relations of the great industrial empires to the backward peoples of the Orient.

"Nor is this all. The individual has but slowly emerged from the mass, and the dominance of the free intellect in the life of the world is scarce four centuries old. During all the ages of the past, not only the political life of man, but perhaps even more his intellectual and spiritual life, rested upon arbitrary authority. The will of the chieftain, of the king or emperor, was law. The medicine-man or the priest alone knew the will of the gods, and dictated beliefs and forms of worship. The prophets of Israel, the philosophers of Greece, appealed to reason and the moral judgment, only to meet with persecution and obloquy. They were stoned, they were sawn asunder, they wandered about in sheepskins and goat-skins, being destitute, afflicted, tormented—of whom the world was not worthy. Plato was imprisoned, Aristotle was exiled, Socrates was put to death, Paul was beheaded, Jesus Christ was crucified.

The Fight Against Authority

"When the human intelligence awoke to its real place and power, a few centuries ago, it was compelled to fight for its freedom against the entrenched forces of authority, even in the field of science, and much more in those of religion and government. It was the scientists of Italy who gathered at Pisa to witness the experiment of Galileo by which he sought to prove that heavier bodies do not fall to the ground faster than lighter ones. Two balls of unequal weight were dropped simultaneously from the top of the Leaning Tower. They reached the ground at the same instant. The Savants consulted their Aristotle and wagged their heads: 'He's wrong!' The Divine Right of Kings fought for centuries against the enfranchisement of the human spirit. The authority of the Church, and later of an infallible Bible, was set in a bitter struggle with the awakened reason of mankind which has continued unto this day.

"I am of those who believe that in the long run intelligence must be recognized as the final court of appeal. I hold no brief for any manner of authority, save the authority of experience. But in this long struggle there has been narrowness and bigotry on both sides. There is an arrogance of the intellect which is as deadening as that of tradition itself. Science deals with the tangible realities of the senses, which seem self-authenticated, and are in evident contrast with the intangible values of the spirit. The conclusions of science are susceptible of experimental demonstration. Small wonder that knowledge, which is what the very word science means, should be set over against the dreams and ideals of faith. Thus it has come to pass that for the past two hundred years the triumphant march of scientific progress has crowded the moral and spiritual interests of man into the background.

"In vain have the protagonists

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of the moral ideal protested that the life of man has thus been thrown out of balance, and that the result must inevitably be to leave civilization itself in unstable equilibrium. Alas, the thing that we feared has come upon us. A machine civilization, erected upon the discoveries of science, has bogged down in hopeless impotence before the powers it has itself evoked, and from which there is no escape save through the enthronement once more of the human values.

How Does Man Fare Now?

"That such a situation should arise is not to be wondered at. As knowledge expanded, man himself seemed to shrink into insignificance. The tight little universe of the Ptolemaic astronomy, with the earth at the center, sun, moon and stars mere satellites revolving about it, Man, the most important creature in it, and God a magnified Emperor sitting on His Throne at some definite point in space with nothing to do but to take account of humanity and its doings, all at once gave place to an ever-expanding universe in which man was reduced to a tiny insect crawling on a speck of cosmic dust. God was pushed farther and farther away, until He seemed at best but an unknown, perhaps imaginary quantity in a cosmic equation, like the square root of minus one by which present physics relates its conceptions of space and time in the Einstein mathematics.

"The answer, of course, is perfectly simple—so simple that our sophistication has completely overlooked it. 'Who told thee that thou wast naked?' What but the human mind has discovered the vastness of space, has pushed back the frontiers of Creation to include the island universes? Who invented mathematics? Who devised telescopes and spectroscopes wherewith to study the stars? Who found that their distances must be measured in light-years? The mind that can discover the secrets of the stars is greater than the stars. Nothing which the mind of man can discover can annul the mind itself. In the very scope of his scientific discoveries, Man is still the measure of all things. If his mathematics are structural in the physical universe, if the laws which govern falling bodies on this planet are the same which determine the motions of the stars in the Spiral Nebula of Andromeda, then we have the same right to assume that the moral needs and spiritual aspirations of man are equally structural in the whole scheme of things, and

'God is seen God

In the star, in the stone, in the flesh,

In the soul and the cold.'

"Intelligence is far broader than the logical reason. It must take account of every department of human values, not as subjects for analysis like specimens in a laboratory, but as structural pillars in the Temple of human achievement. The function of psychology is to interpret, not to explain away. The function of criticism is to clarify, not to disprove. The aim of learning is scholarship, not as an end in itself, but as a means to the fullest and richest and most rounded life.

"It is to the eternal glory of science, that, pursuing its quest of understanding with a courage which might well be emulated by the moralist and the theologian, it has in the last thirty years discovered the limits of experimental knowledge, and has completely cut the ground from under the mechanistic presuppositions of its partial insights, which have exerted such devastating influence in much modern thinking. I might quote at this point from Jeans and Eddington, or from Einstein himself, or even from Bertrand Russell, the arch-sceptic of them all; but the limits of time forbid. It is enough to point out that the present conclusions of science have set men free from the 'idols of the den' which for more than a century have threatened to destroy all values.

"What these great investigators

Press Flourishes Sales Data Show

The University of Minnesota Press reports successful sales for the last few months despite the summer season and the war. Four titles have been especially active.

"Dictatorship in the Modern World" which was edited by Guy Stanton Ford, has continued to sell well although it was published in May 1939. Mrs. Margaret Harding, director of the Press, says this is because the book provided dispassionate background material for understanding the rise, pattern, and operation of dictatorships all over the world. Evidence of its excellence is an order for 775 copies from the Carnegie Endowment for International Peace to be distributed to their discussion leaders throughout the United States. It has also been adopted as a text in a number of colleges and universities.

In May of 1940 the Press published "Let's Talk About Your Baby" by Dr. H. Kent Tenney. The June "Book-of-the-Month-Club News" recommended this book to its readers and over 300 copies have been ordered by the book club members.

Book-of-the-Month-Club readers recently ordered several hundred "Indoor Gardener" by Daisy T. Abbot when this book was recommended to them through their "News." Well over 200 schools and colleges now use "Child Care and Training" by Faegre and Anderson in their classes. The fifth revised edition, just published, has already been adopted by many new schools for use this fall.

'U' Geologist Will Lecture in Canada

Professor George M. Schwartz, University of Minnesota geologist, has been granted leave by the Board of Regents to spend next year as lecturer in applied geology at the University Laval, Quebec, P. S., which is installing a chair of applied geology. The institution gives most of its instruction in French, and Dr. Schwartz will begin the work and organize the lectures while the university looks for a geologist who can lecture in that tongue. Creation of an Institute of Geology in the University Laval has followed the very great increase in mineral production in Quebec and throughout Canada in the past few years.

have discovered, and what philosophical thinkers have long declared, is that science itself is one of the 'values.' Its theories are not absolute and self-authenticating, but they are faiths, projected into the chaos of experience, to be accepted in so far as they establish a measure of order in that chaos. They are true so far as they 'work.' Beyond that they are of importance only to the theorist, and may be ignored in practical affairs. Scientific faith rests on the knowability of the universe, and the capacity of the mind for knowledge. Spiritual faith rests on the practical value of the moral insights, on the power of the spiritual ideal to uplift the human spirit, to expand its power to bring the world into subjection to the moral ideal. Both rest on precisely the same foundation, and have the same validity. There is no schism in the human spirit. Life walks on two feet, the ideal and the practical, and progress is a step at a time.

"Let knowledge grow from more to more,

But more of reverence in us dwell,

That mind and soul, according well,

May make one music as before, But vaster."

This address will be completed in the next issue of "Minnesota Chats."

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NO. 2

President's Talk At Convocation Examines Crisis

Says Aid Is Pledged to All Government Agencies Asking It

URGES CARE IN SPEECH

Campaign Issues Fade in Light of War Threat Dr. Ford Tells Students

IN HIS annual address at the opening or Freshman convocation on Thursday, October 3, President Guy Stanton Ford of the University of Minnesota briefly reviewed the prospects for the year and then gave the students in clear language his views concerning the duties of the university community in times as grave as these. Campaign issues, he said, will seem faint in the future when the historian reviews them in the light of the stern happenings whose echoes from Europe and Asia are creeping steadily nearer to Western Hemisphere shores.

President Ford's speech in full follows:

"This opening convocation of the academic year at which by custom the president of the University is the speaker, is by an equally well-observed custom devoted to remarks addressed principally to the entering freshman class. On this occasion it may be well to warn you at the outset that I may depart from the pattern followed by myself and my predecessors at previous introductory convocations. However wide that departure may seem to you, it will not carry me away, I hope, from meeting the primary obligations inherent in the nature of the occasion.

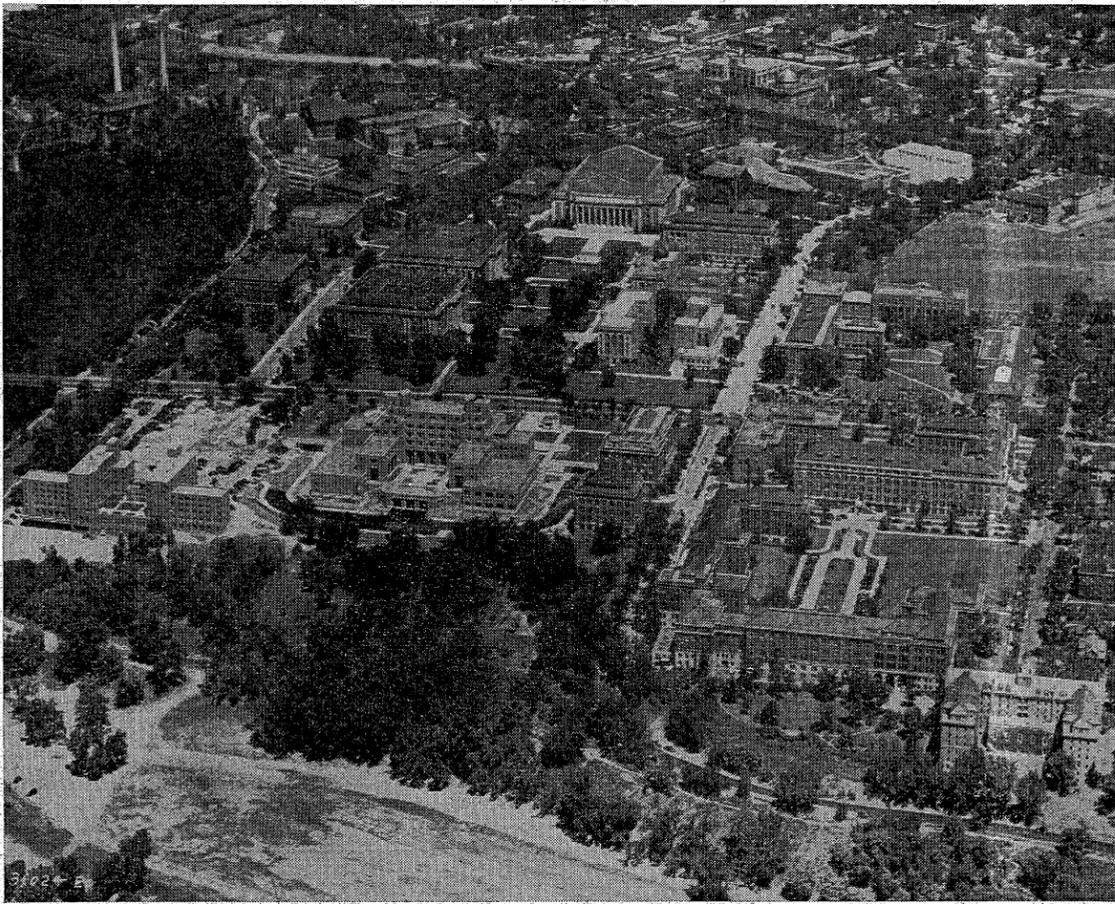
"The beginning of each academic year in a university as large as Minnesota sees two entering classes cross its threshold, two groups who find a new home and a widened scope for their labors and individual development. The larger one by far is the class of 1944, the entering freshmen together with the large group of students transferring to a new educational home. The second is that far too limited group made up of new members of the teaching staff in its various ranks. The welcome I extend to both groups of newcomers on behalf of their fellow students and co-workers in this, our common home, is equally hearty. You each have your problem of adjustment and your problem of keeping the faiths and enthusiasms with which you begin a new life. I can assure you that you will find in those longer on the campus every willingness to receive you as welcome additions to the community and to be helpful to you if you will overcome your own timidities and seek their help. The freshmen might be gently reminded that the good will of some seniors, and even of oracular sophomores, is overlaid sometimes with almost impenetrable layers of misinformation. To the new members of the faculty I might drop the word that deans and heads of departments, although exuding good will, are not infallible.

"The president, having been a new student in three or four institutions without, I hasten to add, having been flunked out of any and having been a new faculty member in an equal number of institutions, has such a keen memory of these experiences that he is so prejudiced in your favor that he may be regarded as a totally injudicious adviser. I beg you to believe, however, that by reason of these experiences his good will toward you, his faith, whether you are a new student, a transfer student, or a new faculty member, that you will make your place and overcome your momentary difficulties is all the greater and all the more abiding.

How to Live Good Life

"The world's literature of wisdom in how to conduct yourself and live a rewarding life, even if you omit addresses on academic occasions such as this, is perfectly enormous and inevitably repetitive. It extends from Ptah-Hotep,

Main Campus of the University of Minnesota from the Air



Will Dedicate Coffman Union At Homecoming

Annual Alumni Dinner Will Follow Ceremony Late Friday Afternoon

DR. JESSUP TO SPEAK

General Alumni Association Will Choose President at Meeting This Week

Dedicatory exercises for the new Coffman Memorial Union of the University of Minnesota will be a principal event of the first day of the big two-day Homecoming celebration, October 25 and 26, and will be held in the new building at 5 p. m. They will be followed at 6 p. m. by the traditional, yearly Homecoming Alumni dinner, also in the Union building.

Dr. Walter A. Jessup of New York, president of the Carnegie Foundation for the Advancement of Teaching, one of the closest personal friends of the late President Lotus Delta Coffman, for whom the building is named, will deliver the principal address. When Dr. Jessup was president of the University of Iowa he bought a summer home at Battle Lake, Minn., near the homes of Dr. Coffman and Dr. Guy Stanton Ford, then dean of the Graduate School and now president of the university. He has thus been in close touch with University of Minnesota affairs for many years.

President Ford will preside, the building will be presented by a representative of PWA and accepted by Regent Fred B. Snyder.

The General Alumni Association will conduct its annual meeting Tuesday evening, October 22 and the president selected at that time will officiate at the Alumni dinner Friday evening.

Homecoming festivities, including the judging of campus decorations and the Homecoming football game against Iowa will be the principal events of Saturday, October 26.

The recreation room of Minnesota's new dormitory for women, Ada Comstock Hall, was crowded for the dedication ceremonies of the building Saturday, October 5, at 10:30 a. m., when the principal address was made by President Ada L. Comstock of Radcliffe College, for whom the new building was named. Miss Comstock was the first dean of women at the University of Minnesota and was influential in bringing into being Sanford Hall, the first women's dormitory, and Shevlin Hall, women's building beside the Oak Knoll.

President Guy Stanton Ford presided at the dedication meeting, and introduced T. J. Fowler, representing the regional director of the Public Works Administration, from which came 45 percent of the structures' cost; the Hon. Fred B. Snyder, presiding officer of the Board of Regents, who accepted the building for the university; Miss Anne D. Blitz, dean of women; Miss Alberta Dowlin, who as student spokesman expressed the sincere enthusiasm of the residents; Mrs. Leora Easton Cassidy, director of Ada Comstock Hall, and Mrs. Leo Fink, M.D., president of the Minnesota Alumnae Club.

The pleasure taken by all in the new dormitory was apparent over and above the words they spoke, and left the clear impression that the project is a complete success. Mr. Fowler told the audience that the dormitory was the finest building of its type that has been put up with assistance from PWA.

President Comstock's talk will be published in a future issue.

The University of Minnesota's new Museum of Natural History was dedicated the evening of September 28 when members of the Board of Regents, many faculty members and devotees of the museum from off-campus gathered in the auditorium of the new building to hear talks by James F. Bell, principal donor, and others.

How Engineers and Physical Science Fifty Will Take Are Contributing to Modern Society CAA Flight Course

Marvels Unknown to Many or Taken for Granted Enumerated by Professor Herrick

Many of the major and important contributions of engineering and the physical sciences to the streamlined living possible in the modern age were enumerated in a recent address by Carl A. Herrick, associate professor of mathematics and mechanics, when he spoke October 4 in Duluth. He addressed a statewide meeting of the Inter-professional Institute.

Such contributions, he said, come for the most part from the laboratories of the world.

He said: "Today inventions have taken first place as a leader and ruler of changes in our social structure. In the first third of the present century, 1,440,000 patents were granted in the United States alone. Who can tell whether a few of these may dominate our lives in the future as we are now dominated by the automobile, airplane, telephone, movies and the radio.

In the past great inventions have usually taken fifty years or more from the issue of the first patent to the time when it began to show some influence on the common life of the people. A practical working invention, such as the automobile, is really a progression through hundreds and perhaps thousands of inventions over a long period of time. In 1865 the English Parliament passed an act restricting the steam driven automobile of that day to a speed of four miles per hour in open country, and also provided that it must have two drivers and a man to walk ahead with a flag by day and a lantern by night. It was not until the invention and perfection of the internal combustion engine that the automobile became a vital influence on the home, as well as business, crime, recreation and politics.

During this period the engineer and the scientist worked hand and glove. The engineer has used the discoveries of the scientists and the results of his own research to improve existing mechanisms, thereby providing additional safety and convenience to the people. The scientist has aided the engineer to solve some of his difficult problems by contributions in the field

of chemistry, physics, mathematics, metallurgy, geology, and other sciences. The engineer and the scientist have often shared their contributions with other agencies.

The Importance of Our Dams

Engineers are about to complete dams in this country which will be capable of delivering 1,279,000 horsepower of energy. These dams will have an ultimate capacity of 6,830,000 horsepower. We must not be confused by the thought that these dams were built merely for the power which is to be developed. To the engineer power is but one of a network of inter-related benefits to be obtained. The development of a river, for instance, might include in the ultimate plan improvements in navigation, flood control, drainage, pollution abatement, surface and underground water supplies, recreation, wild life conservation, soil erosion, siltation in streams and channels, as well as power. To the credit of the engineer a river is no longer considered merely a sewer, a source of water supply, a highway or an outlet for floods.

Today our lives depend on a vast intricate network of technological processes, carried out on the farms and in the mines and factories. In each of these one finds a constant striving toward better efficiency, usefulness and the safeguarding of human life. For instance, there

Continued on page 3, column 2

Coffey to Speak At Ohio State

Dean Walter C. Coffey of the Department of Agriculture will represent the University of Minnesota at the inauguration of Dr. Howard Landis Bevis, new president of Ohio State University, October 24 and 25 at Columbus, O. He will take part in one of the principal events of the inauguration, a conference on "The University and Agriculture." The other conferences will deal with, "The University and the Professions," "The University and Industry," and "The University and the Social Sciences." Dr. Bevis, a lawyer, is the second state university president recently drawn from that profession. The University of Iowa recently chose as its new president, Virgil M. Hancher, an alumnus and a successful practitioner in Chicago.

John D. Akerman Names Applicants Selected for Training—Five Girls Included

Names of the fifty students, five of them girls, who have been accepted at the University of Minnesota for the primary flight training course of the current year under the Civil Aeronautics Authority were made known October 12 by Professor John D. Akerman, head of the department of aeronautical engineering.

The five young women are: Marjorie Eileen Beacom of 4101 Grand Ave. S., Minneapolis; Dale Margaret Conard of Watertown, S. D.; Audrey Louise Larson of Northfield, Minn.; Elizabeth Susan Tricker of 1538 Hague avenue, St. Paul, and Clara Ethel Woodward of 4000 Reservoir Blvd., Minneapolis.

Others are: From Minneapolis: Alan Sigurd Anderson, Robert C. Askeland, Alexander Gale Bainbridge, Earl P. Kimmser, Parker L. Berge, Arthur A. Graham, Burton Ralph Hovde, Robert Eugene Howe, George Albert Kohler, William F. Krantz, C. Burwill Lott, John Patrick Manning, Howard Gilmore Mealey, Wilbur C. Osterberg, John W. Paulson, Lee A. Potter, Jr., Willard D. Stenborg, Lloyd E. Swan, Thomas G. Valenty, and James S. McCartney III.

From St. Paul: Harvey O. Dow, Daniel G. Drommerhausen, John Richard Hed, Helmer L. Johnson, Frank J. Kuesel, Richard M. Marden, Leo Mogol, John Rhodes, Frank T. Sweeney and Robert C. Johnson.

From elsewhere: Bertram C. Becker, Santa Barbara, Calif.; Theodore W. Braggans, Warren, Minn.; James E. Fearing, Hibbing; Robert V. Hansberger, Worthington; Joseph R. Hanson, Duluth; Leonard L. Hipp, New Brighton; Salyards Hofmeister, Wayzata; Max M. Honke, Butte, Neb. (right); Rex F. Jeide, Reeder, N. D.; James Randolph Rash, Jr., Henderson, Ky.; Charles R. Rosewall, Bule Earth, Minn.; Max J. Ruttger, Deerwood; Hickson P. Skinner, Charleston, S. C.; George J. Spell, Albert Lea, and Don C. Vestal, Faribault.

Assignment to flying schools will be made immediately. Ground work has begun.

Social Case Workers Now Study Selves; Job Undefined, They Will Describe It

Professor Anne Fenlason of Minnesota Is Directing Research of Wide Significance

Such great changes have taken place recently in the field of social case work, many of them incidental to the great expansion of social work under the present system of federal support, that social case workers have decided that although they know how to do their job they don't really know what that job is. Asked what social case work is, according to Professor Anne Fenlason of the University of Minnesota, they reply, "Social case work is what social case workers do."

Well, they just aren't satisfied with their own answer, so Professor Fenlason and a group of co-workers have gone to work to study their problem from the ground up. It is their hope that eventually they will come up, not with one answer, but with many. They are seeking also to learn what type of person a social case worker is, the differences between rural and urban social work, between children's agencies and family agencies, what is involved in the administration of relief, and also which of these functions require highly trained social workers to do them and which can be handled by any intelligent person. The study has had financial help from the committee on educational research.

Their final answers will be obtained in part from the answers to questionnaires sent to 1,185 social case workers in the state of Minnesota, from whom a response of more than 70 percent has been obtained. These will be studied in the light of all the knowledge that can be brought to bear on the questions to which answers are being sought.

Professor Fenlason has associated with her in her work an advisory committee of persons interested in education for social work whose members are Dr. F. Stuart Chapin, head of the department of sociology and director of the Graduate Course in Social Work, Dr. W. S. Miller, professor of educational psychology, College of Education, Dr. Palmer O. Johnson, College and Professor Raymond F. Sletto, sociology, who compiled the questionnaire, and Professor Gertrude Vaile. Also cooperating is an informal advisory committee of persons well known in social work, among them, Benjamin Youngdahl, Helen Hayden, and Professor Grace Ferguson, head of the training course in social work at the University of Iowa.

To make the study a thorough one Professor Fenlason will seek to learn what pre-professional courses contribute to efficiency among social case workers, the general extent and nature of the best training for them, and the like.

She states three main purposes of her investigation, namely, to gear the study at Minnesota into a larger, extensive study of a similar nature now being made by the American Association of Schools of Social Work; to provide a basis for revising the Graduate Course in Social Work in terms of actual needs in the field, standards being retained, and, third, as stated before, to learn what social work is in more satisfactory terms than, "it is what social workers do."

In a printed statement the current study is described as follows: "The definition of a case worker adopted for this study is the comprehensive one of a worker employed in an agency concerned with individuals in predicaments, or in need; or a worker in an institution or agency whose work is primarily with such individuals, or families, rather than with groups or community organizations.—The controversial question of what pre-professional training should be is also pertinent to the question of what the case worker does and his preparation for it."

A number of the members of the sociology department in the University of Minnesota are identified in one way or another with the extensive study of the American Association of Schools of Social Work of which the more intensive investigation at Minnesota is a phase.

The statistical work of the study has been supervised by Dr. Raymond Sletto. During his absence last year on a Guggenheim fellowship Professor Fenlason was assisted by Nicholas Fattu of the Committee on Educational Research.

Lake Surveys By Dr. S. C. Eddy Yield New Data

Theory Now Is That Lakes Teeming with Undersized Fishes Are Out of Balance

Studies by Dr. Samuel Eddy, associate professor of zoology in the University of Minnesota, continuing work begun in cooperation with the state department of conservation, are adding steadily to existing knowledge about the nature of Minnesota lakes, the fish life therein, and the procedures that will make for better fishing.

For example, Dr. Eddy and his WPA helpers can now classify a lake and tell the type of fish which will thrive in it by making tests that take only a part of an hour, although when they started a few years ago days of work were necessary. The long procedures used at first have provided a technique that now shows, by use of a few rapid chemical tests, the lake's true nature; whether it will support many fish or few, and the kinds of fish that may be expected to do best in the lake.

Exciting among the results this survey has obtained are those on the fish populations of certain lakes. An example is Winnibigoshish where the University, the Conservation Department and the U. S. Forest Service are cooperating. By tagging the male pike that were netted when fish were being taken for the extraction of eggs for use in state hatcheries they have been able to arrive at certain definite figures. For several years, thousands of males were tagged and by computing a total from the number of tagged fish that were caught, they reached the conclusion that there are from 17 to 19 fish per acre in that lake. They found, furthermore, that fishermen were catching from 12 to 13 per cent of the adult fish in "Lake Winnie" each year, and that another 13 per cent disappeared in an unaccountable manner, mostly by natural death, it was assumed.

"This indicates a heavy drain on the fish population of the lake," Dr. Eddy said. "If it were reduced by a quarter each year and not added to by the birth of considerable numbers of young fishes, the population would decline at a rapid rate."

So far as the survey has been able to determine only about one-fifth of the fishes in such a lake as Winnibigoshish run up the tributary streams to spawn, and the remainder seemingly lay their eggs right in the lake, which may or may not be running a greater risk of loss.

"Methods of spawning need not give us undue concern when the tremendous reproductive potential is considered," he said. "Thus, if of 19 adult pike in an acre of lake, nine are females, and each lays 50,000 eggs, the 450,000 eggs laid annually produce such a surplus that the number of fishes will hold up."

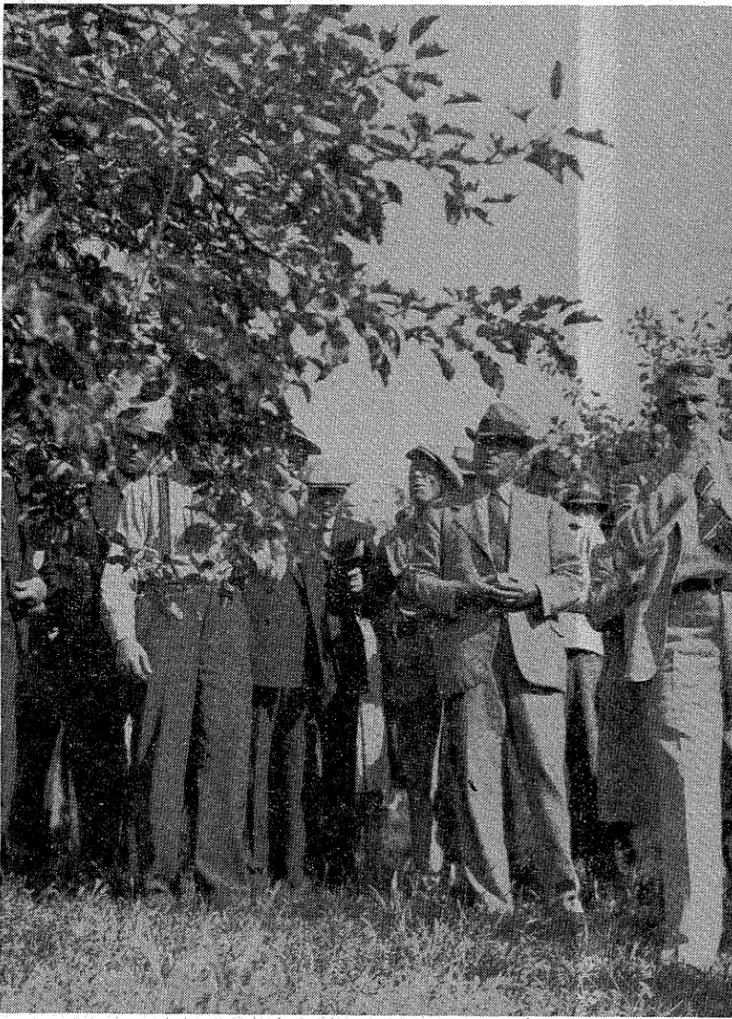
Bass, he explained, lay from 2,000 to 5,000 eggs; pike, up to 100,000 eggs, and carp more than a million, possibly, in the case of the very largest carp, 2,000,000.

Size of Fish May Decrease

Although the numbers of fish will hold up under the conditions just described, the average size of the fish is much less sure to be maintained. In fact, Dr. Eddy finds that the decrease in the average size of fish in Minnesota lakes presents a major problem, perhaps the biggest with which he is now dealing.

"In an increasing number of lakes in Minnesota the number of fish is still very large, but few of them seem to grow to any size. Originally this is because the bigger fish are caught out—every fisherman goes after the biggest ones he can get—but we do not altogether understand as yet why, once the big fish are gone, the many small fishes do not grow large to replace them. At first we thought food was the problem, but food is abundant in many lakes where fishes remain small. Once the balance between large and small fishes is disturbed, it seems not to be reestablished with any ease. My present belief is that the large fishes ate so many of their smaller cousins that they maintained the balance, keeping

Apple Day at Zumbra Farm Draws Crowd



A throng of farmers, fruit growers and scientists turned out recently for the annual apple growers day at the Fruit Breeding Farm, Zumbra Heights. Above, Prof. W. H. Alderman is describing a new apple to an appreciative group.

down the small population and themselves growing more rapidly. The large fishes aided in thinning out the over abundant small fish."

On the other hand, there are available certain indications of the source of large fish. In Lake Itasca, for example, where one arm has been closed to fishing for many years, the percentage of large crappies and other fishes remains about normal. These may grow to full size in the closed bay and then wander out into the lake's other two bays, there to be caught. Again, in certain lakes in north-eastern Minnesota which did not have wall-eyed pike originally because natural migration had not yet carried them there, planted pike have grown very fast and have taken over the lakes with something of the vigor shown by English sparrows and starlings when they were brought from overseas.

In the latter instances he attributes this rapid growth to the absence of competition from their own kind. This being true, the reverse may also be true, over-abundant competition in the lakes populated by many small pike, or crappies, sunfish, or bass, may result in the small average size.

Another factor is, of course, that the more fertile lakes in which huge populations of small fish are present, are mostly in the southern part of the state, which is more heavily populated and in which, therefore, more people fish.

An Angle on Commercial Fishing

Evidence of the same trend is showing up on the big border lakes that are open to commercial fishing, for commercial fishing seems to result in the decrease not so much in numbers, as in size of fish, just as overfishing with hook and line does in the smaller southern lakes. Kabetogama, for example, now closed to commercial fishing, has lots of pike, but the average size is relatively small. Mille Lacs is working towards the same status. And recently this trend has begun to show up among the pike of Lake of the Woods.

Dr. Eddy will now begin stream surveys to determine methods of improving river fishing in the belief that this may relieve the drain on the lakes. Lake surveys will be continued, particularly on those lakes where commercial fishing is permitted. Its purpose will be to determine the effect of commercial fishing on sport fishing.

It's going to be a big job, but it will be worth it many times over to the people of Minnesota, in fishing, in preservation of our outdoor attractions, and in the continuance of the tourist business that has now become important.

S.P.E.E. Section Meets on Campus

Teachers of engineering from six middle western universities gathered at the University of Minnesota Friday and Saturday, October 18 and 19, for the annual sessions of the North Midwest section, Society for the Promotion of Engineering Education. Eight engineering fields were discussed in sectional meetings, agricultural, chemical, civil, including hydraulic, engineering drawing, electrical engineering, mechanical engineering, mining and metallurgical engineering, and mathematics, mechanics and physics.

"Transportation, its effects on our public welfare and the importance of the universities giving their students a proper appreciation of the basic issues growing therefrom," was discussed at a dinner meeting in Coffman Memorial Union, Friday, October 18, at 6:30 p. m. by E. T. Howson, vice-president and western editor of the Simmons-Boardman publications.

Dean Malcolm M. Willey welcomed delegates to the campus at the first general meeting, Friday at 2:30 p. m. in Room 335, Electrical Engineering building, followed by G. L. Larson, University of Wisconsin. A discussion on the five-year course plan by representatives of Iowa State College and the University of Wisconsin was conducted.

Marquette, Iowa, Wisconsin, Minnesota, Iowa State and the Michigan College of Mining and Technology were represented.

Saturday morning was devoted to section meetings of the eight divisions of the society. Professor John R. DuPriest, head of the department of mechanical engineering, University of Minnesota, is chairman of the section this year. Professor Larson of Wisconsin is vice-chairman and Professor L. C. Caverly, Minnesota, secretary-treasurer.

Dr. S. J. Buck Visits Campus

Dr. Solon J. Buck, formerly superintendent of the Minnesota State Historical Society, arrived in Minneapolis recently from Washington, D. C., to enter his son, Roger, in the University of Minnesota. Dr. Buck, who left Minnesota nine years ago to go to the University of Pittsburgh is now on the staff of the national office of archives, Washington. He and Mrs. Buck have been spending the past ten days at Grand Portage, one of the former Minnesotan's historical hobbies.

Diehl Announces Chiefs of Unit 26

Medical School Gathering Also Hears Two Talks by Dr. Morris Fishbein

Dr. Morris Fishbein, secretary of the American Medical Association and editor of its "Journal" spoke at the annual dinner meeting of the General Medical Faculty, University of Minnesota Medical School, Friday evening, October 4, on, "The role of the medical profession in National defense." The meeting was in the small ballroom of the new Coffman Memorial Union. Dr. Fishbein also spoke briefly on, "Medical Writing."

Completion of the organization of United States General Hospital 26, a University of Minnesota unit, was announced at the meeting by Dr. Harold S. Diehl, dean of the medical sciences, who was entrusted with forming it by the surgeon general of the United States Army. The hospital unit, able to care for 1,000 patients, will be inactive unless the country becomes involved in war. In case of war the surgeon general may send it anywhere he chooses.

Commissioned personnel and the administrative and professional positions will number 73 and there will be 120 nurses and 500 non-commissioned officers and enlisted men.

Dr. James S. McCartney, associate professor of pathology will be the commanding officer of the unit and under him will be the following chiefs of service: Medical service, Dr. J. B. Carey; surgical service, Dr. L. Haynes Fowler; orthopedic service (in surgery) Dr. Edward T. Evans; eye, ear, nose and throat, Dr. Thomas J. Edwards; laboratory service, Dr. Gerald T. Evans; X-ray service, Dr. Walter Ude; dental service, Dr. Earle W. Nelson.

All are members of the staff of the University of Minnesota Medical School or School of Dentistry.

Among new members of the medical faculty who attended the dinner are Dr. Lemen J. Wells, formerly of the University of Missouri, appointed associate professor of anatomy; Dr. Charlotte M. Gast, new assistant professor and assistant director, course in medical technology, and Drs. Edwin S. Fetcher, formerly of the University of Chicago, and Dr. Robert B. Dean, formerly with the University of Rochester, who are instructors in the department of physiology.

Medical School promotions of the past year are: To professor, Dr. Halvor O. Halvorson, bacteriology; Dr. Wm. A. O'Brien, director of postgraduate Medical Education and professor of preventive medicine and public health; Dr. Cecil J. Watson, director, division of internal medicine; Dr. William T. Peyton, surgery, director, division of neurosurgery; Dr. George O. Burr, professor of botany and physiology, director, division of physiological chemistry.

Dr. Arthur C. Kerkhof has been made clinical associate professor of medicine; Dr. Starke Hathaway, clinical psychologist and associate professor of nervous and mental diseases; Dr. James E. Carey, clinical associate professor of medicine, and Dr. Wallace D. Armstrong, associate professor of physiology and director of biological research in dentistry.

New Man Directs Naval R.O.T.C. Unit

Designation of Commander B. H. Colyear as the new professor of naval science and tactics at the University of Minnesota has been received from Washington and he has assumed command of the unit. Commander Colyear was recently assigned to Minnesota as executive officer and was advanced to commandant following transfer of Captain Frank H. Kelley to Marquette. Enrollment of freshman students in the Naval Reserve Officers Training Corps at Minnesota now comes to 110 with 60 men in the sophomore group. Addition to the staff of Lt. E. E. Pettee has brought the Naval ROTC back to full strength. Ten new units are being established this year, at Brown, Marquette, North Carolina, South Carolina, Michigan, Oklahoma, Pennsylvania, Southern California, Texas and Virginia, making in all nineteen Naval ROTC establishments.

College Classes Are Holding Own 'U' Report Shows

Despite Slight Decline in Total, Registration Remains at 15,000

SOME COLLEGES GAIN

Students Appear to Heed Advice of Educators to Remain on Campus

"Approximately 15,000" remains accurate for reporting attendance at the University of Minnesota this year as it was last, although the formal figures will be a little under that number this year, whereas they were slightly above it a year ago. Statistics released by Rodney M. West, registrar, at the end of the first week of classes gave the enrollment at that time as 14,986, as compared with 15,013 at the comparable time in the fall of 1939. This represents a decline of 1.4 per cent. Last year the figures mounted by another 300 later in October as graduate enrollment was completed, and one or two hundred more will come in this year, at least.

The trend at Minnesota shows that the university has held up rather better than many of the big western institutions, some of which have had declines in registration up to five per cent. Small colleges have just about held their own. In Minnesota the state teachers colleges have grown a little and junior college enrollments have declined, President Guy Stanton Ford told his deans at a recent meeting.

Some courses at the University of Minnesota have grown this year, among them Pharmacy, which has reached a peak attendance of 222 students, Business Administration, Public Health Nursing, and the General College.

Among colleges having a loss in attendance, the larger colleges, in general, had the larger losses, although percentages are small. Thus Science, Literature and the Arts lost 64 students, the Institute of Technology 39, and Education 31.

This report shows that students have heeded the appeal of educators and of President Roosevelt to continue in college until such time as national demands make it necessary to call upon them for other duties. The decline reflects in part, also, an increase in the number of jobs available to young men. Some are certain to have chosen employment, at least for the time being, over immediate attendance at college.

Students by Mail Reach Peak at 'U'

Students taking work by correspondence at the University of Minnesota reached a new high in numbers during the past year when there were 2,290 new registrations for courses, according to Algernon H. Speer, director. Of the total 1,306 were in Minnesota and the rest scattered throughout most of the states of the Union and in Canada, Canal Zone, Hawaii, South America, the Philippine Islands and the West Indies.

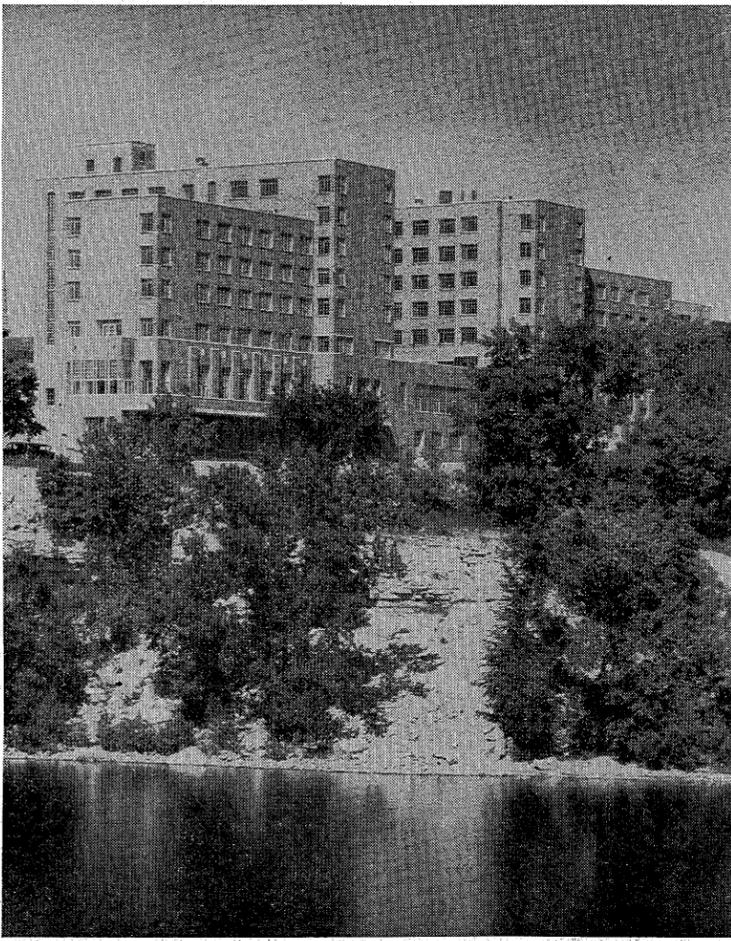
Approximately 100 lessons per working day are received from students by the department and corrected by the 89 members of the University of Minnesota faculty who give part of their time to correspondence courses. Each course is normally corrected by the professor who wrote it. The annual total of lessons corrected last year reached 28,684.

Most popular subjects, Mr. Speer said, are English, with 349 registrations, business and economics, with 235, sociology with 179, education courses with 122 and courses in psychology 115.

The correspondence department also handles several courses in health propaganda, one of them a free course in maternal and child hygiene, prepared by the Minnesota department of health, and two of them courses in the Institute of Child Welfare. The latter, formerly free, now carry a nominal charge because outside support formerly available has run out. At one time these two courses, Child Care and Training and The Adolescent Child and Adolescence had 6,300 enrolments.

Nearly all principal fields of teaching are represented in the correspondence catalogue except those that require laboratory work and highly specialized courses such as law and agriculture.

New Women's Dormitory Overlooks River



Engineers Make Marvels Possible

Continued from page 1, column 3

are 25 or more different ways now being developed for navigating an aeroplane in a fog, something greatly needed for safety in flying. It is safe to predict that within a few years, perhaps months, aeroplanes will be easily and safely maneuvered in a fog.

To list all of the developments and benefits to society of recent contributions of engineers and scientists would require vast space. Many of these are well known to the public through their wide publicity while others just as important lack the spectacular features so loved by the general public.

I have attempted to pick a few of these contributions, not necessarily the most important ones but ones which may not be as well known though just as worthwhile.

Some Major Achievements

We are all interested in gasoline and we sometimes become concerned whether the enormous consumption will soon exhaust the known sources of supply. Oil stands are an essential in our daily life. Like many other materials, it is mainly obtained from the ground. Originally the source of supply was near the earth's surface, but as this supply began to diminish and the demand for oil increased, deeper wells became a necessity. Increased depths brought difficult problems for the engineer to solve.

Drilling a well sounds simple. A sharpened bit is placed on the end of a pipe, the pipe is rotated, and the bit cuts its way down. Mud is forced down the inside of the drill pipe and up outside the pipe to remove the chips and debris produced by the bit. It all sounds very simple, but think of running this drill pipe one mile, two miles or three miles down through various formations in the earth's crust and keeping it always going in the direction you desire it to go! That is just one of many problems which the engineer must face. At 11,000 feet in depth the temperature is more than 200 degrees Fahrenheit and rises to more than 300 degrees at 15,000 feet. The increase in heat increases the wear on the bit and if water is encountered serious complications may arise. The flowing water must be shut off by forcing in a cement which will remain pumpable under high temperatures. At 15,000 feet below the surface the earth is under a pressure of 6,000 pounds per square inch. This pressure, however, is partly counterbalanced in the well by the pressure of the drilling mud.

The field engineer and the man in the laboratory have developed harder surfaced bits, drill pipes of alloy steel, and special pumping muds, and cement to stand the high temperatures. They have perfected pumps to circulate the mud at the rate of 800 gallons per minute under pressures as high as



Mrs. Leora E. Cassidy

Rewarded for nine years of service as director and house mother at Sanford Hall, which she rehabilitated in popularity among girl students living in dormitories at the University of Minnesota, Mrs. Leora E. Cassidy has been made director of the university's new dormitory for women, Ada Comstock Hall. The new building opened recently, filled to its capacity of 278. Mrs. Cassidy is a member of Minnesota's "most famous class"—1904—so rated because it was the class of E. B. Pierce, alumni secretary, who declared it most famous. Dean Anne Dudley Blitz is a member of the same class. Before coming to Minnesota Mrs. Cassidy was principal of the Warren, Minn., high school for 12 years. Above is a picture of Ada Comstock Hall.

1500 pounds per square inch, instruments which take the guess out of drilling, and a motion picture survey instrument which when lowered into the hole makes a record of the inclination and direction as it goes down so that the driller can obtain a picture of what is happening and can drill in the direction desired. Without this close control the bit may be inclined to one side if it encounters resistance. Temperature indicators determine the heat at various depths. Echometers which translate time into feet, determine depths to a liquid surface. The drill may pass through several oil zones before the well is completed. After completion, the casing is perforated at the level at each zone so that oil may be drawn from all levels at a time.

Speed in drilling is essential because of costs. The first mile may not exceed one dollar per foot and requires about thirty days to complete but the minimum cost of a well two miles in depth will run \$10 per foot and require at least six months to complete. A 15,000 foot well must produce 7,500,000 gallons of gasoline to cover the cost of drilling. This represents the annual consumption of 10,000 pas-

senger cars. A 20,000 foot well is being considered in a California field with the estimated cost of one half a million dollars.

The contributions in this field have made the operation of the automobile, aeroplane, tractor and the high speed train and ship economically possible, for without oil they would be useless.

Improved Use of Metals

Another contribution which has its origin in the ground is improvement in the use of metals. Not many years ago the metals most commonly used were iron, steel, copper and brass or any of the common alloys. Today we have tailor-made alloys that will do the work they are designed for much better than any of the formerly used materials.

Some of the more important tailor-made alloys include: silicon-iron, stainless steels, tool steels and the hardening of ferrous and nonferrous alloys.

Example: The losses in magnetic circuits have been reduced one-half during the last thirty years, the results of research in metallurgy. The distribution transformer of average size contains about 125 pounds of steel and dissipates about 600 kilowatt hours of energy when modern steel is used. If these were to be made of the old type of steel the loss would have been three times as great. There are thousands of these transformers in this country alone and by the use of silicon-iron the saving of energy per year is enormous. One fifty ton transformer at Boulder Dam is saving over one million kilowatt hours per year by using silicon-iron.

Some ninety types of stainless steel are being made, each for a definite purpose. These steels are divided into two classes: the first a straight chrome-iron alloy used in cutlery; the second, known as the 18-8 type and containing approximately eighteen per cent of nickel and eight per cent chromium. From this alloy kitchenware, tableware and architectural and automobile trim are made. Stainless steels of a normal strength and resistant to corrosive attack are valuable in high speed trains and aeroplane construction. High speed tool steel has been so improved that a piece of work that formerly required six days to complete can now be done in five.

Methods of hardening copper have been found which produce a strength ordinarily associated with steel, and with no loss of electrical conductivity or other desirable properties.

Aluminum alloys and brass are being extruded through dies at comparatively low temperatures under pressures up to 200,000 pounds per square inch and at a rate of a few feet to a hundred or more feet per minute to form various shaped bars.

What these and other similar processes are adding to the safety, convenience and comfort of the human race is beyond comprehension.

Regulation of Heating and Cooling

With the development of the electric furnace and controls that can scientifically regulate the heating and cooling of a material modern science has revolutionized the making of glass. Today the uses of glass are numerous. Glass was formerly known as a hard, transparent, brittle substance, made by fusing sand with other ingredients. Not so today for one can find glass which is as soft as silk, or as strong as steel; glass having four times the strength of ordinary glass, yet with four times the flexibility; and even glass without a trace of silica. We have glass that can be tempered. This glass can stand a temperature of 600 degrees Fahrenheit on one side while the other side remains at normal temperature without weakening it. Its resistance to impact is the same whether the temperature is above or below zero. The danger of being cut by flying glass is minimized, for when tempered glass breaks it shatters into small pieces with blunt edges. One finds this glass used in oven doors, furnace peep holes, glass doors, bookshelves and partitions.

The so-called safety glass was first made by placing a sheet of nitrocellulose between two sheets of glass. The recent perfection of a plastic binding, known as polyvinyl acetol resin, has given us a safety glass having four times the resistance to penetration by impact and five times the elasticity. Break a sheet of this glass by hammering and you can roll it up like a rug without one piece pulling loose from the binder. Bullet resisting glass for armored cars, bank cages, and police cars is of the same type of glass. The main difference between this type of glass and that used in automobiles

Municipal League Urges Amendment

Wants It Made Easier to Pass Changes in City Charters

The League of Minnesota Municipalities, directed by Professor Clarence C. Ludwig of the department of political science, University of Minnesota, is actively supporting the one constitutional amendment on which voters will pass in marking the state ballot on November 5. This is the amendment modifying the "official publication" requirements for cities seeking to amend home rule charters. In the past, Professor Ludwig points out, publication requirements have been so rigid and so expensive that relatively few such amendments have been advanced and the improvement of municipal government has been retarded where situations requiring amendment have arisen.

A recent statement relative to this campaign said:

"Only one constitutional amendment will be submitted to the voters at the general election on November 5. It will reduce the cost of publishing home rule charter amendments when cities wish to make local changes. Present requirements make these amendments so costly that charters are allowed to become out-of-date.

"In order to pass, constitutional amendments must be approved by a majority of all the voters in the state who go to the polls on election day. Although this amendment affects only 74 cities it is necessary for people outside the cities to mark their ballots for all unmarked ballots count against the amendment. Constitutional amendments are presented on a separate ballot printed on pink paper and it is easy for voters who do not understand the question to neglect to mark it.

"The constitution now requires cities to publish charter amendments in three newspapers for thirty days. The proposed change will require publication in one paper once a week for four weeks. Only 11 cities have as many as three newspapers and, in order to comply with the law, must have their amendments, which are purely local affairs, printed in papers outside the city. To avoid this expense they run to the Legislature for remedial laws. This procedure not only defeats the principle of self-government but also clogs the state legislative machinery with local matters.

"The constitutional amendment is non-partisan and non-controversial. It has the support of the Minnesota Editorial Association, the League of Minnesota Municipalities, the Legislature, the home rule cities, municipal officials, and all citizens interested in good government."

is in the number and thickness of the glass sheets. Three to five sheets of polished glass are used with the plastic material between and these are assembled under heat and pressure.

Glass walls consisting of a layer of spun glass between two sheets of clear glass are found to have high sound resistance and only about one-third of the heat conductivity of clear glass. The light is diffused and distributed producing even illumination without deep shadows or sun patches. This glass is known as Therolux.

Colored sheets of glass known as Vitrolite are anchored mechanically to concrete blocks and are being extensively used on the exterior of buildings and store fronts. Hollow glass blocks, seventy-five per cent vacuumized, are being used in masonry walls. They have insulating value combined with light transmission qualities.

Glass fibres, one fifteenth the size of a human hair, are spun directly into thread and then woven or braided by machines. Glass textiles and fabrics can be produced in a variety of color and being fireproof furnish a maximum of safety when used in theater curtains, draperies and awnings.

Glass until recently has had no rival in its field but today its supremacy is being threatened by a thermoplastic resin known as Lucite. This plastic is as transparent as glass and is virtually unbreakable. It is much lighter than glass and can be saved, cut, drilled and polished. Like quartz, it has what is known as edge lighting facilities; that is the ability to transmit light around a bend without lighting up its sides.

University Situation in Crisis Stated by President Ford

Continued from page 1, column 1

some 2500 years B. C., to the last edition of "How to Make Friends and Influence People." I would not have you neglect this accumulated wisdom gained from experience and recorded by thoughtful men in aphorisms and proverbs. There are undoubtedly many occasions when a chance reading of something in a collection of wise sayings, or as a filler at the end of a newspaper column, has bucked up the lonely or faint-hearted. Nevertheless, if I am to judge by a discussion I heard recently, your generation is learning about human conduct from the laboratory studies and statistical data purveyed by psychologists and sociologists. This round table discussion was led by the president of Harvard, who is an organic chemist specializing in photosynthesis. Around the table were some twenty social scientists of assorted kinds, hoping to enlighten a chemist on the role of the social sciences in contributing to a knowledge of human behavior by methods unfamiliar to one who solved his problems in a laboratory. Somehow the discussion was diverted by an elderly visitor on the sidelines. He spoke up in favor of Ptah-Hotep, the writers of Ecclesiastes and Proverbs and sundry others who he thought had not only preceded but excelled all modern effort to understand or improve human conduct.

"He was kept on the sidelines, if not completely crushed by testimony about your generation that came from two social scientists inside the official roped-off arena. One, a distinguished political scientist, said that he had tried Proverbs on his children but they did not take, for his children were much more interested in what they could learn from books on eugenics and eugenics; in other words, on nature and nurture or heredity and environment as determinants in human behavior. The second rebuttal was even more impressive, for it came from a student of genetics who was about six feet six inches tall. He testified that, as the father of six children, all of whom had at apparently the same time begun thinking of marriage, he had recommended Ecclesiastes but got no appreciative readers. When, however, he mentioned the titles of two books, each of which dealt with 900 different cases of maladjustment after marriage, the children fell on the works of the psychologist and the sociologist. It seemed to them that 1800 observed and well-analyzed cases of marriage failure were probably more than any writer of wise sayings had ever seen or investigated even in a life that spanned the ripest biblical age.

"The reason for telling this incident is the uneasiness it caused me as I thought of talking to you, not about how to make a successful marriage but upon how to make a successful, life-long union of your varying native abilities and unspoken ambitions with the priceless and never repeated opportunities of your years in this University. I am not ready to renounce the possibilities of guidance and encouragement that can be derived from the crystallized experience of previous generations of wise students and teachers. If I should throw all such advice into the discard as inapplicable to your college life, I feel as though I would be repudiating my own gray hairs and what they are supposed to connote. Yet there is for the guidance of students an accumulation of studies made on this campus and elsewhere by many scholars and involving not 1800 cases but tens of thousands of students like yourself and including yourself. Their revelations about you and your like have been buried in learned reports and monographs and never reduced to the simple language that you and I could understand and apply as we can the wisdom of a Solomon or a Benjamin Franklin. They are, nevertheless, becoming more and more the basis on which your advisers, if they take the trouble, can base their suggestions for your college career. There is enough about you in our files before you have received a single grade report, to be helpful to you if you will seek it out and listen carefully to its interpretation.

Personnel and Advisory Helps

"What I have been referring to in terms so general that you may misunderstand me, is the personnel and advisory service in this University and at your command. Every student has had preliminary contact with it, either this fall or before he left high school through two kinds of tests and examinations, one of which dealt with his

abilities and interests, and the other with his physical body and the present state of his health. The first is supplemented by what your high school records tell about you. Out of all this, when it is assembled, comes your profile as your advisers see it and as you ought to see it even if you think and are able to prove that it is not a complete or an accurate picture. For no one can say that it is a complete guide to life or an unfailing prophecy of success or failure in each individual case.

"There is a something not always, if ever, fully revealed by these tests, a something that lies deep in all of us and is revealed only when, by our application and persistence and life drives, we overcome what were our apparent handicaps. Allowing thus for what you have yet to reveal, I do urge you to take every opportunity to make more complete your own inventory of yourself. The personnel service and our studies of each of you are a new means to exemplify one of those old maxims to which I referred earlier, the saying of the Greek philosopher that the first duty of man is to know himself. That maxim, in which your own self-appraisal and re-appraisal is supplemented by the advisory and personnel service of the University, is the definition not only of your first duty to yourself but of your continuing duty.

Listen to Health Service

"Let me be a little more specific. The number one obligation is to listen to what the student health service has to say to you. You can't change the combination of genes and chromosomes given you by your parents or perhaps their parents. These combinations had much to say about what you are and said it before your birth. But even if baldheadedness runs in the family and longevity does not, there is no excuse for your neglecting to use medical science and advice to battle every predisposition you inherit and by early measures to prevent time-consuming and energy-lowering illnesses. No faith, however firm, even the ancient faiths in red flannel or carrying chestnuts in your pocket, will avail against bacteria, for bacteria are colorblind and they may think chestnuts are sure signs that the carrier is just another kind of nut. You don't, of course, practice these old women's cures. You are modern and up-to-date so you get your panaceas on the recommendation of the radio or the advertising page and pride yourself on being immune to propaganda. My advice is that you be sensible and mature enough to apply to the preservation of your health the results of the science that you are spending time and money to study in college.

"The personnel service of the University can help you invoice your mental equipment and your study habits. It does not pretend to say just where or how each individual student will succeed or to say with finality that he will fail in trying any given career. On the basis of thousands of cases of similar ranges of ability and native interests, it can give you something in the way of advice you will be compelled to think about. In following such advice you may have not only your own previous ideas to combat but the even more fixed ideas of parents and friends. It was not the fault of the boys in a certain course which prepared them for industrial careers that sixty per cent of them wanted to prepare for law or medicine. Almost none of this group had the oft repeated excuse that his father was a lawyer or that there had been a doctor in his family for two or three generations and he expected, or was expected, to carry on the family tradition. I broke that tradition myself and I am sympathetic to the student who is in its clutches. I recall with satisfaction the boy who was despairingly battering his head against the medical curriculum and was persuaded to try what his abilities indicated, a major in English, and soon showed himself an able writer.

"Your presence here is evidence that you have been thought worthy of some kind of a college education. You must not, therefore, think that you can profit by any kind of course into which you have drifted or been shoved. You may happily be in just the right niche. If so, I congratulate you. If time and competent advice show you are not, don't be afraid to back out. But don't back out or back in again on the strength of your own first discouragements. Seek all the light and guidance you can get about yourself. It may be the best thing you get in col-

lege even if you do not stay the traditional four years. In saying this, I have no sense that I am talking to those who are going to fail. That would be to take a college degree as the proof or assurance of success. That is not my thought. I am talking to those who have come here to succeed in the broad sense that a university like this can help you to succeed by helping you to find and fit the life careers that will give you the satisfaction of using the powers you have to their highest bent.

Will Not Forget 1940

"If ever in later years you recall this convocation, you should, whether you are freshman or senior, never be at a loss to date it as 1940 and for two reasons. One is primarily local to this campus and the other series of events has an import, national and international, which none of us can now appraise correctly. To both I can refer only briefly.

"On October 25, we shall dedicate in a formal way a new co-educational social center for the whole university. As my voice reaches more of you today than it will on that day, I take this occasion to charge all of you, faculty and student body alike, with the care and proper use of the magnificent facilities of the Coffman Memorial Union. Its like in beauty and facilities can be found on few, if any, campuses. It has been made possible by the generous gifts of alumni and friends of the University and by your own contributions. The returns go only to you and your successors for years to come. On you alone, however, falls the sole obligation for setting the traditions for the proper and considerate use of this endowment. It is not only a collective but an individual responsibility to treat the building, its furnishings, and its facilities so that we shall have always the highest standards of social conduct by those who enter its portals. Kipling once said, "Men and women may sometimes after great effort achieve a creditable lie; but a house cannot say anything save the truth of those who have lived in it." I cherish the hope that the truth this building tells about us to visitors and to future generations will reveal our common pride in it and transmit that pride to future generations of students. The care and use of Northrop Memorial Auditorium have given the University of Minnesota a good name throughout the nation. May the truth spoken by the building at the opposite end of the mall add to that good name.

Grave International Crisis

"At the head of the national and international events that should make this year easily identified, I do not put the fact that there is a presidential election in November. Whatever the issues that it may uncover or the emotions it may arouse, they will seem trivial some day even to the most violent partisans beside the implications of peace-time conscription in America and the world conditions that have brought us reluctantly but grimly to such an unprecedented measure. These world conditions were epitomized in an order the other day from the Superintendent of Schools of New York City to buy no more maps; the teachers were to draw outlines on the board that could be changed by the sweep of an eraser and a new piece of chalk. The order was the modern version of the dying Pitt when he heard of Napoleon's victory at Austerlitz: "Roll up the map of Europe. It will be no more use in our day."

"This school order goes farther, for it implies that we should roll up the maps of Asia and Africa as well as Europe. Conscription in peace time in the United States recognizes the hard fact that the way of life we have set up in the Western Continent is no longer secure in a world where ruthless power scorns to keep any international treaty or promise but uses them rather as a means of deception to betray the trusting and unwary. We have seen the nations of like faith with us go down until we were convinced that we must be armed at every point if we are to escape the fate of being devoured last.

"You and I, the people of this whole Northwest and of the nation would have clung if we could to our wonted ways grounded, as they are, deep in the peace-loving and peace-loving days of our nation's past. But the stark realities of what is proclaimed as a revolution to make a new order in the world and the crushing might of the ruthless measures taken to realize it have made hollow all discussion based on the issues in-

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volved in the first World War. We are compelled to see all things in a new light. We have always known that the English Channel was Britain's last line of defense. Only reluctantly have we come to see that in the world of our day it is America's first line.

"If we could imagine someone who knew nothing of the last ten years, who knew only the hopes of the years when treaties and international conferences and cooperation were to evolve a better world order and he were to look at the United States today, he would unhesitatingly say that we were already in the initial stages of war. To him the explanation of why we do not recognize it would be that our opponents have confined themselves to veiled threats awaiting the day when they should be free to make good their words. The coming of that day may be long or short. Its advent will be fixed by their calendar, not ours. Let us hope that the battle of Britain and any measures we can take to sustain England will wipe that day off the totalitarian calendar forever.

Privileges of Democracy Recalled

"These are indeed grave days. The pledge we have repeated at this opening convocation for the last twenty years, takes on a new and more serious meaning than on any previous occasion. It recalls to the thoughtful the privileges and the obligations of life in a democracy. It recalls equally the difficulties that face every citizen in a land where measures of defense put unaccustomed restraints upon the liberty of the individual. These restraints will increase less by laws than they will by reason of the confusion and clamor of an aroused sense of national danger and insecurity. With bombs falling upon London, the English still tolerate the soapbox orators in Hyde Park. We in America are more emotional and less schooled by centuries of history in the preservation of tolerance.

"In two years in Washington during the last war I saw America at its best in unified effort and I saw sometimes as I went about the country on government missions the extreme measures some were willing to take to enforce unity. I saw patriotic men and women misunderstood and misrepresented by rumor and concealed malice. Institutions, however old, and public officials, however high, were not exempt. On the other hand, there were those who were so careless and unaware of the world they were living in that they felt they needed to give no thought to what they said or did. They were really imperiling for themselves and all others the very liberties they believed were as unlimited in war as they were in peace. They failed to recognize that wherever men live together there is no such thing as unrestrained liberty and that, whether we will or no, there is less of it when a nation is at war or living under the threat of it.

"Once again within a generation we see our nation entering what H. G. Wells has called, the darkling wood. There is confusion of thought about paths and the way out, despite the underlying purpose to win through. The old dangers and difficulties for a democracy that desires peace but must be nationally united and prepared for war, will rise again. In the year before us, individuals, institutions, and the whole nation will be faced with decisions requiring all the wisdom and long vision that can be mustered in the hour of need.

"This hour, at the beginning of a critical year in your own and your country's life, is well spent if you go forth with some sense of the gravity of your own responsibilities as students and teachers in an institution of focal interest in times like these.

"May I conclude with three affirmations of my own hopes. I hope that the realities of the shattering events of the last year and your own understanding of America's interests even in a most selfish sense will hush thoughtless chatter

Law School Continues Course of 3 Years

The Law school of the University of Minnesota is continuing a three-year law course for students who enter it with a bachelor's degree, Dean Everett Fraser voted recently, the faculty having voted to postpone immediate operation of a rule adopted two years ago whereby all students would have to take four years of law after getting the academic degree.

Dean Fraser's statement was as follows:

"In view of the delay in entering professional life that will be involved in the selective service act, the University of Minnesota Law school will postpone operation of its rule requiring four years of law school study for students who have a bachelor's degree when they enter the Law School, and will continue the three year course for them.

"The four year requirement first became effective with respect to the present third year class, but those who had a bachelor of arts or equivalent degree when they entered the Law School may be candidates for graduation at the close of this year. For students who do not have a degree when they enter, the law course will continue to be four years."

Faculty Members Help Research Council

Two University of Minnesota faculty members are serving this year on committees of the Social Science Research Council which awards fellowships and grants of several kinds to promising young scholars, some pre-doctoral, some post-doctoral, and others, grants in aid for research. Dr. Richard M. Elliott, head of the department of psychology is a member of the committee on grants in aid. Dean Malcolm M. Willey holds membership on the committee on social science personnel.

about the sins of England's past and stifle admiration for the efficiency of Hitler in destroying the fruits of centuries of civilized living.

"I hope, further, that as we face our national problems you will be fearless in unmasking intolerance wherever it seeks to disguise itself as patriotism.

"Finally, I hope that in your discussions of grave matters of public policy, whether as students or faculty, you will do it with a sense of responsibility and with the full knowledge that a careless act or word by any one of you or any group on a university campus will be more blindly misunderstood than as though you shouted your views in the main street of your home town. A plea for the exercise of good sense on the campus is appropriate in any year. It has more validity now than ever. In making it or in responding to it we in no way obscure our belief that a university is a place where ceaseless labor in winnowing and sifting facts is our mutual obligation as teachers and students.

Obligations of Students

"You as students must recognize that I have a right to ask even more than you have given in the past. I have told your parents and every governmental agency that your pursuit of a college education was for the present the best preparation for participation in any measures of defense to which you may later be summoned. With the approval of the Board of Regents I have pledged the facilities and cooperation of the faculties and staff of the University in aid of every governmental agency that calls on us in the present emergency. I hope that at some not too distant convocation another president may assure you that the clouds have lifted. For today I can only look to you, whether freshmen or faculty, for whole-hearted cooperation. You have never failed to give it in the past, nor will you now.

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Minnesotans Outline Ideal Printed Page

Paterson and Tinker Produce Scientific Analysis of Type Problems

READING SPEEDS USED

Some Long-Held Theories in Typography Questioned by Minnesota Psychologists

Printing specifications for an ideal printed page using double column composition are presented as a feature of a new and scientific study of desirable and undesirable printing techniques by Professors Donald G. Paterson and Miles A. Tinker, University of Minnesota psychologists, which will be published by Harpers this month under the title, "How to Make Type Readable." The Paterson and Tinker book overturns some of the long-held favorite theories about printing effectiveness, but reaches clear-cut conclusions that appeal to the reader experienced in the use of type. "How to Make Type Readable" is the first important, scientific study of printing to be published in many years.

In a conclusion that precedes their presentation of an ideal printed page they warn that "printers should avoid the use of one or more arrangements found in our numerous experiments to be disadvantageous. Small sizes of type, excessively short or excessively long line widths, absence of leading for moderate sized or small sized type, type faces such as Cloister Black and white on black printing are all found to be disadvantageous. As before, paper surface is found relatively unimportant."

Satisfactory Arrangements

In a tabular summary of typographical recommendations they suggest the following as "satisfactory printing arrangements:"

Style of type face: Any commonly used modern or ultra modern type face; type form: caps and lower case, bold face for emphasis and for reading at a distance, italics for emphasis only; size of type: Nine, 10, 11 or 12 point, leaded and in optimal line widths; width of line: moderate line widths (in neighborhood of 19 picas); leading in relation to type size and line width: two point leading recommended for type from six through eleven point, with line widths of 14 to 28 picas, except that eleven point type should be used in 16 to 28 pica line widths. From 12 point up, leading becomes less necessary than in the use of smaller faces. Margins should be three-quarter inches for inner margin and one-quarter inch for others. The study also shows that paper surface makes relatively little difference to the speed of reading.

Printing specification for the "ideal" book page give a clue to printing effectiveness on pages of other sizes. The following arrangements are suggested as "ideal:" (in double column composition)

Style of type face: Cheltenham or Antique.

Size of type for text: 11 point.

Line width: 19 picas.

Leading: 2 points.

Paper surface: Dull finish opaque paper stock.

Width of inside margin: three-fourths inch; other margins, one-fourth inch.

Inter-columnar space: one-half pica (no rule)

Total page size: 7% by 9½.

Running heads: Caps and lower case.

Paragraph headings, if used: caps and lower case in bold face.

Color of ink: Jobbing black.

Footnotes: 8 point, leaded one point, 19 pica line width.

Chapter headings: Cheltenham or Antique, 14 point, bold face, caps and lower case, centered on page; Chapter numbers, same types, Arabic, 14 point bold face.

Continued on page 2, column 4

Will Minnesota Students Use New Coffman Memorial Union?



This view of the first dance in the ballroom of the new building seems to answer all of the questions.

Discusses Chemistry Within the Atom In Presidential Address Before A.C.S.

Dr. Lind, Dean of Institute of Technology, Speaks as Head of National Scientific Body

With the permission of scientific journals in which his address has appeared or will appear, Minnesota Chats reprints herewith the major part of the paper delivered by Dr. Samuel Colville Lind, dean of the University of Minnesota's Institute of Technology, which was the presidential address before the American Chemical Society at its late summer meeting.

One of the leading American chemists, Dean Lind has specialized in the study of radium and radio-active substances. He came to Minnesota from the United States Bureau of Standards to head the School of Chemistry before the Institute of Technology was formed. Since the organization of the latter, he has been its head.

Dean Lind said:

In our present age we have become accustomed to a continual acceleration in the development of all phases of human activity. A "Blitzkrieg" in international affairs is but one of the many manifestations of this acceleration.

In the realm of science, particularly in that of chemistry and physics, the rate of development has been no less phenomenal. It is not my purpose to discuss whether there is a direct relation between the two, or to try to determine what effect the advances of science have on our economic, social and political life, but rather to invite your attention to a portion of science which is so far removed from the world surrounding it that it has almost, though not wholly, escaped the attention of those who make wars. Its only applications to human affairs have been beneficent ones. You may well wonder what branch of science has enjoyed such isolation that it could not be twisted or abused to render disservice to mankind instead of service. You may be surprised that this oasis is at the heart of chemistry far inside the atom.

Paradoxical as it may seem, a half century ago, the inside of the atom was more unknown to us than the distant stars. I suppose the antithesis of a vacuum would be absolute solidity of matter. Such the atom was supposed to be.

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We know now how wide of the truth this conception has been found to be, but it required several years after the first messages from the interior of the atom before its structure began to be revealed.

It is not yet a half century since the first signals from far inside the atom were detected by Roentgen in the form of x-rays. Though the analogy is by no means perfect, one might say that they were the echo from the bombardment of inner electrons by electrons in electrical discharge in the form of cathode rays. The use of this terminology anticipates the actual discovery of the electron by J. J. Thomson which did not occur until two years later. And of course it was several more years before x-rays were identified as electromagnetic pulses of short wavelength.

It was in 1896, the year between the discovery of x-rays and of the electron, that Becquerel discovered the first spontaneous messages from within the atom, spontaneous in the sense that they came without any external stimulation and had been coming undetected throughout the ages. Their emission is at the expense of the internal energy of the atom, which must be enormously great, both qualitatively and quantitatively. To this I shall refer again.

The spontaneous emission of energy from atoms takes three forms, the one like x-rays (v-rays) another in the form of electrons (b-rays) and the third in the form of alpha rays (helium nuclei).

In 1898 Pierre and Mme. Curie discovered and separated radium. In 1902 Rutherford and Soddy announced spontaneous atomic disintegration to be the cause of radioactivity, the emission of rays or particles being the accompaniment of the disruption.

In the next few years there followed the discovery of about forty radioactive elements belonging to three different series or families, two of them having their origin in the previously known element uranium, in which Becquerel had just detected radioactivity, and the other from thorium, which Mme. Curie and Schmidt had independently discovered to be radioactive. These two elements are the primordial sources of natural radioactivity on the earth. Both have

Continued on page 3, column 1

Dad's Day Plans Set for Saturday And Purdue Game

All activities of the seventeenth annual University of Minnesota Dad's Day, scheduled for Saturday, November 16, will center in the new Coffman Memorial Union, except for the Purdue football game and campus tours, Dean Edward E. Nicholson announced last night. Because of the strong interest in university activities evidenced this year a record attendance is looked for, he said.

Judge Gunnar Nordbye of Minneapolis, member of the federal district bench, has been asked to speak on behalf of the dads. Victor Jung of Thief River Falls, president of the All-University Student Council, will welcome the visitors on behalf of the student body. The closing address by President Guy Stanton Ford, will sum up for the fathers the present status of the university and will lay before them a discussion of points on which their cooperation is needed.

Edward F. Flynn of St. Paul, president of the Minnesota Dads association, Dean Anne Dudley Blitz and Dean Edward B. Nicholson, will also discuss university matters from their several points of view.

Mr. Flynn will preside at the meeting of the Dad's association that will precede the dinner. Both the meeting and dinner will be in the main ballroom of the Coffman Memorial Union.

Fathers of students will register in the Coffman Memorial Union upon arrival. In tours of the campus they will be accompanied by son or daughter or taken in charge by the guide service of The Minnesota Foundation. Harvey Stenson of the Union staff is in charge of registration. On the committee are Victor Jung, Victor Cohn, Virginia Hoffstrom, Bernie Eliason, Dorothy Miller and Marjorie Johans, students, and Dean Nicholson, Dean Blitz, L. H. Harden, E. B. Pierce, T. E. Steward, Carroll S. Geddes, G. Ray Higgins and Harvey Stenson, staff members.

Dr. Diehl Honored

Dr. Harold S. Diehl, dean of the medical sciences at the University of Minnesota, has been elected to the executive council of the Association of American Medical Colleges. His election took place recently while he was attending a meeting of the association at Ann Arbor.

Education Analyzed by 'U' Librarian

Frank K. Walter Speaks as President of Phi Beta Kappa Chapter

HIGHWAY OR DEAD END

Impressive Overview of Varying Educational Fields and Efforts Given

Apt and in many instances outspoken comments on typical situations in the educational world marked the interesting Phi Beta Kappa address delivered at the close of the past college year by Frank K. Walter, University of Minnesota librarian. It is the custom of that oldest of the honor societies to have the president of each chapter deliver a scholarly address on the occasion of the annual meeting early in June. "Highway or Dead End?" was the topic selected. Mr. Walter's address will be printed in two parts of Minnesota Chats, the first installment being as follows:

Highway or Dead End?

"You may perhaps pardon an illusion to a somewhat distressing experience that occurred in connection with the formal dedication of the Arthur Upson Room in the University Library. In his official acceptance of the room for the library, the University Librarian remarked: 'No modern proponent of large amounts of either voluntary or prescribed reading has improved the well-known statement of Lord Bacon, which is all the more true because it is hackneyed, that 'some books are to be tasted, others to be swallowed and some few to be chewed and digested.' The speaker should have remembered that the final address was to be given by the late Oscar W. Firkins, whose wit seldom missed a chance at an easy target. Mr. Firkins began:

"The other speakers have raided my topics and pillaged my ideas, and the only indemnity I shall ever get for these deprivations is the consoling observation of Mr. Walter that the more hackneyed a truth is the truer it becomes. The remarks that I am about to make have been growing truer and truer since half-past eight o'clock this evening (the time the speaking began.)

"The wheels of time have brought me into the same predicament in which Mr. Firkins then was. The annual recurrence of Phi Beta Kappa meetings has given not only a semi-liturgical character to the official ceremonies but a striking similarity in treatment to the addresses which more or less bring the meetings to similar oratorical climaxes. This society depends for its value on its adherence to its professed purpose of scholarship as a guide to life. To a surprising degree the problems of life remain the same however much they are affected by circumstance. They will continue to do so as long as humanity remains human. There will be depressions as well as elevations in the curve of social progress. Such a retrogression in ideals seems actually in progress throughout the world at present. Mass murder in the name of national honor; attacks on national health, happiness and security in the name of necessity; and at least apparent temporary abandonment of spiritual values won only by centuries of struggle are current problems, not mere matters of historical research. There is a growing conviction that the entire world, neutral as well as belligerent, not only will lose but is losing much that we had considered essential to human progress.

"In all this there is nothing new. We face a recurrence of old problems under new conditions in which we have believed such revival impossible. We must admit the vitality of tendencies we thought checked, if not eradicated.

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Jessup Address Dedicates Union

Intimate of the Late Dr. Coffman Praises Him in Exercises at Memorial Building

High tribute was paid to the late President Lotus D. Coffman of the University of Minnesota by Dr. Walter A. Jessup, president of the Carnegie Foundation for the Advancement of Teaching when he spoke October 25 at the dedication of the new Coffman Memorial Union on the campus. Dr. Jessup and Dr. Coffman were close friends for many years. Regent Fred B. Snyder accepted the building from a representative of PWA, while President Guy Stanton Ford presided.

"We are met in this formal fashion to take official note of the completion of this beautiful building, a building that will come to be the hearthstone of the University, a place for meeting people, a place where friendships are made," said Dr. Jessup. "This Coffman Memorial building will come to be precious in the hearts of the students and alumni. This Union will become the spiritual centre of Minnesota."

"As we look about us, we see on every hand evidence of the skill of the architect, the engineer, and the artist. We marvel at the structure's practicability and beauty. Those of us who are materially minded are somewhat amazed that students, staff, and regents could finance an enterprise of such magnitude. Even a neophyte in such matters must realize that the Union entailed an investment of literally millions of dollars, each dollar representing either the labor or the sacrifice of someone. It is an impressive fact that this represents money drawn not only from dues and gifts but also from taxpayers of this State. Through a Federal grant to the building, taxpayers from every city and state in the nation have contributed a share of the cost. This is a typically American undertaking in that the last is the best. We are told that this is the most complete student building in existence. Minnesota is to be congratulated."

"The Coffman Memorial Building is so commanding in its physical aspects, it occupies so large a place on the campus, that it is almost overpowering. There will be some who will see only this physical side of the Union. But as a building only, it would be unworthy of a place on the campus of a great university. Certainly as a building only, it would not merit being called the Coffman Memorial. But it will—it must mean more than this. In order that there may be no doubt of its significance in the life of the University, we come together today formally to dedicate the enterprise to a high purpose, that it may be a contributing factor to the development of an ever finer personality for the Minnesota man and the Minnesota woman."

"This building is opened in 1940, but it is not a product of 1940, or even of this decade. This Union is the outcome of visions long cherished; earlier generations of students dreamed of this building. Indeed the plans of which it is the consummation were laid nearly thirty years ago. This structure did not spring into existence as an expression of newly discovered need. It has come into being through years of planning, adjusting, promotion — years during which the friends of the idea, despite all discouragement, have held fast until this hour of triumph when its embodiment of the idea is a reality. All honor to those who have shared in even the smallest part of the enterprise."

In every undertaking there is always someone who has been able to keep the thing alive, someone who could not be cast down by difficulties, postponements, or even temporary failure. These men are our leaders whom we delight to honor. For this reason, the Regents of the University have designated this the Coffman Memorial Union. Nothing could be more fitting. Mr. Coffman dreamed and schemed about this idea during all of his long administration as president of the University. How happy we are that President Ford and his colleagues have been able to carry it to its present state of completion!

"A hearthstone is a friendly place. The Coffman Memorial Union will attain its highest purpose as it contributes to the founding of rich and lasting friendship. How fitting it is that the building will bear always the name of one of the friendliest men who ever

Speakers at Union Dedication Ceremony



Left to right are Dr. Walter A. Jessup, the speaker; President Guy Stanton Ford, who presided; L. F. Wysocky, representative of the Public Works Administration, and Regent Fred B. Snyder, who accepted the building from PWA.

lived! Lotus Coffman stands out in the history of the University as a great administrative officer, whose educational statesmanship was recognized in the State and throughout our nation, but he might have attained that distinction and still not have been the great personality that he was had it not been for his boundless capacity for friendship. He might have been a great educational statesman and still not have lived in the hearts of his fellowmen. Lotus Coffman was not that kind of man. He had a permanent curiosity and interest in his neighbor. He loved to visit. He loved to argue. He loved to challenge ideas in a spirit of enthusiasm that could never be forgotten. He not only entered into this friendly relationship with his peers as to time and place, but set up shop wherever he happened to be, on the travelled routes of mankind or in the highways and byways, with old or young, high or low.

This Union will afford opportunities for endless discussion or the exploration of ideas by persons whose approaches will be at the utmost variance. How Dr. Coffman would have loved the chance to take part in these pow-wows!

"I wish you could have known him as I knew him. Our friendship began while we were school superintendents in Indiana. Presently

we were graduate students together. Then we were deans of education together at the Universities of Indiana and Illinois, then at Iowa and Minnesota, then presidents, respectively, at Minnesota and Iowa. We started to pass part of our vacations together nearly thirty years ago. Later, we became summer neighbors on the shore of one of the Minnesota lakes where we spent long, happy days, visiting, arguing, fishing. We travelled together to innumerable professional meetings, on fishing trips, and to foreign shores. I wish you could have known him as a fisherman, tough enough to stand all of the hardships of one day but always ready for the next. As a competitor in camp sports he was a fighter whose spirit could never down.

"A keen student, a critical analyst of the problems of the time, —where could one find such another friend! His entire life was marked by these characteristics, whether in a seminar, on a national platform, on a golf course, or in a faculty meeting, at a meeting of the Board of Regents, or before a legislative assembly.

"Lotus Coffman breathed at all times the spirit of democracy. He was democratic in his approach to personal problems as well as to those of society as a whole. More clearly than most men, he saw the

significance of freedom of speech and of thought for the welfare and even the existence of the University. In his last annual report he discussed at length these issues of democracy when he said:

"In education, as elsewhere, freedom is not a right but a privilege to be earned. The real meaning of freedom will be lost for youth if they are not taught or do not learn the importance of social and personal obligations. Desire for expression must be tempered by a recognition of duty and responsibility. Human lives are enriched and freed only as they share in the larger social values of the world about them. Education will make its largest contribution to a free society only when there is a proper recognition of responsibility . . . Whether the integrity of democracy can be preserved will depend upon many forces and conditions that lie outside of university circles. One thing, however, is certain: It cannot be preserved if there is infringement of the liberties of our universities. And universities must remember this truth themselves. To the extent that they become special pleaders they cease to be the servants of democracy . . . The essence of democracy is an enlightened "give and take" . . . There should be a ferment in every university—not political, not social, not religious—but a ferment arising from an inner urge to learn, to interpret, to discover new knowledge. The unrest in a university should be the unrest of scholarship concerned with achievement, with mastery, with understanding, and with wisdom."

"Lotus Coffman's vision of his University of Minnesota knew no bounds—great in staff, great in students, a place where human personality might enjoy its finest expression and the human spirit a perfect home."

Willey Report Shows Lecture Program Vast

A total of 911 lectures were delivered by 824 individuals on the University of Minnesota campus last year in addition to the thousands of classroom meetings in the regular program of instruction. These were reported by Dean Malcolm M. Willey at a recent meeting. All of these lectures were open to the public and of the number 25 were convocations in Northrop Memorial Auditorium. At 23 of these speakers from outside addressed the student body and at two, the opening convocation and the football recognition meeting, President Guy Stanton Ford was the speaker.

Said Dean Willey's report:

"Of the 911 lectures given on the campus 385 were by members of the academic staff. If duplicate appearances by staff members are eliminated we find that 291 individuals participated. The extent to which university staff members present lectures on the campus that are open to the public is not fully understood by the public, I am sure."

"It is, however, a sign of intellectual alertness and shows a willingness on the part of the staff to cooperate in discussing and analyzing questions that are of interest. Such sharing of ideas is an important function of a university and it is evident that here at the University of Minnesota it is being ably performed. Here, unquestionably, is one contributing factor to the vitality of this institution. Add to this faculty discussion the lectures by non-campus men and women and it is not difficult to understand why visitors to the University of Minnesota are impressed by the intellectual ferment of which they constantly speak."

hensive and systematic study arises," they say, "from the lack of an adequate basis in the technical literature for painting practice. Furthermore, writers have over-emphasized Roethlein's classical study, which unfortunately gives information only about the legibility of printing read at a distance.—A careful study of Pyke's excellent summary of the literature, published in 1926, will convince any student of typography that the field is complex and is characterized by mere opinion and unfounded generalizations."

Some General Conclusions

General conclusions of these researchers, with advancement or retardation of reading speed, carefully measured by laboratory technique, as the criterion, include the following: Type faces in common use are equally legible; typewriter face and Cloister Black greatly retard reading speed; readers prefer a modern face that appears to border on bold face; it is for this reason that Cheltenham and Antique were used in the ideal recommendations. Use of small type in a long line retards reading speed. In type sizes below eight point, absence of leading is a hindrance to reading speed. In general, leading and paper stock are minor factors as related to reading speed, although in a test long continued it is possible that a highly glazed paper might cause eye-strain and thus reduce speed. Ultra modern type does not retard reading speed much; on the other hand, Old English has a pronounced retarding effect. One should avoid printing in "all capitals." Readers don't like them and they slow down reading. Italics can be read almost as fast as lower-case roman, but readers shy away from them. They also think bold face hard to read, although the tests did not show it to be so.

Type faces smaller than eight point and above 12 point are quite unsatisfactory, according to Paterson and Tinker, that is, for books, technical magazines and the like. Many examples are given of good type widths, a satisfactory example being 10 point type set solid in widths of 17 to 28 picas, which is found equally legible in those varying widths.

Of color these researchers point out that contrast in brightness is the main factor. Black on white is the ideal. White on black is almost impossible to read. Dark types on light papers are more legible than, say, printing a tint on a tint, or a shade on a shade. A shade in color, printed on a tint, is more legible and therefore yields quicker results in reading than a less contrasting arrangement.

Printing Study Sets Page Ideal

Continued from page 1, column 1. Recommendations for tables also are given.

Have Long Experience

Drs. Tinker and Paterson have been engaged individually and together on studies of type effectiveness, speed of reading, and lighting effects for many years, the latter two aspects being especially Professor Tinker's field. In it he has developed laboratory techniques and special instruments to photograph eye movements and to record reading speeds and reading idiosyncracies with accuracy.

The care with which these two went about their work, which they began in 1927, is shown by the fact that even after they had simplified their procedures they had to conduct some 45 experiments, each ranging in number of subjects from 200 to 10,000. A total of 66,062 reading tests were given to 33,031 individuals. Because of the vast number of type faces in use, any attempt to cover large numbers of faces would have made prohibitive demands on time, and they therefore chose as typical, and restricted their work to, Scotch-Roman and Granjon type faces.

"The need for such a compre-

Prominent Members of Minnesota Military Hospital



Dr. Gerald T. Evans



Dr. James S. MacCartney



Dr. Earle W. Nelson

Dr. MacCartney has been appointed commandant of the United States General Hospital No. 26 which has been organized in the Medical School of the University of Minnesota. Dr. Evans heads the laboratory unit and Dr. Nelson dental service.

S. C. Lind Discusses Chemistry of Atom

Continued from page 1, column 3

very long lives; otherwise they could not have persisted through geological ages. Neither of them is yet one fourth exhausted. Potassium should also be mentioned. Although but a feeble emitter of atomic energy, its great abundance in the earth's crust makes it an equally important geophysical source of energy.

The existence of the three radioactive series, each with a dozen or more successive genetically dependent members, is met only among the heavier atomic species. Although artificial radioactive species are now far more numerous throughout the entire range of atoms, heavy and light, the existence of genetic chains of any length is limited to the three natural series.

In 1912 Rutherford conceived the existence of the nucleus of the atom. It is quite impossible to over-estimate the fundamental and far-reaching importance of this conception. It at once led to the Bohr hypothesis of electronic orbits and energy levels which afforded the key to spectroscopy. Only the neutron, found in 1932 by Chadwick, was needed to complete the picture of isotopes and the general ideas of atomic and nuclear structure.

But long before this in 1919 Rutherford had disrupted the nucleus artificially by alpha particle bombardment. This demonstrated that the nucleus could be attacked successfully from the outside as well as disrupted by its own internal forces.

But this artificial disruption still had to employ as its agent alpha particles from natural radioactive sources. It also lacked the most important characteristic of radioactivity. Its reactions were immediate. As soon as the bombarding agent penetrated the nucleus, disruption ensued without forming any intermediate product of definite life span. And this was found to be true although it was known that the alpha particle not only entered the nucleus but was permanently captured by it.

In 1933 Cockcroft and Walton, working in Rutherford's laboratory in Cambridge, made the atomic disruption completely artificial by employing, instead of the alpha particle from a natural radioactive source, the nucleus of the hydrogen atom or the proton, accelerated in a high voltage field obtained by the use of electrical transformers. This was soon followed by the invention of much more powerful and more convenient means of obtaining high fields—the cyclotron of Lawrence and the electrostatic generator of Van de Graaff. Also new projectiles were available in Urey's deuterium and the artificial alpha particles or helium nuclei. And as a by-product of certain bombardments or of some of the artificial radioactive reactions Chadwick's neutron was found by Fermi to be capable of entering any nucleus no matter how large or how great the nuclear charge. This possibility of course comes from the fact that the neutron having no electrical charge is not repelled on approaching a nucleus with positive charge proportional to its atomic number or the number of protons contained.

In 1934 artificial radioactivity was discovered by P. Curie and F. Joliot. In the bombardment of certain light nuclei by alpha particles they discovered intermediate products which continued to emit particles after removal from the source of bombardment. This was true artificial radioactivity for the first time.

The application of other bombarding agents—the proton, the deuteron, the slow neutron, the helium nucleus—soon followed with astonishingly fruitful results. More than seven hundred nuclear transformations have been brought about in practically all the atomic species. Nearly half of these nuclear reactions have produced new radioactive isotopes. About 20 classes of reactions have been established, based on the character of the projectile used and the type of the subsequent emission of particles and energy.

The new artificial radioactive atoms, like the older ones, undergo transmutation, accompanied by the emission of some kind of particle with or without a simultaneous emission of gamma radiation, into a stable isotope of a neighboring element. The lack of chain or series activity has already been

mentioned. A greater variety of particle emissions is observed than in natural radioactivity: protons, positrons, deuterons and neutrons in addition to the alpha, beta and gamma emissions from the natural radioactive elements. In addition, the gamma radiation exhibits a much wider range of energy.

It is not too much to say that these reactions within the atoms, in the nucleus, present a wholly new field of chemistry. In the short space of five years ten times more artificial radioactive species have been produced and identified than we previously had of the natural kind, and this in spite of the fact that we have not had good means of detecting either the very short-lived or the very long-lived species like those which exist in nature. Of course the absence of other long-lived radioactive atoms in nature itself indicates that there are no others in any abundance with lives longer than the age of the earth, else they would, if existent, have survived and been discovered.

In this connection it is interesting to observe that nearly all the new artificial isotopes have masses that fit into the missing mass numbers among the known stable isotopes of any given atom. This is assuming that only one isotope of the same mass can have any existence in time. Or in other words, there can be only one stable nuclear structure made up of a given number of protons and of neutrons. While this rule that there can be no nuclear isomers is quite general, there are some definite exceptions which are becoming more numerous.

When one speaks of the atomic mass of any isotopic species of an artificial radioactive element, it is not implied that enough of any such element has been produced to measure the atomic mass by any means—not even by means of the mass spectrograph. The atomic mass of these new rare species is therefore a matter of deduction from a number of applicable principles, one of the most useful of which is the Einstein equation for the conversion of mass to energy or vice versa.

The relative atomic weights that are determined by the mass energy balance of Einstein represent by far the most refined atomic measurements that we possess. Their continued extension from the fourth to the fifth and sixth decimal places is no longer a matter of surprise.

When such a large quantity of energy is equivalent to so small an amount of mass as represented in the Einstein equation the determination of the energy even crudely suffices to give relative masses with extraordinary accuracy.

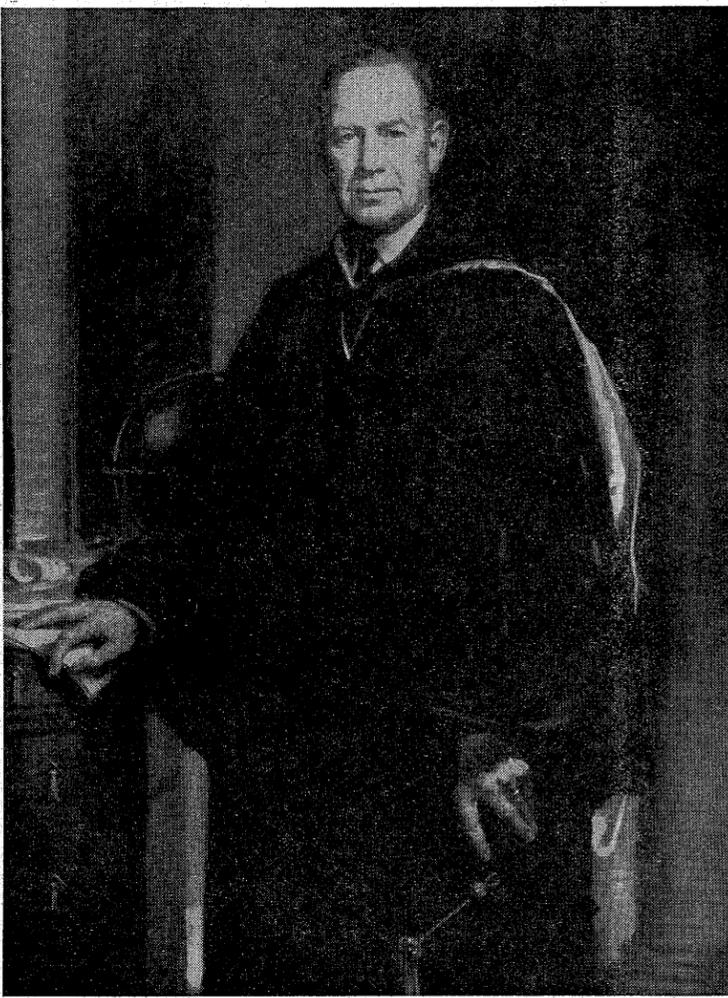
In all the nuclear reactions of atomic disruptions that we have discussed so far or that were known up to the beginning of 1939, the change in the nucleus was accompanied by the emission of particles of small mass, as electrons, a positron, a proton or a neutron; and only one of these for each atom disrupted. The alpha particle was the heaviest particle known to be emitted from the nucleus. In fact the amount of energy necessary for the ejection of a heavy particle from the nucleus would have been regarded as impossibly high.

Apparently no one had seriously considered the possibility that the nucleus might be split into two more or less equal parts; but that is exactly the interpretation of the reactions which certain uranium or thorium atoms undergo when the nucleus is entered by a neutron of slow speed.

In his studies of the action of neutrons on atoms of high atomic weight, Fermi had discovered that uranium atoms, as well as those of thorium, show exceptional behavior after their nuclei are pierced by slow neutrons, in that they exhibit radioactive properties accompanied by or consisting of a multiple emission of neutrons with extremely high velocity—three of the high-speed ones for one initial slow one. This represents a great gain or multiplication of energy at the expense of the intra-atomic energy. In addition there was a successive emission of electrons or beta particles.

It was at first thought that these phenomena could be interpreted as the production of a series of transuranian elements with atomic numbers 93, 94, 95, 96 and 97. Subsequently Hahn and Strassmann found that the new elements were not transuranian but were new radioactive isotopes of atomic number a little more and correspondingly a little less

Namesake's Portrait Decorates Building



This painting of the late Dr. L. D. Coffman, by Johansson, a widely-known Danish-born artist, hangs in the main lobby of the Coffman Memorial Union. One of Mrs. Coffman faces it from the opposite wall. The pictures were bought with funds in a special fund created some years ago by faculty members.

than half the original atomic number of uranium.

In these reactions the multiple emission of neutrons and the successive emissions of electrons both are understood if one recalls the ratio of neutrons to protons in normal atoms as a function of their atomic number or mass. In the light atoms the ratio is unity, one neutron for each proton as evidenced by the atomic mass being just twice the atomic number for the light atoms. With increasing atomic mass the ratio of neutrons to protons increases steadily and reaches the value 1.6 for heavy atoms like uranium. If then a heavy atom could be split into two nearly equal parts, each part would have a large excess of neutrons over protons and hence a tendency to get rid of neutrons. This can be done in two ways: either by their ejection from the nucleus, hence their multiple emission; or by their conversion into protons with liberation of electrons, hence the successive beta ray emissions. The result of the bombardment of uranium by slow-speed neutrons is the splitting of the atom, termed fission, with the production of some new radioactive elements about midway in the periodic system, and the liberation of an astonishingly high amount of energy.

It is the latter which has recently attracted attention as a possible source of intra-atomic energy that might be utilized as a practical source of power.

The multiplication of neutrons was found to be in the ratio of three emitted for one absorbed. Evidently if this should be continued into a chain process of any length the multiplication of energy liberated would lead to explosive reaction. It was even feared, under the supposition that ordinary atoms of U-238 were responsible for the reaction, that it would be dangerous to have a large amount of pure uranium collected at one time and one place. This supposition could be set aside, however, in the light of the experience of the U. S. Bureau of Mines which at one time had and kept in Colorado for some years several tons of 100 per cent uranium oxide without any unusual consequences.

The question then became whether one of the rarer isotopes of uranium might not be responsible for the behavior just discussed. Besides U-238, the common isotope of uranium, there are two others, U-235, long known as the head of actinium series which occurs in the proportion 1 U-235 to 139 U-238; and U-234 known in the uranium family as U-11, the immediate parent of ionium, with an abundance of 1 U-234 to about 4500 U-238 or about 3 per

Participation In Athletics Report Subject

You don't have to be a star half-back or a high-scoring basketball center to participate in the intercollegiate athletic program at the University of Minnesota. A report issued at the University shows that 1,627 men received athletic instruction in the 10 sports on the intercollegiate schedule during the year 1939-40.

Duplications caused by men participating in more than one sport cut this total somewhat, but the annual report, presented to the University Senate by E. B. Pierce, chairman of the senate committee on intercollegiate athletics, lists 627 varsity candidates and 1,000 freshmen competitors.

Out of this total, 195 athletes had competition in one or more of the 115 games played by Minnesota teams last year and 128 won the 'M' monogram. There were 228 freshmen who won numeral awards for their participation on first-year squads.

All Minnesota teams compiled a winning percentage of .690 during the year, winning 78 times, losing 35 and having two ties. The championship hockey team with 18 consecutive wins and no defeats led the list, followed in order by the wrestling team, which won seven meets and lost one.

Press Books Displayed

University of Minnesota Press books will be featured by Minnesota book stores and others throughout the country in November. The titles to be displayed are "The Geese Fly High," and "Canoe Country" by Florence Page Jaques, illustrated by Francis Lee Jaques, "Bird Portraits in Color," edited by Roberts and illustrated by Jaques and others, "295 American Birds" by Roberts with illustrations by Jaques and others. Francis Lee Jaques, the country's leading bird artist, has illustrated a number of books for the Minnesota Press.

Researcher Speaks to Chemists

W. Z. Friend of the development and research division of the International Nickel Company, Inc., was the speaker at the first regular meeting this year of the Minnesota chapter, American Chemical Society. The group met in Coffman Memorial Union. Dr. Friend discussed practical aspects of galvanic corrosion, saying that it is controlled largely by the ratio of anode-cathode areas, the resistance of the circuit and the conductivity of the solution. His talk was illustrated with slides.

is retarded or stopped. This seems simple enough for adequate control, but what practical difficulties may intervene in large-scale operation if and when we have pounds of pure U-235 remains to be seen.

But whether or not the nucleus of the atom ever becomes an available source of intra-atomic energy, it has already furnished us one of the most interesting chapters of chemical science. A finer illustration of man's persistence and perspicacity can scarcely be found. The challenge of the atom has been met, the impenetrability of the nucleus has been conquered.

That these triumphs extend far beyond the bounds of chemistry and physics is well known to you all. The new elements are used as tracer elements in the fields of biology, botany, medicine and genetics. Even the age and energy of both the earth and sun are no longer mysteries.

But of greatest importance to the chemist is the new knowledge of atoms of different elements and their relation to each other. Prout's hypothesis has been more than justified. The Periodic System has been elucidated and extended. The nature of isotopes is no longer a mystery; even progress in their separation is being made.

It is well to keep in mind, however, that reactions resulting from bombardment occur in infinitesimally small amounts. A very small target is being shot at. Most of the projectiles fly wide of the mark. The neutron, however, has new and astounding properties of great promise. It must, however, be obtained through some nuclear reaction of bombardment with all the attendant inefficiency.

These difficulties, however, challenge but do not discourage the scientist. When he has once found the way to the nucleus, the heart of the atom, he will never give up until this new field of chemistry is in complete surrender to the scientific "Blitzkrieg."

F. K. Walter, Librarian, Analyzes Education's Problems

Continued from page 1, column 5

cated. We see theories developed under conditions of comfort and security, fail under the assault of national emergencies we never anticipated. If anything is certain it is the need of new appraisals of the value and place of scholarship in a world desperately in need both of enlightened mass guidance and individual service. It is almost equally certain that these appraisals are in active operation. So far they are resulting in increased confusion rather than practicable agreement. Many of the proposed solutions of our plight clearly belong to the lunatic fringe which Theodore Roosevelt said was inseparable from every reform. Other solutions, though more intelligent, seem only slightly more workable in a period which demands emergency social surgery rather than a prolonged intellectual rest cure.

"Love of True Knowledge"

"If philosophy, in the meaning implied in the motto of Phi Beta Kappa, is to be the guide the motto asserts it to be, it must include not only its most literal meaning, "love of knowledge," but the other commonly implied meaning of the literal sense of philosophy, "a love of true knowledge." A guide must not only be willing to go with those he guides. He must know where he and they are going or, at least, know where he intends to go and how to get there. He must know the highway as well as the abandoned detour or the dead end of limited usefulness.

"There is little serious disagreement over the real purpose of education. The founders of Phi Beta Kappa and the most advanced progressive educationist agree that it is a life-long process, whether the purpose be the training of scholars or professional men or craftsmen or for other vocations or for individual mental and moral well-being. To one not primarily engaged in present-day instruction it may sometimes seem that there are important differences in the extreme views as to how philosophy should guide. At one end are those who believe with Plato "That in the production of handicraft arts, one part is more akin to knowledge, and the other less: and the one part may be regarded as the purer and the other less pure . . . If, then, we consider which are the truest sections of each, and begin by mingling them, will not the union of them give us the loveliest of lives, or shall we still want some elements of another kind?"

"On the other hand is this statement of the present United States Commissioner of Education: "Educational objectives may fall into four great groups: the objectives of self-realization; the objectives of human relationship; the objectives of economic efficiency; the objectives of civic responsibility . . . The school is only one of the many educational influences in these various fields of human life. Its responsibility extends to all of these areas, but in some areas the weight of education rests on the school more exclusively than in others. The role of the school is especially definite in preparing for civic responsibility. It must concern itself with loyalty to society as a whole rather than to the political manifestations of society as revealed in any single institution. Vested control of this function by the political state leads to dictatorship. The field of human relationship is shared by the school, the home, and the rest of the environment. Education in the field of self-realization or personal development is coming to be more and more a duty of the schools although much of this responsibility necessarily inheres in the home and the church. Under modern economic and industrial conditions, preparation for economic efficiency is largely a function of the school."

"Still others seem to see in education the liberation of restraints on individual self-expression. To be sure, even these advocates of uninhibited or mildly inhibited freedom usually admit the need of directing the freed impulses into constructive rather than destructive channels and they rather generally attempt to determine or at least indicate what these channels shall be. Unfortunately, quite as much as in the case of the repressive educator, the liberal educationist sometimes fails to provide the proper channels in advance or he underestimates his ability to guide the freed ten-

dencies in the pre-arranged directions and to the desired results.

Two Types of Education

"There is fairly general agreement that there are two basic types of education which must be considered: general and specialized or, if you prefer another division, cultural and vocational. The disagreement begins when an attempt is made to determine their respective fields. Very recently an excellent report on a desirable educational policy for a prominent university was made to an important faculty committee. The duty of the university to provide general education for a vast number of those who could not profit much from higher professional or vocational training was stressed. The report was admirable and generally approved by the group to which it was presented. The doubting Thomas who is ubiquitous on faculty committees asked, 'Just how do you define general education?' The reporter smiled and replied: 'We haven't got to the definition as yet, but we do recognize the need.'

"President Hutchins of the University of Chicago advocates a similar solution: a two-year course of general education. But he adds: "Our notion of democracy leads us to the view that everybody is entitled to the same amount and to the same kind of education. This is reflected in our national passion for degrees, a passion which the late Barrett Wendell hoped to assuage by conferring the Bachelor's degree on every American citizen at birth. My judgment is that we cannot expect students who should leave at the end of the sophomore year to depart in peace unless that degree is conferred upon them at that time."

"If we confer it at that time, what shall it represent? It should represent a good general education. We do not know what a good general education is. We do not know how to communicate it to those who cannot read. We must find out the answers to both these questions. It is possible that if we can discover what a general education is the problem of communication may partially solve itself; for it might be that the first fruits of an intelligible curriculum would be an interest in understanding it, even on pain of doing so through books. Democracy should mean that this curriculum from beginning to end is open to everybody. Adjustments to individual capacities should be made by permitting the student to proceed at his own pace, taking the examinations whenever in his opinion he is ready to take them."

"Phi Beta Kappa is in substantially the same position. In determining eligibility, the membership committees have been forced to put up a barrier of rather arbitrary standards to determine what subjects are cultural so that the credits received from them, (I use the term 'credits' rather than the term 'culture' which like a nonfilterable virus, has so far escaped positive identification by statistical investigation), may serve as a standard for scholarship. It may be an irrelevant point of view that finds amusement as well as illustration in the reverse attitudes of our two leading honor societies: Phi Beta Kappa and Sigma Xi. We point with pride to two of our present officials who have deservedly won their respective laurels in chemistry and geology. A few psychologists of the newer schools and now and then an administrator who has admittedly advanced scientific research may gain a precarious footing in Sigma Xi, but they who hunt there for historians or philologists or literary critics or even the economist will find the search almost as long and fruitless as the search for the portrait of Herve Riel on the walls of the Louvre. *Philosophia* may include *scientia* but present-day *scientia* is unwilling to accept *philosophia* as an equal.

Growth of Educational Effort

"The increase in enrollments in colleges and universities needs no comment here. We can take it for granted. If the percentile, the median, the curve of frequency, and the other techniques of such present potency in social studies as well as in the material sciences, are adequate guides, scholarship is increasing. Given suitable premises, it can be proved, for example, by the crowded classroom, the growing inadequacy of laboratory space, the congested and often tumultuous reading-

rooms and corridors of libraries theoretically devoted to quiet, uninterrupted study. We have actually reached in measureable degree the condition untruthfully attributed to a famous Chicago millionaire industrialist some decades ago: 'We ain't had much time for culture yet, but when we get around to it, we will make culture hum.'

"The educational expansionist points to extensiveness as a sign of progress. Like the census enumerator, quantitative service to him is a prime consideration. He is inclined to take the world as his sphere and to have full confidence in his ability to govern adequately his chosen province.

"One citation reflecting this point of view has already been made. The effect is seen in the growth of graduate schools and the so-called higher learning. There is justifiable doubt whether a statistician, if there were one capable of the task, would find that the increase in the number of those engaged in professed research or of those engaged in any further formal study of subjects begun in their undergraduate courses is attended by a corresponding increase of recognizable scholarship of any kind. To be sure, as students increase and the number of easily assignable thesis subjects lessens, the subjects of alleged contributions to knowledge become more and more minute as does the subject matter of the 'advanced courses.' This does not always imply intensity. As far as the cosmos is concerned a flea seen through a high-power microscope is still a flea.

"Research has contributed and will contribute still more to real human progress, but in research there are detours and dead ends as well as highways to a goal of better things. If the goal of Phi Beta Kappa were only research, its value would be small even to research. While we may be justifiably proud of the accomplishments of our members it is salutary to remember that many who never were eligible for membership have in the course of their experience accomplished more in research than the wearers of our key. No one can be more than started on the highway at the end of a third or fourth year of college and many detours and dead ends tempting to dalliance rather than serious purpose lie before him.

"Says Sir Charles Oman, the Oxford historian:

"Obviously research is not an end in itself, but only a means of getting to conclusions. And this is the reason why we, at Oxford, when creating research fellowships, put in provisos that at the end of seven years the endowed person must produce a definite piece of work on the topic which he has selected for his studies. I have known cases where the fellowship was allowed to lapse at the end of the period because no such work could be exhibited but only vague, if sometimes interesting, accounts of investigations which have never resulted in the compilation of anything that would be printed or published. Often this comes from a sort of 'inferiority-complex' in the researcher, who dreads that if he does put anything on paper it might be considered inadequate to justify his endowment. But sometimes it is due to the fatal disease of 'pottering,' the easy tendency to go on for years from one detail to another in a topic, from a congenial dislike to formulate general conclusions from a series of premises which is not yet quite complete."

"But scholarship, the professed goal of Phi Beta Kappa, and research must not be confused. A fraternity of men and women who at least have started on the common basis of scholarly tastes and accomplishment is not necessarily a group of professional scholars. It could not have its wide influence if it were. At a recent meeting on this campus, eighteen Phi Beta Kappa members from several widely distributed chapters were present. Nearly a dozen different vocations were represented and the professional scholar was in a decided minority.

"With science in the dominant role formerly played by religion and the humanities in the middle ages, by law and government in the Roman Empire and by industrial expansion in much of the nineteenth century, the distinction between scholastic highway and

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mental dead-end at times becomes confused.

"The average layman unversed in the terminology of theology was prone to put his faith in religious terms in lieu of complete understanding. The situation among those untrained in science today is similar. To assert that a decision has been reached by scientific method, to the uninitiate carries with it an authority equivalent to that of the decree of an ecclesiastical council of earlier days. To be unscientific is almost akin to being excommunicate among men of action and achievement. Yet much of the science we accept and on which we base our thoughts and actions requires from most of us a definite act of faith, to a degree often unrecognized by ourselves.

An Erudite Description

"May I quote a passage the truth of which I do not doubt but the full significance of which I only dimly envisage: It is a description of the *Dikelocephalus minnesotensis* Owen; which probably all of you immediately recognize as a trilobite once resident in this general region.

"The body form, as restored by Owen, 1852, is subquadrate, the sides are subparallel, the posterior margin is broken by the presence of two postero-lateral caudal spines. Body depressed away from the central axis.

"The cranium is roughly four sided, being narrowest about its mid-length, wider across the palpebral lobes and frontal shield, and widest across the posterior limbs of the fixed cheeks.

"The glabella is quadrangular, longer than wide, moderately to strongly convex, evenly rounded in front, less rounded in back, sides parallel. And so the description sweeps on with relentless fullness and accuracy of detail to the unshakable dramatic climax:

"Most of the material is preserved in a greatly depressed and flattened state. This has a tendency to distort the natural proportions, especially those of the glabella, which is usually wider across the middle lobe than it should be."

"Perhaps your interest lies in molecular or atomic fields rather than in biology, past or present. If so you will doubtless thrill to this passage from an introductory text-book in chemical physics which leaves me slightly bewildered rather than entirely enlightened. It is entitled 'The electrostatic or contomb interactions between overlapping rigid atoms.' It begins:

"We have seen in the preceding section that two neutral spherically symmetrical atoms exert no forces on each other so long as they do not overlap and so long as we can treat their charge distributions as being rigid, so that they do not distort each other. Once they overlap, however, this conclusion no longer holds. A rigid neutral atom consists of a positive nucleus surrounded by a spherical negative distribution of charge, just great enough to balance the charge on the nucleus. Such a distribution exerts no electrostatic force at outside points. At points within the charge distribution, however, it does exert a force, determined by a well-known rule of electrostatics: the electrostatic field at any point in a spherical distribution of charge is found by constructing a sphere, with center at the center of symmetry, passing through the point where the charge within the sphere is imagined to be concentrated at the center; that outside the sphere is neglected. Then the electric field is that computed by the inverse square law from the charge concentrated at the center of the sphere, disregarding the outside charge."

"Failure to see the significance in biological structures or atomic reactions does not prove that science is a highway that leads from rather than to culture nor that the well-trained scientific imagination

does not see beauty and harmony and rhythm in physical phenomena. Neither does it prove that the man who is a layman in scientific matters lacks the feeling of beauty and harmony and rhythm that may come from the cultivation of other fields of knowledge and truth.

"The French have a proverb: 'Chacun a son metier: les vaches seront bien gradees,' or in the English which even some of us who have studied French in college find somewhat more familiar: 'If every man will attend to his own business, the cows will be well cared for.'

"And so it is in present-day scholarship. There is no standard curriculum, no shelves of books to be considered adequate for all cultural needs, no one field of study or research adequate for general community demands.

What Emerson Said

"Perhaps this attitude is beneficial in bringing home the fact that scholarship, though essential, is but one element of social life. In what is perhaps the most famous of Phi Beta Kappa orations, Emerson stresses this:

"It is one of those fables, he says, 'which, out of an unknown antiquity, convey an unlooked for wisdom, that the gods, in the beginning, divided Man into men, that he might be more helpful to himself; just as the hand was divided into fingers, the better to answer its end . . . Man is not farmer, or professor, or an engineer, but he is all. Man is priest, and scholar, and statesman, and producer, and soldier. In the divided or social state, these functions are parcelled out to individuals, each of whom aims to do his stint of the joint work, whilst each other performs his . . . In this distribution of functions, the scholar is the delegated intellect. In the right state, he is *Man thinking*. In the degenerate state, when the victim of society, he tends to become a mere thinker, or, still worse, the parrot of other men's thinking."

"If ever there was a need of *Men thinking* it is today. Scholars once noted for their power and willingness to think not only repeat parrot-like the decrees and opinions of their dictators but they even use the technique of true scholarship to pervert truth and delude whole nations and perhaps delude even themselves by their own arguments.

"Centuries-old institutions of learning are closed, protected by sandbags or turned into research centers for war supplies: The hammer of Thor is crashing at the Ark of the Covenant and the Cross of Christ. Flying engines of war make the nightmare monsters of prehistoric days as harmless as household pets. Defenseless men and women and children look to the sky—not for celestial messengers but for the terror by night.

"In this temporary eclipse, the obligations of scholarship where it still can operate are more important than ever. In the welter of hatred and warped opinion which inevitably will follow this world insanity, the scholar must assume the obligations for which society needs his assistance. New social ideas and ideals will, for better or worse, follow the downfall of those of the very recent past and present. Society must be protected not only from the die-hard who refuses to consider the need of an ark to ride in safety the troubled waters but from the fanatic who would destroy even the pitiable remnants of civilization which may have survived the fury of war.

"Older social highways may be closed forever. Long and rough detours may be needed to advance toward new goals. Whether society will progress or merely indulge in aimless motion must depend in the last analysis on those who think; on those who through fruitful scholarship can plan or, in more modest fashion, think clearly enough to recognize real progress and the means of attaining it."

Benefits in Dormitory Life Told by Visitor

**Ada Louise Comstock Speaks
at Dedication of Residence
Hall That Is Named for
Her**

When President Ada Louise Comstock of Radcliffe College returned to the campus of the University of Minnesota on October 25 to dedicate the new women's dormitory overlooking the Mississippi river, which has been named for her, she happily took advantage of her opportunity to retrace memories of bygone years, years in which she had been an important figure on the Minnesota campus; days in which she had played a part in starting activities that have continued to help in making Minnesota the great educational center it has become.

"Minnesota Memories" was the title chosen by Miss Comstock for her talk. It dealt in part with her recollections of the time when she was a member of the English department and later the first dean of women at Minnesota, and in part was a philosophical discussion revealing some of her thinking in the field of education. She said:

In reading Washington Irving's story of Rip Van Winkle, I always thought of Rip as a pathetic if not tragic figure: but I find the experience of returning as a Rip Van Winkle to the University of Minnesota exhilarating in the extreme.

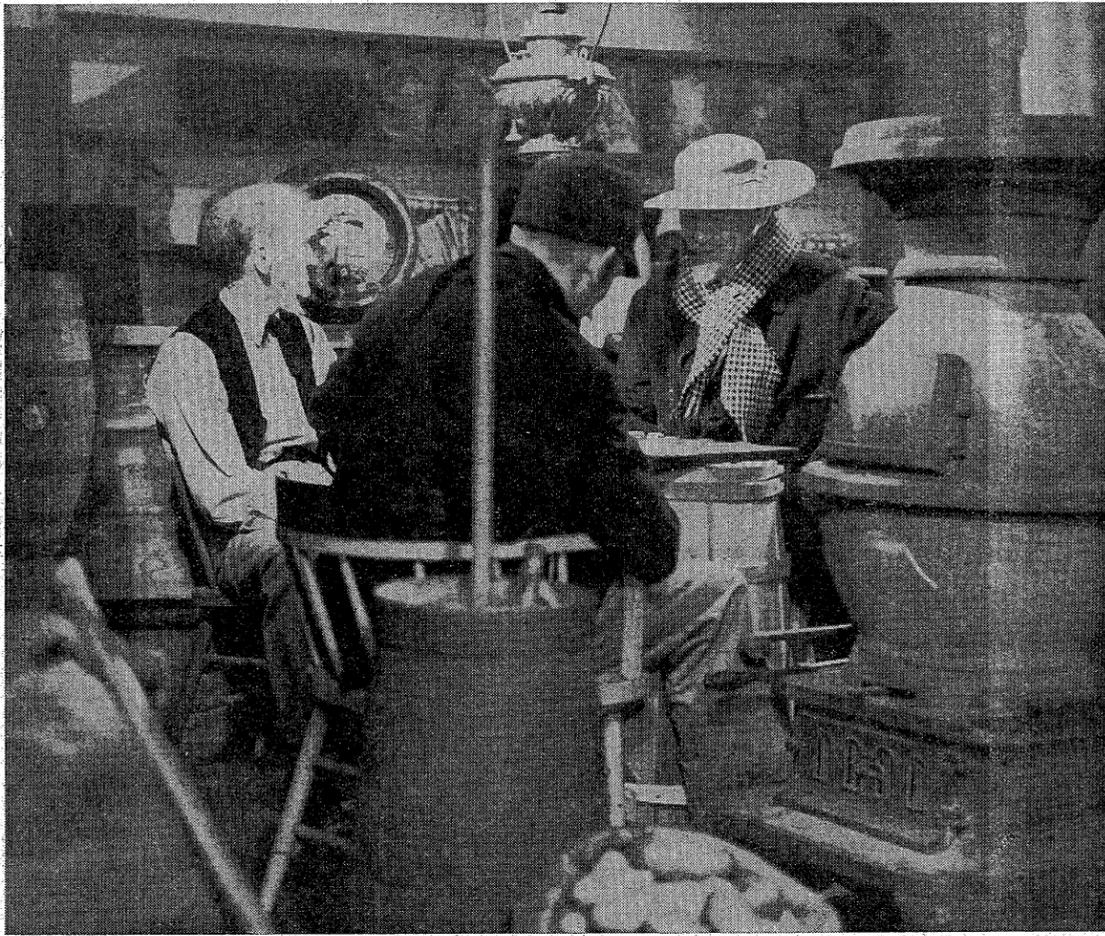
It was 48 years ago, in 1892, that I entered the University as a student. Most of the work of the College of Liberal Arts at that time was done in the old Main Building. I recall that the Library, which we then called new, had not yet been built. I think the Library was housed in the old Main Building. I remember Pillsbury Hall and the Law School; but, for the rest, the campus was not very full of buildings.

If there had been a candid camera that fall, it would have seen the young women who were entering (16, 17, 18 years of age) wearing very long dresses dragging on the ground; high collars, long hair, hats perched atop and skewered on there by long hatpins. I remember well the long skirts! This was before the days of landscaping, and I remember the sandburrs which gathered in the hem of mine! We called one another "Miss" and "Mr." then, until we knew each other extremely well. There were many more formalities then, but I cannot recall that there was any less laughter than today. Those of us who came from out of town lived with East Side families; and I lived at Dean Pattee's house on 5th Street—Dean of the Law School—because he and my father had been schoolmates in Maine.

Those seem primitive days as you look back, but there was nothing primitive about our teaching! I remember in history Professor West; in Latin Professor Clark, Professor Breda, Professor Pike; in German Fraulein Schon and Frau Wilkin; in English and comparative literature, Professor Oscar Firkins; and in my sophomore year, a young man with downy yellow hair who had just received his doctor's degree, called Angell. He later became President of Yale University and is now head of the Education Department of the National Broadcasting Company.

When I returned to the University in 1899 as a teacher, I found many changes. The Library had been built. It was about that time that Richard Burton came here as Professor of English to be, as President Northrop said, "a cavalry leader." There had been everywhere a great increase in the number of students, particularly women; and the Association of Collegiate Alumnae was doing a useful work trying to guide young women who wanted degrees and higher education into institutions that had proper standards. After this work had been taken over by other agencies, the association de-

Faculty Men Serve in Hot Stove League



Professors Colbert Searles and Alfred B. Cummins, and Harold G. Russell, reference librarian, shown left to right, impersonate Yankees around the cracker barrel of an old New England store. Momentarily they are characters in the Minnesota History film being made by the Department of Visual Education under a grant from the Rockefeller Foundation. Here they are talking over the advantages of Minnesota, to which some of them are thinking of going. Robert A. Kissack is in charge of the film.

Most of Minerals Required by Animals Available in Ordinary Farm Feedstuffs

**University Farm Adviser
Tells How to Make Up
Shortages That Exist**

Minnesota feed crops in their wide variety take care of nearly all food and mineral needs of livestock, says D. W. Johnson, assistant professor of animal husbandry at University Farm. While the farmer should strive for a balanced ration under all types of feeding conditions, he can usually find what he needs in an intelligent selection of farm grown feeds.

When determining what mineral supplements are needed, Mr. Johnson suggests two questions to guide the choice. What mineral elements are likely to be lacking in the feeds being used? How can these be obtained most economically?

Hog feeds grown in this area are likely to leave only five elements wanting, and some of these are needed only under certain conditions of feeding. The minerals are sodium, chlorine, iodine, iron, and calcium.

The first three of these can be taken care of by placing iodized salt before the hogs. The iodine is a problem only with brood sows which may have trouble with development of litters of pigs if this element is absent. Salt can be provided in a self-feeder if swine are used to it. Hogs that have been denied salt may poison themselves with overeating. This danger can be avoided by mixing a little salt with the feed until the craving is satisfied, after which self-feeding is safe.

Iron is usually no great problem. Young pigs on floors may need a little clean soil until they are old enough to eat feeds.

Calcium is an important mineral of which there may be too little in a diet of grain. However, the need can be met in a simple manner. If the hogs have access to tankage, meat and bone scraps or fish meal, they will get most of their calcium needs from this supplement intended chiefly to supply

protein. The cheapest source of calcium is ordinary limestone, which may be self-fed.

Lunch Carriers Will Be Helped

Worries over whether the students at the 'U' would make enough use of the new Coffman Memorial Union to make the venture worth while were immediately allayed at the opening of the building. Students took over the Union with such a rush that instead of being too big in any of its aspects, some parts of the building have already been found too small. The Board of Regents has voted money to finish off an area on the lower level, next to the bowling alleys, in which to provide more space for students who carry their lunches. This group, numerous at Minnesota because many students live in the twin cities, had special space assigned to them when the Union was built and designers prided themselves on showing great foresight. They had, but the angle of vision had been a little narrow. Many more students carry their lunches than had been supposed and it is also reasonable to assume that more carry them now, when there is a new building in which to eat, than did before. At all events, they are soon to be provided for on a scale that will take care of everybody.

Dr. O'Brien's Radio Talks for December

Four radio lectures on public health will be delivered during December by Dr. William A. O'Brien in his regular series for the Minnesota State Medical Society over WCCO and WLB Saturday mornings at 11 o'clock. His topics will be: December 7, Otitis Media; 14th, Cause of Hearing Loss; 21st, When Deafness Comes; 28th, Modern Scientific Achievements.

Defense Trainees To Be Selected For Engineering

Courses in five engineering fields will soon be begun at the University of Minnesota as part of the national defense training program for engineers. Persons interested are asked to send written requests for application blanks to Professor Charles A. Koepke, 201 Mechanical Engineering building, who has been placed in charge of the program by Dean Samuel C. Lind of the Institute of Technology.

Machine design, optical instrument design, engineering drawing, metallurgy and metallography and industrial engineering are the fields in which work will be offered. Members of the engineering faculty will be teachers.

Graduate engineers who wish to do further specializing, or men who have had, in most instances, at least three years of engineering on the college level, will be accepted for admission to these courses. Least requirements are for the engineering drawing course, for which applicants must be high school graduates who have had at least two years of mathematics through higher algebra, plane and solid geometry.

Those accepted for training will not have to pay tuition nor any of the expenses of the course, but must pay their own maintenance. Professor Koepke said he has every reason to believe that all who complete these courses satisfactorily will find jobs in industry, especially in industries at work on defense programs.

Bird Clubs Meet In Science Museum

Members of the Wilson Ornithological Clubs conducted a nationwide gathering on the campus of the University of Minnesota November 22 and 23 when they met in the new Museum of Natural History building. Minnesota was chosen as an honor to Dr. Thomas Sadler Roberts, author of "Birds of Minnesota" and moving spirit in bringing the Minnesota Museum of Natural History into existence. At the annual dinner Walter J. Breckenridge of the museum staff showed motion pictures of Minnesota birds in natural color.

State Pays Third Of 'U' Expenses Report Reveals

**Total Larger for Year as
Million Comes in from
PWA**

1939-'40 COVERED

**Full Statement of Institution's
Finances Prepared
by W. T. Middlebrook**

The University of Minnesota was a \$13,880,538 business during the past year, of which sum almost exactly one-third was provided by the taxpayers of the state of Minnesota and two-thirds was derived from all other sources. This was shown today in the annual report of William T. Middlebrook, comptroller, published in condensed form under the title, "Brief Summary of Financial Operations." The fiscal year in question ended June 30, 1940.

All categories of University of Minnesota support from the state totalled \$4,726,378.30, and support from the federal government came to \$1,776,409.93. This included Public Works Administration grants for new buildings in the amount of \$1,012,829.89. The University of Minnesota's two funds derived from ownership of lands yielded income of \$370,549.35, of which that from the so-called Permanent Fund was \$294,616.94, and that from the Swamp Land Fund \$75,932.41.

Largest among all categories of university income was that provided by fees and receipts and by the income from self-supporting service enterprises and the like, which, together, came to \$4,973,977.35. Fees and receipts are a major source of new income, whereas service enterprises, while operated on a narrow profit margin, require outlays approaching the size of the receipts.

From trust funds, largely endowments by gift of definite prizes, scholarships, loans and the like, the university derived income of \$909,672.10 and income from intercollegiate athletics, the remaining major source, was \$390,821.57.

All of the above categories of income came in total to \$13,147,808.60, to which was added to make the total first given, \$400,350 derived from sale of certificates of indebtedness in the Coffman Memorial Union financing; a decrease of \$326,964.69 in outstanding obligations and allotted balances, and a free balance from July 1, 1939, of \$5,414.79.

Contributions by the state to the income of the University of Minnesota are listed in Mr. Middlebrook's report under five heads as follows: Legislative maintenance appropriation, \$3,540,000; proceeds from the millage tax of 23/100 mills, \$248,176.38; state's contribution to cost of indigent patients in University Hospitals, \$200,000; appropriations for special projects approved by the Legislature, \$308,701.92, and extensions of physical plant at state expense, \$429,500.

Expenditures Recited
On the side of outgo, instruction and research claimed the largest amount, namely, \$6,283,091, with physical plant extensions second at \$2,534,864.55. The latter item was the largest on record because of the several PWA grants that covered such structures as Coffman Memorial Union, William J. Murphy Hall, the Museum of Natural History, Ada Comstock Hall, the new health service building at University Farm, Thatcher Hall, the dormitory for graduate students and the like.

Intercollegiate athletics cost the university \$265,656.57, which includes that part of the expense of physical education defrayed by receipts from athletics. General university expense came to \$637,767.15 covering such ventures as the library, publication of bulletins, storehouses, truck service, the employment bureau, inter-campus trolley line, and the like. Administrative expense of \$198,888.28 fell to a ratio of only one

(Continued on page 2, column 2)

Most Student Homes Suitable

Survey by Special Committee Rates Rooms on Many Counts

The great majority of out-of-town students attending the University live in houses rating acceptable or better on points considered necessary for adequate housing.

This was revealed by the results of study of all campus rooming houses listed by the Housing bureau released yesterday by Dr. Donald W. Cowan, Health service physician and director of the survey.

The survey was started on October 10, 1939 by a housing committee appointed by President Ford. The report just finished includes complete data on 507 houses.

They include all fraternity and sorority houses, Pioneer hall, co-operative cottages, Sanford hall, dormitories on the Ag campus and rooming houses in the vicinity of the main and Ag campus.

Of this group, some 72 per cent of men's quarters rated acceptable or better while 92.8 per cent of women's rooming houses were given this rating.

Slightly over 10 per cent of men's rooming houses, however, rated D or not acceptable. Only 1.6 per cent of women's quarters were placed in this group.

Basis for the ratings was a form prepared by Dr. Ruth E. Boynton, director of the Health service. The form included such considerations as proper fire proofing, ventilation, lighting, heating and toilet facilities. The houses were then given an alphabetical rating on the following basis:

A. Excellent. No recommendations are necessary.

B. Good. One or two relatively minor changes which could be easily and cheaply made would change these houses to A rating.

C. Acceptable. These could be fairly easily changed to the A class. But the recommended changes would be somewhat more extensive and costly.

D. Conditional. Certain improvements need to be made within specified time to receive C rating.

E. Not acceptable. These houses probably never could be made acceptable without complete rebuilding.

Of 303 men's rooming houses, 26 were rated A; 70, B; 122, C; 54, D; and 31, E. The 124 women's houses rated much higher with 41 rating A; 35, B; 9, C; 7, D; and 2, E.

Most common defects found were untidy basements in 90 houses, porcelain or glass handles on bathroom fixtures in 85 houses, lack of cross ventilation in 72 houses and inadequate bathroom facilities in 66 houses.

The committee recommended that future unannounced inspections of campus rooming houses be held from time to time in order to determine their current condition. New houses are to be inspected and given a rating by the health service when they apply for listing with the housing bureau.

The housing survey committee was headed by Dr. Harold S. Diehl, dean of medical sciences. Other members were Dr. Boynton; Anne Dudley Blitz, dean of women; Dr. Cowan; William F. Holman, supervising engineer of buildings and grounds; W. T. Middlebrook, comptroller; and Edward E. Nicholson, dean of student affairs.

Barlow Promoted; Heads Texas Unit

Howard R. Barlow, associate professor of aeronautical engineering, University of Minnesota, who has been acting head of the department this summer during the absence of Professor John D. Akerman, has been elected head of a new department of aeronautical engineering at Texas A. and M. College Station, Texas, and has gone to assume his new duties.

Professor Barlow, a graduate of Purdue, spent several years in aircraft production work after leaving college and came to Minnesota to join the department in the fall of 1932.

Lindsay Composition Published

"Requiescat" is the title of a song recently published by G. Schirmer & Sons for which both words and music were written by William Lindsay of the department of music, University of Minnesota. It is the third composition by Mr. Lindsay to be published in the past two years.

CHRISTMAS SEALS



Help to Protect Your Home from Tuberculosis

Deer Hunting Work By Dr. B. F. Ederer Published by Press

Bearing the stamp of that real authority that comes from abundant experience, Dr. Bernard F. Ederer's little book, "Hunting the White Tailed Deer," just issued by the University of Minnesota Press, should provide a happy evening of reading for every hunter, former hunter, or prospective hunter. Such categories cover practically all men, if that of "prospective" hunter be stretched a little.

Dr. Ederer, the Morris, Minn., dentist, adventurer, and student of game and animal life, shows thorough familiarity with all phases of deer hunting, right down to the making of camp and to various attractive ways of cooking venison. His directions for living in a tent while hunting deer in Minnesota suggests efficiency and thorough information, but will, no doubt, remain entrancing theory for all but a very small number of those who hunt in this state in late November.

Minnesota at one time had elk, caribou, moose, buffalo, deer, and possibly, in the southwestern corner, some antelope. Moose still exist in the state, and the Virginia, or white-tailed deer—"deer" to you—is numerous, possibly on the increase in certain areas. The elk, which lived in southern rather than northern Minnesota, disappeared in the early 1860ies, and of course there are no longer any bison or antelope. The wild deer, however, is one of the state's greatest assets, quite apart from income from hunting licenses and the expenditures of hunters. In our northern woods it provides the mystery and beauty that may be lurking behind every bush; and if such mystery and beauty may be there, they are there, to the responsive spirit. Long live the Virginia deer, and may Dr. Ederer's suggestions never work so well that all of the state's 60,000 hunters come home with one on the fender.

'U' Finances Summarized

(Continued from page 1, column 5) and five-tenths percent from a normal of about two percent, inasmuch as it did not vary materially while the gross turnover increased.

During the year a reserve for redemption of certificates of indebtedness was established at \$103,882.50 and \$10,000 in these certificates was redeemed. The increase in University of Minnesota endowments during the year was set at \$110,505.54. At the close of the year the free, unencumbered balance was \$1,285.38.

Copies of Comptroller Middlebrook's detailed report, soon to be off the press, may be obtained by writing to his office in the Administration building.

Lectures on International Law

A series of three lectures on international law was delivered at the University of Minnesota November 26, 27 and 28 by Professor Hersch Lauterpach of Cambridge University, an international authority in that field. On the respective dates he discussed "International law in the present war," "Post-war international organization," and "The reality of international law." On each day he spoke at 3:30 p. m. in Room 102, Law School building. A naturalized British subject, Professor Lauterpach holds the Whewell professorship of international law in Cambridge.

Campus Religious Effort Planned

University Religious Council Feels Tentative Efforts Proved Their Worth

Change in the name of the University Christian Council to University Religious Council, in recognition of the cooperation of the Jews on the campus, and plans for a series of chapel meetings and religious discussions next year, participated in to varying extents by the three principal faiths, Protestant, Catholic and Jewish, has been announced by the council through J. Benjamin Schmoker of the University branch, YMCA.

This decision follows an experimental series of religious meetings conducted on the campus last spring in which each of the three faith-groups participated. One meeting for discussion of faith and ideology and one religious service was held by each group. These services and similar ones during the coming year are being directed by an All-University Chapel committee of students insofar as that is compatible with the policy of each faith.

Expansion of the effort to provide a religious outlet on the campus for more students will be expanded beyond the proposed chapel meetings, Mr. Schmoker said. Among the activities planned are cooperation with the radio station, WLB, in panel discussions built around religious problems, development of a counselling staff to help students with religious problems, meetings of inter-faith groups, study groups to take up social problems from a religious point of view and extension of training groups for lay religious leadership.

Gopher as Present Editor's Suggestion

Editor Lon Taylor and the staff of the 1941 "Gopher" are trying out some new ideas in yearbook organization this year. The book is dedicated to the new Coffman Memorial Union, and the Union is used as a theme all the way through. There are four main divisions in the annual: Administration, Colleges, Activities, and Athletics. The College division includes a great deal more than it has in previous years. Each college in the University has a complete sub-division. In this section are all the Deans, seniors, governing boards, traditions, and informal shots of the specific college.

The cover of the '41 "Gopher" will also be different from anything seen before at Minnesota. An oil painting of the front of the new Union will be superimposed on a copper-colored leatherette background. The title of the book is on the cover in the same type style that is used throughout the volume. Maroon and gold are the colors to be used.

The "Gopher" is the only complete record of the school year at Minnesota. This volume of pictures and the records of all college activities is a book of memories for every student.

The costs of putting out the "Gopher" are more than twice the price charged. The rest of the money is supplied by organizations and seniors having their pictures in the book.

Jim Barnard, business manager of the annual, announces that the sales campaign is just beginning now. Parents who wish to consider purchasing one as a Christmas gift should write to him.



Ben W. Palmer

Former Regents Taken by Death

Hon. Julius A. Collier and Hon. Frank W. Murphy Die



Frank W. Murphy

Two prominent former Regents of the University of Minnesota have passed away since the beginning of the present year, Julius A. Collier of Shakopee, a regent from 1924 until 1937, and Frank W. Murphy of Wheaton and Minneapolis, whose term of service extended from 1933 until 1939. Mr. Collier was 81 years old at the time of his death, which occurred in the early autumn. Mr. Murphy, who died November 21, was 71 years of age.

The late Julius Collier's public career probably dated as far back as that of any man living in the state of Minnesota in the year 1940, he having been elected to the state senate from Carver county in 1888, after which he served through sixteen biennial sessions. In private life he was a lawyer and a leading member of the Catholic Order of Foresters and the Knights of Columbus.

Mr. Murphy, also an attorney, had long been active in Minnesota politics and was prominent as an advocate of the interests of agriculture and state development. In 1934 he was president of the Minnesota State Bar Association, and earlier he had been president of the State Fair Board. For years he was chairman of the American Council of Agriculture, and an ardent supporter of the McNary-Haugen proposal. In politics he followed those national leaders whom he considered most favorable to agricultural interests, without continuous regard for party.

Both men were faithful and highly intelligent regents whose services remain imbedded in the structure of the University of Minnesota as a result of the various constructive policies they supported.



Julius A. Collier

Course Touches Defense Problem

Directly related to the problems of industrial recovery and defense a special course in foundry-cost analysis will be conducted by the University of Minnesota's Center for Continuation Study, December 5, 6 and 7, with speakers of national prominence drawn from science and research, practice and the magazine field of the foundry industry.

The 1940 foundry course follows one given last year on "Foundry Control," which was so successful that Julius M. Nolte, director of the Center, conferred with foundrymen in the northwest and found them eager to have the policy continued. Ignorance of exact costs in their own establishments is one of the main problems with which foundrymen must struggle, Mr. Nolte found, and he designed the coming course to bear on that problem.

Dr. Archer at Meetings

Dr. Clifford P. Archer, College of Education, University of Minnesota, president of the Minnesota Education association, attended meetings of the committee on certification, North Central Association of Colleges and Secondary Schools, in Chicago, November 9 and 10. He also attended later that month meetings of the National Institutional Teacher Placement association, speaking on "Educating the employer in techniques of selecting personnel."

Ben W. Palmer Becomes Head Of 'U' Alumni

Ben W. Palmer, Minneapolis attorney, was elected president of the General Alumni association of the University of Minnesota at the annual meeting of the board of directors of the organization in Coffman Memorial Union on October 22. He is a member of the law class of 1912. The other officers are Dr. George Earl, St. Paul, vice president; Arnulf Ueland, Minneapolis, treasurer, and E. B. Pierce, St. Paul, executive secretary.

The directors voted to create the new office of assistant executive secretary and William S. Gibson was elected to this position. Since 1929, Mr. Gibson has been editor and business manager of the Minnesota Alumni Weekly and he has also been sports announcer of the University radio station WLB. He will continue as editor of the alumni magazine while assuming the new duties assigned to him by the board of directors. The creation of the new executive position is in line with the efforts of the alumni association to broaden its program of activity in the interests of the University and the graduates and former students.

At the annual meeting the alumni directors honored Thomas F. Wallace of Minneapolis who has served since 1921 as treasurer of the association. He announced his retirement from that position and he was voted permanent status as a member of the board of directors. Other alumni who have been similarly honored and are listed as honorary members of the board are Henry F. Nachtrieb, former member of the Minnesota faculty and the first president of the General Alumni association, Charles G. Ireys, Charles F. Keyes and Edgar F. Zelle.

Dr. Smith on Tour

Dr. Dora V. Smith of the University of Minnesota's College of Education left recently to participate in three sectional meetings of the Colorado State Education association at Denver, Pueblo and Grand Junction. From Colorado Dr. Smith will go to Los Angeles and will take part in a number of educational conferences in that area, especially conferences on teaching English. On the way home she will address the Iowa State Teachers' association and the Wisconsin State Teachers' association, in Des Moines and Milwaukee respectively, on "The place of the language arts in general education."

Medical Foundation Has Annual Meeting

Election of its first board of directors was a feature of the first annual meeting of the Minnesota Medical Foundation, which was held October 25 in the Coffman Memorial Union on the campus of the University of Minnesota. The foundation was formed a year ago by a group of influential alumni of the Medical School, many of them on its faculty, to promote all phases of the school's welfare and to raise money for scholarships, research, visiting professorships and the like. The Foundation was an outgrowth of the fiftieth anniversary ceremonies of a year ago. Plans also were laid for continuing publication of the Bulletin of the Minnesota Medical Foundation which has already appeared several times. Dean Harold S. Diehl presided.

Miss Comstock Speaks on Campus

(Continued from page 1, column 1)

voted itself to conditions of living for women students, urging the erection of dormitories and student buildings, and the appointment of deans of women; and, later, asking for recognition of women in faculties and on the boards of trustees and boards of regents.

Women's League Established

When I came back in 1899 a Women's League had been established in the University of Minnesota through the activities of women members of the faculty and the wives of other members. They tried to create social opportunities for young women who were coming to the University from all parts of the state. Many of them did not belong to sororities and had no social center except the "ladies parlor," in old Main; out of that movement came eventually Shevlin Hall, the appointment of a dean of women, and later Sanford Hall thirty-two years ago.

Some very notable young women were developed through activities of those days. These were the daughters of Professor Hutchinson, one of whom is now the wife of the President of the Massachusetts Institute of Technology; these were the daughters of Professor Clark, Miriam and Margaret; these were Elsa Ueland and Franc Hochenberger, later Mrs. Alfred Owre, and Helen Drew who became professor of English at Rockford College, and Josephine Schain who is now a national figure in organizations seeking to promote peace.

But the effort of women for higher education was still regarded as more or less a humorous thing, an occasion for jokes. I remember going under the chaperonage of Mr. E. J. Phelps to see the editor-in-chief of one of the Minneapolis papers, to beg him sometimes to refer to women of the University of Minnesota by another term than coeds; and to write about their activities in a vein which was not facetious. He laughed at me, I remember; and I haven't any recollection that my plea was ever seriously considered. Later, when I went to Smith in 1912, the Boston papers still were interested in items concerning college women only if they were sensational or funny. Things are better today. In coeducational institutions today there is not much consciousness of co-education, and the education of women is everywhere treated as seriously as that of men.

Were Halcyon Years

Those years of my membership in the faculty here, 1899 to 1912, seem to me now, as I look back on them, to have been halcyon years. (We did not think then that they were). We still believed that science and the machine were transforming civilization in an entirely benevolent way. We believed civilization was facing a steady upward progress. America was bestirring itself in the arts and music, orchestras were being created in large cities, museums were being established; and there was a great tide of travel all over the world by all classes of people. Rhodes Scholarships were established; the Peace Palace at The Hague and the Court of International Justice. We thought all this was tying the world together and preventing the possibility of a great war. Railroad stocks were yielding seven per cent and five per cent was regarded as conservative return on investments. We thought it would always be that way!

Now, as I look back to those years, they seem farther away from us psychologically than the time of the Revolution or the Civil War. And yet I think, really, in spite of the situation today, we cannot feel hopeless; and I have found that even those who are under fire in Europe are not without hope that something better is ahead than we foresaw in 1899 to 1912. I had a letter, not long ago, telling of the effects of the war on Cambridge University and the danger and discomforts to which it might be subjected (dangers since realized). None the less, the author wrote: "I would rather be alive and active now in this England of 1940 than in the Victorian England of fifty years ago. At least, things are on the move; and no one can feel self-satisfied and contented. Something good must emerge from this horrible welter, though whether any of us older ones here will be alive to see the good remains to be seen." And that same note of hope, that good will eventually result from the horrors and catas-

Norse, Swedish Arts Radio Topic

"Arts and letters of Scandinavia" is the general topic of a new series of programs now being given over the University of Minnesota radio station, WLB, under the direction of Burton Paulu. Speakers are selected among recognized authorities in the fields of Scandinavian literature and art, and the series is being given the backing and cooperation of a number of Scandinavian groups in Minnesota and nearby states. The lectures come at 3:30 p. m. on alternate Wednesdays.

On December 4 Val. Bjornson, well-known radio commentator, interviewed Thorhallur Asgeirsson, son of a former premier of Iceland and now a graduate student in the University of Minnesota, and there was music by the Icelandic Chorus.

Spaced two weeks apart, the series will next present Dr. Theodore Blegen, dean of the Graduate School, University of Minnesota, who will speak December 18 on, "Out of pioneer days." Dean Blegen is an authority on Norwegian-American history. J. Herbert Swanson of the WLB staff will provide music.

The series was begun with a talk by Professor Martin Ruud, head of the Department of Scandinavian in the University, and one on November 20 by Professor Einar Haugen of the University of Wisconsin's Scandinavian department.

trophies of today, has come from many sources in war-stricken countries.

But some things are constant. This University, after thirty-two years, builds another dormitory for women! This fact testifies anew to ideas and ideals which are still held. This dormitory has no immediate reference to national defense. It represents no changed conception of the life of women, as Mr. Snyder has so beautifully said. Like Sanford Hall, it expresses a desire to attract young women from outside the University to the Twin Cities, to house them comfortably and agreeably, and to make such housing an instrument in their education.

The Position of Women

Many of you may have read a recent article in "Harper's" which attributes to the influence of women many of the defects of our present situation. This is nothing new. One heard the same allegations in 1850. In the early days of this century Professor Munsterberg talked of the feminization of American culture. This article, however, is very specific. It does not deny some strength and courage to individual women, but asserts that the love of comfort and the desire for security, which on the whole characterize women, are contagious qualities and have affected our present living. The author entitles his article "The Inner Threat — Our Own Softness."

One may ask oneself whether this hall is an example of that indictment; whether officers and regents have been susceptible to this contagion; and whether this building is a monument simply to comfort and security. You cannot deny its comfort, and its beauty is obvious; and it also presents a certain guarantee of security to the young women who come here. It is an insurance of their health and of oversight, and it offers strong inducements to gracious living. But, nevertheless, after many more than thirty years of contact with dormitory life, as one who has lived in dormitories herself, as one who has had a good deal of responsibility for them, I am convinced that the total effect of dormitory living is not softening. On the contrary, it is strengthening, as I think you must have felt in listening to what Miss Dowlin had to say about it; it teaches lessons which are most needful for the young citizen.

Benefits of Dormitory Life

As the first of the educational effects of dormitory living on young women, I should name the ability to appraise and to appreciate character as of social importance. This seems to me particularly valuable for women, who live their lives for the most part in the home and who value, therefore, very greatly the qualities which make for harmonious and happy living in the home. They have less opportunity than men, I think, to learn the importance of some of the sterner qualities such as integrity—and by that I mean not only integrity regarding property, but in mind and thought.

I am going to relate an incident that occurred here at the

At Dinner in Ada Comstock Hall



Young women residents of the new dormitory on the University of Minnesota campus say they never in their lives enjoyed anything as much as living there.

University while I was Dean of Women. A student was found taking money from the pockets of fellow students in the cloak room and, when discovered, was told she must leave the University. Her mother came to plead for her and, after exhausting other pleas, said: "Aren't you perhaps laying too much stress on this weakness? I belong to the W.C.T.U. and go every year to their convention. They are all Christian women, but you can't leave a pair of gloves or an umbrella anywhere about and expect to recover them."

I submit that the lack of integrity was not only in the case of the daughter and her disposition to take a little money here and there where she found it, but in the thinking of the mother.

Trustworthiness and responsibility are qualities which young women learn in dormitories early. When a student says she will undertake committee work and fulfills it, she has not only learned something herself, but she proves something to her fellow students about the social need of those qualities.

Lack of consideration for others, noisiness, rudeness, disregard of the rights of others are important not simply because they annoy certain individuals, but because they affect the morale of the whole building. Personal habits, cleanliness and order are not merely personal in their bearing.

Unselfishness, not thinking of oneself more highly than one ought to think, those are qualities the value of which is proved in college life. A college junior, recommending a friend to an officer of a college to which she had made application, said: "She is a bit of a scamp in some ways; but you will find her a truly kind, intelligent, and modest girl." That junior had learned the value of those qualities from her own residence in a dormitory.

You learn in a dormitory that "style" and having "a line" and showiness and superficial charm are trifles compared to fundamental qualities which make human associations happy and beneficial. And through such recognition comes self-discipline. A girl comes to a dormitory out of her own home, from which she has never been away for any length of time. She has some corners to be rubbed off, perceptions to be sharpened. She encounters discipline, admonitions from older girls. She has a great deal of admiration for them, their self-control and naturalness and poise; and thus the discipline of herself begins.

But those are not the only benefits from living in a hall. There is the great benefit from practice in associating for social ends.

Association for Social Ends

This value I have seen exemplified recently in the houses which were established at Harvard, through the munificence of Mr. Edward Harkness. The young men in each of these houses pride themselves upon offering annually something of value to the whole community. Sometimes it is an operetta rarely heard, such as "King Arthur" by Purcell; sometimes it is an exhibition of pictures or rare books. They have learned to entertain in agreeable and inexpensive ways, they have developed their own talents, they have come into friendly and informal relationships with members of the faculty. The total effect upon the life in Cambridge has been an object lesson on a large scale of the benefits which this university or any university may derive from an imaginative handling of the opportunities afforded

by the grouping of young people in dormitories.

Another thing which students learn in dormitories is the importance of leadership. The influence of a strong senior class, the difference made by a good president (as I am sure you felt in listening to the president of Comstock Hall this morning), the corrupting influence of the strong but lawless — those lessons are well learned in a dormitory. I suspect you will find that a good many women active in such organizations as the League of Women Voters and other similar groups which are trying to improve the quality of our government have learned something about the importance of leadership through living in a college dormitory.

But these benefits are not automatic. The morale and influence of different halls vary; and the morale and influence of each hall varies from year to year, according to the leadership. It is not simply a matter of living under one roof. Benefits come from living together in an organization which is administered for a purpose.

I remember some years ago asking Newton Baker, who was greatly interested in higher education and who always used the money he earned by speaking to provide scholarships for young men and women in Cleveland colleges, I asked him whether he had seen in public life any effect of the wide spread of secondary and higher education in this country. He was very thoughtful for a few minutes; and then he said that, as far as he could tell, no effects were observable. That is a hard saying. Today the young people in school and college are being criticized acutely, and those who have taught them are being blamed for what are thought to be their erroneous opinions. Nevertheless, in spite of criticisms, in spite of what Mr. Baker said, I continue to believe that to open education freely to those able to receive it is, as Mr. Snyder said, a necessary condition of democracy; and I believe that in such education the influence of a hall like this has an important part.

I am convinced that this name-sake of mine will be a blessing to the University and to the state of Minnesota.

And now, President Ford, Mr. Snyder, Miss Blitz, I want to say just this—that having my name attached to this building has given me more pleasure than anything else of which I can think; and my only regret is that my father, to whom it would have meant more even than it does to me, is not here to share this occasion.

Girl Athletes Visit 'U' Campus

Girl students from 17 of the 33 high schools outside the twin cities that are within a radius of 25 miles of the campus assembled at the University of Minnesota recently to take part in a High School playday as guests of the Women's Athletic Association. A sports program was conducted in the Women's Gymnasium, followed by exhibitions and a tour of the new Coffman Memorial Union. Faculty members of the department of physical education for women served tea to visiting high school teachers in the Women's Gymn and dinner was served in Shevlin Hall cafeteria. Miss Jeanne Winn of Minneapolis was general chairman of the affair for W. A. A.

'U' Loses Few Football Stars

Ten Seniors Who Will Graduate Include Franck and Co-Captains

One of the smallest "graduating classes" in recent University of Minnesota football history — 10 seniors — had its commencement exercises at Madison on Saturday as the Gophers meet Wisconsin in the final game of the season and the fiftieth anniversary of the historic series between the two universities.

Despite the minimum total loss to the championship squad, the Minnesotans will lose five men out of the 1940 starting lineup. George Franck, the Gopher's versatile touchdown runner, will conclude his competition. So will Co-captains Bob Bjorklund at center and Bill Johnson at right end, Bob Paffrath at quarterback and Bill Kuusisto at left guard.

Another five seniors will be making their final appearance from the second and third teams. They include Bob Kolliner, center; John Bartelt, quarterback; Joe Jamnik, halfback; Ed Steinbauer, fullback, and Helge Pukema, guard. The latter has been a first string player, alternating at right guard with Gordon Paschka who will hold over. Jim Shearer, quarterback, and Gene Flick, center, both have a season of competition remaining, but may be able to graduate before another season.

Few seniors in recent Minnesota annals have concluded their playing careers with as many accomplishments as Franck had to his credit when the final gun sounded on November 23. In 23 games, he has carried the ball for a total of 1,141 yards, has scored 16 touchdowns and has averaged better than 40 yards on punts.

Freshmen Look Good

Meanwhile Coach Dallas Ward is frankly optimistic regarding his 1940 University of Minnesota freshman football squad. Surveying the results accomplished during the six weeks of practice just concluded, he admits:

"It has been a very satisfactory squad in every way. Maybe it wasn't the best freshman group we've had at Minnesota. But barring misfortune, I'll wager that few squads will have contributed more to Minnesota football by the time these boys wind up their competition."

When the recent mid-November blizzard cut the freshman season short at Minnesota, Ward had already singled out some three dozen players as promising. Several others will receive numerals and will also be asked to join the varsity in spring practice.

Promising backfield candidates predominate, Ward points out, but there are also several good linemen in the group. Following is a list of some of outstanding Gopher yearlings.

Ends — Dick Burk and John Whitten, Minneapolis; John Adams, Mound; Herbert Hein, Billings, Mont.; John Mulready, Fargo, N. D.; Pat Sheehan, Wiliston, N. D.

Tackles — George Path, St. Paul; Bill Hopp, Aberdeen, S. D.; Bill Aldworth, Garden City, N. Y., and Rudy Sikich, Hibbing.

Guards — Vic Kulbitski, Red Wing, and John Perko, Ely.

Centers — Ed Puchtel, Minneapolis; Charles Sandberg, Zumbrota.

Quarterbacks — Jim Hanly, Minneapolis; Bob Sandberg, Rice Lake, Wis., and Billy Resche, Menasha, Wis.

Halfbacks — Don Thomas, Bob Bradford and Walt Mernik, Minneapolis; John Mauer, St. Paul; Foster Bacon, Spring Valley; Jack Dauphin, Grand Rapids; Earl Eli, Milaca; Herman Frickey, Billings, Mont.; Jim Foster, Detroit Lakes; Norris Hannigan, LeCenter.

Fullbacks — Bob Graiziger, St. Paul; William Schalow, Chaska, and Warren Bonus, Eau Claire, Wis.

Old Timers Attend Game

At least two of the players who participated in the first game between Minnesota and Wisconsin back in 1890 were still following the Gopher progress as the Minnesotans prepared to meet the Badgers for the fiftieth time at Madison on Nov. 23. They are A. F. Pillsbury and George Belden, Minneapolis business leaders. Belden kicked the field goal for Minnesota's final five points in the 63-0 win '50 years ago.

The Scholar, His Attributes and Responsibilities

The following is the final part of a Phi Beta Kappa address by Frank K. Walter, librarian of the University of Minnesota. The first part of his paper was published in the last issue of "Minnesota Chats."

It is rather customary to distinguish two kinds of scholarship: the so-called creative and that which comes to flower in less noticeable fashion in the enrichment of private life and personal character. The former pays better in cash dividends or social recognition and, for easily understandable reasons, is the easiest to reward by academic distinction.

Creative scholarship can be shown in various ways. It may discover something new. Here the scientist has the advantage. The frontiers of science are not yet closed in any direction nor is the field of any natural science more than partly explored. Many new facts are constantly being learned about the most familiar objects. Tennyson's flower in the crannied wall holds no more dimly-discerned general truths than many other things with which we come in daily contact. The amazing advances in the applications of scientific discovery have been the chief glory of the past two centuries. An English journalist summarizes them as follows:

"Since 1801 the face of human society has been changed by the introduction of such things as aeroplanes, motor-cars, steam locomotives, telephones, telegraphs and wireless. Electricity in its practical applications, anaesthetics and antiseptics, coal gas, mechanical type-setting and book binding, high explosives, tanks, machine guns and rifles: a myriad inventions have in this respect removed our present state farther from that of the men of 1801 than they were removed from the early Pharaohs."

The changes in mental attitudes and in the minute exploration of various fields of the social sciences have been scarcely less significant. It may suffice to mention archaeology, which has shattered some ancient traditions and verified others and which has given us almost intimate knowledge of the national and personal life of civilizations so far past that their very existence was unknown for milleniums, and to glance at anthropology and ethnology which have thrown abundant light on many phases of human life.

From this creative scholarship have come social results that are both blessing and bane. Inventions resulting from new applications of natural laws are not in themselves either moral or immoral. It is futile to advocate a moratorium in scientific research or invention. The alternative seems to be to develop man's moral and social instincts apace with the new tools science gives him so that he will neither cut his own fingers nor bring disaster to others from the misuse of implements that should be devoted to constructive use alone.

So far, there is less progress in the humanities and the social sciences than in the natural sciences. In a day of complicated mechanical gadgets instead of very simple personal equipment and at a time when a corps of service men replace the simple tool kit in the family barn or wood-shed, the appeal of simplicity as shown in literature or history or the theological debate has lessened.

When easy travel has extended the metes and bounds of even our personal acquaintance, to foreign countries, instead of the next country or the next state, the sense of personal obligation also is prone to lessen. "Thou shalt love thy neighbor as thyself" still holds good as a desirable standard, but it is more difficult to love nations than neighborhoods.

Can Multitude Follow Leaders?

As in the case of science, it is not the breadth of experience or of social vision that are at fault. It is the inability of the multitude to follow the leaders that causes the trouble. It is possible that competent interpreters are needed as much as discoverers in creative scholarship. Certain social sciences have been charged, not always fairly, with devoting their efforts "to saying things which everybody knows, in language which no one understands." It is true that science has gone so far ahead of the average man in content and terminology that he must accept most of it through his faith in the scientist, it is equally true that he must or at least that he does base much of his economic, social and even aesthetic judgment on what those whom he believes ex-

pert in the various fields say about them.

Sciences Need Partnerships

Biology and chemistry have become partners. Our outstanding bio-chemists join with physicians, physicists, botanists, mathematicians and others who only a few years ago would have considered their fields not merely autonomous but virtually independent. Highways of scholarship once considered parallel are converging. Seeming dead ends are becoming junctions, and scholarly detours are found to be auxiliary approaches which gain in added interest what they may lose in directness.

This synthesis may bring more significance to the scholarly attitudes of non-professional scholars. In much of our national life there has been at least lip service to what we generally understand as culture. A combination desk and book-case, and in one corner of the parlor a what-not, which followed afar off the more pretentious scientific cabinet of the more pretentious residence, were at any rate symbolic of a respectful attitude on the part of our grandparents toward a scholarship which was desirable even if not personally possessed to any considerable degree. Chautauqua Circles, and Women's Clubs and traveling libraries followed the more crude but also often more spontaneous lyceums and literary societies which flourished alike, though in different degree, in special buildings of their own and in the primitive country school-house. The urge for knowledge was as general and sincere as the concern for better social manners shown in the multitude of books of etiquette and the colored fashion-plates in the emerging "ladies' magazines."

As an approach toward perfection, these attempts at self-education and better manners often tottered in precarious balance between pathos and humor. As an attitude toward general social standards they often deserved more serious consideration from the social historian than they get. The cultivated European of earlier days, able to discuss a variety of subjects interestingly and intelligently, could not be so easily developed in our own more vigorous days of material national expansion, but underneath the professedly contemptuous tone of many books of European travel by American authors lay the uncomfortable though unadmitted conviction that there was something too often lacking which would make the sturdy virtues of American life at least more pleasant and agreeable.

In the period of more or less enforced vocational specialization through which we have not yet passed, the time for cultural hobbies or diversions grew less and less. If or when the desired financial freedom was at last achieved, too often it was found that the old cultural desires had gone and the man had lost his broad vision through the mental myopia acquired from undue attention to the immediate work of the shop, the office, or even the schoolroom or the public post. Shortened hours of labor and the consequent increase in opportunities for leisure have not been unmixed blessings either to labor or the college graduate. Those of us who work specifically with books are often, in spite of abundant experience, surprised at the lack of intellectual curiosity and general information on the part of many students with excellent class standings.

The Scholars Do Well

On the other hand, the variety of vocations represented in any general meeting of this fraternity is no less marked than the places of acknowledged leadership in these vocations held by the members present at these meetings. I have had occasion several times to make a very cursory survey of authors who are of Greek letter societies. In every field, from erudite treatise to mystery story, there are members of Phi Beta Kappa, and like a multiple Abou Ben Adhem, in the number of names, they lead all the rest. It is an accurate though too common error to consider scholarship and social stiffness as inseparable and to think that one becomes less human as he interests himself in the things that relate to humanity as a whole as well as in highly specialized needs of men or the interests of any group or region. The contrary is more often true. No argument is needed to prove that we are seeing the results of high efficiency produced by mech-

anizing men to drive machines to bring success to plans centering in less than a handful of individuals. It is no accident that outside cultural influences are remodeled, repressed or banned in totalitarian states. Intelligent hobbies or avocations not only enrich life but make one's general plan of life less susceptible to inspired doctrine or arbitrary authority.

Of Continuous Scholarship

In the first place scholarship must be fairly continuous. It may not be unfair to say that at least some members of our fraternity reach their intellectual zenith no later than the final examinations that follow the granting of the key. Examination of the records of a registrar's office, might show that some go into intellectual retreat even slightly before their election, perhaps at the end of the quarter from which their eligibility records are computed. Such persons are collectors of credits, not real scholars. They have reached the first stage toward the goal, but they will make little more progress. They are like the alleged graduate of a famous eastern university who, so the joke-smiths say, darted from his seat at the end of the commencement exercise and, waving his diploma as he heared his admiring parents, and friends in the audience, shouted with joy: "Educated at last, thank Heaven!"

The true scholar is just the opposite. He may lose interest in many subjects prescribed in college. He may forget his calculus, his foreign language inflections and even most of his quotations from Shakespeare and the Bible, but he will retain his interest in something connected with the advance of knowledge or at least with its survival.

In the second place he will not only retain his interest but will increase his knowledge in some special or even general field. What this field will be only he and Heaven may know, and even he may not know it much in advance. Nevertheless, he will find the field and in time become known as at least a local authority on something. He may extend his field and widen his interests to include subjects not of interest in his college days.

It is only the person with reserve ability who can expand his activities extensively without his mastery of that field becoming correspondingly thin. For others there is the possibility of a detour or by-path which will give a closer view of some smaller portion of the general route without losing connection with the main highway. No satisfactory scenic highway or route is without such side paths, nor is scholarship very fruitful if it does not bring enjoyment through discovery or cultivation of some of these by-ways. The possessors of higher degrees usually base their claims to academic distinction, on specific evidence of the ability to cultivate intensively a small region of research not too remote from a main highway.

The synthesis mentioned earlier as characteristic of this current period, should encourage more intellectual hobbies of personal interest and choice. One of the regrettable features of present-day life is the absence of opportunity for nature study and general observation of the kind that inspired Cobbett's "Rural Rides" or Gilbert White's "Selborne," or Edward Thomas, or in our own country, Thoreau, John Burroughs, Bradford Torrey or John Muir, to mention only a few of varying merit, period and locale. Valuable as the golf course is in the cultivation of social tolerance, controlled vocabulary, and reticence in the hours both of uncertainty and of triumph, it does not quite take the place, in a literary way, of the older simpler pastime. Neither does the agility gained by dodging automobiles on hard-surfaced roads quite compensate for the leisurely contemplation of the flora and fauna of the older, less comfortable country road and the slower progress which made close observation easier.

This correlation requires intelligent relation of the past, the present and the future. There can be little serious objection to the demand of perhaps most educators today that education must prepare the student to solve the problems of today. But life has a past that was once a present and a present that will soon be a past and a future that will all too soon be the present. Complete absorption in the past and impatience for the next steps ahead have much in common. One fails to see the essential relation of what has hap-

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pened to that which is happening and the other misses the important way in which today will shape or may be made to shape tomorrow. The past few months have all too clearly shown the futility of prophecies based entirely on history but they also seem to show the danger of not considering closely what should have been learned from past as well as present experience. The mile posts on the highway of experience must measure the progress from a starting point as well as the progress toward a desired terminus. Science bases its conclusions on numerous and long term data no less than history records as accurately as possible the facts and experiences which fall within its ken. Though apparently not closely related to other fields, music and possibly abstract art are bringing men of many minds together in a field of common enjoyment.

Listening to a mode of expression without words and to emotional stimuli based on sound can not help affecting one's attitude toward other things. In one sense, all hear the same sounds. In another, even more than in reading or speech, each hears a melody that is his alone and his in proportion as he is able to comprehend or interpret it. Music alone will not ensure a civilized attitude toward life, but music will help the really civilized live more enjoyably and the spread of music appreciation should be welcomed by all to whom culture seems important.

The growing interest in the drama may be another unifying force. Even more than music, for it deals with speech and sight, it is of great importance as an agent of culture. It is often debased, it is true. It is equally true that there are false philosophers, and scientific quacks and unreliable historians and writers of pernicious literature. It is also true that the drama seems to be coming to its own as an agent of education and culture. It is not so much the scholar but the average person whose presence at Shakespeare revivals and other high-grade drama shows that in great drama there is an element of essential truth that transcends the immediate situation and which brings a significant message to the present from the fairly remote past.

Tradition has built around the scholar an air of aloofness, but this tradition is no more accurate than many other traditions. Evidence has been presented to show that the real scholar may be more often a man of the world than a dweller in an ivory tower. In his contacts, whether with men in general or as a specialist with his colleagues in his own field, his scholarship is shown quite as much by what he gives to others as what he gets for himself. Ingrowing scholarship, like plants and animals deprived of light, tends to grow flabby. Sharing one's scholarship with others need not be deliberate. In fact, unless one is a teacher it should not be too freely offered. The teller of old tales, the sympathy-seeker who relates his personal troubles at great length, and the purveyor of unasked-for chunks of information are social pests with much in common. Sharing scholarship means rather a willingness to put at the service of others who need or desire it the special knowledge one has gained for himself. This is nothing more than an extension of the spirit of mutual obligation as opposed to an insistent and persistent emphasis on personal rights. It is only in this way that democracy, in which some of us still believe, can hold its own through voluntary service as opposed to the directed, enforced service of a government built on external authority and not on common desire and consent. There is an obligation on every member of a body pledged to scholarship to share as well as to profit personally by the opportunities for scholarship which come to him.

Finally, though in reality it is only one more of many other

attributes of scholarship, the true scholar should be tolerant whether in broad general fields or in more restricted areas of thought and knowledge. Just how to be truly tolerant it not easy to determine. True tolerance most certainly is not shown in the common attitude of permitting and encouraging everything that agrees with one's own ideas and violently opposing all that disagree. On the other hand, it does not consist in admitting the truth of all that may be said on any side of a question.

Perhaps, as in many other social problems, intelligent application of the Golden Rule is as near true tolerance as we are likely to get. To be willing for others to have the same freedom of thought and expression and action as we should want for ourselves under similar circumstances is tolerance. It recognizes our own obligations as it demands them from others. It realizes that license is not liberty but that arbitrary repression is not the antidote for socially pernicious attitudes and actions. Intolerance has many aspects: academic social, political, and religious. All are antagonistic to the spirit of true scholarship and the scholar should lead in the practice as well as in the theoretical acceptance of tolerance.

No full description of the scholar has been attempted or attained. Each must practice it for himself in his own best way. It is not the field selected nor even the eminence achieved in that field that will determine loyalty to the obligation taken tonight. It is the attitude, the willingness to let knowledge and wisdom really guide through life.

Unless an almost incredible general elevation of culture occurs, the scholar will continue to be as he now is, one of a minority in any society. But he should be one of a dynamic minority. He should radiate the benefits of scholarship, not merely absorb them. His mission to the state as scholar and citizen should be that which Dr. Folwell, the first president of this university, declared in his inaugural address to be the mission of the university itself.

"I do care to insist," said Dr. Folwell, "that the state is bound to endow the university for the same reason we use to justify her interference in primary education, viz.: that university education is absolutely essential to the existence and preservation of free institutions. I am content merely to urge that university education is essential to the well-being, rather than to the being of the state; this granted, our case is made."

Government Will Finance Inquiry In S. D. Manganese

A pilot plant on which tests will be run on manganese ores from a deposit near Chamberlain, S. D., will be financed by a federal grant of \$25,000 the Board of Regents has been informed. Tests to determine whether the ores can be made into ferro-grade manganese will be carried out at the University of Minnesota under the direction of Dr. Lloyd H. Reyerson of the School of Chemistry, who will have the assistance of Dr. R. E. Montonna of the department of Chemical Engineering and Carl Wallfred. The United States Bureau of Mines will have general supervision of the project. Ferro-grade manganese is one of the most important war materials of which the United States now has so limited a domestic supply that chief dependence is on imports. It has been estimated that there are 100,000,000 tons of the material on which tests are now to be run, but whether it is of a grade that can be made commercially available is still to be determined. First investigations of the deposit were made by Dr. Reyerson and his associates at the suggestion of the Northwest Research Foundation, in which he is active.

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Dr. Ford Reviews Past and Growth Of University

His Biennial Message Brings Into Focus Contributions of Five Presidents

LAUDS STUDENT BODY

"The America We Dream Of" Is Being Built on Our Campus, He Says

A swift backward glance over the entire past of the University of Minnesota and an evaluation of those factors within the institution itself, in its personnel, and in the state of Minnesota and its people which have made the university great is presented in the biennial message of President Guy Stanton Ford of the University of Minnesota, made public recently. Special interest attaches to the report because President Ford, who has served the university for almost 30 years in leading administrative posts, will retire in June and is now making what may prove to be his final survey of education while in active service.

Among important factors in the university's growth to greatness he itemized President William Watts Folwell's philosophy, President Northrop's capacity to arouse affection for the institution, President George Edgar Vincent's wise unification of university activities on an all-university basis, President Marion Leroy Burton's success in obtaining a building program from the Legislature, and President Coffman's steady growth in stature until he became America's leading educational statesman.

Of President Vincent's success in making the University of Minnesota a unit he said: "No backward step in this unification has ever been consciously made in the succeeding years. The details are matters of record to which the key is the word 'all-university,' whether it is creating a University Senate, a weekly meeting of the deans, a student union building, an intercampus carline or a budgetary system that helps explain why a nationally-known writer in a recent article said the University of Minnesota gets more for its dollar than any comparable institution."

Medical Contributions

The report goes into some detail on the contribution to medical education made through the creation of the Mayo Foundation and expresses bafflement at the action of the last Legislature which actually reduced the university's appropriation for medical research at a time when physical well-being is becoming more important than ever before.

American industry, said President Ford, spends as much as \$300,000,000 a year on research, some concerns reinvesting up to 20 percent of their outlay in investigations in the firm belief that such expenditures will yield a large return. He then listed several of the many achievements of research at Minnesota that have led to large practical returns, citing Thatcher and other rust-resistant wheat varieties, control of Bangs' disease in dairy herds, new uses for surplus milk, development of a Roquefort type cheese, and the recent Minnesota success in synthesizing Vitamin E.

He referred to two threats to the independence of teaching during the twenties, one when it was proposed that a state commission tell the Board of Regents how they might spend their funds, a case that was won before the State Supreme Court, and the second, introduction into the Legislature of a bill to prohibit the teaching of evolution. The latter was overwhelmingly defeated.

Minnesota's Fine People

What one sees from the desk of a university president gives one a basis for faith in the future of American democracy, President Ford wrote.

"Certainly the even keel on which the University of Minnesota

These Will Give Sigma Xi Lectures



Left to right, above: Dr. Maurice B. Visscher; Dean Harold S. Diehl; below, left, Dr. William A. O'Brien; Professor Lloyd H. Reyerson.

"A-B-C" Statement of University's Reasons for Asking More Support

In support of its request for an annual maintenance appropriation of \$4,475,000, together with funds for four new buildings, which will be placed before the 1941 Legislature, the University of Minnesota has set forth the following reasons for the urgency of these askings:

1. Legislative appropriations have failed to keep pace with the growth of the student body.
2. The size of the university staff has failed to keep pace with the increase in the number of students.
3. The appropriation which the state provides for each student enrolled has steadily decreased since 1921-'22.
4. Minnesota high school graduates, the principal source of collegiate enrollments, continue to increase in number, year by year.
5. Since 1921 the collegiate enrollment, undergraduate and graduate, has more than doubled, while state appropriations, during the same period, have increased less than 10 percent.
6. Never before has so large a proportion of students who enter the university remained to complete their courses and graduate.
7. Night classes, agricultural school, and correspondence and short course student enrollments, as well as college enrollment, have steadily mounted.
8. The university has become a laboratory for the whole state, where advice is sought and research carried on in practically every activity in which the population engages, including, for example, such fields as agriculture, engineering, education, business, medicine and dentistry.
9. The university has had increased difficulty in attracting and adequately rewarding younger scholars and in holding the older members of its staff against the competition of other institutions.

The statement goes on to detail the requests in simplified form as follows:

1. That the annual maintenance appropriation for each year of the biennium be \$4,475,000.
2. That an advance emergency special appropriation of \$205,000 be provided for reconditioning the old Minnesota Union, Shevlin Hall and a portion of the Zoology building, which though badly needed, have been unoccupied since the opening of the academic year because of lack of funds for their reconditioning and operation.
3. That the special appropriation for research and extension be continued on substantially the present basis and that \$75,000 additional be provided for general research.
4. That funds be provided for additional buildings and land to enable the university to keep up with the increasing demands for teaching, research, and service. The requests include a Mechanical-Aeronautical Engineering building, a Poultry Husbandry building, a dormitory for the Northwest School and Experiment Station at Crookston, a College of Education building, and land for agricultural purposes.

Famous Popular Science Lectures Set by Sigma Xi

Minnesota's nationally-famous series of mid-winter scientific lectures for popular audiences, conducted for many years by the members of Sigma Xi, honor society in the field of science, will begin this year on Friday, January 31 and continue each Friday evening for the following three weeks in Northrop Memorial Auditorium. The lectures are held during the period when the Minneapolis Symphony Orchestra is on tour, leaving the Auditorium available on Fridays.

Although the committee has abandoned this year the plan of making all four lectures conform to one general, covering theme, it has chosen topics of intense general interest, each applicable to the largest imaginable number of persons.

"Chemistry and the National Defense" will be the subject with which Dr. Lloyd H. Reyerson of the School of Chemistry will open the series the evening of January 31. In addition to his many other scientific interests and accomplishments, Dr. Reyerson is widely known as director of the Northwest Research Foundation, which has as its main purpose the development of new chemical industries in Minnesota and nearby states by bringing into industry new raw materials found in this region.

Dr. Maurice B. Visscher, head of the department of physiology in the University of Minnesota's Medical School, one of the best-known of the younger physiologists in America, will deliver the second Sigma Xi lecture, his topic being, "Your Heart and You." The heart is Dr. Visscher's specialty, a subject on which he has conducted many interesting researches and written and spoken widely. He will speak February 7.

"The Common Cold," which some would consider not only common but positively vulgar, and annoying and dangerous into the bargain, will be discussed by Dr. Harold S. Diehl in the lecture on February 14. Dr. Diehl has devoted many years to research into the common cold, and his discovery of "Copavin," a widely used remedy from which some of the income goes to scientific purposes at Minnesota, was one of the important forward steps in the treatment of colds. During the many years when he was director of the Student Health Service at Minnesota Dr. Diehl had a splendid opportunity for large-scale statistical investigations of health problems during the physical examinations of thousands of Minnesota students, and his findings as to the cold were among the studies for which he used that material.

"Meeting Middle Age" will be the subject of the fourth and last lecture on February 21, to be delivered by Dr. William A. O'Brien, director of post-graduate medical education at the University of Minnesota. The courses he arranges at the university's Center for Continuation Study are known the country over and have as their firm adherents and regular students great numbers of northwest physicians. His comments on the desirability of slowing down a bit as one reaches the age at which gradual physical retrogression begins, are widely known and many will want to hear him state them from the lecture platform.

Subsequent issues of "Minnesota Chats" will carry further information on this season's series of lectures by Sigma Xi members. The committee in charge of this year's symposium is composed of Professors Henry Hartig, electrical engineering; H. K. Hayes, plant breeding; and Dwight L. Minnich, zoology. Officers for the current year of the Minnesota Chapter of Sigma Xi are, President, Professor F. J. Alway, soils; secretary, Professor Alan Treloar, biostatistics, and Samuel Eddy, zoology.

The lectures will start at 8:15 and will be preceded by a half hour of music while the audience is finding seats.

Regents Request Support Increase Of Legislature

Determined Strengthening of Education Way to Defend Democracy, Says President Ford

MILLION MORE ASKED

Buildings for Mechanical and Aeronautical Engineering and Education Among Those on List

Because public education is more important today than ever before as a result of the anti-democratic forces aflame in the world, which have everywhere overthrown educational freedom where they were victorious, and also because the maintenance appropriations by the state to the University of Minnesota have far from kept pace with the growth of enrollment, the Board of Regents, through President Guy Stanton Ford, have announced that they were asking an increase of approximately \$1,000,000 a year in state support. Prospective price rises, which will reduce the buying power of each dollar of appropriation, a continuing increase in the number of students graduated from Minnesota high schools, source of future university enrollment, and a longer average stay, per student, at the university were among other factors cited as making a material increase of support money essential.

The report points out that state funds available per student at the University of Minnesota have declined from \$384.91 in 1921-'22, when there were 8,988 students, summer students excluded, to \$216.15 in 1939-'40, when there were in attendance, 17,626 students of college rank, summer students again excepted.

For the coming biennium the Regents are asking for \$4,475,000 per year as against \$3,540,000 annually in the current biennium. In this regard they set their estimate of other income to be received by the university in each year at \$3,168,000, which is the same figure used in preparing budget estimates for the present college year.

Other Consideration Asked

The Regents also request certain changes in the so-called special appropriations made each year by the legislature for projects directly financed by the state and ask two major and two minor building projects. First of these is the building to house the departments of mechanical and aeronautical engineering, for which a student and alumni campaign has been under way. The second major request is for a building for the College of Education, a unit for which no building has ever been erected on the University of Minnesota campus. This would house all the work of the College of Education, the state's great teacher-training institution, and also the University High School, whose work is vital to the success of the College of Education. For each of the foregoing buildings the Regents are asking \$750,000. An appropriation of \$150,000 is asked for a poultry husbandry plant at University Farm, and an additional \$149,000 for a dormitory at the Northwest School and Station of Agriculture, Crookston, where present dormitory facilities care for only about half of the student body. Basing their request on the rapid growth of experimentation at University Farm, the Regents also ask \$75,000 for acquiring additional land for agriculture.

Re-establishment of the fund for medical research at \$25,000 from the \$20,000 to which it was cut by the 1939 Legislature and an additional general research fund of \$75,000 are among other askings.

Crisis Requires Action

"Can it be disputed," wrote President Ford in introducing the requests, "that the more nearly we approach the ideal of universal education the more nearly we like-

(Continued on page 2, column 1)

Regents Request Support Increase

(Continued from page 1, column 5)
 wise approach the ideal democratic state? Real democracy is not possible without free, public and widespread education. The European democracies have far to go before their educational systems meet the needs of truly democratic peoples. Their failure in this respect is a source of weakness. It is a weakness that cannot be allowed to develop in the United States, in Minnesota, especially at a time when our way of life is being challenged.

"My appeal to you, the citizens of Minnesota, and to the entire nation is for continued and increasing support for public education at all levels and in all of its many phases. I underline its importance with respect to the preservation and strengthening of democracy. I do not need to convince you of the worth of education. My only fear is that under the stress of a national emergency, with our thoughts inevitably turning to defense and machines for national defense, the enduring significance of education may momentarily slip from your minds. National defense at the moment looms large in all our thinking. I have discussed elsewhere what the university is already doing, through cooperation with various departments of the federal government, to aid in furthering the national defense activities. Our contribution is already impressive. But we must not lose sight of the role education can and does play whether nations are at war or peace. The history of our commonwealth from the very beginning has been characterized by devotion to the educational ideal. We are committed to this system of public education. Now as never before we need to reconsecrate ourselves to its maintenance and perpetuation. Let us not forget, I repeat, that our system of public education is 'our first line of defense' for all that we cherish. It gives us a way of life worth defending.

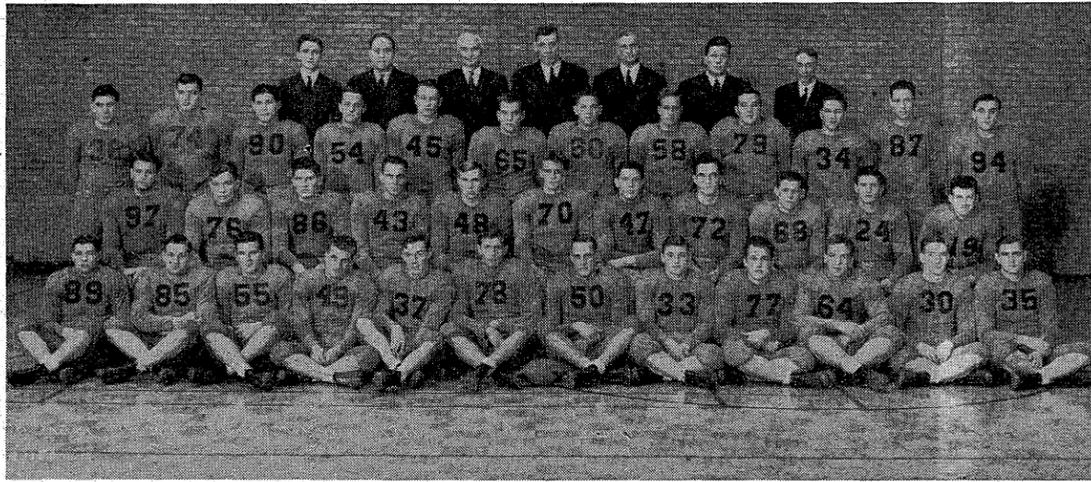
"The preceding paragraphs represent a summary of my creed with respect to education. They set forth why I have a faith in education that grows stronger with each passing year. They are testimony concerning my belief that the university is an indispensable investment in good citizenship and a good way of life for the people of this state."

After referring to the conceded inadequacy of the present quarters of the Departments of Mechanical Engineering and Aeronautical Engineering, the report goes on to say: "The university must not only train men in the various professions, it must look into the future and help to chart the course which these professions must follow. It must conduct research and stimulate its students in those analytical processes which lead them into new and unknown fields. The field of research is exceptionally promising in both mechanical and aeronautical engineering. It is through research that new industries must be developed and the present industries led into more profitable channels. There is every reason why these researches should be conducted by university departments and in cooperation with the industries of the state. Even in their overcrowded quarters, both the Departments of Mechanical and Aeronautical Engineering are conducting research which is of value to state and nation, but the meager facilities have made it necessary to forego an attack on many of the most promising problems.

"The needs of the Mechanical and Aeronautical Engineering departments are very similar, and in many instances the work is closely correlated. A request has been made for a joint building in the interest of economy and flexibility. The building will be designed so that space may be adjustable between the two departments as their needs vary, and it will also serve to relieve other departments of the Institute of Technology. Considering the conditions which now exist, the probable future requirements, and the fact that the two departments will be taken care of by the new building, the request for \$750,000, is extremely moderate and represents the minimum that should be considered."

Detail on the great need for a College of Education building will be set forth in the next issue of "Minnesota Chats."

Minnesota's Champion Golden Gopher Football Team



Here is the official squad picture of Minnesota's western conference and national football champions of the 1940 season. Front row, left to right, Tom Riley, Mark Moore, Ed Steinbauer, Joe Jamnik, George Franck, Co-captain Bob Bjorklund, co-captain Bill Johnson, Bob Paffrath, Helge Pukema, Bill Kuusisto, Bob Kolliner and John Bartelt.

Second row, left to right, Bob Smith, Leonard Levy, Ed Lechner, Howard Straiton, Gordon Paschka, Judd Ringer, Bob Fitch, Warren Plunkett, Bob Sweiger, Joe Mernik and Jim Shearer.

Third row, left to right, Gene Flick, Urban Odson, Neil Litman, Bruce Smith, Bill Daley, Fred Van't Hull, Don Nolander, Gene Bierhaus, Jih Lushine, Joe Hirscher, Bill Baumgartner and Dick Wildung.

Back row, left to right, Marshall Nelson, student manager; Lloyd Stein, trainer; Bert Baston, end coach; Bernie Bierman, head coach; Dr. George Hauser, line coach; Frank McCormick, director of athletics; Sheldon Beise, backfield coach, and Oscar Munson, custodian of athletic equipment.

Soldiers' Fatigue Is Study Problem Of Dr. Ancel Keys

Few men on the University of Minnesota campus are doing more interesting research than that of Dr. Ancel Keys, whose investigations of human fitness, physical ability, fatigue, and the like, are conducted in the department of physiology of the Medical School. Especially interesting is the fact that Dr. Keys' work is financed in large part by the Department of Physical Education and Athletics, and is thus a means whereby that department contributes from its football income to the general educational program of the university.

Although many aspects of Dr. Keys' present work cannot be revealed because they are related to the program of national defense, he has made the following statement for release to give an idea of the projects he has in hand in the laboratory of physical hygiene. Said he:

"It is commonly stated that in these days wars are won by materials and armament. This is true in a sense, but it is also true that these materials and armaments are used and require for their use men. It is still true, as always, that wars ultimately are won by men and not by materials. In the last World War the major problem was for the men to get the most out of the machines they used; in the present war this is reversed, and in many cases it is a problem of finding the men who can approach the capabilities of the machines they use. This is particularly true in aviation, in submarine warfare, in tank warfare and most of the most effective modern techniques of war. For these reasons research on the ability of men to do particular tasks is just as important as research to develop better machines.

"The Laboratory of Physiological Hygiene is designed specifically to study men and their activities. The possibilities for research in such a laboratory on problems of military importance are obvious. The Laboratory of Physiological Hygiene under the direction of Dr. Ancel Keys, Professor of Physiology in the School of Medicine, and Professor of Physical Education in the School of Education, is already engaged on work of this type. No details can be disclosed because of the possible military importance of the work. It can be stated, however, that one major project has to do with the study of fatigue in soldiers in marching and field operations and with means of reducing the fatigue and increasing the ability to carry out such operations. These studies are being carried out with the cooperation of the authorities at Fort Snelling and by authorization of the War Office and the National Research Council in Washington.

"Other studies in the Laboratory of Physiological Hygiene of potential military consequence are also being prosecuted. One project has to do with the prevention and treatment of wound shock, especially in the emergencies arising in the actual field of combat. Another project has to do with the study of the heart and circulation

'U' Continues Defense Aids

A considerable group of investigations, some of which would make "a good story" are being carried on in connection with national defense problems at the University of Minnesota, but for the time being no publicity will be given them according to Dr. Harold S. Diehl, chairman of the university's committee on resources for aiding the national defense. It can be said, however, that some of them refer to the physical welfare of troops, some to the treatment of injured persons, and others to specific scientific, morale and social problems involved in the assembling and handling of a large body of men such as will eventually be drawn into the army through the draft act. The University of Minnesota is also assisting in the technical training of engineers for industry, as already reported: According to Professor C. A. Koepke, in charge of the latter program, industry will be able and eager to absorb every trained worker in engineering and mechanical lines that can be found as soon as the industrial program for preparedness and armament gets going in full swing. Meanwhile, also, a complete field hospital unit has been organized under the leadership of Major James S. MacCartney. This unit is of a size calculated to care for 50,000 troops and probably will be required only when and if army operations are on a scale demanding a unit of that size.

under conditions of low oxygen supply such as is found in planes flying at very high altitudes.

"I should like to emphasize the very large role that the University can play and should play in the development of the defense program. There are many research problems which can very well be carried out at the University in the Medical School, in the School of Technology and elsewhere. In the Medical School the organization of the base hospital has been completed; if a great national emergency should arise the complete personnel for a hospital of 1,000 beds is already arranged. Many members of the faculty are already cooperating with the national defense program by taking part in discussion and giving advice to the various committees set up in Washington. Perhaps the biggest role of the University should be in the development of its students, both physically and mentally. The strength of any nation resides ultimately in the strength of its people—their physical strength, their training to use that physical strength, their intelligence and application to the requirements of industry, research and military operations. Lastly, there is the important strength of morale and the University should be prominent in developing the morale not only of its own students and faculty but as a focal spot for the entire community. I certainly believe that the University as a whole should be more active than it is in the national defense program, and I believe that this activity will increase as we realize more clearly the great urgency and gravity of the present world situation in which we find ourselves."

Teacher Graduates Finding Positions

"Relations with employing officials" was the subject of an address delivered by Dr. Clifford P. Archer, College of Education, when he attended meetings of the National Institutional Teacher Placement association in Chicago, November 29 and 30. Dr. Archer is director of the College of Education's Bureau of recommendations.

Several important placements have recently been made by the bureau. Dr. Alice Harmon, Ph.D., 1940, has joined the faculty of Iowa State College, Ames, where she will teach English. Miss Marcelle La Monte, a graduate of the College of St. Catherine, has been engaged to teach speech and psychology at Brainerd Junior College. Jacob Zaun, has been elected to teach social studies and music in Piedmont, Alabama. Miss Esther Swanson, College of Education, and Dr. Harlan Shores, on the staff of the St. Cloud Teachers College, have been offered summer teaching positions in the University of Illinois.

Journalists to Attend Convention

Dr. Ralph D. Casey, head of the department of journalism, University of Minnesota, and several members of his faculty will attend meetings of the Association of Schools and Departments of Journalism in New York, December 27, 28 and 29. Dr. Casey will report as editor of The Journalism Quarterly and will make a report with Prof. Russell Thackrey, formerly at Minnesota, on a joint study of the effect of motion pictures on public attitudes. Professor Fred Kildow will take part in a round-table on pre-journalism curricula and Professor Ralph Nafziger will be a member of a round-table on the press and world affairs. Prof. Thomas Barnhart will discuss courses in business management and advertising. Dr. Casey also will attend on December 30 a meeting of the National Council on Professional Education for Journalism, at which the American Newspaper Publishers Association, American Society of Newspaper Editors, National Editorial Association, Inland Daily Press Association, and Southern Publishers association will be represented along with the principal schools of journalism.

Political Scientists To Lead Meetings

Professors Harold S. Quigley and Lloyd M. Short of the department of political science, University of Minnesota, and Leslie Gravin, commissioner of administration, state of Minnesota, will be section chairmen at meetings of the American Political Science Association and American Society for Public Administration which will be held in Chicago the last four days of December. Dr. Quigley will be chairman of two sectional meetings on Far Eastern Affairs and Dr. Short will preside over the section on state government. Earl G. Latham of the Minnesota department will take part in the discussions on public law.

Fact and Artifact

By T. E. Steward

ONE OF THE most wholesome influences for unification of the University of Minnesota faculty and maintenance of its morale was the old Campus Club in the east wing of the Minnesota Union. I say the "old" Campus Club because, while there is still a Campus Club, it is now in quarters so different that one must wait a bit to see how the members will react to it. Its rooms in the Coffman Memorial Union are so much larger than they have ever been before that the faculty will not be forced literally to "rub elbows" as they have been for many years past. Undoubtedly large new benefits will accrue from moving into the new place, and it is to be hoped that all of the old benefits will continue, also.

Certainly no questioning of the new club is intended here. What I want to record is that person after person has remarked, "If someone would only write the annals of the 'old' Campus Club." Well, I'll not. The intimate annals of any group in the place where it assumes it has privacy and knows it is entitled to privacy is not material for "Fact and Artifact." Key-hole peeping is strictly off the docket. And yet, certain phases of Campus Club life may properly be recorded.

No other event was more amusing than those annual meetings at which the books and magazines accumulated during the year were put up for auction, with the late Dr. James Davies as auctioneer, taking full advantage of all the unique intonations he had developed by long years of reciting Kipling's "Barrack Room Ballads." If a year's pile of some "snappy" publication drew a bigger bid than the four decorously blue numbers of the "Yale Review," "Jim" let them know what he thought about intellectuals with so little discrimination. He always bewailed, also, the small number of bids for a mountain of copies of the Weekly London Times. While Dr. Davies was at the Campus Club, no one could ever say that the Weekly Times or Weekly Manchester Guardian went unread. When he visited the club's reading room he began with those periodicals. Harper's, the New Republic, School and Society, and even Club Management and "Sports Afield" just had to wait.

THE BAD feature of the "old" Campus Club was its complete and perfect lack of ventilation. Goodness knows what the people who planned the old Minnesota Union thought it was that humans breathed; certainly not air. After lunch, when four or five quartets were playing bridge, "kibbitted" by at least an equal, often a greater number, while eight or ten more were gathered at the billiard and pool tables, they with their own quota of kibbitzers upon their backs to bite 'em, the "atmosphere" of the club became, well, higher and higher, though hardly more rarified. You could bump your head upon the air in the room. Most tragic of all, if anyone ventured to open a window, in winter that is, some sharp-eyed influenza addict would spot the very thought abhorning and slam the sash down almost before the first pure inward draft had swung the blue tobacco smoke of the interior into a long, concave curl. Fresh air was doomed to remain outside where, presumably, it would remain fresh. No need polluting it and changing its character by letting any of it in.

Although the club had presidents from the faculty, paid managers, and other officials and factotums, its real boss was Nellie, still in its service, happily. Nellie, who worked something like half of each day with such cleansing instruments as the vacuum cleaner and dust cloth never hesitated to give voice to any matters about the club that displeased her. She usually won her arguments, too, by dint of sheer persistence and what would be known in football as "turning on the pressure." Nevertheless, everyone in the old club was Nellie's friend, and remains so, although folks see her less often nowadays, her activities having been shifted to less obvious areas.

Since this piece was started I have learned that Professor Fred K. Butters of the department of botany, wrote a brief history of the Campus Club, which was placed beneath a stone in the fire-

(Continued on page 4, column 4)

Farm and Home Week Program Ready for 3,000 in January

Annual Mid-Winter Meeting for Folks of Rural Minnesota Coming Soon

To learn to keep pace with fast changing times and methods, more than 3,000 Minnesota farmers and homemakers will attend the 1941 Farm and Home Week at University Farm, St. Paul, January 20 to 25. At the short course, according to J. O. Christianson, who is in charge, they will have opportunity to attend more than 200 informational classes in all types of agriculture and homemaking. Speakers of international popularity, assemblies and programs of entertainment have been arranged.

Carl Tausch, head of the division of program study and discussion, Bureau of Agricultural Economics, Washington, D. C., will discuss the requirements of a democratic society when he addresses one of the main assembly sessions. A headliner on the entertainment side is Edgar Guest, popular poet. Among other speakers are Wilfrid Laurier Husband, lecturer and photographer, and President Guy Stanton Ford and Dr. William A. O'Brien of the University of Minnesota. Dean Walter C. Coffey, University Department of Agriculture, will give his popular breakfast talks each morning following singing led by J. Clark Rhodes.

The Regular Program

The five-day school in farming and homemaking will offer exhibits, classes, demonstrations and contests. Homemakers will see a textile exhibit brought from the Household Research Center, Milwaukee, hear discussions bearing on vegetable cookery, frozen fruits and vegetables, clothing construction, hay fever and feeding the school child. Food from various angles—preparation, vitamin value, cost, and selection, will be discussed. Mrs. Clara Gebhard Snyder of the Wheat Flour Institute, Chicago, will talk over the use of flour in the home.

Among the vast number of classes in agriculture are these: Market grades of lamps and lamp carcasses (with samples); grinding grain, cutting dry roughage and mixing rations; a farmer's view of land-use planning; cooperative creameries that pay; marketing poultry and eggs to advantage; a cold storage locker at home; building barns to withstand wind; new varieties of wheat and oats; pasture fertilization; potato diseases; growing plants from seed; best roses for farm garden; calf raising; artificial insemination; land values and the world war; will erosion control pay; first steps in beekeeping; insect problems of small fruit; and Minnesota game animals.

There will be business meetings of various livestock breed associations, and on Friday afternoon the annual meeting of the Minnesota Livestock Breeders. The Minnesota Crop Improvement Association will meet and the 1941 Premier Seed Growers will be announced.

Tuesday is Farm Bureau Day with its special program of speakers and entertainment.

Three conferences have been scheduled in 4-H, rural youth and community leadership. Speakers include Dr. George Mecklenburg; Minneapolis; Dr. Tausch; A. J. Kittleson, state 4-H club leader; Dr. Douglas Ensminger, bureau of agricultural economics, Washington, D. C.; and Dr. J. E. Anderson, director, Institute of Child Welfare.

Music by college choruses and the school band will be on the week's assembly programs. All events are free. A committee is arranging for special transportation facilities to a downtown Minneapolis hotel where low cost lodging rates will be effect for Farm and Home Week guests.

Six Are Initiated By Sigma Delta Chi

The University of Minnesota chapter of Sigma Delta Chi, national professional journalism fraternity, initiated four new undergraduate members and two professional members at its annual mid-winter dinner. The new student members are Wilfred Lingren of Forest City, Iowa; and Sherman Langley, Dik Twedt and Herschel Caplan, all of Minneapolis. Max White, managing director of the Winona Republican-Herald, and P. J. Hoffstrom, St. Paul Dispatch columnist, were named professional members.

Leaders at Big 'U' Farm Week



Chairman J. O. Christianson



Carl Tausch

New Products Of Laboratories Startle World

When Dr. Carl A. Herrick spoke recently on "The Contributions of Science to Modern Society," there was space for only the first part of his address in "Minnesota Chats." Following is the remainder of Professor Herrick's description of the practical accomplishments of the modern Alladins.

One of the recent contributions which has received some publicity was an accidental discovery. While scientists were searching to find the why and how molecules unite to form giant molecules called superpolymers, they developed a new type of synthetic material from which fibres of great strength and elasticity can be spun. This material is called Nylon.

Nylon fibres have a higher strength-elasticity factor than the corresponding fibres of cotton, linen, wool, silk or rayon, in fact, it is the first fibre to surpass silk in strength. Water will not hurt it and it dries quickly. Most chemicals and oils will not harm it. It can be used in fish lines and leaders, surgical sutures, bristles for tooth brushes, hair and coat brushes, thread and hosiery. It can be formed into fibres, sheets, bristles and other forms.

Nylon fibre is spun by extruding it through a spinneret. As it leaves the spinneret the long chain-like molecules run in every direction, like straws in a pile. By drawing these fibres out to several times their original length the molecules line up parallel and close together. If the fibre is stretched to twice its length it will keep this length, but at a certain point, approximately between four to seven times its original length—depending on the type of Nylon—the fibre becomes truly elastic, stretch it further and it will spring back to this point. To reach this point of elasticity the yarn from the filaments is wound on spools then rewound onto another spool whose surface speed is four times faster than that of the spool from which it is being unwound. Thus it is stretched to four times its original length and becomes a truly elastic material.

The rubber industry represents an investment of about \$3,000,000,000 and employs approximately 4,000,000 persons in the production and manufacture of the 2,000,000,000 pounds of pure rubber consumed in the normal year.

Their research men and engineers are constantly introducing new articles and improvements to the public. Rubber belts two miles in length are transporting 48,000 tons of crushed rock each day at the Grand Coulee Dam. Mattresses, cushions and upholstery made from beaten and molded latex are recent additions on the market. Sheets of rubber of various thickness are used to form covers impervious, after the seams are sealed by heat, to air or moisture for packaged goods. Rubber base paints and cements are available. In bulk gasoline storage plants rubber impregnated fabric bags are used to catch the gasoline saturated vapors and thereby reduce to a minimum evaporation losses which formerly ran into millions of dollars annually. Tanks and pipes are lined with a rubber composition that will resist the action of acids. Rubber floors and walls are found in homes, hospitals, office buildings, trains and ocean liners. In all it is estimated that 50,000 different and useful products are made from rubber.

Unbelievably Fast Photography

As speed in moving parts of machine increased things began to happen which were not clearly understood: things happened so quickly that the eye or the camera was unable to note what was taking place. The engineer and the scientist wanted to see what was actually taking place so that they might be able to remedy any defects present; thus the Stroboscope was produced. This instrument permits a rapidly moving object to be apparently still or its motion is reduced to a relative slow motion while it is noted by the observer. This is not a permanent record and can be studied only when the object is in motion so photography is called in. Today pictures have been taken with an exposure of 1/300,000,000 of a second. The use of a light flash accurately timed to last 1/1,000,000 of a second is now quite commonplace. Motion pictures taken at incredible speed of exposure and intense light have made it

possible to analyze at one's leisure what goes on in the automobile motor, aeroplane and ship propellers, spindles and looms in textile machinery, fans and moving parts in automatic machinery. The manner in which metals cool, liquids flow, the explosion and combustion in an internal combustion engine takes place and the airflow about propellers and aeroplane wings have all been photographed.

Electrical wizards have given us many things which perform hundreds of amazing tasks in science and industry and have made our lives far happier and more comfortable by using tiny bundles of electrical energy made up of electrons. First came the radio with its electronic detectors and amplifiers. This was followed by the talking pictures with their powerful vacuum type amplifiers and with television with its picture-producing cathode ray tube, and now the vast field of electronics.

One of the latest developments in this field is the electronic microscope capable of bringing into view minute objects forty times smaller than the smallest visible under the ordinary microscope. Instead of a beam of light this instrument employs a stream of electrons, and electrically energized magnets instead of lenses. The electrons are produced by a heated filament at the top of the ten foot cylindrical barrel and travel downward. They are focused on the specimen to be magnified. By regulating the strength of the magnets and the flow of electrons the operator can control the magnification so the object may be either photographed or studied visually.

Hundreds of other applications are in daily use such as devices for counting articles, sorting fruit such as raisins, testing breakfast foods by their color, sterilizing lamps which produce bactericidal ultra violet rays, and many others.

One could go on indefinitely naming and describing achievements coming from the work shops and laboratories. All of these in the last analysis are aimed at improvements in the existing technological processes which to a great extent determine our social and economic structure.

H. J. Smith in San Francisco

Dr. Homer J. Smith, professor of Industrial education, recently attended the annual convention of the American Vocational Association, whose winter meeting was conducted in San Francisco. Dr. Smith is vice-president and member of the executive committee of this association, which has a membership of 25,000.

University Awards 114 Doctorates Majority Intend to Teach in Colleges

Pharmacy Gets Aztec Herbal Of Great Rarity

"Badianus Manuscript" Was First Book on Remedies in New World

What is probably one of the most remarkable books in the world, The Badianus Manuscript, a translation of an Aztec Indian herbal, or book of medicinal plants, has recently been obtained by the College of Pharmacy through the interest of Dean Charles H. Rogers. It is illustrated with a large number of reproductions of actual Aztec drawings.

The Latin manuscript, of which the present book is a translation by Emily Walcott Emmart, was found in the library of the Vatican, and was, of course, a translation from the original Indian writing.

The Badianus Manuscript has now been published by the Johns Hopkins Press, Baltimore, because discovery of the manuscript in Rome by Charles U. Clark was reported first to the famous historian of medicine, Dr. William H. Welch of Johns Hopkins, whose enthusiasm led to its translation. The book in its present form has an introduction by Dr. Henry E. Sigerist, also of Johns Hopkins, who says:

"We have always known that the Aztecs had physicians of great experience. The Spanish conquerors were very much impressed by the medical lore of the Indians and they mentioned it with much praise in all our early reports, from Cortez' letter to Charles Fifth, on. Nevertheless, our sources of Aztec medicine are scanty. By far the most important is the report of Sahagun who, not being a physician, without professional bias wrote down what the Indians told him. This is not always the case with later writers. Already Hernandez, whose great book is a mine of information on Aztec materia medica, had a tendency to project European views into the subject. The same applies still more to such writers as Juan de Cardenas, who attempted to interpret the New World in terms of Aristotelian philosophy.

"The charm and, at the same time, the great importance of the Badianus Manuscript lies in the fact that it is a purely Mexican product, and that, as far as we can see, it shows no traces of European influence. Written by an Indian physician in Aztec and translated into Latin by another Indian, it gives a genuine picture of Aztec medicine at the time of the Conquest, or rather of certain aspects of it. One must be careful in drawing general conclusions from one source. As long as only the Ebers Papyrus was known we had a false conception of Egyptian medicine, and we may still have erroneous views on the subject because of the scarcity of sources. The Badianus Manuscript is a herbal. It therefore deals with the pharmacological treatment of diseases; it is not concerned with surgery and similar subjects. The fact that incantations are not mentioned does not mean that Aztec medicine was free of religious and magical elements. As a matter of fact, we know from other sources that it was not. Moreover, the Badianus Manuscript itself is full of magic, for many of the remedies applied, particularly precious stones and parts of animals, were nothing but charms. But this was a kind of magic to which the Church had no objection. The omission of incantations, however, may very well be explained by the fact that the writer was a Christian, as Dr. Emmart points out.

"Obviously the botanist will welcome this publication. It makes available testimony for the occurrence of definite plants at a given time in Mexico and the illustrations are the earliest known plant pictures of American botany. The pharmacologist and pharmacist, on the other hand, will be interested in the use and preparation of drugs, among which are not only vegetable but also animal and mineral remedies. One is reminded of medieval European treatises.

"It is interesting to see that on two continents, independently, the same type of medicine developed. As a result of observation, experience and reasoning, men independ-

Of Year's New Ph.D's All But Eight Are at Work in Own Field

The Graduate School of the University of Minnesota awarded the doctor of philosophy degree to 114 persons during the year 1939-'40, of whom 106 are now employed in the field of their major study, it was shown in a report recently compiled by Dean Theodore C. Blegen to be sent to the Carnegie Foundation for the Advancement of Teaching. Of the total, 76 expressed an intention to do college teaching and 52 were so engaged at the time the report was made. Thirty eight had not intended to do college teaching. The eight who were not employed in their major field, so far as known, were made up of two married women, two Chinese, of whom at least one had returned to China and whose status was unknown, two unemployed men and two unemployed women, making the accurate ratio of those unemployed only four out of one hundred and ten.

Agricultural biochemistry produced the largest number of doctors of philosophy during the year, namely, eleven. Organic chemistry, with ten, came next, followed by physical chemistry, with seven, three departments with five, namely, chemical engineering, entomology, and plant genetics, and three with four, English, history, and psychology.

In all 42 different departments contributed to the total of 114. Three departments in the College of Education graduated six with the Ph.D. degree, divided among general education 3, educational administration 2, and educational psychology, one.

Doctorates of philosophy granted by departments not hitherto named were as follows: Agricultural economics 2; agronomy and plant genetics 1; anatomy 3; bacteriology 2; botany 1; analytical chemistry 2; dairy husbandry one; economics 2; electrical engineering one; French one; geology 2; German one; horticulture 2; mechanical engineering one; medicine one; metallurgy one; neuropsychiatry one; pediatrics one; pharmaceutical chemistry 2; physics 2; physiology 2; physiological chemistry 2; plant pathology 2; political science 3; radiology 2; sociology 3; soils 2; speech one; surgery 2; zoology 2.

The doctor of philosophy degree is most commonly associated with college teaching and has become the passport to a permanent position in the field of college teaching throughout the United States. Its symbolism, however, is not restricted to the mark of preparation for college teaching, for it is also the degree required of men doing advanced research in science, especially in such programs as are carried on by the foundations and the large industrial and communications research organizations.

It is the highest degree awarded by an educational institution for work done in the formal educational process. Such widely known degrees as LL.D., Litt.D., Doctor of Science, and the like, are honorary degrees, bestowed by institutions on persons who have distinguished themselves in after life, apart from the educational routine.

Invents Rubber Map; Patented

Herbert Jensen '36B, formerly on the staff of the department of visual education and now serving as assistant to the dean of student affairs, E. E. Nicholson, has developed a method of making rubber relief maps. Working with him on the project is his brother, Harold Jensen, assistant director of the department of visual education. The relief maps in rubber can be made more easily than the conventional plaster-of-paris maps. With an aluminum cast the maps can be produced quickly in unlimited numbers and the sponge can be colored to clarify the geographical divisions.

ently came to differentiate certain symptoms of disease and learned to group them into disease pictures. They also learned the use of drugs and applied them as powders, potions, salves, ointments or plasters. At the time of the Renaissance medieval herbals were still popular in Europe and were printed and reprinted. In other words, in the sixteenth century patients were treated along the same lines on both continents."

MINNESOTA CHATS

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T. E. Steward, Editor, 109 Administration Building
University of Minnesota, Minneapolis

Gift Horse Inspection May Now Halt!

It may be taken for granted that the departments of mechanical engineering and aeronautical engineering, which are seeking a new building in which to house, jointly, their increasingly important functions, are in exactly as bad a plight as they contend. Both are housed in quarters that are not only inadequate, but practically ridiculous. Any alumnus, legislator, or even critic of the University's Legislative requests could satisfy himself of the truth of this statement in a fifteen minute visit to the campus. It will not be the purpose of this argument, therefore, to labor the point that a new building is needed.

At the same time, some attention should be paid to the statement heard here and there that the University of Minnesota has done so much building in the past two years as to prejudice anyone against the request of the two swiftly growing departments of engineering. And especially is it necessary to straighten out the factual information of those who may have believed, and in some cases have said, that these recent buildings were put up with state tax money.

With the exception of the Field Crops building, now being started at University Farm, all buildings put up by the University of Minnesota in the past two years have been PWA projects, financed to the extent of 45 percent by the Public Works Administration. For two of the buildings, William J. Murphy Hall, home of the department of journalism, and the Museum of Natural History building, the remainder of the cost was financed by gifts. James F. Bell, regent, put up \$150,000 to make up the difference for the Museum. The Murphy gift was made some time ago, but it was from accrued interest on the gift of the late W. J. Murphy to endow journalism teaching at Minnesota that the additional funds, over and above the PWA allotment, were obtained for the journalism building. Similarly, existing funds, plus PWA, paid for the dormitory for graduate students, the small building to house health functions at University Farm, and for Comstock Hall, new women's dormitory.

A few loud cries have been heard to the effect that money was spent with too free a hand on the Coffman Memorial Union. To disprove this is almost too easy. As a matter of fact there is represented in that building alone more than one million and a half dollars that neither the state nor the University of Minnesota would ever have had but for the project of erecting a Union. What are these sums? Can this be true? Yes, it is. In the first place, it is obvious that the \$891,000 obtained from PWA would not have been on hand but for the project and the grant for that particular building. That is a starter. In the second place, \$260,000 plus, was raised for the Coffman Union in a gift campaign. Furthermore, the Campus Club, a faculty organization, independent of the university, threw in at least \$25,000 it had been saving as a nestegg for a building fund of its own. And on top of this, the university was able to borrow \$400,000 toward completion of the building because the project was so sound that it was clear to the lenders that the loan was good. These sums, as stated, come to \$1,576,000. It will not do to say that the PWA funds "came out of taxes" for they did not come out of state taxes, and the federal taxes were gone from the state, willy-nilly. The university merely helped get back nearly a million of that money.

Money used for the Coffman Union over and above items here described came from funds that had been built up on the campus, by the old Union, by Service Enterprises, and by Athletics. In this transaction the students are big gainers, because they have a fine building for social activities, and the state of Minnesota is an equal gainer. This particular gift horse has been looked in the mouth long enough and would be justified if it suddenly closed its gleaming white teeth with a snap. It has no bridgework.

Year's Judd Lecture NYA Aid Goes to Set for Jan. 15 Over 1,000 at 'U'

Dr. Andrew C. Ivy of Chicago, Nathan Smith Davis, professor of physiology and pharmacology in Northwestern Medical School, and department head, has accepted an invitation to deliver the eighth annual E. Starr Judd lecture in the University of Minnesota Medical School, Wednesday, January 15. These lectures were endowed by the late Dr. E. Starr Judd of the Mayo Clinic, one of the most distinguished graduates of the Medical School, shortly before his death. Dr. Ivy's subject will be, "The mechanism of gastric secretion." He will speak at 8:15 p. m. in the Medical Science Amphitheater. Dr. Owen H. Wangenstein, head of the department of surgery, is arranging the lecture.

All Minnesota counties but eight are now represented by students receiving NYA federal aid for financing their education at the University of Minnesota it was shown in a statement prepared by Dean Malcolm M. Willey, assistant to the president. A total of 1,059 students of whom 734 are men and 325, women, are getting the NYA aid. Each student is assigned to a definite job and paid by the hour, average working hours per month running about 35 and average payment, \$15. A breakdown of the figures shows that there are 193 seniors, 246 juniors, 298 sophomores and 295 freshmen. They are employed in many fields, mostly in clerical work and as laboratory and research assistants.

Painting Hangs in Coffman Union



Facing the picture of Dr. L. D. Coffman, former president of the university, in the main lobby of the Coffman Memorial Union, is this painting of Mrs. Coffman, which hangs on the opposite wall. Both are by Carl Johanson of New York.

President Reviews Fact and Artifact University's Past

(Continued from page 1, column 1)

has been able to pursue its work has strengthened that faith," he said. "The citizens of very few states have made a better record. I have sought the explanation and can find elements of the answer in various things, such as the balanced and yet intimate interdependence of city and rural interests, in the dignity and independence of the Board of Regents, and in later years in the fuller realization that the university is here to serve all classes and groups and not as the handmaiden of any one. Always I come back to the combination in our population of the early New England and seaboard pioneers and the overwhelming preponderance among later settlers of European origin of those nationalities whose intelligence and enterprise and traditions made them sons of the American spirit before they learned the language. For them their children's opportunity to know a fuller life and to be prepared to share it through education was and remains a mastering purpose. Of this the history of the state and the university is ample testimony."

President Ford paid a tribute to the sincerity and integrity of the student body at the University of Minnesota and begged the public not to take too seriously student expressions of opinion which in many cases, he said, come from great eagerness to be doing something rather than from mature reflection.

In view of the approaching selection of a new president for the University of Minnesota there is interest in President Ford's statement of the qualifications of a university president, qualifications on which, he said, no man scores 100 percent, at least, not at the beginning of his career.

Presidency Analyzed

"In some ways," he said, "there center under the administrative responsibility of the president's office at least six major functions. He is the choice of the governing board and their technical expert and major adviser. He is the head of the faculties and must have their confidence and support. He has his place to win in the respect of the current student body even if numbers and multiform duties make the old face-to-face contacts impossible. He speaks for the university of today to the alumni and

(Continued from page 2, column 5)

place of the new clubrooms and sealed there in a ceremony aimed at the future. When the Phoenicians and Assyrians of 3,000 years hence examine the ruins of debris along the upper Mississippi they will learn what he has written. I do not know what it is, but I do know that no one else knows as much about the club, from its very start many years ago, down to the present, as does Dr. Butters. He is the only man, for example, who ever loaned it a considerable sum of money (in its early days) to get it out of the hole, and I do understand that the loan was repaid, though whether it came back to him in cash or he "ate it out" I am not quite sure.

IT IS REVEALING no "inside secret" to state that the three star roomers at the Campus Club, those who have been residents longest of its bachelor living quarters, are Professors William Lindsay, of the department of music; Professor Izaak M. Kolthoff, chemist, and Professor Harlow Richardson, director of the courses in English in the Institute of Technology. Professor Richardson, by virtue of long residence, is chairman of the house committee. Professor Lindsay, who is oldest in point of residence, was entitled thereby to have first pick of the rooms on the top floor of the new club. This privilege, however, he waived in favor of Dr. Kolthoff.

Originally a purely faculty club, the Campus Club now lives up to its name somewhat more fully by extending membership privileges to other large groups on the campus. It also has provisions whereby junior members of the faculty down to a certain point have membership's financial demands somewhat lightened. In its new quarters as in its old, the club promises to be one of the most worthwhile institutions on the campus, a place where faculty people meet on friendly, informal terms, and often, no doubt, settle easily and peacefully problems that might become involved in rolls of red tape had they taken a more formal course.

seeks to voice the aspirations and ambitions of an alma mater that is obligated to renew and enrich her life even beyond the comprehension of her sons and daughters. Budget and finances and the support of the university are ever present problems for him and are intensified by every aspiration of the university to widen its scope or to do its old tasks better. Last of all, he is by his position a servant before the public of all good

Research Station For N.W. Business Now Ready at 'U'

Dr. Will Kissick Is Economist for First Such Venture in United States

With the selection of a director of research or economist, and the appointment of an advisory council, the new Regional Business Research Station at the University of Minnesota has been got under way, Dean Russell A. Stevenson of the School of Business Administration announced. Dr. Will F. Kissick has been named chief economist of the station, which is the first of its kind in the country. It has been established by the United States Department of Commerce in cooperation with the university to assist business men of the Minnesota area in solving problems that they have had difficulty in meeting alone. Results of the studies will not only be made available locally, but will be reported in such form that they will be useful to business men elsewhere and to business research workers in other universities.

It is expected that success in the University of Minnesota venture will lead to the establishment of other, similar stations in one or more other universities.

The first research project on which the station is to work will be selected some time in January, Dean Stevenson said.

At the final conference leading to establishment of the station, President Guy Stanton Ford, Professor Roy G. Blakey, Dean Stevenson, and the following members of the advisory committee took part, namely: W. C. MacFarlane, president of the Manufacturers' Association of Minneapolis and of the Minneapolis-Moline Power Implement Co.; Milton W. Griggs, president of Griggs-Cooper & Co., St. Paul; Oliver S. Powell, first vice-president of the Federal Reserve Bank of Minneapolis, and Silas N. Bryan, manager of the Minneapolis regional office, Bureau of Foreign and Domestic Commerce. Dean Stevenson is chairman of the advisory committee, or council, and Dr. Kissick, its secretary.

causes and the high priest of the one faith held by all Americans—a belief in education. If a man can satisfy one constituency fairly well he is called a statesman. If any man is even under suspicion of being able to do all the functions named above we unhesitatingly make him a university president.

"The task of members of the Board of Regents," he said, "is to seek some one with power to develop through the years that combination of qualities that are most important to their university and its future. Among those qualities one is inescapable. It is the combination of character and native honesty, together with an appreciation of scholarship, that wins and retains for a president the loyalty and cooperation of the great body of his faculty. Having this, all other things shall be added unto him."

The America One Dreams of Quoting the remark of a visitor who, after watching the students at the University of Minnesota, said, "I felt that this was the America we had dreamed of creating," President Ford closed his report by saying: "In the procession of the years the university has striven as best it could to keep step with the state's ever increasing demands for education, research, and service. Even though the story here told has been fore-shortened, it reveals how the candlelight in the schoolroom of the university at the Falls of St. Anthony has grown brighter and brighter and now throws its light like a beacon far beyond the boundaries of the state. Given the power and support it needs now, that light may help us and our children to see the way to a solution of our present problems consistent with the highest aspirations and noblest traditions of our past.

"Let me close with the words from Governor Pillsbury's message to the Legislature in 1877: 'I invoke at your hands such fostering care of the educational institutions of the state as will insure a growth commensurate with a proud material development and adequate to the wants of an expanding future.' I can only add the appeal that in support of this vital bastion in the ramparts we watch, your support and fostering care will not be 'too little and too late.'"

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Work on U-235 Heads Progress List of Year

Minnesota - Columbia Research Called Most Important by Herald-Tribune

POSSIBILITIES ENDLESS

Other Contributions Made by Men Once Connected with Minnesota Staff

Release of atomic energy based on the isolation of Uranium-235 by Dr. Alfred O. Nier of the University of Minnesota and furthered by Dr. John R. Dunning and his associates at Columbia University was called the outstanding event in science in the year 1940 in a year-end review of scientific accomplishments published in the New York Herald-Tribune by its science editor, John J. O'Neill.

Besides thus placing Dr. Nier and Dr. Dunning at the head of the list of the year's scientists, the article mentioned three other physicists who formerly had been at Minnesota, namely, Dr. Ernest O. Lawrence, who won the Nobel prize for inventing the cyclotron and who holds a degree from Minnesota; Dr. Arthur H. Compton, now at Chicago, and Dr. W. F. G. Swann of the Barthol Foundation, Philadelphia, each of whom at one time taught here.

The following statement is taken from the Herald-Tribune of December 29, 1940:

The outstanding event of 1940 in science was the demonstration of the practical release of atomic energy. The basic effects of this epoch-making scientific step will be observed long after the year's developments in the European war have become a hazy memory. It marks the beginning of an era in which it will bring about tremendous industrial, economic and social changes.

The experiment, conducted at Columbia University by Dr. John R. Dunning and his associates last March and made possible by the separation of uranium 235 by Dr. A. O. Nier, of the University of Minnesota, was the climax of a quarter-century of effort by scientists throughout the world. Atomic energy had been released in hundreds of experiments, but it always required millions or billions of times more power to release the energy than was received from the bombarded atoms.

In the Dunning-Nier experiment the situation was reversed. Using a slow neutron with an energy of one-thirtieth of an electron volt, they split the uranium 235 atom. Part of its mass was transformed into 200,000,000 electron volts of energy, a 6,000,000,000-fold return on the energy employed. The actual measured energy released was 5,000,000 times that obtained from the burning of an equal weight of coal.

Little more has been heard about the work of the scientists because the War Department has taken over the project and rigid secrecy is maintained.

Importance for War

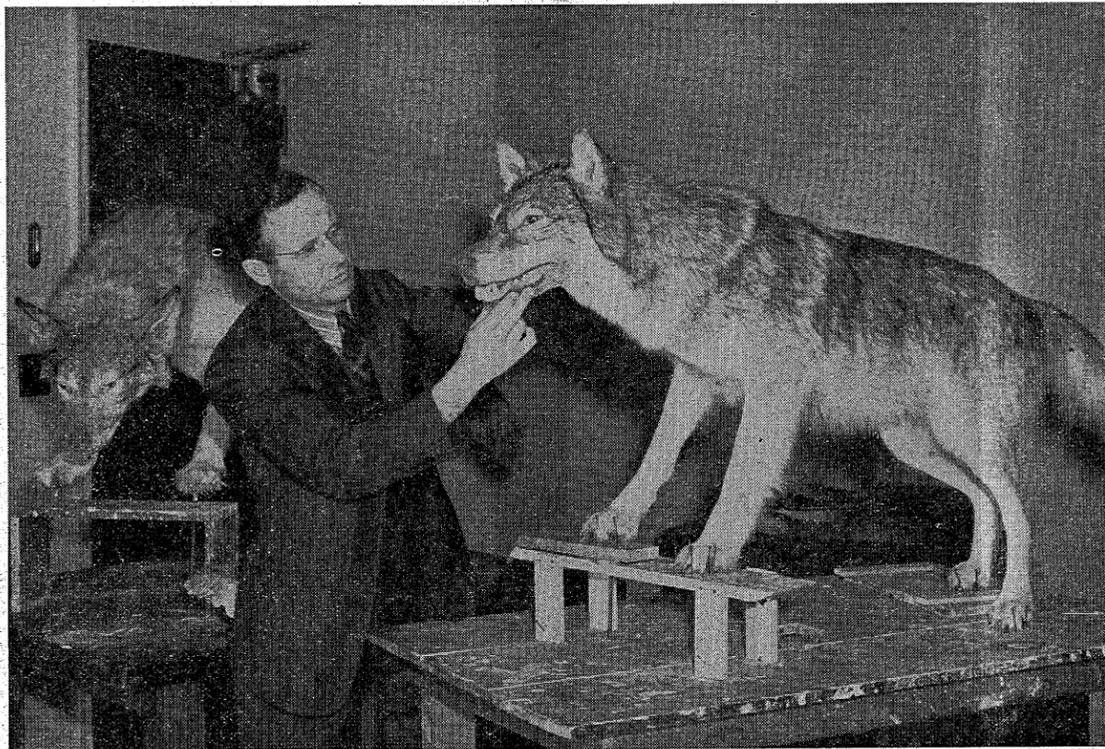
The importance of atomic energy as a war weapon is indicated by the fact that one pound of uranium 235 can release as much energy as 150 tons of TNT. It is even more important as a source

Continued to page 3, column 4

Journalism Men Win New Honors

Professor Ralph O. Nafziger, department of journalism, University of Minnesota, was elected president of the American Association of Teachers of Journalism at its recent meeting in New York, at which time also Dr. Ralph D. Casey, chairman of the department at Minnesota, was named to the board of directors of the National Council on Professional Education for Journalism. Dr. Casey had been a member of the Council from the time of its formation. Further details will appear in the next issue of "Minnesota Chats."

Wolf Group to Put New Grrmph in Museum



Walter J. Breckenridge of the staff of the Minnesota Museum of Natural History is shown putting finishing touches on a handsome specimen of the timberwolf, one of three to stand in a habitat group soon to be added to the museum display. The wolves were trapped in Superior National Forest. The group is being given by James F. Bell, regent.

"Mid-Twentieth Century Discipline" Fall Commencement Address Topic

Asks, with MacLeish, What Has Become of Fire, Passion and Broad Social Purpose in Colleges

The commencement address at the conclusion of the fall quarter, delivered in Northrop Memorial Auditorium by Dr. W. H. Cowley, president of Hamilton College, drew such widespread approval and created so much interest, that it is reprinted in full in this issue of "Minnesota Chats."

Dr. Cowley is one of the youngest college presidents in America, having taken his B. A. degree in 1924 at Dartmouth College. He was a professor of psychology at Ohio State when called to Hamilton. His address, entitled, "Mid-Twentieth Century Discipline," follows:

We are gathered this morning to send forth still another crop of college and university graduates. For many years you who are receiving degrees and your parents and relatives have been looking forward to this day. For you, therefore, this ceremony is essentially an occasion of congratulations even though it is disguised by academic rigmarole and the medieval millinery with which professors bedeck themselves when they gather in solemn conclave. Take away all the trimmings and we find that everyone is in an expansive mood ready to hear nice things said about those who leave these halls to start their struggle with the hard-bitten world.

The commencement speaker, however, views the situation differently. He is not in an expansive mood. His traditional job is not to do what fond parents expect and to congratulate their offspring on their success in passing through the rigor of higher education. Instead, custom requires that he charge them in deep seriousness and sincerity to concentrate upon the great problems of the world they face and to dedicate themselves to helping resolve these problems.

If the world were the carefree place that it was a dozen years ago, it would be interesting to break with this tradition and to be frankly and out-spokenly full of congratulations. But the world is not a carefree place, and I have no choice but to follow the custom of serious-mindedness honored of yore by all commencement speakers.

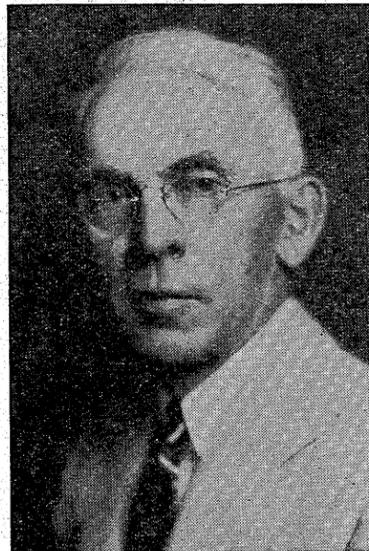
But first let me begin with a story, a fictitious story I'm sure

it is, but a story that has its merits. It's about three men who saw the Grand Canyon for the first time. One was a clergyman, another a painter, and the third a college student. When the clergy-

Continued to page 3, column 5

"Must Be Good" Prexy Has Job On Retirement

President Guy Stanton Ford will become executive secretary of the American Historical Association and editor of its publication, "The American Historical Review" when he retires from the presidency of the University of Minnesota June 30, 1941 upon reaching the university age limit. Three years ago Dr. Ford was president of the American Historical Association. During much of his active life he has been a teacher of history, and until recent years his large lecture classes in "Modern World" were among the most popular on the Minnesota campus. During the World War he made many contributions to the current history of the time as editor of various pamphlet series under the Creel (public information) committee. President Ford has also written widely in the field of history and served as editor of important historical series.



President Guy Stanton Ford

Defense Problems, Heart Behavior, Lecture Topics

The nationally known annual series of popular science lectures given at the University of Minnesota by members of Sigma Xi, honor society in science, will start this year Friday evening, January 31, when Dr. Lloyd H. Reyerson, professor of chemistry and director of the Northwest Research Foundation, will speak on, "Chemistry and Our National Defense." The second lecture will be delivered on the following Friday evening, February 7, by Dr. Maurice B. Visscher, head of the department of physiology, Medical School, whose topic will be, "Your Heart and You."

The Sigma Xi lectures, which have been called the best-attended series of science lectures on any campus in America, are conducted on the four Friday evenings when absence on tour of the Minneapolis Symphony Orchestra leaves Northrop Memorial Auditorium available. Each begins at 8:15 p. m. following a half hour of music while the audience is finding places.

Both speakers at the first two lectures are prominent in their fields and each is discussing a topic in which he has concentrated. Dr. Visscher's work on the heart has marked him as one of the country's outstanding men among younger physiologists. Dr. Reyerson's efforts to develop new industries in the Northwest both by laboratory effort and by organizing support behind such efforts, is widely known.

Further reference will be made in the next issue of "Minnesota Chats" to the other two lectures in the series, that on February 14 by Dr. Harold S. Diehl, dean of the medical sciences, who will speak on, "The Common Cold," and the final lecture, February 21, by Dr. William A. O'Brien, whose subject is, "Meeting Middle Age."

Head of R.O.T.C. Promoted

Promotion to a colonelcy came recently to the commandant of the University of Minnesota Reserve Officers Training unit, Charles A. French, whose former rank was lieutenant colonel. During the world war Colonel French served in the field artillery and motor transport corps and he is now attached to the Coast Artillery Corps. He is a graduate of many military schools.

Second Semester Extension Work About to Start

Sixteen Weeks Courses to Be Taught in Twin Cities and Duluth

THOUSANDS SERVED

Special Subjects as Well as Arts, Sciences, and Business Listed

Registration for the second semester of the General Extension Division through which the University of Minnesota helps educate from 9,000 to 10,000 people of all ages in evening classes will start Monday, January 27 and continue through February 15. Several hundred courses, including both the usual subjects in arts and sciences, business, engineering and education, and special classes organized to meet specific demands, training in such skills as swimming or golf, or direct hobbies or arts, will be offered.

Unlike the day classes at the university, which are conducted by quarters, the Extension Division operates on the semester basis, the first semester running from October to February, with sixteen meetings and a seventeenth for examination, and the second semester, now starting, continuing from February until about the first of June. The average cost of courses for a semester is \$10.

Among special classes of limited enrollment just begun are one in grain grading, conducted for employees of Minneapolis Chamber of Commerce firms by Dr. H. K. Wilson of University Farm and one in architectural drafting for travelling salesmen of a large wholesale drug company.

Typical of the subjects taught are the new courses being offered in the second semester, organized too late for the printed bulletin, among which are "Alternating current machinery," "Work simplification, time standards and cost controls," "Community organization and the social setting of recreation," "Latin America in the Twentieth Century," and "Guidance problems for workers in adult education agencies."

Full offerings in such fields as English, psychology, history, modern languages, political science, accounting statistics, advertising, journalism, magazine writing and topics in engineering and education will be available to students registering for the second semester. The General Extension Division is also teaching the ground school work for the eighty men and women enrolled in Minnesota's flight training course under the Civil Aeronautics authority.

For students who have not been enrolled in college classes or who wish to brush up on the best way to study the subjects in which they register the Extension Division is again offering a free "How to Study Institute." It will meet each evening, Monday through Friday, February 3 to 7 in Room 1, Vincent Hall with Professor Charles Bird of the department of psychology as speaker. Dr. Bird, author of a widely known book on "How to Study" is thoroughly familiar with the field on which he will lecture.

In the Twin Cities registrations may be made at the headquarters office, Administration Building, Main campus; at the Minneapolis downtown office, 690 Northwestern Bank building or at the St. Paul Extension Center, 500 Robert street. Registrations for Duluth classes may be made at 504 Alworth building.

Dr. Richard R. Price is director of the General Extension Division.

French Writes Book

"The Engineers Slide Rule" is the subject of a recent book from the pen of R. W. French, professor of drawing and descriptive geometry in the College of Engineering and Architecture. It was omitted unintentionally from a recent list of books published by Minnesota members of the American Association for the Advancement of Science.

Diary of 'U' Freshman in 1874 Shows Long-Ago Campus Scenes

Unique Document Now Possessed by Thomas O'Hearn, Realty Manager

A unique bit of evidence relative to University of Minnesota life almost seventy years ago has come into the possession of Thomas L. O'Hearn, University of Minnesota real estate manager, in the form of the diary of his father-in-law, who entered the university in the fall of 1874. The late Senator E. P. Peterson, writer of the diary and father of Mrs. O'Hearn, was a resident of Litchfield and for many years was widely known in the state. In the diary he also refers to "Nels," who was Nels Olson, founder of the Red Wing Eagle, and "Joe" who was Joseph Gordon. Mr. Gordon was country superintendent of schools at Litchfield.

The Peterson diary, of which "a taste" is published herewith, gives a frank and forthright picture of the campus when Minnesota was five years old as a university, and is charming also for its honest reflection of the mind of a young man who has just left home to go to college.

Following is an excerpt:

DIARY

Commencing Sept. 14th, 1874, or with my start in life; that is my leaving the "Old Homestead" in search of Knowledge. It was with a heavy heart that I bade adieu to parents and friends, took a farewell look at familiar things and departed on the morning train.

Sept. 14th. Left home at 4:30. Arrived at Litchfield just as the train was starting. Jumped aboard and after a pleasant ride of about four hours, arrived at Minneapolis. Spent the remainder of the day in looking up a hotel, viewing the city and spent some time in the reading room of the Y.M.C.A.

Sept. 15th. Visited the University. Everything was in confusion there as the building was being repaired. Elicited some information from the bulletin board there in regard to rooms for rent. Did not apply for any rooms that day. Spent the remainder of the day in "seeing the sights." Went to the reading room in the evening.

Sept. 16th. Examinations at the University were held today, continuing from 9 o'clock a. m. to 4 p. m. About 60 were present of whom at least 55 were accepted. We were first examined in Writing, Spelling and English Grammar. We all assembled in a room and each provided with a sheet of paper. Then a large blackboard on which questions were written was placed up before us and we were allowed an hour and a half to answer them. Then we were examined in Arithmetic in much the same manner. After dinner we were examined in Algebra, U. S. History and Geography. The propositions in all cases were very easy to me, except in Algebra which I had never studied. Tomorrow we will be informed of the result. President Folwell and all the Profs seem very kind and obliging. Went to the reading room in the evening.

Sept. 17th. As was previously announced the session at the University began at 9 in the morning. At ten the numbers of the successful applicants were announced. To me, suspense was dreadful, but when No. 49 was announced as successful, I was ready to jump for joy. We were shortly after dismissed for the day. On our way back to our hotel we hired a room in the second story of a little building near the river in the E. D.



Sen. E. P. Peterson

The building is owned by a jolly German who has a wagon shop in the first story. This man and his wife are very kind folks. She fitted up our room very nicely, allowing us a stove and a bedstead with straw tick. The floor is carpeted. They compelled us to eat supper with them and drink tea. Bought a few necessary articles. Retired early.

Sept. 18th. Went to the University at 9. The day's session continued only till twelve. We were then enrolled and chose our studies. I chose the Scientific course. Purchased some necessary articles, and established ourselves in our new quarters preparatory to spending the winter.

Sept. 19th. Attended a session at the University continuing till twelve o'clock. Became a little more posted in affairs there and paid my incidentals amounting to five dollars. The classes were organized and our studies designated. My studies for the term are Latin, Physical Geography and Rhetoric and composition. We have no mathematics this term. The day was rainy and disagreeable, but many were out nevertheless. Visited the reading room.

Sept. 20th. Went with Nels to the Swedish Baptist church. Attended Sunday School then also was pleasantly surprised by seeing Miss Bergquist of Litchfield there. In her class we were placed. She is an intelligent and well informed woman and makes a very good teacher. One thing which surprised me on the road to church was the prevalence of open stores and fruit stands along the sidewalk; the running of R. R. trains, etc., etc. It seems as if Christian morality was wholly discarded by the city fathers or its rejection by subordinates and employees endorsed by them. The whistle of the steam engine and the clatter of express wagons does not harmonize with the ringing of church bells and the singing of sacred hymns. I think it is an insult to the Christian people from the city authorities to allow things to pursue their present course. The preacher in his pulpit and the blacksmith at his on the Sabbath day is a dangerous comparison. Let us have harmony.

21st Monday. No school at the University on Mondays. Studied and read and took some walks around town. Wrote to Joseph Gordon.

Sept. 22nd. Went to the University. I like their plan very well. The exercises open at 8:40 a. m. The President or some one of the Profs reads a piece from the Bible and offers a prayer and at 9 o'clock the recitations begin and continue until 1. This time is divided into five hours or periods and bells are rung at the expiration of each hour. We have at present no recitations in the first or the fifth hour. We have three studies and each recitation occupies one hour. The 1st, 2nd, 3rd.

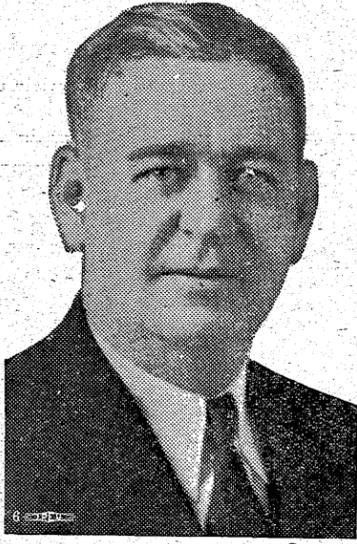
Sept. 23rd. Attended school at the University. Like the exercises very well. There is one thing which I dread and that is the Compositions and Declamations.

Sept. 24th. At the University. Went to the P. O. in the p. m. Have expected a letter from home for many days but received none. We have only three hours recitations at the University from nine to twelve. Our professor in Rhetoric and Composition is Dr. Lang.

Sept. 25th. Went to the University. Enjoy myself here pretty well. We have a good room and very kind folks to deal with. It is raining today and we got wet on our road to the P. O., and after all received nothing. I have had a severe headache for one or two days but feel better now.

26th Saturday. Attended school at the University. Unlike all other schools which I have attended our weekly holiday comes on Monday instead of on Saturday. For my part I like this arrangement very well. We are not obliged to study our lessons Sunday. President Folwell today advised us to attend some church regularly every Sabbath. He said it was good for body and soul which I believe it is. I think I shall attend some church every Sunday of the coming winter, if possible. I thought surely I would get a letter from home today, but I was sadly disappointed. It is now nearly two weeks since I left home and have not heard a word from there. I sent them a letter ten days ago and I think should have an answer by this time. But I know it is not their fault that I have not heard from them. I know how busy they must be now with their threshing,

Keith, President Of M.E.A., Always A Newspaperman



Paul Keith

It gives "Minnesota Chats" great pleasure to publish the following article about the present president of the Minnesota Editorial Association, Paul Keith, publisher of the Chatfield News. Mr. Keith is one of the ablest of the weekly editors in the state, and a worthy subject for a continuation of this series of stories about the presidents of the M.E.A. which "Chats" has published for a number of years past.

Paul Keith, president of the Minnesota Editorial Association, was "born with a composing stick in his hand," but after high school days and a couple of years in college, he put it aside for a linotype and later went into the newspaper business in earnest.

For a few years he worked as a linotype operator in various parts of the country and later bought the Review plant, at Adams, Minn. Forced to sell his property there while awaiting a call to service in the World War, he accepted an operator's job on an Iowa daily, and one of his "thrills" of those days was when he set a bulletin announcing the signing of the Armistice.

Taking up the trail again early in 1919 he located in Chatfield, where he still publishes the News.

An Iowan by birth and a Minnesotan by choice, he finds himself at home in almost any part of the country. Between issues of his paper, he finds time to enjoy his favorite hobby, politics, attend school and public library board meetings, being a long-time member of both Chatfield groups. A year or two ago, he fixed things so the Chatfield Commercial Club wouldn't re-elect him president—"It was getting to be a habit," he explains.

For the past decade his newspaper has been a finishing school for the University of Minnesota's journalism graduates, having started several men out in their profession by giving them employment.

He thoroughly enjoys the newspaper business but after thirty years in the game he still cannot overcome being a bit nervous before his paper goes to press. On a trip to New York and the National Editorial Association convention this summer, he found himself on edge at press time as usual. "Sometimes, I believe," he claims, "my arteries are full of printer's ink."

Honor T. P. Hughes

T. P. Hughes, assistant professor of mechanical engineering, will be chairman of the Northwest section, American Welding Society for the coming year.

their haying, their plowing and the manifold things which must receive their attention. I can imagine them (Henry and Albin) hard at work all day in the field from early till late returning home at night footsore and weary and perchance, wet and hungry to find the cows un milked, the sheep and calves roaming about in the indefinite place, "the field," the colt in the stable neighing for his food and water and by the noise which proceeds from the hogsty, it is easily determined what is wanted there. Before they have finished their chores and eaten their supper it is late, frequently ten o'clock. Then when ready to retire they find their chamber unswept, their bed unmade and not unfrequently covered to a great height with sundry articles. Such is the life of the farmer's son.

Thrice hard is the lot for the Farmer boy. How oft e'en he's made the emblem of joy.

Fitness, Health Widely Significant Frank McCormick Tells Conference

Dads Have Good Time; Give New Time Piece to Long-Time Dean

Dean Edward E. Nicholson, student affairs head at the University of Minnesota, is one handsome white-gold watch to the good, he having been given that remembrance by members of the Minnesota Dads Association at a recent meeting in Coffman Memorial Union. Dean Nicholson, who will retire in the spring after nearly fifty years of service at the university, organized the Minnesota Dads association, with the assistance of Edward F. Flynn of St. Paul, member of the legal department, Great Northern Railway, Edward F. Eylar, Regent Sheldon V. Wood, Harold Harrison and other loyal alumni. Mr. Flynn has been perennial president and in that capacity he made the presentation talk. Other speakers were Regent Wood, Ray P. Chase, former state auditor; Reuben G. Thoreen of Stillwater, member of the executive committee of the association, Bill Lund, also of Stillwater, and Carroll Geddes, assistant to Dean Nicholson. Lone woman present was Dean Anne Dudley Blitz, dean of women, whose work with the undergraduate women parallels that of Dean Nicholson with the men. Dean Nicholson expressed his appreciation for the gift in a brief speech.

Invents Unique Sound Devices

Not satisfied with being announcers, actors, directors and general handymen, members of the WLB staff spend their spare time inventing gadgets.

As a result, several ingenious contraptions, which aid in simplifying WLB's broadcasts, are without duplicates in any other station in the world.

Latest brainchild of Reid Erekson, director of dramatics, is a single frame fitted out with every type of door and bell needed for sound effects.

Four doors of different types, two on each side of the frame, are set with several kinds of latches. An iron-barred prison door, a light cabinet door, a heavy wooden door and a screen door are equipped with regulation knob and latch, metal slide bolt and a heavy wooden bolt used in Daniel Boone scripts.

In addition to this, the frame has a telephone receiver hook attached, and is fitted with a system which produces the sounds of telephone bells, doorbells, vacuum cleaners and sirens. All this is in a compact frame which can be wheeled from studio to studio, eliminating the danger of sound effects being misplaced.

Another contraption designed and assembled by Mr. Erekson produces the echo used in haunted house scenes. A china globe, such as those used for light fixtures, is attached to a steel stand to produce the sound.

When a microphone is hung inside the globe and the actor speaks toward the lower edge, a hollow ghostlike effect is produced.

Eggs to Cost More Says 'U' Farm Man

Higher egg prices and a rise in the price of poultry for the remainder of 1941 as compared with last year is the prediction of William H. Dankers, extension economist of the Minnesota Agricultural Extension Service, University Farm, St. Paul. Dankers says that this prediction is made on the assumption that consumer buying power does not decline.

Total egg production during the first half of last year will probably equal or even slightly exceed production for the same period during 1939. Lower production is expected in the last half of 1940 because of the prospective smaller hatch this season. Add to this the fact that storage stocks of shell and frozen eggs are not as large as last year.

Even with larger supplies of poultry now on farms, Dankers predicts higher prices for chickens because of the smaller 1940 hatch, lower storage stock—outside of turkeys—and a somewhat higher consumer income.

Minnesota Director Also Made Head of American Legion's Committee

Frank G. McCormick, director of athletics in the University of Minnesota, has been named chairman of the national committee of the American Legion on preparedness and defense through physical education, health, and recreation, a field in which he has been a leader.

Because of his long-standing interest in physical fitness and activities contributory to that end, Mr. McCormick also drew up recently, at the request of the conference and with the cooperation of his department at Minnesota, "A plan of action for the Western Conference in the preparedness program." The Conference is throwing itself behind the same type of effort for fitness that is advocated by the American Legion, and similar programs and pronouncements have come from the National Collegiate Athletic Association, the College Physical Education association, and like organizations.

Mr. McCormick recently reported on these various programs at a meeting of the administrative committee of the University Senate. At that time he described the plan submitted by him to the Western Conference, in which the recommendations were these:

Physical fitness for the nation is more than an emergency or temporary measure. This problem has never been met and we should give serious thought toward arranging our programs. We should think of physical fitness for the nation as a constant necessity. The following suggestions are presented for the Western Conference:

1. In our addresses and contributions to literature we should stress the importance of physical fitness, not only temporarily, but for all time.

2. Physical fitness should be thought of not only in terms of the physical, but in terms of the social and emotional development necessary for service to the nation.

3. We should oppose the substitution of military training for physical education; it is important to recognize the fact that military training is not a substitute for physical education and, by the same token, physical education is not a substitute for military training. Physical education should be conducted by those who are trained for the work and military training should be conducted by military authorities.

4. The Conference should assume some responsibility for stressing to college and school administrators the necessity for an increase in the time allotment for health and physical education on all grade levels, particularly on the elementary school level. This increase in time allotment should take into account not only the school hours but also opportunities for physical education afternoons and Saturdays.

5. As physical education leaders we should stress the need for a more vigorous type of activity in our programs. I have reference to such activities as soccer, speed ball, wrestling, boxing, swimming, ice skating, ice hockey, football, touch football, basketball, skiing, long hikes, climbing, squash, handball and tennis.

6. We should stress the contributions in physical education activities toward preparedness. We know the contributions which vigorous physical education activities make to physical development. We should stress these and others since it is true that first, preparedness is more than physical, it is social and emotional, and second, that social and emotional development results from group participation in activities such as are promoted in our programs under competent leadership.

7. The Western Conference can cooperate with military authorities in the development and training of recreation leaders for military camps. The importance of recreational programs in camp was recognized during the war. The need for them is as great today as it was in 1917.

8. Vigorous outdoor life is necessary for preparedness. The Conference might well stress the necessity for camp experience for boys before they complete their high school education. Such camps might well be under the direction of public school administrators and at least one month of participation in camp life should be a

Continued to page 3, column 1

Luyten Discovers New White Dwarf

Star of Tremendous Density Added to Long List Found by Minnesotan

Discovery of another "white dwarf" star whose outstanding characteristic is a density so great that a cubic inch of its substance would weigh more than 1,000 tons was announced today by Dr. Willem J. Luyten, head of the department of astronomy in the University of Minnesota. It is another find in the systematic survey of the "proper motion" of stars which he has been making at Tucson, Arizona, using plates taken by the Harvard Observatory at its southern station. Seventeen white dwarfs were known before and nineteen more have now been added.

The new star is in the constellation Puppis, not far from the brightest star in the sky, Sirius. Comparison of plates shows the new star to have a considerable motion in the sky, revealed by plates taken at different times. This motion, Dr. Luyten said, would carry the star across the diameter of the full moon in about 1400 years. Its actual speed is approximately 25 miles per second.

Distance of the newly-found star from the earth is about 25 light-years, and it is probably extremely hot, something like 33,000 degrees Fahrenheit at its surface, yet its total light is probably 2,000 times less than that of the sun, this being the characteristic that makes it a white rather than a red dwarf. In actual size it is smaller than the moon, which is much smaller than the average star, from which fact, said Dr. Luyten, it can be calculated to be 100,000,000 times denser than water and to have its astounding weight. Dr. Luyten's systematic survey of the southern hemisphere for white dwarfs is the most systematic ever carried on.

Dr. Luyten recently was given a grant in aid by the national office of Sigma Xi to assist in his researches on "The stream and solar motions of 94,000 stars in the southern hemisphere."

McCormick Heads Health Program

Continued from page 2, column 5
requirement for high school graduation. In these camps opportunities should be provided for:

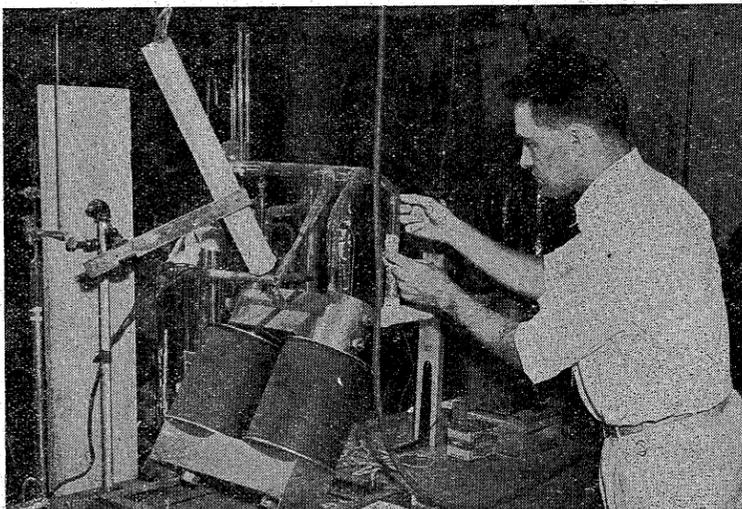
- a. Rudiments of military training under the leadership of military authorities.
 - b. Vigorous outdoor sports activity programs which would include long hikes.
 - c. Vocational training which is related to military service.
 - d. Instruction in first aid.
9. The Conference should cooperate with the National Committee of the American Association for Health, Physical Education and Recreation in its plan for cooperation in national preparedness and give its whole hearted support to any legislation which has for its purpose the expansion of health and physical education in the schools of this country.

Miss Walker Cited For Radio Report

Radio procedures in using French programs over the air in the Minnesota School of the Air, a WLB feature for public schools, has won a citation for Miss Mary Jo Walker of the University High School from the School Broadcast Conference, which recently completed its first annual competition in the use of educational and public service programs. Miss Walker discussed the WLB procedures before the conference pointing out the advantages of such a means of giving instruction in French. Formation of sound judgments, because the material is attractively presented, and pleasant psychological approach to a new subject were among the benefits she cited for the radio approach.

Aids Dr. Spink's Researches
Nutritional requirements of staphylococci and problems of antistaphylococcal immunity will be investigated by Dr. Wesley W. Spink of the department of medicine, University of Minnesota medical school under a grant-in-aid he has received from the American Medical Association. He has also received a grant from a nationally known chemical firm to study ascorbic acid and its relation to the immune mechanism.

A. C. Nier At Work in Laboratory



On page 1 will be found the story telling that Dr. Nier's separation of U-235 and work done on the basis of it was the big scientific achievement of the past year.

Greenland, Strange and Beautiful Pictured in Book by Dr. Carlson

Vast Subcontinent Called "Storm Center of Earth's Northern Half"

The following review of Dr. William S. Carlson's new book, "Greenland Lies North," is by Professor Edwin H. Ford, Department of Journalism.

Several years ago William S. Carlson, now Associate Professor of Education at the University of Minnesota, spent a winter in northern Greenland. As a geologist and leader of an expedition financed by institutional grants, Professor Carlson's major occupation while in Greenland was the collection of scientific data, but, fortunately for the layman reader, he brought back a conviction that life in the Arctic can be interestingly described for a general public without sacrifice of accuracy.

His book, "Greenland Lies North," recently published by Macmillan, might be considered the socio-literary by-product by his northern exploration, for he has written it not as a technical scientist but as a trained and keenly observant student of life above the Arctic Circle. Because the story is carefully planned and written with unobtrusive skill, it progresses with quiet intensity from the moment the author and his student companion take ship in North Sydney harbor, their eyes toward the Greenland icecap, until the final sledge trip which brings the party back to its base and to preparations for return to the United States.

This progression is achieved by attention to detail, by carrying the narrative forward on the momentum of significant incidents: an expedition, a turn in the weather, a hunting trip, an evening of story telling with the Eskimos, the death of a sledge dog, an escape from treacherous ice, a meal, a night's sleep and waking. These beads of incident are threaded upon a theme of expectancy and accomplishment. Work must be done, data gathered, shelter and warmth secured in the midst of menacing weather.

There is naturally a good deal about Greenland Eskimos in the book, but they are introduced as old friends rather than as sociological or scientific specimens. Their characteristics, mores, folklore are used as background necessary in order to understand them. Their courage and fortitude as well as their child-like simplicity are illustrated by happenings in which the author shared, and his emphasis on the manner in which the cycle of the hunt diversifies and makes exciting the life of the northern Eskimo dispels any idea that life in polar climes is necessarily dull business.

The brooding influence of the elements in "the storm center of Earth's northern half" intensifies the appeal of the narrative. Towering glaciers, crevasses, biting winds, treacherous ice under foot, long hours of darkness make the small world of man an insignificant haven in the Arctic vastness.

Here is a description of one of the more sublime manifestations of nature: "Where black had been, and gray-black, and lighter tones of darkness, the brain was dazed by a new sensation vouchsafed. COLOR! A shimmering curtain, merging down from silver-white to white, to yellow, to ardent orange-red close above the horizon, wavered back and forth before the

unimaginable coming of the gods. An anguish of inner cold thrilled me. The lights rushing across the sky seemed almost to crackle. Deep in the tissues of my being the sense of a call to act, to prepare myself, struggled incoherently to gain expression. Nebulous green streamers trembled off to the left above the Devil's Thumb country. Eastward the curtain melted away into an ecstatic slow dance of bands and rays that shifted frosty colors as they advanced, retreated, dissolved, grew brilliant again. And always and everywhere the subtle chill glory proclaimed that all I knew was nothing, tantalizing me with the promise of stunning revelation; to leave me torn and more empty than before."

The country's history, trade, possibilities for aviation; geography and geology are treated in a brief appendix.

Frats With Best Marks Reported

Ten highest fraternities in scholarship averages at the University of Minnesota last year, as shown by figures released by Dean Edward E. Nicholson, were, in order, Jacobin Club, Sigma Alpha Mu, Alpha Phi Alpha, Phi Gamma Delta, Theta Delta Chi, Beta Theta Pi, Theta Xi, Alpha Delta Phi and Chi Psi.

Ten highest sororities were Gamma Omicron Beta, Alpha Kappa Alpha, Delta Gamma, Alpha Omicron Pi, Kappa Kappa Gamma, Kappa Alpha Theta, Chi Omega, Alpha Epsilon Phi, Gamma Phi Beta and Alpha Chi Omega. The sorority average was 1.333 honor points per credit hour, while that for all women students was 1.333. The academic fraternity average was 1.210 while that for all men students was 1.272.

Better than any of these averages was that made by the women living in cooperative self-help cottages and Sanford Hall. They had an honor point average of 1.478. Men in Pioneer Hall had a slightly lower average than varsity football men, the figures being 1.192 and 1.256 honor points respectively.

Oil Geologists Write New Papers

Two papers by University of Minnesota petroleum geologists have appeared in a recent number of the publication "Boletin de Petroleos" published by the ministry of industry and labor of the Republic of Colombia, S. A. A copy of the bulletin was received recently by Dr. William H. Emmons, head of the department of geology, University of Minnesota, under whom they took their work in petroleum geology. One paper, "association of types of igneous rocks with mineral deposits" is by Benjamin Alvarado. The other, "Organic acids as solvents for minerals" is by Dr. Wallace G. Fetzer. The latter, written in English, was translated into Spanish by Herman Garces, a Colombian engineer. Among Minnesota scientists to whom credit is given in the two papers are Drs. Grout and Emmons in Geology; Drs. Gruner, Thiel, Schwartz and Ellestad, also in Geology, and Dr. Lloyd H. Reyerson of the School of Chemistry.

Nier Discovery Placed at Top

Continued from page 1, column 1
of power when its energy is released slowly. Uranium 235 is a fuel that gives power without dependence on oxygen. This would make it possible to operate submarines without need for oxygen other than for the crew's consumption, which could be easily supplied. Such a submarine could stay at sea for years without contacting a base for fuel, a small amount of uranium providing the power.

Tiny warships would have greater destructive power than the present giant battleships, and could stay at sea for unlimited periods. The entire world would be within their cruising range.

Aircraft would be benefited in the same way. Uranium bullets, almost invisible, are another destructive possibility.

The peace possibilities of atomic energy vastly exceed the war uses, but developments will be kept secret during the national emergency.

Even greater power may be obtained from the uranium 235 atom through the practical application of a successful experiment performed by Professor R. D. Present, of Purdue University, and described Thursday before the American Physical Society at Philadelphia. Professor Present, by splitting the atom into three parts instead of two, succeeded in increasing by 10 per cent the atomic energy released.

The first controlled transmutation of matter was accomplished by Professor Ernest Rutherford in 1919. Now nature's treasure chest of energy has been made more nearly available to man. No comparable progress of such significance was made in any other field of human activity in the intervening two decades.

New Equipment Available

Great progress has been made during the year in building cyclotrons, science's powerful weapon for smashing atoms. Professor Ernest O. Lawrence, of the University of California, received the Nobel prize as the inventor of this device. Early in the spring he announced the completion of the world's largest cyclotron, weighing 1,200 tons and capable of developing a disintegrating beam of 25,000,000 to 50,000,000 volts. At the same time he announced plans for building a larger one, for which he received a grant of \$1,150,000 from the Rockefeller Foundation on condition that he raise an additional \$250,000. He now is building the new cyclotron, which will weigh 5,000 tons, and will produce a disintegrating beam with an effective power of 100,000,000 volts and a top range of 400,000,000 volts.

A new kind of a cyclotron, developed by Dr. D. W. Kerst at the University of Illinois, was built by him in the General Electric laboratories. It is a small glass vacuum-tube pancake and develops 2,300,000 volts. It made practical the use of electrons in a disintegrating beam.

An electron microscope capable of magnifying up to 25,000 diameters, developed by Dr. Ladislaus Marton and Dr. Vladimir Zworykin, was demonstrated at the Radio Corporation of America laboratories in Camden. It vastly exceeds the magnifying power of instruments using light rays.

The source of primary cosmic rays still remains a mystery. Dr. Arthur H. Compton, of the University of Chicago, reports a variation in the secondary rays, all of which are produced by primary rays, which have the same twenty-eight-day period as the sun.

Dr. Albert Einstein, of the Institute for Advanced Study, at Princeton, N. J., reported that he had failed to write the long-sought field equation, the mathematical expression which would describe the underlying relationships between time, space, matter and energy. He expressed doubt that his relativity researches would yield this equation. He admitted that science seemed to have struck a barrier in its efforts to describe the fundamental nature of reality.

Dr. W. F. G. Swann, of the Barthol Foundation, Franklin Institute, offered a new mathematical theory in which the relativity theory can be arrived at without deviating from classical mechanics. Professor Hans Bethe, of Cornell University (now at Columbia), offered an explanation of what holds the nucleus of the atom together. He ascribed this duty to the mesotron, the new heavy electron.

Discipline Topic At Graduation

Continued from page 1, column 3
man saw the beautiful expanse of impressive and awe-inspiring beauty, he voiced, "What wonders hath God wrought!" The artist exclaimed, "Nothing can match the beauties of Nature!" In his turn the college student exclaimed, "What a devil of a big hole!"

This story, I suggest, has its very serious implications. It seems to me to characterize almost perfectly the state of mind with which college men and women view the world they are about to enter. It may be God's handiwork and it may be full of beauty, but to the graduate it looks like a deep and treacherous abyss holding out little hope either of opportunity or of achievement.

From one point of view it seems to me that this is a sound evaluation of the situation, and it seems to me to be a sound evaluation because the present world crisis has demonstrated with great clarity that several of the assumptions which gird up our society are not so solid as we have long thought them to be. Some of these assumptions are political, some economic, and some educational. Since I'm an educator rather than a political scientist or an economist, I'd like to discuss one major educational assumption and to follow it to its source.

What About Panaceas?

This assumption is that education is the great, all-pervading panacea that almost everyone in America for the past hundred years has thought it to be. The first World War confirmed the people of the United States in this conviction, but the present World War demonstrated beyond question that the conviction is false—that it is false, at least, for the kind of education which we have been supporting and practicing. The first objective of education is, of course, to eliminate illiteracy and to open up the channels of communication by means of newspapers, magazines, and the radio. Education both in Europe and America has succeeded in recent decades in all but eradicating illiteracy, but it seems to me to be a startling fact that every one of the eight nations which the Nazis have conquered—with the exception of Poland—has been a highly literate nation. Indeed, large fractions of the populations of these countries are graduates of high schools and institutions of higher education. Despite their high level of education, however, these people have been putty in the hands of Hitler, and there is reason to believe that Hitler has succeeded in overwhelming them not in spite of their educational advantages but actually because of them.

People who are literate, we now know to our sorrow, are easy victims of propaganda. The Nazis have demonstrated this with diabolic craftiness and with complete certainty. Goebbels and his assistants have disarmed every intended victim long before the Nazi armies have started to march, and they have succeeded because the democracies have prepared the way with education. The Germans have been able to achieve their propaganda successes only because the people of the countries they coveted were literate enough to read and to listen and thus to be victimized.

Consider a Few Examples

1. England and France permitted the Nazis to grow in strength, to take over the Rhineland, and to build a huge army and air force because they swallowed whole the fiction that Hitler would destroy communism. That fiction will most certainly go down in history as one of the greatest hoaxes of all time. The British and the French fell hard for it, and in falling they demonstrated the insidious effectiveness of propaganda.
2. The Germans couldn't conquer Poland, so the story went, because Polish roads were so muddy in the fall that the German mechanized army was sure to bog down in the mire and be stopped in its own tracks. Nothing of the sort, of course, developed, and Poland went the way of Austria and Czechoslovakia.
3. Holland couldn't be invaded, it was alleged, because the Dutch would break the dykes and drown the invaders in ten-foot floods. It didn't happen.
4. France was invulnerable, everyone agreed, because of the Maginot line, but the Ger-

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Mid-Twentieth Century Discipline Cowley's Topic

Continued from page 3, column 5

mans came around the end through Luxemburg, and the Maginot line turned out to be a tragic farce.

5. England might suffer from air raids in the summer time, but the experts told the world that when the fall came the fogs would shield the island, and German aviators wouldn't know where to drop their bombs. A plausible theory, but last night and the night before and the night before that German planes continued to come over by the hundreds.

These are but five examples of several dozen that can be cited to illustrate how gullible the democracies have been, how downright stupid and easily duped. And yet those—including Americans—who have swallowed these half-truths and downright lies have been and are the best-educated people in the world. Their level of literacy is not only high, but they have been and are led by men who have been trained in colleges and universities of unquestioned excellence. Yet the democracies have been pushed around and overrun, and one is forced to query whether or not education may be in some way responsible.

It's my considered conviction that education is not only responsible but chiefly responsible, and I say this even though I know that economic and political considerations are of great importance. During the past century education has been the major social institution of the world, and the underlying concepts of education have colored our thinking in all spheres of thought and activity. It seems to me to follow, therefore, that if we are to diagnose the diseases which ravage our society, we must begin by looking carefully at education.

Following "Intellectualism"

I have a diagnosis of education which seems to me to explain the situation. It is this: education throughout the world has during the past century been following false gods, and one false god in particular. The name of that god is Intellectualism, and his doctrine is that the function of education is to train the minds of students and to ignore their social, physical, moral, and spiritual health and development. In brief, the doctrine asserts that if men and women are disciplined intellectually they will be equipped to discipline themselves in all other directions.

So pivotal in the present crisis is an understanding of intellectualism and its ravages that I should like this morning to analyze it. I begin with some history. Until the time of the Civil War American colleges followed the British educational tradition and sought to educate the whole student. Educators were interested in the student's mind, of course, but also in his morals, in his manners, in his religion, and in his sense of values—indeed in everything that contributed to a complete or a whole education. During the middle of the last century this concept of education began to be abandoned. America had been changing from an agricultural and maritime to an industrial society. It needed trained engineers, agriculturists, architects, chemists, and dozens of other varieties of professional and business men for whom the old-time college provided no training. Obviously, a new type of higher education had to be provided; and since England offered no models, educators turned to Germany which had developed broader curriculums and a new variety of university, a university devoted to intensive specialization in all the modern arts and sciences.

The adoption of German methods by such leading educators as President Eliot of Harvard, President White of Cornell, and President Gilman of Hopkins, produced a growth and development in higher education of tremendous importance. The reorganized universities and the newly-established technical and professional schools, which these leaders of the 19th century education and their associates headed, trained the men and women to build the nation's railroads, exploit its mines, ferret out the basic physical and chemical facts upon which modern industry is built. They also trained more and better lawyers, physicians, engineers, and professional and business men of all kinds. Because they looked to Germany and followed its educational example, America met the opportunities of the 19th century and grew in wealth and strength beyond the wildest dreams of former generations.

But this material development is not the whole story. The ten thousand Americans who between 1850 and 1940 returned from Europe with German Ph.D.'s brought back with them something else besides preeminent skill as specialists. They brought intellectualism, and they saddled it upon the American college. German universities after the crushing defeat that Napoleon administered to their fatherland early in the century, threw overboard all interest in students as individuals. They sought to raise a race of intellectual supermen, and they consciously concentrated all their energies upon the minds of students. What a student did between the time he matriculated and the time he took his examinations, no one in German universities knew or cared. Where he lived, the condition of his health, his social life, his physical and spiritual growth—these were of no interest to the German academic authorities. They considered their job to be the training of superior minds, and they conducted their universities as if nothing else counted.

This is the doctrine that German-trained professors brought back to the United States, that they foisted upon the American college, that they promoted until we tossed into the discard the tradition of wholeness and completeness that Anglo-Saxon educators had cherished for centuries. Germany has made a huge contribution to the intellectual education of Americans, but for this help we have paid a staggering price. Impelled by German examples we have stressed the training of the minds of students, and we have fallen into the calamitous error of assuming that the intellect dominates life, that the intellect is our chief personal and social instrument, that the intellect is the only concern of education.

Merely to state the doctrine of intellectualism constitutes a refutation of it, but I should like to discuss three of the major arguments against it. So strong is the hold which intellectualism has upon us that its fallacies cannot too often be exposed nor too frequently ridiculed.

The first argument comes from biology. After a century of amazingly illuminating research biologists have arrived at a new and far-reaching generalization, a new orientation. Historically biologists concentrated their attention upon discernible differences in the parts of organisms and the functioning of these parts. Recently, however, a growing number of biologists have asserted that parts must be seen in relationship to the whole organism. Thus they hold that it is impossible to understand the functioning of, say the lungs, except in relationship to the sympathetic nervous system, and, indeed, to every other part of the organism. This point of view is called organismic or holoistic biology. John Scott Haldane, eminent British biologist, describes it in these words:

"The organism maintains itself as a whole. It is not a mere federation of individual cells acting mechanically like a machine, but is, on the contrary, a closely unified organization whose nature is such that each part or even each cell partakes of and contributes to the life of the whole. The behaviour of an individual cell is unintelligible apart from its being also an expression of the life of the higher organism as a whole. The individual cells as such express in their genesis, behaviour, and deaths, the life of the whole organism."

Mind Cannot Stand Apart

The bearing of this observation upon intellectualism is obvious: the mind cannot—except in the laboratory—be abstracted from the rest of an organism. Educators cannot wisely, therefore, devote all their energies to the minds of students and neglect their bodies, their social development, their systems of values, their spirits. Such a concept of education is biologically ridiculous. American higher education, largely controlled during the past seventy years by intellectualists, has remarkably multiplied our intellectual and our material resources; but because it has frowned upon and neglected all objectives except the development of the intellect, we have become impoverished in all other directions—particularly in emotion and spirit.

This statement sets up the second count against intellectualism: the time-honored philosophical and psychological postulate that the intellect is never the master of the spirit but always its servant—

in brief that the mind takes its direction and its energy not from within itself, but from the purposes and systems of values of the entity which we call the "Self." Thirty years ago in a powerful address Woodrow Wilson dramatically expressed this judgment in these words:

"We speak of this as an age in which mind is monarch, but I take it for granted that, if that is true, mind is one of those modern monarchs who reigns but does not govern. As a matter of fact, the world is governed in every generation by a great House of Commons made up of the passions; and we can only be careful to see that the handsome passions are in the majority."

Woodrow Wilson's epigram that "the world is governed by the passions" checks with everyone's commonsense interpretation of his own experience. Attitudes, sentiments, values, purposes—these are the controlling factors in the behaviour of us all. The fact is admitted by everyone except the professors and administrators who have been blinded by intellectualism. We shall equate education with reality only when we take President Wilson's advice and rededicate education to the task of seeing that "the handsome passions are in the majority." That is the supreme task of education, not the training of students' minds.

May I make it entirely clear that I am not being critical of intellectual development. Indeed, colleges and universities must be the place par excellence in our society for the highest intellectual achievement. I give way to no one in my insistence that the college has failed if it does not effectively train the minds of the students. I insist, however, that we must go a great deal further, that we must recognize that intelligence is not enough, that men are not mere thinking machines, and that to train the minds of students and to neglect their spirit is to give them stones for the bread they seek.

The Disjunctive Fallacy

The distinction which the intellectualists make between the intellect and the emotions throws into relief the third of the three arguments against their doctrine of which I would speak. The first argument stems from biology, the second from philosophy and psychology, and this third comes from logic. The intellectualists have fallen into error which logicians call the disjunctive fallacy and which laymen call the either-or fallacy. Thus intellectualists assert that education must be one thing or the other—intellectual or anti-intellectual. This is a splendid example of the crooked thinking produced by the disjunctive fallacy. It's like asserting that all men are either tall or short, fat or thin, black or white, good or bad, brilliant or stupid, charming or gauche, egotistic or modest, etc., etc.

It would seem to be impossible for any intelligent individual to fall into the clutches of this fallacy, but the fact is that the intellectualists have done exactly that. They say in effect that colleges must devote their energies entirely to the intellectual development of students, and that it is impossible—or at least undesirable—to give time and thought to student social life, to athletics, to the persistent problem of personal purposes and values which every college student faces. In a word, they assert that the college must concentrate all of its attention upon intellectual training or else become a mere country club. They insist that the college must be either tall or short: tall and intellectual or short and country-clubbish. They admit no possibility of a middle ground where the whole student is educated—socially as well as intellectually, in spirit as well as in a professional specialty.

It would be interesting to explore the implications of this disjunction as it affects fraternities, athletic teams, and student life in general. I prefer, however, to discuss a much larger question: the bearing of intellectualism upon the spirit, upon the spirit of faculty members and therefore upon the spirit of students.

In his brilliant address given before the American Philosophical Society last spring one of our outstanding American poets, Archibald MacLeish, deplored the disappearance of fire, of passion, and of broad social purpose from among college professors, scholars, and writers. He entitled his address "The Irresponsibles" and described and criticized them in this passage:

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"The irresponsibility of the scholar is the irresponsibility of the scientist upon whose laboratory insulation he has patterned all his work. The scholar in letters has made himself as indifferent to values, as careless of significance, as bored with meanings as the chemist. He is a refugee from consequences, an exile from the responsibilities of moral choice. His words of praise are the laboratory words—objectivity, detachment, dispassion. His pride is to be scientific, neuter, skeptical, detached—superior to final judgment or absolute belief . . .

"It is not for nothing that the modern scholar invented the Ph.D. thesis as his principal contribution to literary form. The Ph.D. thesis is the perfect image of his world. It is work done for the sake of doing work—perfectly conscientious, perfectly laborious, perfectly irresponsible. The modern scholar at his best and worst is both these things—perfectly conscientious, laborious, and competent: perfectly irresponsible for the saving of his world . . . He has his work to do. He has his book to finish. He hopes the war will not destroy the manuscripts he works with. He is the pure, the perfect type of irresponsibility—the man who acts as though fire could not burn him because he has no business with the fire. He knows, because he cannot help but know, reading his papers, talking to his friends—he knows this fire has consumed the books, the spirit, everything he lives by, flesh itself, in other countries. He knows this but he will not know. It's not his business. Whose business is it then? He will not answer even that. He has his work to do. He has his book to finish."

This is as pointed an indictment of intellectualism as anyone has written since Tennyson in 1830 deplored the spiritual and emotional poverty that had come to dominate Cambridge, his Alma Mater. The verse Tennyson wrote is perhaps an even more stinging rebuke. Here it is:

"Therefore, your halls, your ancient colleges,
Your portals statued with old kings and queens,
Your gardens, myriad-volumed libraries,
Waxed-lighted chapels, and rich carven screens,
Your doctors, and your proctors, and your deans,
Shall not avail you, when the day-beam sports
New-risen o'er awakened Albion—No!
Nor yet your solemn organ pipes that blow
Melodious thunders thr' your vacant courts
At noon and eve: because your manner sorts
Not of this age, wherefrom ye stand apart,
Because the lips of little children preach
Against you, you that do profess to teach
And teach us nothing, feeding not the heart."

Because the great majority of men and women who teach in our colleges and universities are consciously or subconsciously giving their allegiance to intellectualism, we have fallen into the bog of irresponsibility which MacLeish deplores. In Tennyson words we are not feeding the hearts of our students. We are feeding and disciplining their minds, but we ignore their spirits, their passions, their latent fire.

Have We Gone Too Far?

Thus intellectualism has crippled us not only educationally but also in our national life. For decades we have been graduating young men and women who have been taught to look at everything intellectually, to be objective, to weigh all the evidence, to see both sides of every question, to be super-critical, to hold judgments in abeyance. This is all very well in the abstractions of science, but where the values of our civilization are at stake, it is criminally destructive. It has made of us a skeptical if not a cynical people. It has lulled us into a false impartiality. It has made us apathe-

tic about our heritages of democracy, of freedom of speech and of the press. It has driven us individually and collectively into a selfish hunt for security. In brief, it has deprived us of emotion, of enthusiasm, of national spirit and passion.

It would obviously be an oversimplification to lay our current spiritual poverty entirely at the door of intellectualism, but that intellectualism has played a large part there can be no question. It has made of us spiritual neutrals in a world where everything we cherish is being viciously attacked. If we continue in this frame of mind, we'll soon be ripe either for subjection by passionate Nazism or by some native leader who will make capital of our spiritual starvation and lead us to God-knows-what extremes of uncontrolled emotional debauch.

That is exactly what has happened in Germany. Hitler succeeded in enlisting the enthusiasm and the devotion of German university students to his hooked-cross banner because they were fed up with the bloodless objectivity of German professors, and in a few short years Germany swung from the extreme of intellectual objectivity to the opposite extreme of emotional drunkenness. The same fate awaits us unless we achieve a balance between intelligence and spirit. Neither can be neglected. We must have both. We must denounce and renounce the coldness of reason alone and the hotness of passion alone.

Unless in our colleges and our universities and in our national life we reaffirm and reestablish the place of spirit, we shall sink to a shadow of our powers. We must temper spirit with reason, of course, but we must disavow the intellectualistic doctrine that reason is sufficient. Instead we must give the place of honor to the driving force of spirit without which intelligence drugs us into torpor and emotional impotence.

Because of the inroads that intellectualism has made, the world situation which threatens our national life comes in the nick of time to save us from spiritual atrophy. Once again we have national cohesion, a consuming enthusiasm, a great passion to unite us. It will purge us of our impurities and reinfuse spirit into our cold, intellectualistic hearts. We shall pay a large price in wealth and perhaps in lives. If such sacrifices will reestablish our national spirit and kill off intellectualism, the price will not be too great. The future of the country will soon be in the hands of you young men and women who are students in our colleges during these present years.

We are a great and wealthy people in things material. Whether or not it is great and wealthy in things spiritual depends upon you. Thomas Huxley expressed the situation clearly when he came to this country in 1876 to speak at the founding of Johns Hopkins University. This is what he said: "I cannot say that I am in the slightest degree impressed by your bigness, or your material resources as such. Size is not grandeur, and territory does not make a nation. The great issue, about which hangs a true sublimity and the terror of an overhanging fate, is what you are going to do with all these things."

"What are you going to do with all these things?" This is the question that faces the nation and every college man and woman. It faces you who are today going forth from the University of Minnesota. It cannot be answered in terms of intellectual discipline alone. It must be answered in terms of spiritual discipline. It must be answered in particular by our response to the challenge that totalitarianism has thrown at us. We shall be equal to the challenge only if we fight the fire of the dictators with a greater and more powerful fire burning in each of us—a fire consecrated to the protection of the Anglo-Saxon tradition both in government and in education.

Facts and Fancies

By T. E. Steward

IN THIS column at this time I should like to set down with complete seriousness some of the reasons why I think the University of Minnesota is a splendid institution, of the most extreme value to the state, and worthy of present support and unflinching future support from every element in the population and from the Legislature.

I should like to start with the general statement that in its projects for education, of which the State University is the spearhead and the highest development, the modern American "state" makes its one non-material effort. It is no reflection on highway systems, forest and water conservation, grain grading, military defense, account-keeping and the like, in all of which and many other things the state is engaged, to point out that all of them have a material objective. In our country, by basic law, church and government are separated. This leaves education as the one field of state activity in which the intellectual, the cultural and from these in an ancillary way, the spiritual, is developed through a project in which all of the people join and to whose support all, in some degree, contribute.

I should like to point out next that while it sounds like a "glittering" generality, the statement that our universities are the repositories and safeguards of civilization, is not oratory, but a fact as demonstrable as it can be. The late Dr. Coffman once pointed out that if institutions of higher education were suspended for even a brief time we should lose a generation of those skilled in the fields which make the difference between barbarism and civilization, and thus should revert to barbarism. If for as little as thirty years we trained no engineers, no physicians, no chemists, physicists, geologists and mining engineers, no persons trained in mechanics, machine design, electrical science, mathematics and biology, no historians, political scientists and sociologists, no philosophers, the world would immediately be set back at least 1,000 years. Of course no one anticipates that any such cessation of training will occur; it is impossible. This does not, however, lessen the extreme forcefulness of the thought that such a thing could and would happen if training were discontinued for a generation. A corollary of such an assumption is that most of the accumulated knowledge of mankind would be lost or so bedimmed as to become almost unusable during the brief period when no training was going on. People would forget the value of knowledge and skill.

I present this unimaginable reverse of the educational picture not because there is the remotest possibility that it might come to pass but to throw into a strong, steady light the values of the educational system we now have. Like so many other matters of special importance, higher education comes to be taken for granted. People pick at it and say they find some small flaws in it here and there. But to oppose or in any way hinder university education because its every facet is not yet wholly perfect would be like proposing to do away with motherhood because a baby might now and then receive a small scratch from a pin in its mother's apron.

JUST as the federal government must from time to time develop a program of total defense to keep from our shores the blight of foreign barbarism, so the public in lesser political subdivisions must provide, not now and then, but continuously, an educational program of total defense against the negligences and inertias that could so quickly carry us back to a stone age were the preservation, spread, and advancement of knowledge abandoned. In the last issue of "Minnesota Chats" Dr. William H. Cowley of Hamilton College asked greater

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Whoops! There Goes the Mold All Over the Cheese



Professor W. B. Combs, in charge of dairy products work at University Farm, is shown above using a common salt shaker to sprinkle pulverized mold on Roquefort type cheese (Minnesota Blue) in one of its early stages. Nine months are required to bring these cheeses to the stage where they are ready to go on the market.

Lend Us Your Knitting Needle; We Want to Make Some Roquefort

Fancy Minnesota Product Will Find Big Market if Quality Is Maintained, Says Combs

This story contains no solution of that ancient vaudeville mystery, how do they get the holes in Swiss cheese, but it does solve the manner in which that flavor-producing blue mold finds its way into the center of the fine, Roquefort type cheese known as "Minnesota Blue" that has been developed by the Dairy Division at University Farm. They stab holes in the cheese with long needles, like knitting needles, and the mold, which has already been sprinkled on the cheese, finds its way into these holes readily enough.

Professor W. B. Combs, who is in charge of the products enterprises in the Dairy Division, and who instigated the researches that led to the development of "Minnesota Blue," is a cheese enthusiast from "wayback," and one who takes the trouble to visit the Dairy Building at University Farm, will find him a willing guide. Products department of the Dairy Division is more or less self-supporting, thanks to the fact that it provides milk and cream to the University of Minnesota cafeterias, dormitory dining rooms and the like, and Professor Combs will show you with pride his newly equipped milk processing room, his powdered milk laboratory, busy as a hive with young men who major in dairy products (there's so much demand for them that it is hard to keep them in college until they graduate) and his six new specially-equipped curing rooms for experimenting with cheese.

In these both temperature and humidity can be controlled about as closely as anyone might wish, and the scientists can try all sorts of combinations of warmth and moisture to see their effects on various types of cheese placed there in the process of curing. Dr. Combs does wish, however, that the University would loosen up and paint the interior of his creamery room. He says visiting creamery men always paint every year and think the University should do the same.

There's no reason why the cheese industry should not go ahead by leaps and bounds in

Minnesota, Combs thinks, especially at a time when the foreign sources of some of our best cheese are cut off. He instances especially Denmark and France. When the war is over he foresees that Denmark, especially, will lay down fancy types of cheese right in Minnesota at a price that it will be hard for local manufacturers to meet. Therefore, he says, the hope of this area with respect to fancy cheese is in making a quality product, a cheese so good that it will sell on the open market at a figure that will keep the makers going.

To that end, he says, Minnesota

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Gene Tunney to Discuss Fitness In Campus Talk

Gene Tunney, who rose to fame as the boxing champion of the United States Navy, became world's heavyweight champion and was the only man ever to retire voluntarily from the ring while holding that title, will come to Minneapolis Tuesday, February 11 to speak in Northrop Memorial Auditorium on the university campus. "Keeping America Fit" will be the subject of the one-time idol of American boyhood, now on active duty in the Navy as lieutenant commander, naval reserve, serving as physical coordinator at aviation training stations in Florida and Texas.

Tunney returned to the public eye last fall when he formed the National Foundation for American Youth, as an offset to a popular fear that certain youth groups were becoming too radical.

In his talk on the university campus his thesis will be that a nation's most precious asset is the health of its citizens and that fitness must be developed and maintained as an important factor in the growing momentum of the present defense effort.

Tunney will speak at 8:15 p. m.

Notes 50th Year With Celebration

Memories of fifty years of progress will be reviewed when the University Y.W.C.A. observes its fiftieth anniversary at a one-day conference Feb. 13. University men will be invited to take part in the celebration. In former years, Y.W.C.A. activities have been held in Shevlin Hall, one of the first buildings to be erected on American coeducational campuses for the exclusive use of women students, but headquarters are now in the new Coffman Memorial Union.

The conference will open with registration at 10:00 a. m. followed by tours of the Union. Luncheon will be served from 12:00 to 2:00 p. m. in the ballroom with a former alumna, Agnes Crouse, principal of Miller Vocational High School, presiding. A former member of the University faculty, Dean Helen D. Bragdon, now of Hood College, Maryland, will introduce at the luncheon the topic of what can be done to promote the welfare of students from the point of view of personal and social development, intellectual and cultural interests.

Tea will be served in the women's lounge from 4:00 to 6:00.

At the close of Dean Bragdon's talk, the assembly will break up into small discussion groups of approximately fifty persons, each to consider the five aspects of the program which she will outline. Each of these discussion groups will be in charge of an experienced leader, aided by a steering committee of fifteen, representing the faculty, the students, and alumni and friends in the Twin Cities and adjacent areas in the state.

"The Future Has a Past" will be the theme of the banquet to be held from 6:30 to 9:00 p. m., closing the celebration. Mrs. Herbert Hill (Rachel Hanna) will be toastmistress. Dr. Dora V. Smith, professor of education, will present a summary of the discussions, and a brief greeting will be given by Guy Stanton Ford, president of the University of Minnesota. Messages from former cabinet members will be read by Dorothy Miller, now president of the Y.W.C.A. and Mrs. Stanley Avery, former secretary. Entertainment will be provided by skits directed by Rewey Belle Inglis, assisted by Marcella Vig.

Chemical Progress Strengthens U. S. In Defense Field

Industry Here Many Times Greater Than in 1914 Says Reyerson

IMPORT NEEDS CUT

Sigma Xi Speaker Describes University's Current Contributions

The United States of America is in a far better position today, come peace or war, to produce essential chemicals for a military effort than she was in 1917, and we possess skilled personnel and a powerful chemical industry which, if not impeded by political interference, can be depended on to do adequately its share of making the country safe from external enemies, Dr. Lloyd H. Reyerson of the University of Minnesota's Institute of Technology told a large audience in Northrop Memorial Auditorium, where he delivered the first of the year's Sigma Xi lectures. He spoke on, "Chemistry in Our National Defense."

In 1921, Dr. Reyerson said, the War Department listed 42 essential materials that must be procured in part from overseas and despite the fact that six materials have been added to that list, American raw materials have been so successfully used by scientists and manufacturers that the list has now been reduced to fourteen. Seven of these, he said, are chemical elements which remain a challenge to the American chemist, for we must either produce them in this country or find substitution if overseas channels are blocked. These seven are antimony, chromium, manganese, mercury, nickel, tin and tungsten.

Elementary substances that once appeared on the "must" list but have been removed by science, largely chemical science, and by industry, are aluminum, arsenic, graphite, iodine, nitrogen in combination, phosphorus, platinum, sulphur, uranium and vanadium. In aluminum, he said, production will be doubled by 1942, while even today supplies are by no means small.

After summarizing the growth and development of the chemical field, both in education and in industry, the speaker gave a resume of the principal fields of progress and of need for further development, covering optical glass, textiles, gases, explosives, petroleum products including artificial rubber and other items.

Some Important Elements

"Complete lack of several of the seven elements listed here would be serious," said Dr. Reyerson. "Mercury is essential in the preparation of mercury fulminate, which is used to make detonators, caps and primers for bombs and shells. However, we are expanding production from mines in California and increasing our purchases from Mexico. Nickel comes from our neighbor, Canada, and it is not likely that it will be easy to deprive us of this source of supply. Tinless alloys are being produced for making bearings and synthetic resin enamels have started to replace tin in the coating of cans. Paper containers are getting better all the time and are now said to be giving the tin can more competition than glass. This may be fortunate, because there are no tin deposits of note in this country. In spite of these changes, it would indeed be difficult for us if we were cut off from present sources of our tin supply."

"Requirements for tungsten have been reduced by the discovery that domestic molybdenum may be used in its place in certain tool steels. There are deposits of minerals containing tungsten, antimony and chromium in this country, but whether they can successfully supply all of our needs is not yet known. However, manganese ores exist in more than sufficient quantities. The majority of these ores are of such a low

(Continued to page 3, column 2)

Employment Regularization, Annual Wage Discussed by Prof. Schmidt

University Researcher Says Wisconsin's Experience Under New Law Has Been Good

Address delivered by Dr. Emerson P. Schmidt of the School of Business Administration, University of Minnesota at the Conference on Unemployment Compensation, held on December 18, 1940, and sponsored jointly by the School of Business Administration and the Center for Continuation Study, University of Minnesota, Minnesota Division of Employment and Security and thirty-three employer and labor organizations.

"Management expects a little too much when it asks that labor be loyal and faithful, when it is considered that labor is the first thing separated from the payroll, when business clouds begin to appear," said Henry L. Nunn, president of the Nunn-Bush Shoe Company, in giving one reason for the adoption of his now famous annual wage plan. He had noted that office personnel generally is loyal and faithful to an organization while the same could not be said of plant employees. He knew that there was a good and obvious reason for this.

A house builder who placed all of his craftsmen on an annual guaranteed wage concluded that labor's demand for hourly rates so high as to prevent adequate employment opportunities for building mechanics, as well as causing opposition to labor saving devices, is directly traceable to scarcity of job opportunity; he concluded that a wage guarantee would destroy the factors which prevented adequate annual income for his people.

The president of a Maryland company which adopted a wage guarantee plan said that it was his conclusion, after careful personal inspection in the middle 1930's, that the strife and discord in Spain was traceable to the insecurity felt by a large portion of the people. He concluded that if American workmen could experience reasonable job and income security and continuity they would not become victims of the "isms." He decided to make his contribution to the prevention of conditions which lead to disillusionment, despair, and a longing for some imaginary "new social order," by guaranteeing 48 weekly pay checks to his employees.

The foregoing explanations for the adoption of annual wage and income security plans were instrumental, with due variations, in moving several scores of American employers to scuttle traditional methods of wage payment for part or all of their employees and substitute some form of income assurance.

Writers and public lecturers within the last year or so have suddenly been handed a new topic: Saving Democracy. Scarcely a public lecturer comes to the campus without telling us we must save democracy. According to a recent survey in "School and Society" (December, 1940, p.571) "approximately 80% of the new books published for teachers during the past fifteen months stress, to some extent, education for democracy." People who only yesterday were denouncing economic royalists and preaching spurious share-the-wealth gospels and otherwise fanning the flames of class warfare have suddenly discovered that the survival of democracy, which means the survival of freedom of thought, press and expression, must rest on the coordination of all groups in society rather than the class struggle.

Even such a man as John Strachey, who has preached the gospel of St. Karl Marx for many years, has just written a book in which he says that the survival of liberty and freedom depends on the survival of private property and on making the capitalistic system function effectively.

Economic Security "Scarce"
The demand for economic security falls far short of the supply. While social security programs are lauded in some quarters, to some extent they constitute evidence of the decay of the spirit of enterprise and risk-taking and suggest that we are drifting into an era of complacency and possibly stagnation. The drift toward strong central government, totalitarianism, and dictatorship is the response which people are making in order to attain the desired security. Students of the collapse of European civilization widely agree that insecurity and unemployment are to a

substantial degree at the bottom of the European debacle.

There is a significant parallel in the developments in Europe and America. Workmen's compensation, old age pensions, unemployment insurance, youth movement, militant class struggle, strong reliance on government for people's welfare: all of these came to one or more of the European countries a generation before they became of substantial significance in the United States. If this parallel continues we may expect the same kind of class struggle and ultimate totalitarianism that has engulfed Europe.

In the United States there is a growing disposition among farmers, laborers, and even professional people, to look to government for economic security. Right now the Minnesota Master Watchmakers Association is drafting legislation to have itself duly protected by the state from the rigors of competition. It appears that when a large portion of the people come to rely on government for their income and economic security, that government must be strong to carry out that responsibility. It must be free to command and ready to act. Otherwise it cannot produce results. This is the essence of totalitarianism. Almost no responsible person in the United States is working conscientiously for this result, but things which responsible people are doing are leading in that direction.

It is significant that when New York City in 1940 took over the operation of the subways the Mayor of the city, with a long record of labor sympathy, announced that the right to strike and the closed shop would not be allowed. With regard to the WPA strike, President Roosevelt said, "you cannot strike against the government." Several bills have been introduced in Congress which would virtually bar strikes by workers working on government war orders. Clearly, if the historical liberties are to be preserved, further government ownership, operation, and intervention is not the answer.

Mere verbal endorsements of democracy are not enough. The general citizen must rather, through his day-to-day experiences, be able to come to the voluntary conclusion that the present political and economic institutions are the best yet achieved. This does not mean that our system is perfect or that criticism should not be welcomed, but once a substantial minority of the population becomes convinced that some other "ism" or system is more desirable the private enterprise system will not be able to survive, because it rests on confidence and political and social stability. This has been abundantly demonstrated in Europe.

Experience Rating

For this reason, instead of delivering soul stirring orations on how to save democracy, it is incumbent upon employers, labor leaders, and all other responsible persons, to explore every device which may improve the underlying economic conditions which determine the drift of mass thought. Such a new device, whose security-creating power is now being explored in America, is experience rating in unemployment compensation laws. Although experience rating is generally not in operation, yet, the majority of states have adopted it. In brief, it consists of some system—with wide variations—of differential pay roll tax rates under which employers with stable or regular employment may qualify for a zero or minimum tax rate while those employers who fail to regularize their operations may be liable for the maximum. In Minnesota, for example, beginning in 1941, all employers will be graded into eleven groups, each group liable to a different tax rate ranging from .5% tax on the pay roll for the most stable employers up to 3.2% tax on the pay roll of the most irregular employers. In Wisconsin the rates vary from zero to 4%. Stable employment earns the low rate; unstable employment is penalized with the higher rate. The employer for the first time is being given an immediate cash incentive to keep men on the pay roll. Continuity of employment will earn premiums to a degree never before attained. When unemployment insurance laws were first proposed in Wisconsin in the early 1920's, organized labor in that state insisted that instead of following the traditional European system of uniform pay roll taxes on employers and work-

Journalism Society Honors R.O. Nafziger



Dr. Ralph O. Nafziger

A University of Minnesota faculty member was honored with one of the highest positions among journalism teachers when Prof. Ralph O. Nafziger was elected recently president of the American Association of Teachers of Journalism. A member of the Minnesota faculty since 1936, Dr. Nafziger was formerly an active newspaper man in North and South Dakota and Minnesota. He is a graduate of the University of Wisconsin to which he returned to complete his studies following service with the Archangel expedition in the world war. In 1937 his book, "American Press and Public Opinion During the World War" won the prize of Sigma Delta Chi, journalism professional fraternity. Dr. Ralph D. Casey was re-elected editor of The Journalism Quarterly, Prof. Mitchell V. Charnley, managing editor, and Prof. Fred Kildow, business manager. Dr. Casey also was named to the board of directors of the National Council on Professional Training in Journalism, having been a member of the council from the time of its establishment.

Dr. Brink Heads Mathematicians

Professor Raymond W. Brink, chairman of the department of mathematics, University of Minnesota, was elected president of the Mathematical Association of America at its recent meeting in Baton Rouge, La. He will serve a term of two years. For a number of years past Dr. Brink has been a member of the association's governing board. It is the national organization of college teachers in the field of mathematics.

ers, the tax should be levied exclusively on employers, but this tax should be a variable one, penalizing unstable industries and rewarding those that stabilize. This idea has prevailed in the majority of states.

Experience rating is desirable for two reasons: first, each commodity produced should bear its full costs; second, the employer should be given an incentive to regularize his operations.

Cost of Article Should Be Borne
If the public demands products or services which lead to irregular employment either because the demand is intermittent or the supply of raw materials is intermittent and irregular, then the people should be made to bear the full cost of providing the necessary resources to produce that commodity or service. It would generally be agreed that a successful newspaper should not be required to pay the real estate taxes of an unsuccessful one, or that a public utility should not help to finance the pay roll of a decrepit cast iron works just so that the community could have cast iron produced from that works. Similarly, industries which are most stable and therefore provide the most employment should not be forced through a pay roll tax to subsidize the unstable industries which provide the most unemployment.

Although employers even in the absence of experience rating have some incentive to stabilize their operations, this new incentive is more immediate and tangible. Continuous operation means lower overhead costs per unit of output. It helps maintain the skill of workers. It reduces spoilage, wear and tear on machines, and recruiting and training costs. Nevertheless, thousands of employers have

O'Brien to Continue Radio Health Talks

Three radio lectures on public health problems will be delivered over WCCO and WLB by Dr. William A. O'Brien of the University of Minnesota during the remainder of February. He speaks each Saturday at 11:00 a. m. The lectures are also carried by KDAL, Duluth. On February 8 he will discuss, "Causes of backache;" February 15, "Back injury," and February 22, "Periodontia." Dr. O'Brien is professor of preventive medicine and public health and also director of medical graduate courses in the Center for Continuation Study.

in the past figured that it is cheaper to lay people off the pay roll than it is to keep them on continuously.

Furthermore, employment regularization in many instances costs money. For example, if a ski manufacturer decides that he will produce skis on a year-round basis, this calls for the building of a huge warehouse, extra handling and insurance costs, taxes on finished inventory will go up, and money will be tied up in the finished product. In deciding whether to operate on a year-round basis or not, the employer must balance the savings of continuous operation against the costs of continuous operation. It is the theory of the state legislatures that in thousands and thousands of cases the potential pay roll tax savings which accrue from continuous operation would shift the balance in favor of operating the plant the year round.

Similarly, if a lawn mower manufacturer decides either to build for stock or develop a new slack-period product, many financial outlays are necessary. Anyone familiar with the problem of developing new products, even by well-established companies, knows that a long process of technical and market research, much trial and error, is necessary before new products can be put on a self-supporting basis. One simple gadget that is now standard equipment on our radio, entailed developmental costs of over three million dollars. Hundreds of employers have in the past developed and many more are now trying to develop off-peak supplementary lines so that when the demand for one product shrinks they can shift personnel to other lines.

In some cases consumer habits can be changed by offering slack period consumer discounts. Frequently it is necessary to offer these discounts not only to consumers but also to wholesalers and dealers. All this may mean at least temporary impairment of profits and possibly incurrence of losses.

Experience rating, by concentrating attention of top management on the potential savings of steady employment, is bringing about a renewed interest in ways and means of regularizing employment.

Annual Wage and Income Security Plans

What has this to do with annual wage plans? Obviously, American employers confronted with highly irregular and intermittent demand for their products are incapable of putting their employees on an annual wage. First, production and sales must be stabilized, and once these objectives are obtained, a growing number of employers will take the next logical step and guarantee a substantial majority of their employees 48, 50 or 52 weeks of pay per year. Nearly every business is to some extent seasonal, either because of the supply of raw material or the demand for the finished product. Twenty years ago seasonal unemployment received more attention in books than any other type of unemployment. Substantial progress is now being made in eliminating seasonal unemployment. In our researches we have found at least a dozen companies which a few years ago closed down their plants completely in the slack period and now operate on a 12 months basis. A Chicago banker told me that he had personally helped at least 150 companies to diversify their line with a view to operating on a year round basis. Centralized personnel and centralized production control with careful budgeting are preventing such things as lay offs due to improper scheduling and shortage of raw materials, and preventing the laying off of people in one department while on the same day other employees are hired in other departments—a rather common occurrence even in some of our largest manufacturing concerns ten years ago. Progress is being made.

To some extent the same frame

Seed Champions Named at 'U' Farm

E. L. Johnson of Winnebago, Faribault county, and Erick Johansen, Tyler, Lincoln county, were named the 1940 Minnesota Premier Seed Growers during Farm and Home Week activities at University Farm. They comprise the thirteenth annual group named for the honor. Medals were presented to the two men at a joint banquet of the Minnesota Crop Improvement association and the Northwest Crop Improvement association.

One hundred seventy-eight seedsmen vied for over \$1,000 in premiums at the annual State Seed Show during Farm and Home Week. The show, sponsored by the Minnesota Crop Improvement association, was open to both amateur and professional growers. Winners of first placings in the competition are as follows:

Wheat classes: Walter R. Maas, St. Bonifacius; Ed Stoering, Montevideo; Peter Shirvich, Red Lake Falls; Charles F. Nelson, Northfield.

Winter rye: H. J. Hovland, Dawson.

Barley: J. B. Pankratz, Mountain Lake; Walter Maas, St. Bonifacius; H. J. Hovland, Dawson.

Oats: Henry Leitschuh, Sleepy Eye; Andrew Holman & Sons, Lanesboro; George E. Welander, Stillwater; Herman F. Skyberg, Fisher; Walter R. Maas, St. Bonifacius; Ed Stoering, Montevideo; Henry Krabbenhoff, Pipestone; Charles Goetschel, Stillwater; Lewis H. Lawes, Cedar.

Soybeans: W. L. Leden, Bethel. Field peas: Henry Leitschuh, Sleepy Eye; Lewis H. Lawes, Cedar.

Flax: H. C. Lau & Sons, Tracy; H. V. Peterson, Gary, S. D.; H. V. Hovland, Dawson.

Alfalfa: Erlandson Brothers, Roosevelt; Harry Holland, Williams.

Clover: Arthur E. Dahlman, Dassel; Robert O. Johnson, Williams, Charles Goetschel, Stillwater; Wayne Norman, Fosston; Otto E. Hjellie, Newfolden.

Red Canary Grass: Walter R. Maas, St. Bonifacius.

Floyd Haugland of Jackson was named grand champion in the junior 4-H corn club entries. Haugland was champion of the southern section. Other champions are, central section, Leslie Abrahamson, Dassel; northern section, Merle Enger, Glyndon.

In the class for students of vocational agriculture, F. W. Nelson, Northfield, won grand championship. Champions of the three districts were Lester Maas, Sleepy Eye, southern section; F. W. Nelson, central section; and Harley Ostrander, Fosston, northern section.

of mind and the same techniques which are eliminating seasonal and casual unemployment will mitigate cyclical or depression unemployment. For example, a building supply manufacturer who formerly catered entirely or almost entirely to the building industries, which are highly irregular over a ten year period, now has diversified the use of his raw materials to such an extent that 40% of his raw material is fabricated into non-durable consumer products. The demand for these latter products remains relatively stable regardless of general business conditions. When the next depression comes this diversification will provide a cushion of employment for his people.

The Andersen Frame Corporation of Bayport, Minnesota, has done a magnificent job of eliminating seasonal unemployment although also catering to the highly seasonal building industry, and in addition has adopted an extensive formal loan plan under which interest-free loans are made to employees during periods of prolonged depression.

Thus it should be repeated that the first step in planning for annual wages is elimination of all possible fluctuations in production and sales.

Annual wage and income security plans fall into three broad classes: guaranteed wages, loan plans, flexible wage plans.

Guaranteed Plans

McCormick and Company of Baltimore guarantee 48 weekly paychecks to all employees with three or more months of service. This company processes foods and therefore it might be argued that it can readily do this, but actually in 1939 the sales of some months were 40% above the average month and in other months 39% below the average. Production, however, is practically constant (Continued to page 4, column 2)

'U' Football Pictures Get Big Hand and Heavy Call

A good many thousand spectators saw Minnesota's undefeated football champions in action during the 1940 season from their seats at Memorial Stadium. After the season is over additional thousands of Gopher supporters watch the highlights of the past season through the medium of motion pictures of the games taken by Phil Brain, official university football photographer and tennis coach.

Immediately after the final game on the schedule with Wisconsin, Photographer Brain carefully edits his play-by-play picturization into a large reel of highlights of the season. Almost immediately, he and his assistants from the staff of the athletic department begin filling a heavy schedule of showings throughout the state. They've been at it ever since and will continue through the spring.

As has been the case in recent years, the demand for the Minnesota football movies has been so heavy that duplicate prints of the film have had to be made to take care of all requests. There is seldom a night when there are not two or three showings, and there are many instances when a half dozen engagements must be kept in a single evening.

Principal assistant this season has been Sheldon Beise, Gopher backfield coach. Beise, with his additional projector and reel of film, has been on the road with the pictures several nights a week during the winter. Head Coach Bernie Bierman, Athletic Director Frank G. McCormick and other staff members are also drafted as exhibitors and commentators when the occasion demands.

In a typical week from January 20 to 27, there were seven out-of-town showings at Glenwood, Bayport, Red Wing, Willmar, Duluth, St. James and Little Falls, in addition to Twin City bookings. Principal sponsors are local high schools, commercial clubs and service organizations.

Facts and Fancies

(Continued from page 1, column 1)
attention to the spirit and the heart in education, criticizing intellectualism. No doubt he was right. Probably greater efforts to develop the whole man in addition to the skills and knowledge of the trained man should be made. The whole man is enthusiastically to be desired, but the skilled man is positively indispensable and imperatively necessary.

The University of Minnesota has never asked anything unreasonable in the way of support. It has merely asked that, as the stream of demand upon it, made up of an increasing volume of students, an increasing number of required services, and an increasingly important place in the economic and social life of the state—that as these things grew a certain amount of new financial buttressing be worked into the levees to keep the flood from eating away the bed and bringing the whole structure down into ruin. There must be periods, from time to time, when so valuable a project reaches a new stature that must be recognized and fitted with new supports. It seems clear that the present is such a time in the history of the University of Minnesota.

Coffey Is Elected To Land Grant Post

W. C. Coffey, dean and director of the Department of Agriculture, has been elected to the executive committee of the American Association of Land Grant colleges this week at Chicago.

He will serve for three years. The committee has full authority to act for the association.

Avery Addresses Teachers

An address on The Adult in Courses in Literature was given by Curtis E. Avery, Assistant Professor of English in the Extension Division, at the annual meeting of the National Council of Teachers of English, which met in Chicago recently. Mr. Avery's paper was one of several papers in a symposium on Adult Education. Other papers in the symposium were The Adult in Courses in Writing by William G. Bowling of Washington University in St. Louis, and The Adult in Courses in Speech by Irving J. Lee of Northwestern University. Ralph McCallister of The Adult Education Council of Chicago led the discussion.

Chemical Progress Strengthens U. S.

(Continued from page 1, column 5)
grade that metallurgic processes are usually not feasible. Minnesota's Cuyuna iron range has large amounts of low grade manganiferous ore.

E. W. Davis of the Mines Experiment Station recently submitted an exhaustive report to the federal government recommending a reasonably large test plant to be erected on the Cuyuna Range to try out the Bradley process for chemically leaching this ore. Another research group here at the university has been studying various processes for recovering this manganese. Funds were allotted to the local station of the United States Bureau of Mines to test these processes on a pilot plant basis. It is to be hoped that one or both of these researches may succeed, and thus remove manganese from the list of minerals which must be imported.

Chemicals such as gases seem not to be adapted to "blitzkrieg" tactics and thus have not made their appearance in the present war, Dr. Reyerson said. He declared, however, that chemists are fully up-to-date in the development of gases in this country. In the World War, he said, chemists in all warring nations examined fully 3,000 substances as possible gases, selected 25 to 30 for further research and were using only six at the end of the war.

Short of Ammonia for Bombs
If any considerable number of the 50,000 planes for which the president has called are to be used as bombers America's nitrate capacity will have to be increased vastly, said the speaker, for a good-sized plant for nitrogen fixation from the air will produce about 40,000 tons annually which, if placed in bombs on the assumption that one-fifth of the content was nitrogen would load 270,000 one-ton bombs, or slightly over five bombs a year for 50,000 planes. If it is assumed that only one plane in five is a bomber, each would still have only 27 a year to drop. The picture is not quite that dark, he said, for there are now two good-sized plants in operation and others are under construction.

The United States is in by far the best position of any country in the world with respect to petroleum and its products and has almost all of the world's production of 100 octane and high aviation gasoline, Dr. Reyerson affirmed. We also control one and one-half times as much crude oil production as all the rest of the world combined.

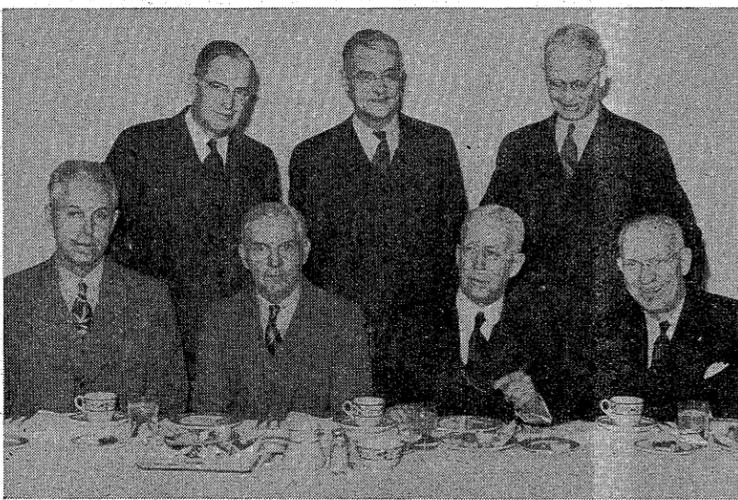
Of the Axis powers' situation with respect to gasoline, he said: "The difficulty they experience in obtaining gasoline for aviation is aggravated by their need for the lighter hydrocarbons in the production of Toluol for TNT and synthetic rubber of various kinds. An aviation gasoline plant uses butenes and isobutane in making high octane product. These same raw materials are the ones needed to produce many of the synthetic rubbers which Germany and Italy are forced to use since they were cut off from supplies of the natural product. Thus increased need for rubber reduces the amount of aviation gasoline and vice versa.

Reviewing our country's present position in chemical science to reveal its effect on the national defense, Professor Reyerson said:

"In order to conduct the necessary research and provide the trained manpower to control and operate our chemical industry it is essential that we have plenty of good chemists. Membership in the American Chemical Society is held by the majority of well trained chemists and chemical engineers in this country so that the growth of this organization from 1914 to date gives at least some idea of our rapid expansion. Over 7,000 members were listed in 1914 compared with more than 25,000 today. Recently the National Congress has considered the American Chemical Society important enough in the life of the country to be granted a national charter.

"Our own University of Minnesota, whose departments of chemistry occupy places of leadership in the country, gives convincing confirmation of this change. Before 1914 we had conferred only four degrees of doctor of philosophy in all fields of chemistry. Since then more than 300 have obtained this same degree. Undergraduate enrollment in the School

Dads Smile for Dean Nicholson



Prominent members of the Minnesota Dads Association are shown in the picture above with Dean Edward E. Nicholson at a recent meeting at which the association gave "Dean Nick" a handsome watch. He will retire at the end of the present year. Seated, left to right: Edward L. Eylar, Minneapolis; George Taylor, Forest Lake; Dean Edward E. Nicholson; Edward F. Flynn of St. Paul, "perennial" president of the Minnesota Dads Association; standing, left to right, Regent Sheldon V. Wood, Minneapolis; Reuben G. Thoreen, Stillwater, and Ray P. Chase, former state auditor, Minneapolis.

of Chemistry was then less than 100, while today it exceeds 550."

He next sketched Minnesota's part in developing the chemical aspects of national defense, after pointing out the desirability of building some large ammonia plants in the relatively secure Mississippi valley, in case plants on the coast might be bombed.

"No doubt many of you," he said, "while listening to this discussion, have been wondering what part Minnesota and the adjoining states might play in the program of our national defense. Progress in research along several lines indicates that industrial developments based on these studies may well fit into a coordinated defense scheme. The late President Coffman began supporting researches based on undeveloped natural resources about eight years ago. A nonprofit organization was then formed known as the Northwest Research Foundation. The Foundation has continued to support the activities started by Dr. Coffman. Two of the researches have reached a stage that merits consideration for industrial development, and both fit into the defense program in definite ways. The first investigation concerned itself with discovering methods for producing a superior grade of alpha cellulose from the aspen or popple trees of the Lake States region. The experimental results have been very gratifying. A cellulose of better than 98 per cent purity has been produced from Minnesota aspen. This cellulose nitrates to form nitro nitrocellulose or gun cotton. Even though the physical state of this cellulose makes it undesirable for explosives, it could be substituted in the chemical cellulose market for the cotton linters which are going into explosives in every increasing amounts.

Make Hydrogen From Lignite

"The second study was devoted to the production of cheap hydrogen from the almost inexhaustible lignite beds of the Dakotas and Montana. Hydrogen has become one of the chemical industry's most important raw materials. The chemist, by the use of high pressures and catalysts forces it to combine with the nitrogen of the air to form ammonia; with carbon monoxide to synthesize wood alcohol; with liquid fats to form solid fats, and with low-grade coals to produce liquid fuels and gasoline. These are just a few of the numerous uses recently developed by research.

"It may interest you to know that hydrogen is used at one stage in the production of nylon. Nearly 200 billion cubic feet of chemical hydrogen are consumed annually. A method has been developed here at Minnesota, both in the laboratory and on a pilot-plant basis, for obtaining large yields of high purity hydrogen from lignite and lignite char. In a previous statement it was noted that hydrogen combined with nitrogen to form ammonia and that oxidation of the ammonia yielded nitric acid. Nitric acid is essential in the production of all modern explosives. Thus the successful completion of these researches makes it possible to design a synthetic ammonia plant using lignite as the basic raw material."

"Chemistry in Our National Defense" was the subject of Dr. Reyerson's address. Next Friday, February 7, Dr. Maurice B. Vischer, head of the department of

Europe's Mineral Status Described By Mines Geologist

Germany has an abundance of iron since her conquest of Lorraine and Norway, and apparently has "stockpiled" such strategic minerals as tin, manganese and tungsten, but both Germany and Italy are in serious straits in the matter of oil, R. H. B. Jones of Duluth told a recent meeting of the Minnesota chapter, American Institute of Mining and Metallurgical Engineers, meeting in Coffman Memorial Union. Mr. Jones, geologist for the Oliver Iron Mining Company, spoke on, "Strategic Minerals in the European War."

He explained that before the outbreak of war Germany was importing some 20,000,000 tons of iron ore each year, but that seizure of the Lorraine fields plus control of the Swedish Kiruna-veer field resulting from the conquest of Norway has made her self-sufficient with respect to that all-important mineral.

"Her situation with respect to petroleum is very different," he said. "Europe, excluding Rumania produces only 12,000,000 barrels of oil a year, and with Rumania, only 57,000,000. Before the outbreak of war Germany was importing some 35,000,000 barrels a year from the United States and the Caribbean area, and Italy's imports ran to another 20,000,000 barrels. Between them, their consumption in 1938 was 74,000,000 barrels of oil and their supplies available without overseas imports were 32,000,000."

New Muskmelon Ready at 'U' Farm

Muskmelon growers who are studying seed catalogs in the search for better adapted varieties for next spring's plantings have something new this year in the Golden Gopher, a new melon just released by the division of horticulture at University Farm. The Golden Gopher has been recommended for general use on the strength of its resistance to Fusarium wilt, great enemy of melon growers.

The new variety traces back to an isolated plant found growing successfully on wilt infested soil. Seed was saved from this plant and University of Minnesota plant specialists set to work on a process of self-pollination and selection which lasted from 1932 to 1938. The plant breeding was carried out by T. M. Currence, C. J. Eide and J. G. Leach.

The Golden Gopher was tested in the vicinity of the Twin Cities in 1939 and 1940 and enough seed raised to permit release in commercial channels.

All trials carried out so far indicate that the variety is highly resistant to the dread wilt which has destroyed many crops in this area. In developing the new melon, close attention was also given to desirable eating qualities. The flesh is orange, with a high sugar content. The fruit is slightly oval and tends to become somewhat pointed at the blossom end.

physiology in the University of Minnesota's medical school will speak at 8:15 p. m. His topic will be, "Your Heart and You."

Board of Regents' Recent Actions

Charnley Gets Leave for Journalism Investigation

Among items of interest at the January meeting of the Board of Regents was an increase in the annual stipend of fellowship holders at the Mayo Foundation from \$900 to \$1,000, gifts for scientific research amounting to more than \$20,000 and donations of nearly 45,000 items to the University Library, among which were included 2,500 items collected by the University Relations committee of the Minneapolis Junior Association of Commerce in its fine radio solicitation campaign last fall.

Regent A. J. Lobb pointed out that the increase in Mayo fellowship stipends is desirable as a means of keeping graduate medical education democratic. Unless a fair income is received by the graduate students the group becomes increasingly one drawn from families that can support their sons during a long period of study.

The board voted a leave of absence to Professor Mitchell V. Charnley of the department of journalism, who will spend the coming spring quarter traveling in eastern states to gather and prepare material for a life of Thurlow Weed, Albany editor and political leader. Weed's career is one of Professor Charnley's strong professional interests.

It was voted to empower the department of preventive medicine and public health to award the graduate degree, master of public health, to students completing the advanced course. This brings the university's diploma in public health into line with the generally recognized practice.

Requests by staff and students for university official recommendations that they be deferred for any reason in draft classification will be referred to Dean Malcolm M. Willey, assistant to the president, the Regents voted. This will unify procedure and do away with the likelihood of policy conflicts in case many deans and department heads signed papers brought to them for draft board reference.

The Rockefeller Foundation gave \$6,800 for researches in liquid metabolism, which will pay the salary of a research assistant and buy materials for a study now being conducted under the direction of Dean John T. Tate and Professor Joseph Valasek. The Carnegie Corporation of New York donated \$5,000 to help continue investigations by Dr. Robert G. Green into the relationship between certain viruses and cell growth, a cancer research, and gave \$2,500 for the support of a research in electrolysis by Dr. I. M. Kolthoff, head of the division of analytical chemistry, Institute of Technology.

The Joslyn Co., Chicago, added \$750 to support funds it contributes for researches in the department of electrical engineering under Professor John M. Bryant.

McCormick Speaks To Chicago Fans

Frank G. McCormick, director of athletics in the University of Minnesota, provided the entertainment recently at the first meeting of the "Wailing Wall," a new quarterbacks' club in Chicago that is made up of college alumni and people interested in college football. It was started because existing organizations of downtown quarterbacks in Chicago were centering their interest on professional football teams.

Mr. McCormick showed pictures of the Minnesota-Washington game at the first meeting, which was presided over by Eugene Lysen, who is secretary of the Minnesota alumni club in that city.

Among the 600 who attended, one-hundred-fifty were Minnesota alumni, McCormick reported. Two hundred were turned away for lack of accommodations.

Write on Rural Sociology

Two of the newest textbooks in the field of rural sociology have been produced by Minnesota graduates, it is reported by Dr. Lowry Nelson, professor of rural sociology. They are Dr. T. Lynn Smith (1932) who wrote "The Sociology of Rural Life" (Harper), and "Dr. Paul H. Landis (1933), whose "Rural Life in Process" has been published by McGraw-Hill.

Cheese Makers Know Tricks

Continued from page 1, column 3

makers have the great advantage of the natural ageing caves in the sandstone cliffs along the Mississippi river. As much as 1,500,000 pounds of Minnesota Blue is ageing in some of these caves right now, and there are caves that will hold as high as 1,500,000 pounds of American cheddar cheese, which can be stored in larger quantities because of the shape in which it is put up. "Cheddar" is the brainy name for what you and I call "American" cheese. And it's that, too. You're sure to get it when you ask for a cheese sandwich, but most of us don't know that it is cheddar.

The Minnesota Blue, or Roquefort type, is a whole milk cheese that is inoculated with mold and then carefully cured and aged, the sandstone caves providing just about the perfect temperature and humidity. It is in such caves in the Roquefort region of France that the cheese was developed. Under international trade agreements Minnesota makers are not allowed to sell their cheese as Roquefort, that being a name in which the French have the rights, but if one asks at the store for Roquefort it is proper for them to show him the Minnesota product.

After the basic cheese has been made, the whole milk set with rennet, the curd cut and dipped and the whey drained, the cheese is placed carefully in a kind of metallic hoop or collar, maybe nine inches high and ten inches across. These hoops are perforated for ventilation. As the cheese is placed in these hoops the mold, finely powdered, is shaken into each one from an ordinary salt shaker. The cheese is left in these hoops overnight then moved for three days into a place having a temperature of 65 degrees and a relative humidity of 90 per cent. Under these conditions an acidity develops that is favorable to the growth of the mold. The cheeses are then taken to the curing caves and rubbed with salt to give them a salt content of about 4.5 per cent. The hole punching, with knitting needles, to permit the mold to work its way through the cake, is then performed. The mold is, of course, a fungus, not a bacterium. Any of a number of types of mold will serve the purpose. They are raised on sterile bread, which is ground up into a fine powder after the mold has spread sufficiently. A considerable supply of this innoculating material is kept in reserve in the dairy products department in case commercial cheese makers run out. Time is of the essence in taking the several steps in cheese making, and when a maker is ready to use mold, the mold must be there.

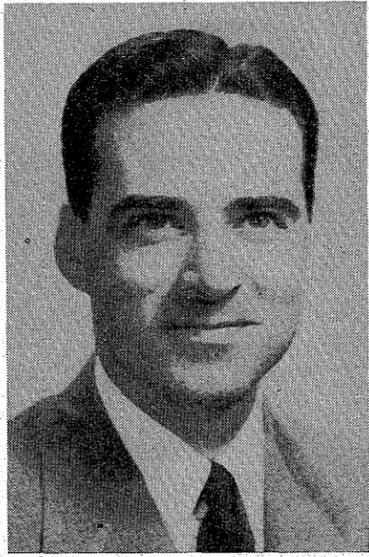
For the first three months after the cheese is placed in the ageing caves the mold develops quite rapidly, but then a slime develops on the exterior of the cheese, which inhibits the growth of the mold. This is wiped off, several times. Finally the mold seems to disappear, at about the time when the cheese is wrapped in foil. Nothing need be done, however, for after a further period it reappears, better than ever, and it is at that point that the cheese is ready for market. It's very good indeed. Anyone with a taste for cheese who has ever sampled it will vouch for that fact.

The products department is working on other fancy cheese besides Blue. It is developing a Gorgonzola type that is similar to the Roquefort except that it is put into circulation at a slightly different stage of its development. The department is also making a Trappist type cheese, named after that made by the Trappist monks in Europe. This is a mellow-bodied cheese, high in moisture and almost soft enough to spread when it is mature. After ageing it has a slight limburger flavor. It is put up in blocks about the size of a small cake, and is covered with wax for protection.

Three concerns in Minnesota are now making the Minnesota Blue which Professor Combs and his associates developed at University Farm. These are a concern in Faribault, Land O'Lakes and the big Kraft-Phoenix Corporation.

Wonderful things are being done with dairy products these days. One wonders what a cow would think about if she were shown a billiard ball made of casein or a two pound, foil-wrapped package of Roquefort cheese. Perhaps it is his assistance in such matters that makes Ferdinand so placid as he sits under a tree smelling a blossom.

Hughes Will Direct Pioneer Hall Work



Daniel Hughes

Daniel Hughes, graduate of Iowa State College, 1934, and a former assistant counsellor to Dr. John G. Darley in General College, has been appointed director of Pioneer Hall, succeeding Clair Plank, resigned. While he was a graduate student in educational psychology at Minnesota Mr. Hughes served as a counsellor in Pioneer Hall and is thoroughly familiar with the problems encountered in that work. He comes back to the university from a position as assistant director of personnel services at Macalester College, St. Paul.

Schmidt Reports On Wage Study

(Continued from page 2, column 5)

throughout the year. This stability of employment has been attained by two major steps: first, diversifying the line to fill slack periods, and second, processing ahead of sales, and placing the surplus stock in warehouses during periods of slack sales.

Several dozen other companies have adopted somewhat similar plans and in practically all cases report improved labor relations and lower operating costs.

Loan Plans

Having solved its season problem, the Andersen Frame Corporation previously mentioned adopted a loan plan which is applicable when earnings fall below 40 hours pay per each half-month. To compute the loans in dollars, the basic pay rate is multiplied by the number of hours of Loan Limit and from this is deducted all income received from other sources during the pay period, including unemployment compensation benefits, as indicated in the following schedule.

Loan Limits per Half-Month Pay Period	
Employee's Class (by No. of Dependents)	Limit of Loan (In Total Hours Pay)
A 0	40
B 1	50
C 2 or more	60

Maximum Limits of Loan		
Class	Years Service	Max. Loan (In Total Hours Pay)
A	2-5	80
B	2-5	100
C	2-5	120
A-B-C	Over 5	No Limit

This loan plan is still in the experimental stage. But in order to continually improve the economic security of the employees, the company on each renewal date makes the plan operative for a progressively longer duration. The indebtedness of the employee may be carried from one year to the next if he has not meanwhile repaid the loan. No interest is charged. Repayment of the loan is made only in work, and then only by whatever number of hours the employee works above 60 during the half-month pay period. The management reserves the right to alter the rate of repayment, merely as protection in case of a major change in general price and wage levels. Loans outstanding to employees who die or become permanently disabled are cancelled.

Loans are made only upon application by the employee. The management has made it a point to encourage employees to ask for these without feeling that they are asking a favor. The entire transaction is kept confidential. In the early thirties, the company made a great many of these loans without ever announcing a formal loan plan. Contrary to predictions by cynics, the repayment experi-

University Must Be In Step with Times

Through the thousand years of university history, one fact has stood out: universities have flourished when their teaching was relevant to the times; universities have withered when they clung to outworn disciplines and traditions. But lest we rashly innovate for innovation's sake, we must remember that universities have also sickened when they entered rashly upon new ventures which did not respond to the needs of the world surrounding them.

(James Bryant Conant, president of Harvard University at the inauguration of Howard Landis Bevis as president of Ohio State University.)

ence was virtually perfect. The borrowers repaid more than 99% of the total advanced to them. Small losses occurred in four cases, in each of which the reasons for default were completely understandable to the management.

Flexible Wages

Hormel and Company, Nunn-Bush Shoe Company, and several other manufacturers have adopted a new form of annual wage plan which is designed to mitigate the business cycle; that is, it is constructed in such a way as to provide continuity of employment and stability of real income instead of merely money income. Under the Nunn-Bush plan all Grade A employees, who constitute 90% of the total, are guaranteed 52 virtually equal pay checks per year. Twenty per cent of the wholesale value of the goods produced is set aside in a wage fund and from this the employees are paid their weekly wages. If business slackens this company, instead of laying off the employees, may cut the wholesale price of shoes in order to maintain production, and this automatically cuts the pay envelope for the employees. But when business goes into a tailspin it is probable that the cost of living has also declined, so that while the pay envelope may contain fewer dollars, it may contain just as much purchasing power. The employees accept these wage cuts, knowing that the moment volume picks up or prices of shoes rise the cut will be restored. Furthermore the employees automatically benefit in every improvement in sales, instead of having to wait until someone in the organization gets around to making a pay boost.

Mr. Nunn states that this new technique of wage payment converts employees from wage hands into partners in the enterprise, and it makes them realize that it is the consumer dollar which makes wage-payments possible, instead of thinking that the money comes out of the boss's pocket. During the recession of 1937 and 1938, while most companies laid off substantial numbers of employees, the Nunn-Bush company did not, and this is attributed entirely to the new technique of flexible wages. Obviously, if only a few companies adopt this policy its possibilities are limited, but should this scheme or some possible variation thereof become more widely used, it is conceivable that business depressions may be substantially mitigated.*

Conclusion

Irregular employment and hiring by the hour or day have been the experience of most American workers. Under experience rating, new incentive for employment regularization is provided for perhaps one million American employers. Time is required for adjustment to these new objectives of regularized work and payment. In a world torn by war and international disturbances, not too much can be expected for the time being. However, most of us have been too complacent in blaming international disturbances for our own internal instability, when as a matter of fact internal stability and prosperity may go a long way toward encouraging external or international stability and prosperity. A strong and productive America has a contribution to make toward international stability and prosperity.

We are just in the beginning stage of this movement toward employment regularization, and although substantial progress is being made by the more forward-looking employers, we must recognize that time and educational effort are requisites to further attainments.

If experience rating is given a fair chance it may go a long way toward eliminating a substantial margin of insecurity and may do its part in preserving our histori-

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University of Minnesota, Minneapolis

Seek "Native" Art Baptist Church Ninety Years In 'U' District

The Committee on Research of the University of Minnesota has recently granted the sum of \$350 to Professor Laurence Schmeckebier, chairman of the Fine Arts department, for purposes of research in the early art of Minnesota. Professor Schmeckebier and various members of the Fine Arts seminar under his direction have already done a considerable amount of work in the historical investigation, cataloguing, photographing, and interpretation of artistic achievements by Minnesota people within the Twin City area from the beginning of the state's history to recent times. With this grant it is hoped that the project can be expanded to include a much more comprehensive survey of the whole state.

Outside of a limited group of ardent enthusiasts, the public at large has seldom realized the importance of Minnesota's artistic heritage, both to our own present day culture within the state, and to the development of American art in general. Some of the most important personalities in the history of American architecture have developed in Minnesota. Cass Gilbert, famed for his design of the Woolworth building in New York, was not only the designer of Minnesota's State Capitol and the plan of the University of Minnesota campus, but also had built many of St. Paul's most beautiful homes of that period.

To Leroy Buffington goes credit for some of the finest buildings on the University campus, as well as many homes and commercial buildings in Minneapolis. Buffington's fame outside the state rests on his pioneer experimentation in steel skyscraper construction, and hence, he is often looked upon as one of the actual founders of modern architecture. A third architect is William Channing Whitney, who has designed many of the most beautiful and charming homes in Minneapolis and on Lake Minnetonka.

"Among painters and sculptors," said Professor Schmeckebier, there are nationally known artists like Homer Martin, Adolph Dehn, Wanda Gag, Arnold Blanche and Paul Manship, who are products of the Minnesota tradition. Likewise, there are others whose present national reputation is not so outstanding as these, but who fully deserved that recognition. If the works of men like Alexis Fournier, Douglas Volk, James Larpenteur and Jacob Fjeldes were more thoroughly studied and published, they would undoubtedly be rated the greatest of their time. Then, too, there are literally hundreds of watercolors, drawings, and paintings that lie unnoticed in public museums and archives and storehouses, as well as old trunks in attics and basements, that have genuine artistic merit. Really outstanding artists like Robert Sweeney, Edwin Whitefield, Augustus Moore and many others were well known and respected in their day. Now they are forgotten, their works unnoticed and unappreciated.

"These art works must be preserved and made available to the people of the state. They are valuable both for their own artistic quality, and as an integral part of the cultural history of the state. The grant made by the University for this research is intended as a beginning, to make an initial catalogue and collection of photographs of many works that are not available in public collections. It is hoped that the people in the state, art enthusiasts, collectors and family descendants, will cooperate with contributions of funds, information and general support for this project."

cal liberties and freedom. *This and many other annual wage plans as well as plans for mitigating lay offs are described fully in the American Legion Employment Stabilization Service, Austin, Minnesota.

Mrs. Matilda C. Wilkin, famed former teacher at the University of Minnesota, was among many members of the University community who took part November 8 in exercises commemorating the ninetieth anniversary of the University Baptist church, Thirteenth and University avenues, S. E., the oldest Baptist church in Minneapolis and the second oldest in the state. Mrs. Wilkin delivered the prayer during the reception that followed the anniversary service. At the service Professor Lloyd M. Short of the department of political science responded on behalf of the church to congratulatory greetings from the many prominent Baptist clergy and laymen in attendance.

Organized in 1850, the church was known as Olivet Baptist church from 1879 until 1921, when the name University Baptist was adopted. It has always been situated in southeast Minneapolis, and it is the student church of the Baptist denomination at the University of Minnesota.

An alumni dinner of former students at Minnesota who attended the University Baptist church preceded the anniversary exercises.

College of Pharmacy Largest in History

Enrollment in the University of Minnesota's College of Pharmacy is the largest in the school's history, Dean Charles H. Rogers announced. From an enrollment of 155 in 1934 a relatively steady growth has taken the registration to 156 in 1937, 166 in 1938, 187 in 1939, and 207 at this time. Of 51 students who were sophomores last year, 48 have returned as juniors, showing a minimal loss, Dean Rogers explained. He anticipates that the college will grow to at least 275 students within a few years.

Discuss Estate Planning

An institute in legal aspects of estate planning, including death taxes, procedure in inheritance tax practice, discretionary powers of trustees under wills and trust agreements, and the like, was conducted recently at the University of Minnesota's Center for Continuation Study. Morning lectures and those of the first two afternoons dealt with state inheritance and federal estate taxes. Remaining sessions were devoted to the lawyer's function in the drafting of wills and trust agreements. On the lecturing faculty were Edward S. Bade, associate professor of law, University of Minnesota; Dean Everett Fraser, Edward G. Jennings, associate professor of law, Henry Rottschaefer, professor of law, Donald C. Rogers and G. Aaron Youngquist, Minneapolis attorneys, Philip F. Sherman, assistant attorney general, state of Minnesota, and Gilbert T. Stephenson of the Graduate School of Banking, New York. Julius M. Nolte, director of the Center, was charge.

Long-Term Chemists Named

Fourteen members of the American Chemical Society who are on the faculty of the University of Minnesota are listed on the society's "honor roll" of persons who have been members for 25 years, just published in the news edition of the Journal of the American Chemical Society. Those listed, the first three being retired members of the faculty are: 1893, George B. Frankforter; 1894, Charles F. Sidener; 1895 to 1900, F. J. Alway; 1900 to 1905, Miss Lillian Cohen, Frank F. Grout; 1905 to 1910, Ross A. Gortner, Samuel Colville Lind, Frank Henry MacDougall, Leroy S. Palmer; 1910 to 1915, Arthur D. Hirschfelder, Charles A. Mann, Clayton O. Rost, M. Cannon Sneed; joined in 1915, Lloyd H. Reyerson.

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Lectures on Heart and Common Cold Continue Interest

Sigma Xi Address Topics Shift to Medical Information; Series Now Over for Year

ADDRESSES by Dr. Maurice B. Visscher, head of the department of physiology, University of Minnesota Medical School on "Your Heart and You," and by Dr. Harold S. Diehl, dean of medical sciences, and head of the Medical School on, "The Common Cold," comprised the second and third lectures in the 1941 Sigma Xi series of popular lectures on science. Sigma Xi is a national honor society in scientific fields. The series conducted by the Minnesota chapter has been popular for a decade.

The following is an abstract of Dr. Visscher's lecture, followed by an abstract of that by Dean Diehl:

Said Dr. Visscher:

"Your Heart and You"

The human heart converts only about 25 percent of the energy it uses into useful work, but is still far ahead of mankind's mechanical instruments, most of which do well if 10 percent of the energy generated comes to be applied to the task in hand, Dr. Maurice B. Visscher, head of the University of Minnesota medical school's department of physiology told a Sigma Xi audience last night in Northrop Memorial Auditorium. In heart disease, he said, this efficiency ratio may fall to as little as one percent. Further, in doing its daily work the heart uses up the energy supplied by about 25 grams of sugar, or 100 calories out of 2,000 calories in the average daily diet of a sedentary man. Thus the heart alone consumes one-twentieth of the daily energy needed to keep the body going.

Dr. Visscher started by reviewing the theories held by the ancient Greeks concerning the heart, to which the medical students of the world adhered for more than 1,000 years, or until the spirit of the renaissance liberated the scientist from the requirement of accepting the beliefs of the past rather than experimenting for himself.

Harvey's publication of his treatise on the "Circulation of the Blood" in 1628, said Dr. Visscher, ushered in a new era, not only in the knowledge of the heart and the circulation, but in experimental biology and medicine as a whole. A new method had been used to solve an ancient problem.

His lecture was illustrated with moving pictures, some of them sensational, showing the heart at work. In some of these pictures taken at the rate of 10,000 per second were slowed to be shown at 30 per second to make visible the actual action of the heart.

Because of an artful division of labor within the heart, its main parts work but a nine-hour day, even while it "keeps going" because, for example, the ventricles are resting during five-eighths of each cycle of expansion and contraction, or 15 hours a day. At the same time the ventricles contract on an average of 72 times a minute (normal pulse rate) or a little more than 100,000 times a day or 36,000,000 times a year. The rest periods are spread over the whole time. The heart must have these times for recovery, and during them important chemical changes are taking place.

"The heart is, as I stated at the outset, a pumping engine," Dr. Visscher said. "It requires fuel to carry on its work because the performance of work requires energy. The heart muscle does not, of course, burn fuel in the same sense that steam engines and internal combustion engines do. Nevertheless, it burns fuels in just as real a way, by oxidation of sugars and fats. The average human heart burns the equivalent of 25 grams, or a heaping teaspoonful of sugar per day when the body is at rest. In maximal exercise the

Dean Walter C. Coffey, President-Elect



DEAN of the University of Minnesota's Department of Agriculture since 1921, Dr. Walter C. Coffey has been named president-elect by the Board of Regents. He will assume office July 1 upon President Ford's retirement.

Renewed Impetus to Public Health Seen in Draft by Dr. Ruth Boynton

Head of University of Minnesota Students' Health Service Re-named President of National Group

Dr. Ruth E. Boynton, director of the Students' Health Service, University of Minnesota, was re-elected to the presidency of the American Student Health association at its recent meeting at Ann Arbor, Mich., before which she delivered the presidential address. Dr. Boynton's subject was, "The Health of College Students and National Defense."

Dr. Ralph I. Canuteson of the University of Kansas was re-elected secretary-treasurer of the association and Dr. A. G. Gould of Cornell University was named vice-president.

College students seemingly are in better physical condition than they were when they were examined for the draft in 1917-18, Dr. Boynton said, adding that never before have public health workers had such a chance to evaluate their work as that provided for them by the present conscription procedures.

Dr. Boynton said in her presidential address:

At the time of our last annual meeting one year ago few if any of us had the vision to see the far-reaching effects which the European war would have on our American way of life. During these past twelve months we have witnessed in our country the passage of the first selective service law in peace time. The young men in the country have had their draft numbers assigned to them, and some have already been called to military service.

The first hurdle to be passed by these young men called for army service is the physical examination. In 1917 and 1918 the United States Army rejected as physically unfit approximately 30 percent of the young men who were draft-

ed for military service. The question which is being asked today is: Are the young men who will be drafted now any healthier than those others were twenty-two years ago? The answer to this question is one which will be of particular interest to all who have been engaged in student health work and other fields of health education during the past twenty-five years.

The high percentage of young men found unfit for military service in 1917 and 1918 gave great impetus to preventive medical work in this country. The development of college health work was greatly stimulated by these findings. Since the majority of physical defects found on the men excluded from army service were preventable in nature, it seemed obvious that with some provision for the early detection of such physical defects and for their correction, it would be possible to prevent such a large proportion of our young people from these physical handicaps.

However uneasy we may be about the world situation and however earnestly we may wish to keep the peace in our country, the physical examination of several million young men offers an unprecedented opportunity to gauge the progress which has been made in health conservation. Incomplete and scattered data for volunteers in the present national crisis indicate that the percentage rejected for physical defects is approximately the same as in 1917 and 1918. The Metropolitan Life Insurance Company thinks, however, that far fewer serious impairments will be found among the young men of 1940 than among those of 1917. Whether or not this is true will only be determined when the results of the physical examinations of large numbers of the drafted men are made available. The progress

(Continued to page 2, column 2)

Resolution by Board of Regents Decries License

Members of the student body and staff of the University of Minnesota were apprised in a resolution passed by the Board of Regents on February 14 that these are times of emergency and advised that all members of the university community should exercise discretion lest any act or expression might either impair the soundness of the institution or seem in any way damaging to democratic principles and interests.

The statement follows:

The declaration by the President of the United States of an emergency and the inauguration of a huge defense program places a responsibility on all citizens to see that the activities over which they have jurisdiction are being conducted in a manner that contributes to the government's program. The Regents of this University have pledged the University to every aid in the National program. They have reviewed their own responsibilities and those of the staff and student body. They have satisfied themselves of the unity of purpose within the institution in this emergency and are now issuing the following statement:

The strength of this university rests in the young men and young women who constitute the student body and in the faculties who are their teachers. We look to them at all times, and especially at times of emergency and crisis, to uphold our basic American traditions.

We look to them, in their demonstrated judgment and strength, to maintain the university free from any and all activities that impair the soundness of our institution. To them we shall look in the future, as we have in the past, to resist successfully all subversive effort, through propaganda or other influence, by sensing and exposing its unsoundness.

The students and staff themselves must constitute the court of first instance which determines the nature and effect of such evils. Through efforts initiated by them, or efforts initiated through them, the university will maintain its name and reputation as a great educational institution where the freedom of thought in a democracy shall not be tainted with destructive license.

We believe in academic freedom; we do not believe in license. That does not relieve us of our ultimate responsibility of seeing that a university connection is not used by anyone who would advocate measures opposed to our government or to the interests of the citizens who support this institution. The "freedom of expression" and "rights" which they seek for the promotion of subversive activities are not to be found within the confines of this university, which belongs to the people of the State, who have entrusted to the Regents the responsibility of conducting it in a manner consonant with public interests.

We trust the staff and the student body, who are the bulwark of this institution, to be on guard against any measures which they believe inimical to the best interests of the university and the State, and to eradicate any forces or influences opposed to those ideals which have maintained the university in the highest traditions of a free and democratic nation.

Illinois College Men Hear McConnell

Dr. T. Raymond McConnell, associate dean of the College of Science, Literature and the Arts and chairman of the Senate Committee on Education, spoke recently at a meeting of the Federation of Illinois Colleges held on the campus of Elmhurst College, Elmhurst, Ill. Dr. McConnell's subject was, "What is our responsibility in the realm of education for the maintenance of democracy."

Dean Coffey Made Acting President Of University

Dean of the Department of Agriculture for Twenty Years Popular Choice

COWLEY NOT TO COME

Widely Known Administrator Will Take Over Duties on July 1

Dr. Walter C. Coffey, dean of the Department of Agriculture in the University of Minnesota since 1921, has been elected acting-president of the University by the Board of Regents and has accepted.

Dean Coffey probably is known to more people in the state of Minnesota than is any other member of the University of Minnesota staff, and his selection has been greeted on all sides as an extremely happy one.

Election of Dean Coffey came at a hurriedly called meeting of the Board of Regents after a communication came from William Harold Cowley, president of Hamilton College, Clinton, N. Y., saying that he had decided not to accept the office, which had been offered him.

A statement made by the Board of Regents late on Thursday, February 20, said:

"The Regents of the University of Minnesota are happy to announce that they have asked Dr. Walter C. Coffey, dean of the Department of Agriculture for the past twenty years, to become acting president of the University of Minnesota and that he has accepted."

The Board of Regents expressed its disappointment at Dr. Cowley's action in declining to become president of the University of Minnesota.

Dr. Cowley was selected by the Regents on the basis of his experience and qualifications for the office. An invitation was extended only after there had been received from him every reasonable assurance of acceptance.

Dr. Cowley released at Clinton, N. Y., a statement saying that his desire to complete "involved projects I have begun here" was the cause of his deciding not to come.

Statement by President-Elect
Upon being notified of his appointment Dean Coffey said: "Naturally, I shall do everything I can to keep the University of Minnesota on the high level of excellence which it has so long maintained. In this endeavor I am sure I shall have the cooperation and backing of the Board of Regents and of our staff."

Dean Coffey was an expert in animal husbandry, with sheep as a specialty, before he came to Minnesota from a professorship in the University of Illinois to become head of the Department of Agriculture. In the University of Minnesota the "department" of agriculture is the unit that includes all of the activities in agricultural fields that the institution conducts. It therefore includes the College of Agriculture, Forestry and Home Economics, the Agricultural Experiment Station, with its substations, the several Schools of Agriculture, and the Agricultural Extension Division. It is approximately the equivalent of the Agricultural and Mechanical Colleges maintained in many states, but through the foresight of early Boards of Regents has always been maintained as an integral part of the general university. Thus there is no question of Dean Coffey's administrative experience and ability, nor of his scientific and scholarly interests. The field of agriculture, which he personifies, is the one most important, overall, to the state of Minnesota.

Dean Coffey is just three weeks past the age of sixty-five years.

Dean Coffey's History
Walter Castella Coffey was born in Hartsville, Ind., February 1, 1876, the son of Calvin Allen and Josephine Simmonds Coffey.

After study at Hartsville and Franklin colleges and the University of Illinois, he received his

(Continued to page 3, column 2)

Minnesota First With Fitness Plan For Men in Draft

Examinations, Programs of Recreation, Knowledge of Sports and Hygiene to Be for "Low Numbers"

A broad and continuing program of examinations, health building and instruction for University of Minnesota students due to be called in the draft has been announced by President Guy Stanton Ford. It will be begun as soon as arrangements can be made, probably with the start of the spring quarter, April 1.

Minnesota is believed to be the first university to institute such a course, the idea having come in the first instance from a recent meeting of Western Conference officials at Chicago which Frank G. McCormick attended as representative of the university and the American Legion, while Dr. C. Gilbert Wrenn represented President Ford.

The program will start with the men who have received questionnaires from draft boards and will therefore be called in the relatively near future. It will involve the discovery of defects, body building and recreational classes, and lectures designed to provide knowledge necessary in the abrupt transition from civil to army life, President Ford said.

First activities probably will be physical examination of those who have received questionnaires and this will be started during the spring vacation, in mid-March, possibly sooner.

The program begun with those to go most immediately will later be extended to all male students and may be supplemented with examinations and activities for non-university men of draft groups in the twin cities. Mr. McCormick's recommendation also suggested extension of the program into the state.

A committee headed by Dean Wesley E. Peik of the College of Education drew up the report which recommended the program. Members other than the chairman were Dean Harold S. Diehl, Dr. Ruth E. Boynton, Mr. McCormick, Professors T. Raymond McConnell, Tracy F. Tyler and C. Gilbert Wrenn. The plan has been accepted in its general outlines by the administrative committee of the university and Dr. Boynton, director of the Health Service, has given assurance that her organization can handle the examinations.

"The substantial improvement in the health of young persons which has been made since the world war is due in no small measure to lessons learned then," said the report by Dean Peik's committee. This experience in physical, health and recreational education, however, points to the necessity of still greater effort through the educational system, including higher education. Thousands of students at this university still make no contacts with the optional program for physical development and recreation. Many seem to do little about health, physical fitness, or recreational interests.

"The present world crisis pre-figures the continuation and perhaps the intensification of periods of stress and strain, psychologically, economically and socially, for all nations, including our own, whether we get into the conflict or not. It seems imperative that we do what we can for students who, because of college training, will likely be given responsibilities for leadership. Many of them will eventually enter sedentary occupations and professions where the habituation to good health and recreational habits, acquired during school life, may result in greater success and happiness."

The program to be followed is expected to include classification of students, medical examinations, examinations of physical strength and fitness, and of recreational knowledge and skills, tests of knowledge of personal hygiene and public sanitation, and guidance.

"Information gained by these examinations," the report said, "would be used by departments to build programs of remedial and developmental courses and activities. Some of these will relate directly to army life. Students physically weak would be directed into body building activities. Special instruction would be given with respect to communicable disease."

International Costume Ball To Be in Union

For the first time at the University of Minnesota student organizations representing national races are working to prove that, although their home governments are at war, individuals of all races can live in America free from hostility.

Result of their work will be seen at the International Costume Ball, February 28 in Coffman Memorial union, at the university.

Intended to be a colorful pageant of nations, the dance will provide a fund to aid foreign students on the campus whose incomes have been affected by the present war. Profits will also be used to supplement the World Students Service fund, a national drive to assist needy foreign students.

Representing campus organizations on the committee are Ching L. Han, China, Chinese club; Helen Hofer, Minneapolis, German club; Manuel Saavedra, Cuba, Spanish club; Ethel Baron, Minneapolis, and David Little, Kasson, Minn., Italian club; Jacques Fermaud, romance languages instructor, French club; Walter Kiriluk, Hallock, Minn., Ukrainian club; Elmer Harris, St. Paul, Negro students; and Mrs. Hortelius of the Swedish Art Institute, Scandinavian students.

Dancing will begin in the main ballroom at 9 p. m.

Refreshments typical of the countries they represent will be served by the clubs.

Walter Huchthausen, assistant professor of architecture, is general manager of the ball, and John Burg, Mahtomedi, Minn., is promotion manager. It is sponsored by the University of Minnesota Cosmopolitan club and the International Institutes of Minneapolis and St. Paul.

Members of the executive council are Everett Petersen, Robert Opdahl, Russell Stotesbery, John Salisbury and Barbara Garlough, Minneapolis; George Rafferty, St. Paul; Virginia Menning, Kansas City, Mo.; and Manuel Saavedra, Cuba.

To make it an even more colorful affair, the committee asks guests to come in either costume or formal dress, but street clothes will be permitted. There will be prizes for the most distinct and original costumes.

Boynton Predicts New Health Phase

(Continued from page 1, column 3) which has been made in the control of tuberculosis, syphilis, rheumatic heart disease and certain of the communicable diseases which leave disabling sequelae should be reflected in the physical fitness of the present generation of young people.

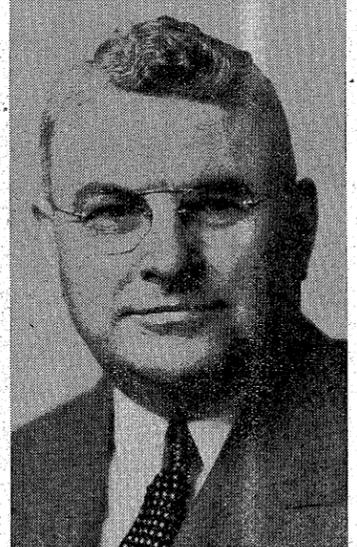
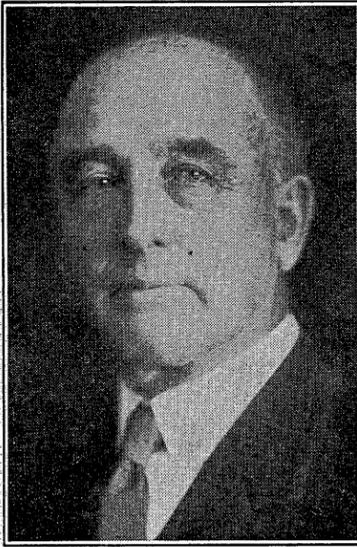
Not Quite a 'Cross-Section'
Although the college group does not represent a true cross section of the young men of draft age, still a college population in a state university can no longer be said to be highly selective. Unemployment among youth today and scholarships and federal aid have put into the college many youths who formerly had no opportunities for higher education. It seemed of interest, therefore, to take a sampling of young men entering a state university and to compare their findings on physical examination with the physical standards of the selective service act.

According to the physical standards under the selective service act, the examinees will be classified into three categories: Class IA—those physically qualified for general active military service; Class 1B—those who are physically unfit for general active military service but are fit for special and limited military service; Class 4—those physically unfit for any military service. At the present time only men assigned to Class IA will be inducted into the army. In brief the regulations say:

"The registrant must be able to see well; have comparatively good hearing; have a heart able to withstand the stress of physical exertion; be intelligent enough to understand and execute military maneuvers, obey commands, and protect himself; and be able to transport himself by walking as the exigencies of military life may demand. Examining physicians will accordingly so construe these standards that the objective stated above may be realized."

An unselected sample of 1,000 physical examination records of

Four Regents Re-elected to Board



young men entering the University of Minnesota in the fall of 1938-39 was studied. Of the group of 1,000, 92, or 9.2 per cent, would be assigned to Class 4—those physically unfit for any military service; while 94, or 9.4 per cent, would be assigned to Class 1B—those who are physically unfit for general active military service but are fit for special and limited military service. Thus a total of 18.6 per cent of these University students would be rejected for active military service at the present time. The reasons for the disabilities in this group bear out the prediction of the Metropolitan Life Insurance Company that the majority rejected are due to minor physical disabilities.

Of the 92 students whose physical examinations revealed them to be unfit for any military service, 50 were so classed because of underweight, according to the selective service standards. It is possible that a number of these young men would be accepted for military service, as the examining boards have been given a good deal of discretion in matters of height and weight. If, in the opinion of the Board, proper food and training will make a man capable of giving service he may be inducted into the service. It is probable, also, that this number rejected for underweight is higher than would actually occur in University men of draft age, as the majority of the group was under 21 years of age. Diehl's studies showed that college men increased in weight with age and the percentage of underweight students decreased as the age of the students rose.

The next most common physical defect found in this group was a rapid heart rate. According to the physical standards for selective service, a heart rate of 100 or over per minute, when this is proved to be persistent in the recumbent posture and on observation and re-examination over a sufficient period of time, disqualifies a man for any military service. In the 1,000 University students examined there were 28 who had pulse rates of 100 or over on repeated examination. In none of these could any organic cause for the tachycardia be found. It is of interest, also, that in this sampling there were no students with organic disease of the heart.

Visual Defects Found Few

Three of the 1,000 students had visual defects of such severity that they would be excluded from military service. There were two with active pulmonary tuberculosis and two with diabetes, both of which are causes for rejection. One student with duodenal ulcer and one with syphilis are also included in this group. There were only five of the 1,000 with flat

feet which were disabling. One member of the group was disqualified for any military service because of a severe scoliosis.

"In a recent issue of the 'Journal of the American Medical Association' there was a report on the physical examinations of a group of volunteers in New York. Of those who were rejected for military service, 50 per cent were rejected because of dental defects. It is significant that in this group of entering University students there was not one whose teeth were in such condition that he would be put in Class 4, and only one student who would be classified as 1B. The mouths of all the rest were in such condition that they would have been classified as 1A.

Those students whose physical examinations on entrance to the University were such that, according to the physical standards for selective service, they would fall into Class 1B, as fit for special and limited military service, numbered 94 of the 1,000. The largest percentage of this group was so classified because of nose and throat defects. There were 44 who were classed as 1B, according to the selective service standard, because of nose and throat defects. Seventeen of these had a deviated septum with obstruction to breathing; 15 had severe hay fever; and 12, a chronic sinusitis. Next in importance were defects of hearing. Fourteen of the group had a hearing loss of 50 or more decibels in both ears when tested with the audiometer. The selective service standards do not require the use of the audiometer to determine hearing loss, but rather the spoken voice at 20 feet. Since there have been no standards by which one might translate audiometer readings to compare with the method of testing with the

Regents Adopt Resolution on Dr. Vincent's Loss

By the death of Dr. George Edgar Vincent recently at his home in Greenwich, Conn., the University of Minnesota lost its only living former-president and a man who has befriended the institution in many ways since the era of his residency, 1911-1917. Many departments of the university were reorganized under Dr. Vincent. He left Minnesota to become president of the Rockefeller Foundation and later held many honorary positions.

A resolution prepared by President Guy Stanton Ford and approved by standing vote of the Board of Regents at its February 14 meeting read as follows:

"The University of Minnesota is the lengthened shadow of many men. It is a structure planned and built by the devotion of a host of scholars and administrators. Its growth, however, has never carried it to a point where the influence of its presidents has not been a pervasive and determining factor in its concision of its task, and directive in the course it pursued. In the death of George Edgar Vincent, its third president, one of the greatest of its leaders and a builder of its name and creator of its fame, 'has passed out of sight of men by the path of duty and self-sacrifice.' His vivid and vitalizing personality preserves him as a living presence to those who knew him. For others who know him only by the results of his labors on this campus and in connection with the worldwide responsibilities he later assumed, he is touched by the immortality of those who consume themselves as they hold the light to guide men and institutions to higher levels.

"President Vincent came to the University of Minnesota in 1911 to head a group of colleges ready to be focused upon the tasks of a new age. He left behind him in 1917 an integrated university suffused with a firm conviction that it was destined for greater things, and united through a vision of its tasks and its service that embraced the whole life of the state, and, through scholarship, the world beyond state boundaries. His six years were in a sense a re-founding of the university by the creation of an institution that met the definition of a university by doing university work.

"The details of President Vincent's energizing labors are for others to recite. It is for us, the Board of Regents, representing the University of today, to pay the grateful tribute of those who labor where he broke the ground. To the gentleman, scholar, administrator, many-sided and sensitive personality that was George Vincent, we offer the thanks of the University and the commonwealth of Minnesota. To Mrs. Vincent, who added her own individual touch to those six years, and to their children, John, Isabelle and Elizabeth, we tender our profound sympathy and transmit this resolution as an expression of our own and this community's sense of loss."

spoken voice, the hearing loss of 50 decibels in both ears has been arbitrarily selected. Using this, however, there were 14 with a hearing loss sufficient to classify them for limited service.

There were 11 who were classified for limited service because of asthma, and eight because of hernia. Twelve of the group were put into Class 1B because of stuttering. There was only one student who was classed for limited service because of a visual defect. It is obvious that in this group of University students the majority who would be excluded or limited, so far as military service is concerned, would be so classified because of relatively minor physical defects.

Seem to Be Above Average

Whether these University students are in better physical condition than a true sampling of the general population is not known. The findings in this comparatively small group would indicate that such is the case. While students in a large state university such as the University of Minnesota probably represent a fairly good cross section of the economic and social groups in the area, there is some selection on the basis of intelligence. One would expect this factor of intelligence to have an effect on the health habits and health practices of this group of college students. Not until the results of the examinations of thousands of young men from all sec-

(Continued to page 4, column 5)

Calls British Market Vital To Hemisphere

Dr. Uppgren Gives Figures Before American Economic Association

A "striking economic reason" for political and economic cooperation with Britain by nations of the western hemisphere is found in the fact that Britain is the market for such vast amounts of North and South American products, that the economies of the Americas would be tremendously disturbed were the British market lost, members of the American Economic Association were told at New Orleans recently in a joint paper by Professor Alvin H. Hansen of Harvard and Arthur R. Uppgren of the University of Minnesota. Dr. Uppgren read the paper in Dr. Hansen's absence.

Dr. Uppgren declared that whatever political, military, cultural and ideological bases the present United States policy of economic and indirect military aid to Britain may have, its basis is fortified by the crucial trade position Britain holds for a United States interested in western hemisphere solidarity.

Agricultural Products the Key

"The point of outstanding weakness in any program of western hemisphere economic solidarity," he went on, "is the fact that the western hemisphere has gigantic surpluses of agricultural products for which export markets are needed if reasonable prosperity is to be maintained within the hemisphere. We in the United States are familiar with our own agricultural surplus problem. Quantitatively it is the problem of export markets for about \$700,000,000 of agricultural products each year. If these markets cannot be secured and maintained, either the United States faces serious economic readjustment at home or a pronounced lack of prosperity not only for agriculture but possibly for industry as well. But if the western hemisphere as a whole is considered, the surpluses of these commodities accumulate to a total of no less than \$2,000,000,000. Whatever the rather small proportion may be that United States exports bear to its total production, the proportion for the countries of the rest of the western hemisphere is very substantially higher. A curtailment of exports for them is tantamount to economic suicide.

"Our surpluses are agricultural surpluses of cotton and wheat, tobacco and meat, and mineral surpluses of copper and petroleum, to name but two of the latter class. Canada and Argentina together have even greater surpluses of meat and wheat, Brazil has a large surplus of coffee and cotton, and other countries of the hemisphere have very large surpluses of copper and petroleum. Perhaps the economic difficulties for the hemisphere as a whole can be characterized in the statement that the hemisphere contains two temperate-climate, raw-material producing areas and but one large industrial market, which is, of course, the market of our country.

Must Export or "Readjust"

"Any program of hemispheric isolation or self-containment must face the facts of these surpluses. The amelioration of the problem is to be found either in the maintenance of markets for these commodities or in the readjustment of hemispheric production. Any production readjustment, involving as it would huge drafts upon the supply of capital of the United States, would probably result in a centralization of control that would constitute a threat to democracy, for it would involve not only control at home but a substantial degree of interference in the other countries of the hemisphere.

"A key to the solution of this dilemma is Britain. The greatest absorbing market for these huge surpluses of the Western Hemisphere is Europe. In that European market the proportion of western hemisphere agricultural surpluses that is absorbed by Britain (in trade terms, the United Kingdom) is striking indeed. Of total hemispheric exports Britain absorbs no less than 62 percent in the case of wheat, or considerably more than is absorbed by the combined leading countries of the continent of Europe. In the case of meat, a critical export for the Argentine, the proportion of total western hemisphere exports to all of Europe that is absorbed by Britain is 90 percent. In the case of lard it is 58 percent; in the case of cotton, tobacco and corn, the proportion ranges from 32 to

Dean Coffey Made Acting President

(Continued from page 1, column 5)

sity of Indiana, he was graduated with a bachelor of science degree from the University of Illinois in 1906, and he received his master of science degree from the same school three years later.

Has Two Sons

In 1907, he married Jennie Crisler Lardner of Big Rapids, Mich., a cousin of the late Ring Lardner, noted American humorist. They have two sons, Lardner A., 30, and Walter C., Jr., 27.

Dean Coffey taught at Illinois while taking postgraduate work, serving as an instructor in animal husbandry in 1906-07, and becoming an assistant professor in 1907. He was elevated to an associate professorship in 1911. In 1913, he became professor of sheep and meat, continuing in that post until he came to Minnesota in 1921.

Urged Crop Diversity

Dean Coffey has been active for many years in organizations seeking to develop the value and diversity of farm crops, serving on the committees of many national organizations in that field. He is a member of the cellulose advisory committee for perennial crops of the National Farm Chemurgic council, president of the Twin City unit of the National Dairy council; chairman of the Conference on Factors Which Influence Quality and Palatability of Meats, and chairman of the advisory committee on soil conservation for Minnesota.

In 1934, when drouth threatened disaster to northwest agriculture, Dean Coffey was named state director of federal emergency drouth relief for the state, and later became regional director in charge of the work in six states.

He has been active in several educational organizations, including the Association of Land Grant Colleges and Universities, of which he is vice president. He is a member of the Minnesota advisory committee for the national youth administration, of the board of education of the Methodist church, chairman of the executive committee of the state YMCA, and a director of the "Y's" north central area council, and a trustee of Hamline university.

Hamline university conferred the honorary degree of doctor of laws on Dean Coffey in 1927.

In 1939, after two years as deputy chairman of the Federal Reserve bank of Minneapolis, Dean Coffey was appointed chairman. He is also a director and member of the executive committee of the bank.

He is a director of the St. Paul Association of Commerce, the Minneapolis Civic & Commerce association, and of Sigma Alpha Epsilon, Alpha Zeta, Sigma Xi, and Gamma Sigma Delta fraternities.

Dean Coffey's writings include the volumes "Productive Sheep Husbandry" and "Live Stock Enterprises," the latter as co-author, and many bulletins.

More About the President-Elect

An article in "Fact and Artifact," a column in "Minnesota Chats," had the following to say of Dean Coffey in 1939:

By applying to headquarters, which is to say, to Dean Coffey himself, I found out quite a good deal about this gentleman, mostly from a book. Dean Coffey is too modest to talk very much about himself (if indeed that statement really holds for anyone at all) but the 1932 edition of "The Agrarian," the yearbook of the Central School of Agriculture, was dedicated to him. The material in it was interesting to say the least.

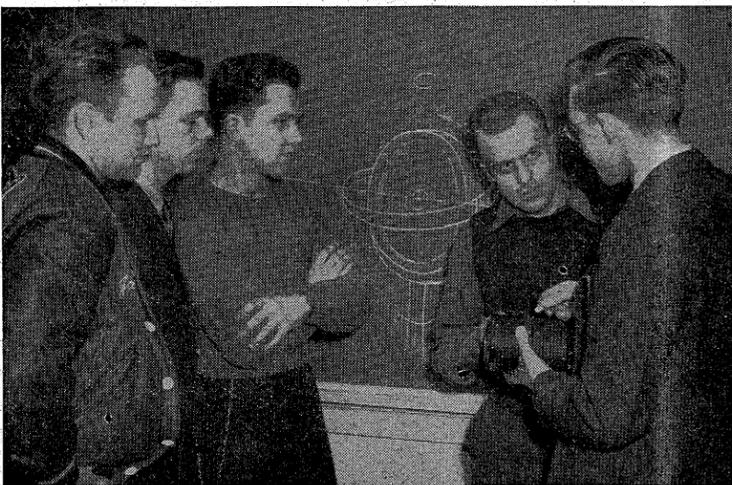
Among the things I learned about Dean Coffey were these:

He sold a lot in Urbana, Ill., to one Guy Stanton Ford, then a member of the history department in the University of Illinois, when President Ford was newly married and ready to build his first house.

He started his academic life as 40 percent; finally, in the cases of copper and petroleum, the figures are 49 and 38 percent respectively. In fact, coffee is the only important western hemisphere export that is absorbed heavily by Europe, exclusive of Britain."

Dr. Uppgren said statistics show also that decline of American industrial production coincides so nearly with decline in foreign trade as to constitute a further threat to a prosperous American economy.

In CAA Evening Ground School Class



Shown watching a demonstration are four members of the flight training class, who study their ground work evenings in the General Extension Division. Left to right are H. J. Jacobs, William Dudding, W. W. Haas and D. R. Swenson, with H. S. Stillwell, the instructor.

a shepherd, with the title of flockmaster for the agricultural department of the University of Illinois.

He had to argue with the graduate faculty of that university when he was a graduate student before they would consent to his taking economics as a minor to go with animal husbandry as a major. Why, said they, no one ever heard of such a thing; economics was no subject in agriculture. But Coffey argued that it was extremely pertinent, even back there in about 1911, and he won.

While teaching at Illinois he was offered the deanship of a College of Agriculture and turned it down, but did not refuse to come to Minnesota, one of the leading Colleges of Agriculture in the country, when the opportunity was offered him in 1921.

Dean Coffey was born on an Indiana farm, as was the late Dr. Coffman. His father, Calvin A. Coffey, was from the South. Josephine Coffey was his mother. The Coffeys were comfortable but not affluent, which meant that while young Walter could go to high school, some distance from home, he had to make a good deal of his own way in college. At various times he took courses at Hartsville and Franklin colleges, and in the University of Indiana, meanwhile raising pure Shropshire sheep and teaching rural school in winter. He also went to Millbrook, N. Y., and spent several months learning expert sheep management from a famous breeder there by the name of Thomas Bradburn.

His real college work began when in 1903 he became flockmaster at the University of Illinois. He also continued his studies, and was graduated in 1906, obtaining a master's degree in 1909. By 1911 he was assistant professor of animal husbandry, and in 1913, professor.

Writing in "The Agrarian," Dean-emeritus E. Davenport of the University of Illinois bawled the fact that Illinois lost Dean Coffey after only seventeen years, but expressed happiness that it was Minnesota to which he had elected to go. Yet, with one of his old associates president of the university in the Twin Cities and another dean of the graduate school, his choice does not seem to have been strange.

Dean Davenport wrote: "Dean Coffey is not only an unusual teacher and successful administrator, he is a loyal friend to his associates and an inspiration to the young. In a word, Dean Coffey of Minnesota is one of Nature's finest noblemen."

He then told of the incident of the animal husbandry student who was so brash as to wish to study economics, then went on:

"Anyone who would pay tribute, as you are doing in this volume, to Dean Coffey's wise leadership and educational statesmanship, must remember that no corresponding deanship of agriculture in any other university is so complex and exacting in its demands as the headship of the Department of Agriculture at the University of Minnesota. It combines many and diverse functions. There is a college in which agriculture, forestry and home economics are combined. To this it adds the responsibilities of the experiment station and of four sub-collegiate schools of agriculture, and that of the agricultural extension division. It is truly a tripartite department, carrying on education on all levels. Its constituency is the major economic interests of the state and every home engaged in or touched by these interests. A man who coordinates all these diverse interests qualifies as an expert in wild

Three Leaders Of 'U' Faculty Receive Honors

Three leading members of the University of Minnesota faculties have received important academic honors in recent months. Dean Samuel C. Lind of the Institute of Technology and Dr. Roy G. Blakey, professor of economics and tax expert, were given honorary degrees and Dr. F. Stuart Chapin, head of the department of Sociology, received the Columbia University Medal.

Dean Lind was given the honorary degree, Doctor of Science, by the University of Michigan at its June, 1940, commencement exercises. He began his teaching at Michigan and was on the staff there from 1905 until 1913. He is a past president of the American Chemical Society.

Drake University, Des Moines, gave the honorary degree, Doctor of Laws (LLD) to Professor Blakey in June. Dr. Blakey is a graduate of Drake University. Among his distinguished works have been studies of taxation in Minnesota and of the federal income tax. In these works he has had the collaboration of his wife, Mrs. Gladys C. Blakey.

In bestowing the University Medal upon Dr. F. Stuart Chapin, Columbia University authorities wrote: "Francis Stuart Chapin, '09C, '10 am, '11, Ph.D., professor of sociology in the University of Minnesota; admirable teacher, research worker and contributor to the literature of sociology and education."

Professor Chapin has headed many important sociological bodies, including the American Sociological Society, and maintains a constant, active interest in the principal sociological projects conducted by organizations in that and governmental fields.

Fred Hovde Helps Science in Defense

Fred L. Hovde, former Rhodes scholar from the University of Minnesota and outstanding athlete, and later assistant director of General College, is now in England with President James B. Conant of Harvard to set up an agency for the transfer between Britain and the United States of scientific information important to defense procedures. Dr. Conant and another member of the party will return to this country when the agency is established. Hovde will remain in England as executive of the organization. He is on leave from his present duties as assistant to the president of the University of Rochester (N. Y.)

horses rather than sheep, and Dean Coffey has met the situation adequately and squarely.

The ability to discharge his heavy duties lies less in the preparation to which I have alluded than it does in the man himself. His simplicity, his directness, his democracy, his honesty and his loyalty win and retain the loyalty, respect and affection of all who come in contact with him, from farm boy to university president. He is a friend to every deserving person and cause, and at all times a Christian gentleman. The state and university are fortunate in having him in a position of such responsibility, and you and I and all his colleagues are fortunate in having him as our friend and associate."

Petition Asks Benefits for Low Grade Ore

Supported by E. W. Davis, director of the Mines Experiment Station at the University of Minnesota, communities along the Mesabe Range are signing a petition to the Legislature asking special consideration for low-grade iron ore properties in the state's tax program.

Mechanization of open pit mining has gone so far that, according to Mr. Davis, extension of underground mining and expansion of the mining of iron ore deposits of the lower iron contents are the only means whereby employment of men can be expanded in the mining areas.

By giving such operations the advantages of a tax differential, it is claimed, activity in mining would be stimulated.

The petition recently passed at mass meetings in Mountain Iron and elsewhere read as follows:

"Whereas, the most serious problem confronting the Range communities at the present time is lack of employment; and

"Whereas, it seems that increased employment can be secured in the near future only in industries mining underground ore and industries mining and concentrating low-grade ore; and

"Whereas, industries mining low-grade ore underground and producing concentrate therefrom are being established in other states,

"Now, therefore, we the undersigned residents of the various Range communities, respectfully request the members of the Legislature from the Range districts to meet in order to originate, sponsor, and support proper legislation to stimulate and encourage the mining of underground ores and the concentration of low-grade ores, with the sole object in view of increasing employment in our districts."

School Supervision Institute Subject

Prominent educators from the twin city school systems and the University of Minnesota served as instructors and lecturers during a three-day institute on supervision in secondary schools held in the University of Minnesota's Center for Continuation Study February 6, 7 and 8. Rapid growth of high school enrollment in recent years has made adequate supervision one of the pressing problems of school administration. "Shall supervision be corrective, preventive, constructive or creative?" was taken up by Dean Wesley E. Peik, College of Education, in a discussion of the philosophical basis of supervision. James E. Marshall of St. Paul Central, Harry P. Cooper of Minneapolis Marshall, Harry J. Amland of South St. Paul and Clarence E. Blume of Phillips Junior high school, Minneapolis, represented city supervisors and H. E. Flynn, the State Department of Education, St. Paul. University speakers were Dean Peik and Professors Chas. W. Boardman, Nelson L. Bossing, Leo J. Brueckner, T. R. McConnell, Walter Cook, M. G. Neale, Clifford P. Archer and C. Gilbert Wrenn.

Charnley to Write Thurlow Weed Life

Mitchell V. Charnley, professor of journalism, University of Minnesota, will go on leave at the beginning of the spring quarter to work on a life of Thurlow Weed, the Albany, N. Y. editor and political leader of the post-civil war era. He has received for this work a fellowship from Alfred A. Knopf & Co., the publishers, who granted the aid on the strength of the early work done on the project by Professor Charnley. Another member of the journalism department, H. L. Smith, has also been the recipient in recent years of a Knopf fellowship.

Honor Dr. C. Lowell Lees

Dr. C. Lowell Lees, director of the University of Minnesota Theater, has been elected to membership in the National Theater Conference, a cooperative organization of directors of community and university theaters, he was informed recently. Supported by grants-in-aid from the Rockefeller Foundation, the conference administrators projects that promote the educational theater.

Heart and Common Cold Are Sigma Xi Topics

(Continued from page 1, column 1)

rate of burning can be increased ten times, but the heart and the rest of the body could not keep up such a high rate for very long.

"It is interesting to note that we employ about five percent of our caloric intake in doing the work of the heart. This is what it costs us to keep up our 'internal transportation system' which is what the circulation really is. In this connection, I like to think of our circulatory transportation system as comparable to the inland waterways system of industrial transportation. A great network of rivers, lakes and canals provides the channels of our circulatory transportation system.

"The relatively enormous amount of work that the heart does every day, even at bodily rest, is not ordinarily appreciated. Simple calculations show that the heart of a 180 pound man does work every day equal to that of carrying a thirty-pound weight up Pike's Peak. We rarely think of the heart as doing work of that order. Another comparison would be the shovelling of more than 10 tons of coal into a bin at a height of three feet above the ground. Very few of us would undertake such a job consciously, but our hearts are doing it every day of our lives. When one stops to consider the enormous amount of work the heart does in a lifetime the marvel is not that it eventually fails but that it is so perfectly adapted to its job and does it so well.

Much heart disease results from ailments of childhood and youth, and particularly from rheumatic fever, Dr. Visscher said.

"The larger share of heart disease in younger persons is due to the damage that results to the heart's ability to pump blood on account of injury to the valves," he explained. "No pump can work efficiently with leaky or sticky valves. In diseased states one finds both of these two kinds of defects. When certain types of pathogenic organisms, or more simply, disease germs, grow in and on the valve leaflets and the inner lining of the heart, there result defects in the valves which prevent them from opening or closing properly. These defects are mainly due to scars which form at the site of an infection and distort the valves, just as infections or injuries on the surface of the body leave scars which can distort the skin.

"When the damage to a valve results in its inability to close properly the valve leaks under pressure and one has what is called regurgitation. When the damage results in leaflet sticking together the situation is like that in a mechanical valve which doesn't open properly, and the technical term applied is stenosis. Ordinarily a stenosed valve is also leaky, but the reverse is not necessarily true.

"This type of infection of the lining of the heart and its valves goes by the name of endocarditis. It is very frequently associated with acute rheumatism, but may follow a number of other types of diseases. It should be more fully recognized by the public generally that rheumatism in younger persons is the most important forerunner of valvular heart disease. Acute rheumatic fever is more important in relation to heart disease than for all other effects combined. During the acute infectious process and one's recovery from it, endocarditis requires very careful treatment to minimize the damage done to the valves. After the lesion has healed and only the scar is left the patient must recognize the limitations imposed upon him by having an imperfect pump. Many persons live restricted but perfectly happy lives for indefinite periods with damaged heart valves and die from other causes, but severe impairment to valve action absolutely requires restriction of physical activity if trouble is to be avoided.

"Summarizing the practical aspects of valvular disease, one can say that the most important achievement would be prevention. This will require that people generally but especially in childhood take better care of their supposed minor upper respiratory tract infections, colds and influenza with their complications, and that the rheumatic diseases be treated with much better care. If preventive measures fail two points are important. First, most patients with valvular disease can have a reasonably long and useful life, but second, they must obtain competent medical advice if they are to do so."

Turning to the further discussion of scientific research, he said:

"Although the perfection of methods such as the use of x-ray, the electrocardiograph and the like enable us to make many studies easily and safely on man it is still absolutely essential to the progress of medical and general scientific knowledge that many experiments be performed on animals. Scientific experiments in the biological field are able to use the boon of anesthetic agents to carry out such experiments without pain or distress to the animals employed, and enormous good has come out of such studies.

"I have tried to present to you a sketch of what sort of organ the heart is, of what we know about how it works, and a little about what goes wrong with it in disease. However, before I close, I should like to say a few words about what we do not know. The unknown is always a challenge, and to the scientist it is the field of progress.

"There are many things about the working of the heart that are in the realm of the unknown. We are as yet ignorant of the exact mechanism by which chemical energy is utilized to do mechanical work; we do not know the inner secret of why the heart muscle fibers become larger when heavy loads of work are thrown upon them. We do not know why the blood vessels in the heart and elsewhere get hard and brittle and rupture with advancing age. These and a hundred other questions are of vital importance and answers are awaiting. Tools and methods are available for the solution of any of them. Hundreds of workers in many lands have devoted their lives to their study. In some of those lands such study is no longer possible and may not be again for a long time to come. This country remains as the only important center of scientific work in the world in which it is possible to carry on. Even before September, 1939 the center of gravity of scientific research had shifted to our shores. In the great destruction now going on, and in the social upheaval which is sure to follow, regardless of whether or not the dark night of totalitarian barbarism is averted, the Western World must rise to its obvious duty. If culture is to survive, in all likelihood we must save it.

"This is true because never in history has culture stood still. Cultures rise and fall but apparently never remain in a state of equilibrium. We cannot simply accept the heritage of the past without adding to it and expect to keep it very long. The scientific knowledge established by our forebears is our heritage. Our lives are based upon it. To keep this heritage we, in this generation, and in particular in this land, must add to it.

"The society of Sigma Xi, under whose auspices I am speaking tonight, has for its objective the nurture of scientific knowledge. I hope I have been able to show you something about how such knowledge is gained and what such knowledge means to human welfare. Even more I hope that you may see how important it is that science be nurtured even more attentively in the future than it has in the past in our own country. I thank you."

THE COMMON COLD

In part, Dr. Diehl said the following in his address on, "The Common Cold":

Treatment of the common cold has been called a "billion dollar business" in the United States through sale of proprietary remedies, Dr. Harold S. Diehl, dean of medical sciences, University of Minnesota told the audience which attended the third Sigma Xi lecture in Northrop Memorial Auditorium recently. But, he said, tests on university students of many standard cold remedies, removed from their packages so there would be no psychological effect and administered according to the directions of the makers showed only slightly better results than were obtained by administering sugar pills. Thirty-five percent of students who took sugar pills without knowing what they were reported "improvement."

Dean Diehl cautioned especially against self-medication with so-called "nose drops," warning that these interfere with the functioning of tiny cilia or hairs inside the nose, which remove dirt from the air and saying also that a type of pneumonia sometimes results from the use of oily substances in nasal passages.

If one feels he must purchase a cold remedy, said Dr. Diehl, "my advice is to spend your money for

something which is harmless and if possible for something which may be of some benefit. The vitamins which you buy will not prevent colds, but they may contribute to your general health. The same may be said for ultraviolet baths, for joining the Athletic Club, or for a trip to Florida, Arizona or California. Then if in addition you insist upon contributing to the "billion dollar sneeze" business don't drop or spray anything into your nose or take internal medications which you know nothing about. It is much safer to use something that you can rub on the outside. Such preparations are harmless and the mess and the physical effort involved in rubbing them in will give you the satisfaction of knowing you are just 'not taking it lying down,' but are doing something active and energetic about it."

In a summary of present knowledge concerning the treatment of colds, he said:

There is no specific remedy for the common cold.

Bed rest during the early stage of a cold is advisable and, if the cold is accompanied by fever or general aching, it becomes essential.

Hot baths, counter irritants and exercise give some relief by increasing blood flow to the muscles and skin. Exercise when one has a cold, however, is unwise because of the danger of complications.

A critical study of medicinal preparations for the treatment of colds shows that the best results are obtained with derivatives of opium. Of these a codeine-papaverine mixture is most practical for general use.

In sub-acute and chronic colds and in acute pharyngitis none of the preparations studied seemed to influence the course of the infection, although some gave symptomatic relief.

Hot toddies do no more than increase the temperature of the surface of the skin, said Dean Diehl. Furthermore, it is accepted in medicine that habitual users of alcohol are in greater danger when they come down with pneumonia than are non-users. Alkalinization, drinking copious amounts of water, trying to "sweat out" a cold, and taking soda are none of them capable of being demonstrated as a cold cure by any scientific method.

Some colds are caused by bacteria, but the cold in the common acceptance of that term is probably a virus disease, namely, one caused by an organism so small that it can be passed through a filter. This was first demonstrated by a researcher who took infective material from a person who had a severe cold, mixed it with water, passed it through a filter, and infected a group of persons with it. Nearly half of them came down with colds. A similar number in the same medical class who were not infected with this substance avoided the cold entirely. Avoidance of infection, therefore, is the primary precaution against a cold, he said, but this is very difficult.

"The colds which are caused by germs, either viruses or bacteria, are communicated from person to person by direct or indirect contact," he said. "Sneezing, coughing, and even speaking propel those germs into the air. The hands of one who has a cold are certain to be grossly contaminated, and infective material is transmitted from them to the hands of others and to the objects which he touches. Glasses, forks and spoons used in hotels, restaurants and soda fountains, unless sterilized with chlorine or steam, which is exceedingly rare, are literally covered with germs from the nose and mouth."

General good health, and in the case of certain abnormalities such as adenoids, diseased tonsils and the like, surgical procedures will contribute to the avoidance of colds, as will the avoidance of chilling and a diet that is generally adequate. It is difficult, however, to declare that the presence or absence of any given item in the diet will affect susceptibility to colds and there is as yet no proof through research that vitamins in the diet will help prevent them. Dean Diehl said the ventilation of sleeping quarters should be regulated in accordance with outside atmospheric conditions, that drafts are undesirable and that sleep is most restful in an atmosphere which is cool rather than warm or cold. "Sterilization of air," as is done with drinking water, is too far in the future to be considered at present, he said.

He decried the use of gargles as much as that of nose drops, say-

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Rankin, Veteran Teacher, Dead

Death of Albert W. Rankin, 89 years of age, for many years professor of education in the University of Minnesota during the early period of the College of Education, was reported January 29 from Lake Wales, Fla., where he made his home after retirement. He taught at Minnesota from 1904 until 1920.

Dr. Rankin came to the United States from Canada and entered the University of Minnesota in 1876. At one time he was secretary to the late Dr. William Watts Folwell, then president of the university. Before coming to the university faculty, he was superintendent of schools in a number of southern Minnesota communities, among them St. Peter, Owatonna and Red Wing.

Dr. Rankin was buried in St. Peter.

Union Hobby Show Has Many Entries

Ribbons were awarded in eight classes to winners in the Hobby Show recently conducted in the Coffman Memorial Union by its board of governors. There were awards for arts, stamps and coins, nature collections, culinary arts, general handicraft, needlework, technical hobbies and miscellaneous hobbies. Gordon Starr was chairman of the show, in which faculty as well as student hobbies and collections were shown. William Kuglar, Extension Division student, showed a collection of 100 antique musical instruments on which he placed a value of \$10,000.

Dr. Berkey, Famous Graduate, Honored

Dr. Charles Peter Berkey, one of the most distinguished graduates of the University of Minnesota and the first person to receive the degree, doctor of philosophy, from Minnesota, was recently given an honorary membership in the American Society of Civil Engineers, the highest honor that organization bestows. Dr. Berkey, head of the department of geology and mineralogy at Columbia University, has been consulting geologist on some of the largest engineering projects in America, among them the principal water supply projects of New York City and Boston. He was also the discoverer of dinosaur eggs while in Mongolia on a scientific expedition for the American Museum of Natural History.

Doctor Predicts New Health Phase

(Continued from page 2, column 5)

tions of the country and from all social, economic, occupational and intellectual levels are available can many questions which come to mind be answered.

Never before have those working in the field of health education and preventive medicine had such an opportunity as the selective service act offers to evaluate the results of public health measures of the past twenty years. Some disappointments may be in store for us, but such scanty preliminary evidence as I have presented today indicates that some progress has been made. Likewise such information presents a challenge to all engaged in health work from the elementary school through the college. It seems reasonable to assume that the findings on the physical examinations of young men drafted in 1940 will, as in 1918, cause a renewed interest in preventive medicine and health education and give us valuable information which will guide us in the development of the public health program of the future.

Lancet Reviews Visscher Volume

Reviewing the volume, "Chemistry and Medicine," edited by Dr. Maurice B. Visscher and published by the University of Minnesota Press, "The Lancet," London, said in part:

"There could be no more eloquent testimony to the value of chemistry than the volume of papers presented at the fiftieth anniversary of the founding of the Medical School of the University of Minnesota. Under the editorship of Prof. Maurice B. Visscher reviews are published on physical chemistry in medicine, investigations in metabolism, aspects of immunity and chemotherapy, and the nervous control of the organism. The writers are men who have earned recognition as researchers, and they present their own work in proper perspective against a background of selected literature. Dr. Johnson said that the only book that ever took him out of bed two hours sooner than he wished to rise was Burton's Anatomy of Melancholy; this is another such book. It will make an instant appeal to clinical scientists who have a bias towards physiological chemistry, but the neurologist and the bacteriologist will also find here a number of fascinating papers."

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Lecture Answers Personal Health Queries of Many

Dr. William A. O'Brien Describes Problems Met in "Meeting Middle Age"

"Meeting Middle Age," a lecture by Dr. William A. O'Brien, professor of preventive medicine and public health, was the final number in the 1941 Sigma Xi lecture series, in which scientific subjects of broad public interest were treated.

Dr. O'Brien's address follows: Middle age is that period which follows adolescence and precedes the prime of life. During the past decade there has been a great deal of interest in this span of years because of the social, economic, and health problems it presents. Society has never known a period in which so many persons of middle life have survived. Although there is no definite time in years which can be characterized as middle life, for purposes of discussion, the years from 25 to 65 have been selected. The number of people now alive in this age group make up 42 per cent of our population.

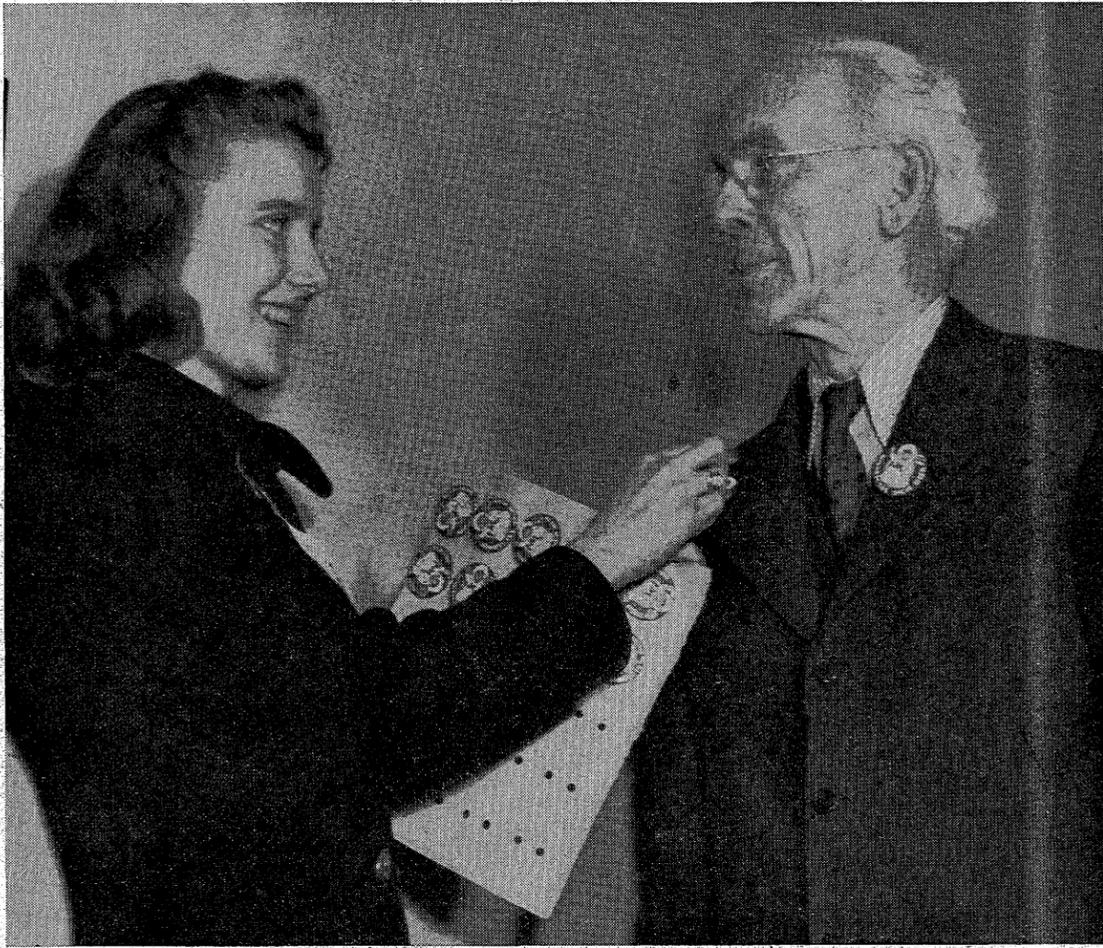
The conditions responsible for the great increase in population between 25 and 65 are the success of the public health program in the control of contagious disease, the partial success of the safety campaign, the absence of prolonged epidemics, wars and famines. The progress in public health in the last three decades is nothing short of phenomenal. The following example will illustrate this point. In Duluth in 1900, the average age at death was 27 years; in 1937 it was 59 years. In 1900, 24 per cent of the deaths occurred in the first year of life and only 4 per cent after 75 years of age. In 1937, only 5 per cent of the deaths occurred in the first year of life and 25 per cent after 75 years of age. These are not exceptional figures, for similar conditions prevail throughout the country as a whole, and in the West Central states in particular.

In 1900 tuberculosis was the first cause of death; today in its place we find heart disease. In 1911 in one reported series of deaths from tuberculosis the rate was 225 per 100,000; in 1930 it had dropped to 81, and in 1940 it was 44 per 100,000. All of the contagious diseases of childhood have become less important causes of death, namely, measles, scarlet fever, whooping cough, diphtheria, and diarrhea and enteritis.

Methods which have been employed to bring about these changes are sanitation, immunization, and the development of an enlightened public opinion which has made cooperation possible. As a result of these changes, the average age at time of death is between 60 and 65 years, depending upon the study which is quoted. In all instances, the life expectancy for women is greater than that of men. Even though the birth rate has declined, the number of persons in middle life continues to increase, because during the past 20 years curative medicine has made remarkable forward strides in the management of such diseases as pneumonia, diabetes, anemia, infections, care of mothers and their babies. There have also been increases in efficiency of curative medicine in the diseases of late life, especially those which require surgical treatment.

Someone has said that middle life is the time to prepare for old age, for already many of the aging processes have started in the body. To many persons this is as depressing as the prospect of developing certain diseases of a degenerative nature which cannot be prevented or treated as were the infections of earlier life. The larger group of persons in middle life are also producing a social and economic problem, but my remarks will be limited to the health problems of this period. When families were larger and the interest in the child was great, practically all preventive and curative

And President Ford Bought the Button. Blame Him?



Schoolmen's Week To Present Three Notable Speakers

Big Annual Meeting of Public School People Set for April 7, 8, 9

HUNDREDS TO ATTEND

Afternoon Periods Will Be Devoted to State Organization Meetings

Plans are practically complete for the biggest meeting of school administrators and teachers of the year, the annual Schoolmen's Week, in which meetings of half a dozen state educational groups are held in conjunction with a short course for superintendents and principals under auspices of the College of Education. The Minnesota State Department of Education cooperates. Dates for Schoolmen's Week this year will be April 7, 8 and 9, Dean Wesley E. Peik of the College of Education, general chairman, announced. It will bring between 600 and 800 important school people to the campus.

Speakers of national importance in education are brought to the campus for these meetings each year and the morning general sessions are given over in the main to their addresses. Afternoon meetings are those of the various state organizations of teachers in special subject groups, who discuss the problems peculiar to their own work.

Dr. Reinhold Shairer, a German-born naturalized Englishman and a world authority on Youth Movements, Dr. Thomas Briggs, professor of secondary education at Columbia University, and Dr. Ben Graham, superintendent of schools at Pittsburg, Pa., will be this year's visiting speakers.

Dr. Shairer is visiting the United States under auspices of the Institute of International Education, 2 West 45th street, New York City. His position in London is that of head of the department of international relations and studies in the University of London's Institute of Education. During his life in Germany before he was forced out of that country Dr. Shairer founded and became the first director of the German Universities' Central Office for Student Self-help and Welfare. He later established the Universities' Hospitality Service for Foreign Students. Youth movements and plans for the re-education of youth after the war are among his lecture subjects.

Briggs "Dean" of His Group
Dr. Briggs is known among educators as the unofficial "dean" of American leaders in the field of secondary (preparatory) education. His lecture subjects during Schoolmen's Week will cover that phase of the school situation having to do with training and teaching for democracy. "The Ramparts We Watch," and "What Can the High School Do About It?" will be his main themes.

Defense programs in the public schools and special adaptations to be made in the schools for the sake of strengthening defense education will be dealt with by Dr. Graham of Pittsburg. His talks will consider the problems of the out-of-work out-of-school youth of America and the nation's responsibilities to those whom it is or should be educating.

President Guy Stanton Ford has been invited to make what will be his farewell address before the public school people of Minnesota. In his role for many years as head of the Graduate School he played the important role of the one in principal charge of the training of those graduate students who were to become teachers throughout the state.

An annual lecture is being established by Phi Delta Kappa, the honor society in education, and the first of these will be given during Schoolmen's Week by Dr. Schairer.

Dr. Graham will meet with the elementary school people and Dr. Briggs with the secondary group.

Stakman Says Latin America Must Become Renewed Source of Rubber

Leading Plant Pathologist Recently Returned from Investigations with Federal Commission

One aspect of national defense which has caused considerable concern, not only at present but in times past, is the lack of certain essential materials which are not produced in the United States. Of these, rubber is one of the most important. It is true that certain metals, such as tin, are lacking. Furthermore, various substances which are used in steel making and as light alloys for aircraft, such as manganese, antimony, chromite, tungsten, and others either are produced not at all in the United States or in insufficient quantities. Expeditions, however, have been sent out by the national government into various Latin American countries to ascertain to what extent these important or critical substances could be supplied in case of necessity.

It is generally agreed that one of the most vital substances and one with respect to which we are most vulnerable is rubber. The United States is the world's largest single user of rubber, and produces none, but depends on a supply which must be brought about 14,000 miles across sea lanes which might be cut off. Even in peace times Americans occasionally have been plagued by the fact that they did not control a source of rubber. Prices have fluctuated violently because of interference with the normal operation of the law of supply and demand, and the users of automobile tires have been forced to pay exorbitant prices on the one hand, while on the other hand tire manufacturers have a number of times been caught with high-priced inventories and the necessity of making cheap tires from high-priced rubber.

The statement that an army travels on its belly was attributed to one or more famous generals. Were these generals to come to life, however, they probably would be surprised to find that armies now travel on rubber. Even if troops are transported by air, the transition between the air and land is made easier by rubber tires. In modern mechanized transport, either in peace times or in war, rub-

ber is indispensable. A science writer recently expressed our dependence on rubber in approximately these words. If some one were to wave a magic wand and remove all rubber, our material welfare would slip back at least a hundred years.

Use Most of World Supply
The degree of our dependence on rubber is indicated by the fact that we have used between 50 and 80 per cent of the world's annual production of crude rubber. At present it is well over 50 per cent. We use in the neighborhood of 600,000 tons, or more than 1,000,000,000 pounds annually. At the present price of approximately 20 cents a pound, we are likely to pay about a quarter of a billion dollars a year for rubber. In 1937 we actually paid \$247,000,000 for our crude rubber. In fact, rubber is among our most expensive imports and sometimes is the most expensive import, comparing with coffee, sugar, and vegetable oils. About 65 per cent of our crude rubber goes into tires for automobiles and trucks in normal times. With the necessity for motorization for military purposes, still more would be needed. In peace times about 60 million tires are produced annually, and nearly as many inner tubes.

The coffee, sugar, vegetable oils, and other plant products that we need badly but do not produce are

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Canada Honors Professor Read

Appointment as honorary Kings Counsel by the attorney general of Nova Scotia, an honor similar to the American award of an honorary degree, has come recently to Professor Horace Emerson Read, member of the faculty of the University of Minnesota Law School. The award was a recognition of Professor Read's contributions to Canadian legal education. For nine years before coming to the University of Minnesota Professor Read taught law at Dalhousie University, Halifax. He has been associate editor of the Dominion Law Reports. A frequent contributor to the Canadian Bar Review, he is also author of a book on the law of foreign judgments in the British Commonwealth.

Whenever "Snow Week" or some similar event takes place the student saleswomen always use their best smiles to back up other sales arguments. This shows how it works.

Swenson's Memory To Be Honored

"David F. Swenson, Scholar, Teacher, Friend," is the title of a memorial pamphlet recently published by the Department of Philosophy, University of Minnesota in honor of the former head of the department and outstanding American interpreter of the works of the Danish philosopher, Kierkegaard.

Leading articles are two that were read at the Swenson memorial service, February 27, 1940, namely, "David F. Swenson as a teacher and a personality," by Professor George P. Conger, and "David F. Swenson as a scholar: the philosophy of Soren Kierkegaard," by Professor C. Sverre Norberg.

Linked with the publication of the volume is the movement to start a collection of all types of Kierkegaard reference material as a Swenson Memorial Collection.

The pamphlet contains, in addition to works already mentioned, papers by W. Donald Oliver, instructor in philosophy; Charner M. Perry, associate professor of philosophy, University of Chicago, and the outlines of eight informal talks on the nature of morality, by Professor Swenson. It concludes with a bibliography compiled by A. Carl M. Ahlen and Arthur S. Rusterholz.

An important start on the collection of Kierkegaard works has already been made, according to Professor Conger, with Professor Swenson's own collection as a nucleus and many other items contributed by friends.

A group of 22 books and pamphlets recently was presented by Professor L. W. Hollander of the University of Texas and is one of the largest available collections of material relating to Kierkegaard outside Copenhagen. It is especially rich in contemporary pamphlets, attacking Kierkegaard and satirizing him, and in early estimates, before the recent revival of such studies focused much of the world's spotlight upon him.

Further contributions, either of books or money may be sent to Dr. Conger.

Stakman Describes Plans for Rubber

Continued from Page 1, Column 3

now being supplied, or probably could be supplied on short notice, by Latin American countries. We are in a different situation, however, with respect to rubber. More than 90 per cent of our rubber now comes from British Malaya and the Dutch East Indies, where there are approximately 8 million acres devoted to the growing of the so-called Para rubber, botanically *Hevea brasiliensis*, which has proved the best rubber-producing plant after more than 50 years of extensive trial with other plants. This rubber is sold through Singapore, a distance of more than 14,000 miles from New York via the Panama Canal and more than 11,000 miles by way of the Suez Canal. That situation has been disturbing even in peace times, because we have been completely dependent on foreign sources of rubber from the very beginning, and the situation has become acute with the development of rapid automobile transportation. Because of commercial or governmental attempts in certain countries to profit from this situation in which we find ourselves, there have been violent fluctuations in the price of rubber. In 1905, for example, the price was forced from 61 cents to \$1.50; in 1910 from 72 cents to \$3.06; in 1925 from 31 cents to \$1.23. Enormous profits paid for by American consumers of rubber, stimulated extensive planting in some countries and the result is that the price has varied from a high of \$3.06 in 1910 to as low as 3 cents in 1933. The price of about 20 cents at present seems reasonably fair.

Need Source Nearer Home

Because of the situation just described, many rubber manufacturers, especially Harvey S. Firestone Sr., in the early twenties preached the doctrine that the United States should become more independent with respect to the source of rubber. As a result of a restriction scheme enforced between 1922 and 1928, when the United States paid about one billion and a quarter dollars more for rubber than it would have if the law of supply and demand had been permitted to operate, there was considerable agitation and some concrete attempts to insure our own rubber supply. When Herbert Hoover was Secretary of Commerce, he sent expeditions to Latin America to determine the rubber-producing potentialities of that region. American rubber companies either purchased or established rubber plantations in Sumatra, in Liberia, in Brazil, and in Central America. These in the western hemisphere are mostly small and more or less of an experimental nature and do not affect the present situation appreciably. Because the price of rubber dropped so low during the depression, and it appeared that the world was oversupplied with rubber, United States government attempts to insure our rubber supply languished, although private companies maintained or even expanded their plantations. In the present emergency the Government is again cooperating with commercial organizations in attempting to make this country independent, if necessary, with respect to rubber. There are several ways in which this independence could conceivably be attained: (1) in the production of synthetic rubber, (2) in purchasing sufficient stocks to tide us over the present emergency, (3) in obtaining supplies from the wild rubber plants in Latin America, (4) in establishing plantations in Latin America as future insurance.

Much has been said and written recently about synthetic rubber. Chemists themselves say that rubber has not been synthesized but that there are 40 or 50 synthetic compounds with many of the properties of rubber. These synthetics vary in their properties, some being useful for some purposes but not others. While many of them have a wide range of usefulness, they have not been sufficiently well tested to justify too much optimism with respect to their usefulness, although, in general, they can substitute for rubber. Furthermore, chemists agree that the production of these substances as substitutes for rubber in all of its many varied uses is still in the experimental stage and that great improvements can probably be expected within the next few years. While great progress has been made in the production of these synthetics, even to use them in their present form would require the construction of manufacturing plants with an aggregate cost of

Physics Interest To Be Stimulated By Lecture Series

Eight lectures designed particularly to give Minneapolis and St. Paul high school students a comprehension of and interest in the problems of physics have been arranged by Professor J. W. Buchta, head of the physics department in the University of Minnesota. High school students may obtain tickets through their science teachers; others, from the physics department. "Matter at high and low temperatures" will be the subject of two lectures Dr. Buchta will give on March 18 and 19. Dr. Otto H. Schmitt will discuss, "Tricks with electron tubes" March 25 and 26; W. Willem J. Luyten, head of the department of astronomy, will give two lectures entitled, "My stars," April 1 and 3, and Professor L. F. Miller will speak on, "The sun and the weather," April 15 and 16.

The lectures will each be given at 7:30 p. m. in Room 150, Physics building, University of Minnesota. Excepting Dr. Luyten, the lecturers are all members of the physics department.

150 million to 200 million dollars. Furthermore, the production of the synthetics themselves and their fabrication would be expensive. The cost of most of these substances now ranges between 50 and 70 cents a pound, as contrasted with about 20 cents a pound for natural rubber. It is expected that the cost of the synthetics could be reduced to about 30 cents a pound if production were on a large scale. From the far-sighted viewpoint, however, there are a number of disadvantages in being forced to the use of synthetics.

Because of improvements that are likely to occur, it is possible that the expensive plants that would have to be constructed would not be suitable for the manufacture of the improved products. Furthermore, these plants would be virtually useless if our normal supply of far cheaper natural rubber should again be insured. In any case, it is clear that if we can get natural rubber for one-half or one-third of the price of synthetic rubber, that would be the natural thing to do. The production of so-called synthetic rubber, therefore, would first of all require the construction of expensive plants, and in the second place it might be only a temporary expedient. For this reason many industrial and governmental agencies feel that the soundest policy would be to accumulate a reserve of crude rubber stocks, to amplify these with synthetics if necessary, to get what rubber we can from tropical America, and to encourage the development of a plantation rubber industry in tropical America to insure future supply.

Investigators Sent Out

For this purpose, Congress early last summer appropriated \$500,000 to study rubber production possibilities in tropical America and to promote its development. Investigators were sent to tropical American countries extending from Southern Mexico to Bolivia and from Peru to Brazil, the approximate geographical range within which rubber production is possible, to ascertain specific areas which would be suitable for the establishment of plantations, to obtain seeds and budwood from native trees, and to make arrangements with the Governments concerned for the establishment of testing and propagating gardens to receive the high-yielding disease-resistant varieties which the U. S. Department of Agriculture has been collecting from all over the world.

Could tropical America supply the rubber needs of the United States? The answer must be decidedly yes, because it is only in the Amazon basin that the *Hevea brasiliensis*, the rubber plant of commerce, is native. Until 1905 this area supplied all of our rubber, and it continued to supply most of it until 1913, when the production from the plantations in the East virtually equalled that from the wild plantations in the Amazon basin. By 1913 the production from eastern plantations equalled that from wild plantations in South America and a few years later hopelessly outstripped it. There was a revolution in rubber production. In 1905 the first rubber from eastern plantations came onto the market in commercial quantities. In that year, 174 tons were offered for sale, as contrasted with about 59,500 tons of wild rubber. Wild trees in the Amazon basin produced 99.7 per cent of the world's supply of rubber. Fifteen years later more than 90 per cent of the world's supply

Minnesotan Heads Personnel Association



Edmund G. Williamson

came from plantations in the East, and at present about 96 per cent of it comes from there; and South America, which used to supply all of our rubber, supplies only about 2 per cent.

The essential facts in this revolution are probably fairly well known. Seed of the Para rubber plant were smuggled out of Brazil in 1876 and used to establish the plantation industry in the East. The South American rubber squeezes of 1905 and 1910 hastened the development of plantation rubber in the East because of the prospects of enormous profits. By 1920 British plantations produced approximately three-fourths of the world's supply of rubber and the United States used almost three-fourths of it. Because of falling prices, rubber producers in the Far East demanded that legal steps be taken to raise the price. This was done through an expert restriction scheme which forced the price of rubber from 31 cents to \$1.25 a pound in 1925. The scheme was finally abandoned, but had two important results. First, it stimulated planting in the Dutch East Indies, and it stimulated industrial and governmental agencies in the United States to attempt to make this country as independent as possible with respect to its supply of crude rubber.

The Spread of the Tree

But rubber was not only an unwilling emigrant from South America; it became cultured and refined during its sojourn in the East. Instead of being permitted to grow merely as a wild tree, it was cultivated in plantations in the East. At the same time a process of refinement has been going on. It was soon observed that plants grown from a random sample of seed differed greatly in yielding ability and in other important characteristics, the reason being that the rubber tree is cross-pollinated like corn and there are many types within the species. Scientists, particularly in the Dutch East Indies area, saw the possibilities of propagating superior varieties or clones by taking buds from the high-yielding trees and grafting them onto seedlings. The process is simple. Seeds are planted, and in nine months to a year they are ready for the budding process. A bud from high-yielding trees which it is desired to propagate is then grafted onto each seedling near the ground, and when the bud has become established the seedling is cut off just above this transplanted bud and the tree that develops from this bud has all of the properties of the original tree from which the bud was taken. This process of budding influenced rubber production a second time. Whereas the yield from plantations grown from seed ranged from 300 to 600 pounds of dry rubber a year, many of the varieties obtained from buds yielded two or three times as much. It is this refined rubber plant which the U. S. Department of Agriculture is now proposing to send back to its original home in tropical America for the mutual benefit of tropical American countries and the United States.

There are many times as many acres suitable for rubber plantation in tropical America as the 8 million now devoted to rubber production in Malaya and the East Indies. Furthermore, the improved rubber varieties are available and can be propagated from buds. There are, however, many problems to be solved. Commercial men and scientists agree that the most important problem is to propagate varieties resistant to the South American leaf disease, which is the greatest single obstacle to be overcome in establishing planta-

tions in South America. Like the Para rubber tree, this disease is native to the jungles of the Amazon basin. It did not seem to be destructive to native trees, probably because they were scattered in the forests and not concentrated into dense populations on plantations; but a number of years ago when some attempts were made to establish plantations in South America it was found that they were ruined by the leaf disease, which found it easy to spread from tree to tree when they were 15 or 20 feet apart, whereas it had been very much more difficult to spread from scattered trees in the tropical forests. Fortunately, high-yielding varieties are available that appear to be sufficiently resistant to this very destructive disease to enable them to grow successfully in plantations even where conditions are favorable for the rapid spread and development of the infection. Nevertheless it is wise to test these varieties as thoroughly as possible in those areas where it is contemplated to establish plantations, in order to make sure that they are sufficiently resistant to withstand the disease for practical purposes. This is one of the very important features in the cooperation which is now established between many Central and South American countries and the U. S. Department of Agriculture.

Would Try New Varieties

The primary step in determining the suitability of these varieties is, however, of course the first step. Plantations must be established. Even if they are established immediately, they will not produce rubber in commercial quantities until about six years hence and will not be in really full production for ten or 12 years. This rubber need not be produced entirely by large concentrations of capital. Much of the rubber in the East is produced even now by small farmers clustered around central producing industries. The establishment of a rubber-producing industry on this basis in Latin American countries would be of great benefit to the countries as a whole and to a great many of the individuals in the countries who are looking for non-competitive crops which can be produced for export. Many of the people in Latin America, however, are asking quite properly if they engage in rubber production now in order to insure the future for the United States and other countries of the western hemisphere, what about their own future? they ask, whether we will abandon them in case the world situation clears up and the United States decides to continue getting its rubber from distant sources rather than from Latin America? The answer to this question can not be given by any one individual. However, the importance of insuring an available rubber supply is now obvious and has been for two decades. A policy of mutual fairness must be evolved and maintained. We cannot expect the Latin Americans to run risks in times of emergency, only to be left helpless when the emergency is over. This is true not only of rubber but of many other important commodities as well. If we are sincere about hemisphere solidarity we must be sincere about it not only when our interests are at stake but also when the interests of Latin America are at stake.

Latin Nations Co-operate

All of the countries except one which have been invited to cooperate by the Department of State and the Federal Department of Agriculture either have agreed to cooperate or actually are cooperating now by establishing testing and propagating nurseries sufficiently well distributed to insure adequate test of the productivity and disease resistance of varieties of the Para rubber plant which the Department of Agriculture is bringing back from various parts of the world to the original home of their ancestors in tropical America. This is a great cooperative enterprise, and the writer wishes to pay a well-deserved tribute to the cooperative spirit and the helpfulness of the tropical American countries, particularly those in which he has had personal experience. It would be impossible to conceive of a more sincere and far-reaching spirit of helpfulness than he encountered on his recent trip with three other Americans in Peru, Ecuador, and Colombia. All of these countries insisted on paying traveling expenses of the American investigators and furnished scientifically trained men from their own Departments of Agriculture to assist in the work. Every conceivable facility was put at the disposal of the investigators from the United States. Not only were scientists wholeheartedly cooperative, but Government officials and business men, and even the

Education Research Encyclopaedia Out; 'U' Well Represented

Sixteen Minnesota faculty members are contributors to the new "Encyclopaedia of Educational Research," published by the American Educational Research Association in encyclopedic form with sections covering present knowledge in all principal fields of education and individual articles dealing with each of the more restricted topics.

Dr. Edmund G. Williamson, coordinator of student personnel activities at Minnesota, served as editor of the section on Student Personnel Work in Colleges and Universities, having the assistance of Mr. Theodore Sarbin of his department.

More than 250 contributors and 7,000 references have been used in compiling the volume. The project has been under way for four years under the editorship of Dr. Walter S. Monroe of the University of Illinois.

Minnesota contributors, in addition to those already mentioned, are: John E. Anderson, Clifford P. Archer, Chas. W. Boardman, Dr. Ruth Boynton, Leo J. Brueckner, Walter W. Cook, John G. Darley, Florence L. Goodenough, Donald Paterson, Dean Wesley E. Peik, Edgar Wesley, C. Gilbert Wrenn, Clara M. Brown and Homer J. Smith.

To Head Personnel Association

Dr. Williamson also will be president for the next two years of the American College Personnel association, from whose meetings in Atlantic City he has recently returned. The association is made up of personnel workers in American colleges and universities and persons interested in placement and counselling. As president of the College Personnel Association Dr. Williamson will have a place on the Council of Personnel and Guidance associations. He will be program chairman for the last named body.

Dr. Wilder Helps Plan Diet

Dr. Russell M. Wilder of the Mayo Foundation, University of Minnesota, is head of a committee of the National Research Council which is drawing specifications for a minimum adequate diet for the American public. This is a measure of national defense insofar as an effort may be made to provide at least such a diet for all Americans. One plan is to fortify flour with certain chemicals, among them iron, nicotinic acid, vitamin B-1, and the like to offset whatever loss occurs in milling processes. Vitamin-A may also be added to margarine products.

humblest citizens, furnished every help and facility within their power.

Many questions are asked regarding the attitude of Latin Americans toward the United States. The writer does not presume to speak for any countries which he did not visit, but for those countries it can be said with the deepest conviction that there is a deep feeling of friendship for the United States and for North Americans in general. It is true that Latin Americans understand very clearly the difference between exploitation and cooperation. They are willing, however, to go the limit in doing their share to translate the word "neighbor" into reality. They understand, however, as all Americans must understand if they do not already understand it, that a policy of good neighborhood must be based on mutuality not only with respect to words but also with respect to deeds. The South Americans whom the writer met understand very clearly that there are decided advantages in the development of a policy of hemispheric solidarity. They understand also that in certain exigencies hemispheric solidarity is not only a desideratum but a necessity. They are willing to do their part, and it is incumbent upon people of the United States to do their part. Better cultural relationships leading to a fuller understanding between the two groups of peoples are tremendously important, but concrete acts of friendship on the part of the United States are equally important. With respect to cooperation in the production of the very essential supply of crude rubber and other essentials, the United States must do its part in providing for consistent and sustained scientific, commercial, and governmental efforts to translate good wishes into good deeds. By and large the Latin Americans are willing, and it is up to us in the United States.

Dr. W. A. O'Brien Plans to Bolster Civil Morale and Fitness Made at U

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 medicine was concentrated on this time of life. Now, with the development of very satisfactory programs for children, equally great attention is being devoted to middle age. A specialty in medicine called "geriatrics" to correspond with pediatrics has been seriously considered. Most of the information concerning health problems of this time of life is now available, although it is doubtful that a specialty will develop. Few persons would be willing to consult a physician with such an obvious title, and furthermore the health problems of this period cover the entire field of medicine.

Must Look Ahead to Health

After a person has reached maturity, he should take an interest in the health problems which lie ahead. Some are in the immediate future, while others are far ahead. Aging of the body cannot be avoided. It is called senescence to distinguish it from senility which is a disease process. Most of the unpleasant effects of senility can be avoided if they are understood. The constant adjustment we must make to the effects the passing years have upon our health is a necessity, for when we cease to make this adjustment, it may be said that old age has arrived. Senility is the result of inability of the individual to adjust to changing conditions in his environment. This inability may be due to cumulative aging processes or to the presence of debilitating disease.

It can be readily seen that this is not a matter of years. An athlete may be through at 25 to 30 with the roar of the crowd still in his ears. On the other hand, a judge on the bench may still turn a sensitive ear to social change and be able to keep abreast of progress even though the calendar years of his life may have reached 80. Public health can prolong life. A good heredity guarantees postponement of the fatal day to advanced years, but it is the individual who can continue to live and defer prime by the way in which he adjusts to changing conditions not only in his body but in his environment.

Aging starts at birth. Certain organs no longer needed involute and practically disappear; that is, the vessels in the umbilical cord, the connection between the aorta and the pulmonary artery, and the opening between the two sides of the heart. Later, other organs age, notably the thymus. During childhood, lymphoid tissue such as the tonsils and adenoids become smaller. There are even the telltale aging signs in the aorta of arteriosclerosis, or hardening of the arteries, which is to come later.

Digestive System's Aging

Aging in the digestive system is very definite. After the age of 20, production of hydrochloric acid in the stomach of both sexes markedly declines. The condition is well developed at 40, while at 60 nearly 1/2 of people have no acid in their stomachs. In most instances this does not interfere with digestion because of compensations. On the other hand, these aging changes predispose to certain diseases of the stomach, notably, pernicious anemia and cancer. Even the secretion of saliva declines with the years. In a small boy it is abundant as evidenced by the constant desire to spit. The difficulty of the elderly in chewing dry bread is not only due to lack of teeth but also to a lack of saliva. In advanced years the liver becomes smaller, which decreases its safety factor, as during early life the power of the liver to regenerate itself after injury or disease is great. The small intestine apparently does not change much except for shrinkage of lymphoid tissue.

Constipation is not necessarily an accompaniment of old age. Constipation is a habit problem largely induced by cathartics. Thirty-one per cent of a group of 1,032 college students complained of constipation, while thirty-one per cent of 824 persons above 80 also complained of constipation. The only evidence that there is weakening of the colon is the development of sac like protrusions along its course. This apparently does not interfere with function but may produce complications if the sacs become infected (diverticulitis).

Aging in the urinary system is largely a problem of aging of the arteries of the kidney. The kidney contains a large reserve (approximately 75 per cent more functioning tissue than is needed in health), so that destruction of large amounts may occur without harm-

If America is to go through several years of acute emergency a program should be started at once to build up civilian morale, improve physical fitness among the people at home as well as the troops, and to make vivid the ideals and procedures of democracy which we are being called upon to defend.

These points were made by Professor C. Gilbert Wrenn as the first speaker at a consultation meeting of statewide organizations called Monday, March 10 in the Center for Continuation Study, at which the question asked by the University of the visiting representatives was "What shall we do?"

Plans for upbuilding community morale should be made at once, Dr. Wrenn said, before inertia and lack of imagination produce undesirable public attitudes. He suggested that in the fall an institute be held at the university to give specific instruction in methods of conducting a program, but insisted that a start must be made at once, not six months hence.

Dr. Harold S. Diehl backed up Professor Wrenn, pointing out that physical fitness is of the first importance and quoting authorities who say that the fine condition of German troops had much to do with the way things went on the continent in May and June. Dr. Diehl said 29 percent of all men examined were rejected in the 1917-'18 draft and that examinations are more rigid and standards higher in today's selective process. Examinations of holders of low draft numbers on the campus will be conducted by army standards, he said.

Frank G. McCormick, director of athletics, told of plans for a civilian health program which is being built up by the American Legion and Dean Walter C. Coffey of the Department of Agriculture spoke with reference to health and morale building possibilities in rural areas.

ing the individual. Most of the urinary tract problems are related to obstruction in the bladder from prostatic enlargement in the male.

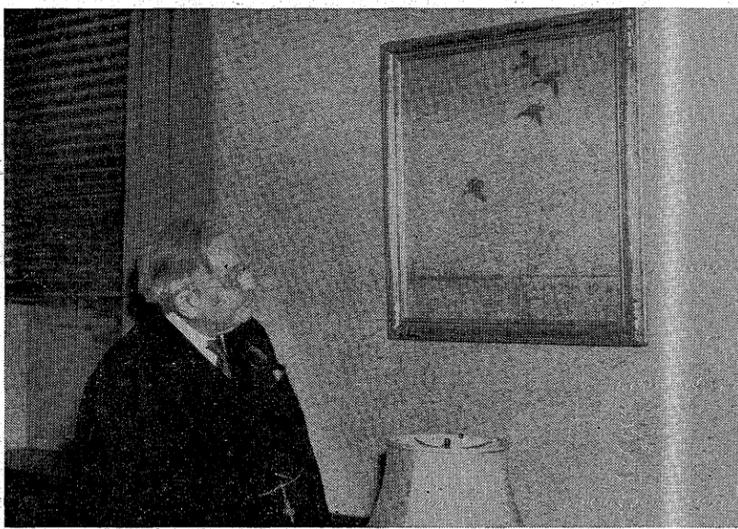
In the skeleton, aging changes are associated with change in texture and loss of calcium. This results in decrease in height, and certain deformities because of the lighter, weaker bones. The bones in advancing years fracture easily, which accounts for many home and traffic accidents. There is change in shape and appearance of the jaw bone with the loss of the teeth. Muscles lose their elasticity, and ligaments become less elastic which accounts for some of the stiffness of the aged. As the process develops, the middle aged notice more and more difficulty in keeping up with younger people. Even the gait changes, the length of the step is shortened, the feet are shuffled and held wide apart to give a greater base of support, and the trunk leans forward.

Aging in the skin is one of the most notable features of advancing years. Skin has been well studied because of its accessibility and because most people have an interest in delaying aging change as long as possible. The skin becomes thinner, the hair falls out or becomes grey, and the toe nails become thick. The loss of elastic tissue causes the skin to wrinkle. An associated factor is loss of fat. Colored spots, warty growths, and thickenings are all aging signs. The development of prominent tiny blood vessels is noticeable. As a general rule, aging in the blond skin occurs more rapidly than in the brunette. Drying of the skin may be altered by the application of grease. There is also a tendency for skin temperatures to show more decided differences and chilliness and cold skin to develop.

The endocrine glands show aging changes chiefly through diminution in size. Studies of functional differences are incomplete. Instability in the nervous system is part of the aging process, and most of the endocrine glands are under nervous control. The best observations have been made in the ovaries. At the menopause there is decrease in ovarian secretion. The menopause may be induced by operation or x-ray treatment. Aside from a few disturbing symptoms, no real difficulty develops. Some women feel the need of sex hormones at this time, and modern physicians supply them. They are not effective by mouth and must be given by hy-

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"Mallards Dropping Fast" in Painting



Here one sees Dr. Thomas S. Roberts, veteran head of the Minnesota Museum of Natural History, looking at the new painting, "Mallards Dropping Fast," which was recently presented to the museum by Francis Lee Jaques, noted painter of birds, formerly of Duluth.

Recent Deaths Sadden Campus

Deaths of one member of the University of Minnesota's administrative staff, one prominent professor and one retired professor must be recorded in this issue of Minnesota Chats. These men are Rodney M. West, university registrar for twenty years, Professor Martin B. Ruud, professor of English and head of the department of Scandinavian, and Dr. Charles Andrew Erdmann, professor-emeritus of anatomy.

Death of Mr. West occurred March 5 in Midway hospital, St. Paul, where he had been a patient for about a week.

Rodney M. West was outstanding among the registrars of American colleges and universities, and had been president in 1927 of the American Association of Collegiate Registrars. He was appointed to the post in 1920 by the late President Coffman.

Mr. West was born in Faribault, Minn., July 27, 1884, son of Willis Mason West, then superintendent of schools in Faribault and later a distinguished professor of history at Minnesota. He was graduated from Minneapolis Central high school and from the University of Minnesota in 1906. Joining the faculty of the university in 1909 he taught chemistry and rose to the rank of associate professor before leaving that field to become registrar.

Mr. West's studies of student enrollment, survival in college, graduation and the like, were based on the extensive statistical data available in the registrar's office and were important factors in determining some of the institution's administrative policies. He contributed a notable volume to the survey of the University of Minnesota which was made soon after Dr. Coffman became president. He was a member of Sigma Xi, Alpha Chi Sigma and the American Chemical Society.

Dr. Martin Bronn Ruud was widely known for his scholarly work on the development of the English language and the forms of the language in its earlier periods. He also was perhaps as well informed on all phases of English life as any resident of the state. A graduate of the University of North Dakota, he received his Ph.D. degree from the University of Chicago in 1915.

When retirement of Dr. Andrew A. Stomberg made a reorganization of the department of Scandinavian necessary, Dr. Ruud was made chairman of a governing committee for that department, and department head, although he did his teaching in the department of English. He held the honorary degree, LL.D., from St. Thomas College.

Among his published works were "A History of Shakespeare in Norway," "A History of Shakespeare in Denmark," and with Dr. Theodore C. Blegen as co-editor, a volume of Norwegian Emigrant Songs and Ballads.

Dr. Ruud was a member of Phi Beta Kappa, Alpha Tau Omega, and of the Royal Historical Society of London.

A graduate of the University of Wisconsin in the Class of 1887, Dr. C. A. Erdmann took his medical degree at the University of Minnesota in 1893. He then studied for a year in Vienna before joining the medical school faculty. It was said that he served for 42 years without missing a day up to the time of his retirement in 1936. He was very active in Masonic work as well as in his profession.

Archer Reports Recent Placements

According to an announcement from Dr. Clifford P. Archer, director of the Bureau of Recommendations, the following persons have secured teaching positions recently: Miss Erra Nickels will teach fourth grade at Long Prairie. Stephen Speltz, who formerly taught at Altura and Caledonia, Minnesota, has assumed the duties of superintendent of schools at Kellogg. Miss Adeline Levine will begin work as physical education director at Alexandria. Clark Gill, who formerly taught at Lake City, will begin work for the State Board of Health on the University of Minnesota campus. Miss Ralphia James will teach orientation and history at Stillwater. Walter Leino will direct physical education activities and assist the superintendent of the Hennepin County Home for Boys at Glen Lake.

State Editors Praise Choice Of Dean Coffey

Widespread expressions of approval in the Minnesota press have greeted action of the Board of Regents in naming Dean Walter C. Coffey to the acting-presidency of the institution. Among a large number of editorials there was none which had anything but praise for Dr. Coffey and for the Regents.

The list of papers which commented on the appointment includes the Detroit Lakes Record, Park Region Echo (Alexandria), Waseca Herald, Morris Tribune, Delano Eagle, Le Center Leader, New Prague Times, Jordan Independent, Fairfax Standard, Virginia Enterprise, Alexandria News, Faribault News, Worthington Globe, Winona Republican-Herald, South St. Paul Reporter, Duluth Herald, and the Twin City Newspapers.

Many of the editorials commented on Dean Coffey's long familiarity with Minnesota problems and particularly its many-sided agricultural phases, which are so important.

The Winona Republican-Herald said in part: "For one who has served as well as Dr. Coffey the new appointment is proper recognition. He would be a sound choice as permanent president except for the age limitation.—The Regents now must make two important selections—they still must find a permanent president and also a successor to Dr. Coffey. Neither is an easy task."

Said the Duluth Herald: "Long-standing recognition in his own profession, in governmental bodies identified with farming welfare, and his personal interest in a better, more prosperous agricultural Minnesota would indicate that many interests in this region will be well served now that Dean Coffey has new prestige and position to turn to his important work."

Most of the editorials expressed regret at the coming retirement of President Ford, along with approval of his successor-to-be. Said the New Prague Times:

"Minnesota friends, whose number is legion, of Dean Walter C. Coffey, head of the College of Agriculture of the University of Minnesota, will be pleased with his appointment as acting president of the university when President Guy Stanton Ford retires July 1. Minnesota citizens generally will rejoice that the able Dr. Coffey will add the honors of the presidency to a long, honorable and productive career in the service of this great educational institution. During the last two decades Dean Coffey's leadership and influence have had marked effect upon our state's progress and development, and particularly have the people in the rural sections come to regard him as an educator and friend."

Alexandria News said in part: "Dean Coffey is known throughout the northwest as an active worker in every field of farm betterment and has brought tireless enthusiasm as well as a trained scientific mind to the work. No better man could have been picked to head the second largest university in America."

"President Coffman and President Ford were department heads before becoming president, and under them the university has grown and prospered greatly. The same will be true under Dean Coffey.

English Teachers to Visit Minnesota For Summer

Three widely-known teachers of English, of whom one was also on the faculty last summer, have been engaged to give special courses in the summer sessions of the present year, Professor Joseph Warren Beach, head of the department of English, has announced. They are Newman I. White, professor of English in Duke University, North Carolina; W. H. Irving, also professor of English at Duke University, and James Gray of St. Paul, novelist and journalist. Mr. Gray taught at Minnesota last summer.

Professor White will offer courses in Shelley and other romantic poets of the nineteenth century. He has recently written a definitive, two-volume life of Shelley, and is the author of other scholarly works and of a study of American Negro folk songs.

Professor Irving, a Canadian by birth, has studied at Oxford and Harvard and taught at Harvard and Northwestern before joining the Duke faculty. His special field is the English literature of the eighteenth century. "John Gay, Favorite of the Wits" and "John Gay's London," which is illustrated with the poetry of the time, are among his writings.

Mr. Gray's most recent book is the study of the Illinois river in the Rivers of America series. He has written a number of fine novels, and is most widely known, perhaps, for his daily column of book reviews and critical writing on the editorial page of the St. Paul Dispatch. Mr. Gray is an authority on play-writing and the contemporary stage. He is an alumnus of the University of Minnesota.

Legislature Thanks Vaile For Testimony

Professor Roland S. Vaile, teacher of marketing and advertising in the University of Minnesota School of Business Administration, was officially thanked by the House of Representatives at St. Paul after he had testified at the request of that body. His testimony had to do with the size of markup to be permitted under legislation being considered to regulate retail markups. Ired by the Vaile testimony the Minnesota Retail Grocers and General Merchandise association had passed a resolution demanding he be investigated and saying his testimony was favorable to chain stores. The action of the House of Representatives in giving Professor Vaile its official thanks was in reply to that resolution.

Given Canadian Documents

One of the few existing complete sets of the evidence taken before the Royal Commission on Dominion-Provincial relations in Canada, together with a nearly complete set of briefs has been sent as a gift to the University of Minnesota library, it was reported today by Frank K. Walter, university librarian. Alex Skelton of Ottawa, secretary of the Royal Commission, sent word to Mr. Walter that the volumes were being shipped.

The only unfortunate thing is that he can hold the place only a few years on account of the age limit."

Final Science Address Advises Regarding Middle Age

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podermic injection. They act as temporary substitutes while the body is adjusting itself. Often after the menopause, both physical and sex adjustment are improved. While aging in the female is fairly definite in character, similar changes in the male are less well-defined. It is difficult to associate the changes in the male with hormones. Live sperm are formed in over half the men in the 60's and 70's. It does not indicate that fertility is possible because of varying emotional and environmental conditions. The only instant aging change in the male is enlargement of the prostate gland which occurs in large numbers at or about the age of 60.

Personality changes with advancing years are similar to other transitions which take place between infancy and childhood, childhood and adolescence, and adolescence and maturity. The changes which take place are all reversible processes. This is also true of the change from maturity to old age. Before extreme old age is reached, lack of ability to learn, impairment of memory for recent events, and marked increase for intolerance and conservatism are escapable developments. Many of the sex personality changes of later years are not due to bodily changes but to complex social and environmental problems largely concerned with frustration.

Symptoms associated with aging of the nervous system may appear early in life. They may take place independently of hardening of the arteries in the brain. It is probable that they represent selective aging of certain parts of the brain rather than interference with the blood supply. It is very difficult to be certain that aging as it affects the nervous system is exclusively physiological or exclusively pathological.

The eye has a normal life span which actually exceeds that of the body as a whole. There is, however, a steady decrease of efficiency even in so-called normal eyes. Visual acuity starts declining at 20 and is well-developed at 40-45. Presbyopia or loss of the power to accommodate for near vision then occurs. All the structures of the eye show regressive changes. But the conditions which interfere with sight are all due to disease.

Impaired hearing for high pitched sounds occurs so frequently in old people that it must be considered a normal accompaniment of age (from high "C" up). The majority of elderly people hear below high "C" as well as anyone else. There may be slight impairment for low tones, but bone conduction is usually lost before air conduction. The condition has been described as slight to moderate nerve denseness. The cause of the change is not known other than the atrophy which appears to be present.

The heart and circulation show changes incident to advance in years. Although high blood pressure may be observed in youth, the disease becomes increasingly frequent with advancing years; high blood pressure, however, is not normal at any time of life. The old adage that your blood pressure should be 100 plus your years expressed an average but not a desirable condition. With advancing years the arteries lose their elastic structure and harden. The heart does not enlarge with age. Excessive enlargement may be due to disease. The large heavy development of earlier years is replaced by a heart of lighter weight which is more nearly in line with the older individual. Although it is possible to maintain heart efficiency at a high level, the ability to respond to extra effort declines with advancing years. In old age the heart is smaller.

Why Your Wind Is Poor

The lungs have a tendency to lose their elasticity with advancing years. Part of the shortness of breath of middle and late life is due to this cause, part to the circulatory-respiratory imbalance, and part to fat. The elastic loss in the lungs involves all structures and is responsible for some of the difficulties with certain infections, e. g. bronchitis. Studies in vital capacity of the lungs in advancing years indicate general diminution. The inelasticity of the chest wall is also an associated factor.

The preceding changes are all characteristic of aging. It will be noted that they develop at different times in different organs. There is no uniform development according to age or sex. There is marked variation between individuals of

the same group. The inherited factor in family groups makes for a certain amount of uniformity, but even this is not constant. There is no time of life when everyone can be said to be old, middle aged, or young. It is true that in certain age periods the majority of changes are of one type or another. There has been much discussion as to whether these changes are the result of natural changes of wear and tear, whether they are due to disease, e. g. infections, or whether they are due to faulty diets. It may be true that some of these conditions are contributory, but aging is characteristic of all species, and man is not an exception.

Although the average age at time of death has increased, there has been no change in individual longevity. The number of persons living past the age of 100 years is still small. Many authors quote the Biblical prophecy of three score and ten as the average age for the human species. It is perfectly obvious that many die prematurely of wear and tear processes. Modern medical science can prolong these lives. It is debatable that any information that we now possess would help us live beyond the ages now attained even by the majority of our people. The matter of heredity is important in living to an advanced age. There is an axiom that, barring accidents and communicable disease, each of us will live out the expectancy of our group. Heredity is such a variable factor in the individual's life as compared with his group's that it is not wise to make plans on this basis.

In addition to the problems incident to senescence, sickness intervenes and brings with it new problems of middle and late life. These are of two types: those which disable and those which destroy life. Sometimes, the same condition does both. The disabling illnesses in order of their frequency are as follows: rheumatism (arthritis), heart disease, hardening of the arteries, high blood pressure, hay fever, asthma, hernia, hemorrhoids, varicose veins, nephritis, and nervous and mental diseases. On a basis of number of days lost from work or other gainful occupation, the order of frequency is nervous and mental disease, rheumatism, heart disease, arteriosclerosis, high blood pressure, tuberculosis, cancer, nephritis, disease of female organs, hay fever and asthma, disease of gall bladder and liver.

Diseases that Cause Invalidism

The greatest number of invalids are to be found in sufferers from nervous and mental diseases, heart disease, tuberculosis, arteriosclerosis, high blood pressure, diabetes, nephritis, asthma, cancer and diseases of female organs. These listings are based upon a study of some 8,000 families including 2,800,000 persons in 83 cities and 23 rural areas in 19 states, 1935-1936. The first cause of death in the United States is heart disease, with cancer second. The next two causes, arteriosclerosis (high blood pressure) and nephritis, should be grouped with heart diseases into one class, as diseases of the heart and arteries. The importance of wear and tear on the circulation is obvious, as only a certain number of cases of heart disease are due to infection (rheumatic fever). Tuberculosis is to be followed by diabetes. Diseases of the nervous and mental type, gall bladder and liver, male genitourinary organs, and ulcers follow. These listings demonstrate several facts. Many disorders of middle and late life are disabling but not fatal. The majority of these can be corrected by proper medical treatment, e. g., hay fever, asthma, hernia, hemorrhoids, varicose veins, gall bladder disease, and so forth. The important lessons that have been learned in regard to these problems are that we have underestimated the ability of the elderly to stand surgical treatment.

Other causes of disability and death can be prevented—nervous and mental disease and tuberculosis. Others can be managed with the cooperation of the patient and should not seriously interfere with happiness—diabetes and ulcer of stomach and duodenum. Cancer occupies a unique position in that it is the only degenerative disease which may be cured. This depends upon proper treatment of an accessible growth. Information now at hand would enable us to cure one-third of all the cancers which develop if the patient received the type of treatment mentioned above.

Rheumatism, or arthritis, remains a great problem. It is not a

cause of death but is our most disabling disease. The management of a patient with rheumatism or arthritis is a long-time process but one which is satisfactory in a considerable number of cases. The disease is self-limited and tends to get well. The prevention of deformity is one of the important features of management. This survey leaves diseases of the heart and arteries as our most fatal illness. Some people reason that we have to die of something, as old age never causes death. The great problem in heart disease is to teach people how to live. It usually lasts for years and the heart does not fail until the advanced stages of the disease. The ability of patients with heart disease to live within their resources is the lesson which must be learned.

Must Understand the Process

As we grow older, we must understand what is happening. The physical changes have been described. Many of the problems of middle and late life are mental in origin. Worry over the possible presence of a serious disease, death of our friends, aging of our associates, social separation from younger individuals, changes of weight, loss of good looks, inability to do as much as formerly, quick retaliation when the laws of hygiene are violated, insomnia, and so forth. One of the most difficult problems of an aging individual is to make the proper adjustment. At any time of life, emotional instability is most often due to trying to be someone else. We day dream and become unhappy because we cannot be satisfied with ourselves as we are. Middle aged and elderly people cannot be younger people. In many ways, they have superior traits, unattainable in their younger years. There are certain prices we must pay for these, and we should be willing to do so.

It is impossible to fight the changes. We should understand them and make the necessary adjustments. An examination from time to time by a physician will give assurance as to the condition of our bodies. We should cultivate our gifts and find a useful place in society. An understanding of our conflicts is necessary. Although medical science has not made the progress in controlling the diseases of middle and late life that it has for the younger years, our physical heredity will help in determining our years of usefulness. Barring accidental illness and injury, each person will live out a predetermined span of years.

Does Exercise Help?

We have no proof that physical activity prolongs life. Many of the slower animals (turtle) live longer than the more active ones (birds). College athletes do not have as favorable a life expectancy as winners of Phi Beta Kappa keys. This does not mean that we should be lethargic in our habits. Active people who live within their resources (physical) lead the most useful lives. Much of the hurry and bustle that we see about us is misdirected energy expenditure and has a tendency to increase degenerative changes. I do not know of any form of violent physical activity which is beneficial to the aging body. Those who exercise should do so in moderation, and we should be extremely careful not to become excessively fatigued. The average middle aged man cannot compete with his younger brothers and should recognize this fact and live accordingly.

At 40, underweight is preferable. Every extra inch on our waist line shortens our years accordingly. There are occasional exceptions to this rule, but, as a group, overweight individuals menace their life expectancy. To reduce, one should not starve or exercise. A scientifically balanced diet utilizes the fat of the body in weight reduction. If weight is excessive, a physician should be consulted. If average over-weight is present, the elimination of eating between meals, seconds, fatty foods with some restriction of the carbohydrates is all that is necessary. Sedentary people are usually overweight, and violent exercise is contraindicated. It usually increases the appetite and makes weight reduction more difficult. The diet of the middle aged should contain a liberal amount of protein, minerals, and vitamins, but a smaller portion of fats and sugars.

Some Sun Should Help

Moderate exposure to the sun is helpful. It causes us to relax and rest. Ultraviolet irradiation is not as necessary as in our younger years. In the aging skin, excessive exposure may produce cancerous changes. Care must be taken dur-

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ing extremely hot weather to avoid harmful effects of heat rays. There is no special virtue in fresh air; it makes us comfortable but does not have any other healthful effect. Sleeping with the windows open is not necessary, we have been told, as most people confuse this with sleeping in a cold room. Our bedrooms should be comfortable.

Everyone should learn to relax no matter what the age. If we have acquired this useful habit when we were younger, it will serve us in good stead in middle life. It is never too late to learn. Insomnia is an important problem after forty. We should train ourselves to go to bed at a fairly regular hour ("Late to bed and late to rise" is just as true as "Early to bed and early to rise.") Insomnia is not a disease and has never caused serious health injury. The commonest cause is worry over previous experiences with insomnia. Drugs should not be taken to induce sleep, as the distracted person is a poor judge of the amount to take. Many deaths result from failure to recognize this limitation.

Bathing has social value, not health value. Extremely cold baths produce rapid circulatory changes and should be avoided. Jumping out of bed in the morning and taking a cold plunge before we are awake is purposeless. As fatigue gradually produces a feeling of sleepiness, so the reverse process occurs in the morning, as we gradually awaken. Periodic physical examinations help to discover early changes of disease and to allay fears. Modern medicine knows of no particular age at which medical or surgical treatment cannot be carried out. Good teeth help digestion. A clean body is a personal and social asset.

More Religion Needed

Adherence to religion is a logical procedure for right thinking individuals. The loss of interest in religion in our youth is in accord with the mental reactions of that period. Middle aged people should not return to religion because of fear of death, but rather because of the fact that they will find most of their mental hygiene problems solved in this way. The cardinal principles of the practice of good mental hygiene are unselfishness, self-reliance, broadmindedness, and optimism (note their religious derivation). Many middle aged people fear death. Physicians know that without exception death is painless. We should use our days in worrying about our social usefulness rather than our inevitable end.

Marketing Practices Need Improvement Says Dr. Dowell

One of the most important steps toward more efficient livestock marketing would be the development and use of exact grade and weight classifications. That is one conclusion drawn in a new book, "Livestock Marketing," written by Dr. A. A. Dowell, professor of agricultural economics at University Farm, St. Paul, and Knute Bjorka of the U. S. Bureau of Agricultural Economics, Washington, D. C.

Adopting exact grade standards for livestock and meats would bring two outstanding advantages to producers. In the first place, it would make possible accurate determination of the value of each animal, with the classification uniform on all markets.

The second advantage is that market prices could be based on these exact grades, and there would be a workable basis for comparing prices quoted by different markets. The producer could then make his choice of market without confusion, selecting the selling point where his particular grade of livestock gets the best consideration. The common practice of sorting stock only as required by the buyer often results in animals of several grades being sold together at a price consider-

Big Corporation Honors 'U' Grad.

The General Electric News of February 21 announced the presentation of the Coffin Foundation Award for outstanding achievement to Curtiss M. Cederstrom. The citation reads as follows:

"Curtiss M. Cederstrom, assistant to the manufacturing superintendent, Power Transformer Department, and Alanson U. Welch, engineer in the Power Transformer Engineering Department.

"These men, with keen perception of a vital need and unusual resourcefulness, successfully developed and produced a new type of large stranded conductor such as required in the manufacture of current-limiting reactors and power transformers. Within four weeks they designed and supervised the construction of complete equipment in time to produce the new conductor for use on an order with a definite commitment of shipping promise. Advantages of their accomplishment include increased efficiency, reduced size of product, a wide variety of application, and important savings."

The Charles A. Coffin Foundation was established in 1929 in honor of the founder and first president of the General Electric Company, for the recognition of outstanding contributions to the progress of the company and the electrical arts. Each award includes a substantial cash prize.

Mr. Cederstrom graduated from the University of Minnesota in 1929 in mechanical engineering and has been with the General Electric Company continuously since that time.

Paintings Presented to 'U'

Both painted by Edward V. Bremer of St. Paul, portraits of Dr. Jennings C. Litzenberg, for many years head of the department of obstetrics and gynecology, Medical School, and of Dean Edward E. Nicholson, student affairs, have recently been presented to the University of Minnesota. Both presentations were made by groups of former students, departmental associates, and students who have worked with the men during undergraduate days. Places where the pictures are to be hung have not been finally decided upon, but Dean Nicholson's may go in the Union and Dr. Litzenberg's will probably hang in the Anatomy building.

Direct Medical Foundation

Twelve directors of the Minnesota Medical Foundation have been elected as follows: Drs. W. W. Will, E. J. Simons, L. H. Rutledge, R. J. Moe, A. M. Snell, G. C. MacRae, Jennings C. Litzenberg, O. H. Wangensten, C. J. Watson, E. S. Platou, George Earl and Russell L. Wilder.

ably less than that deserved by the best animal.

Authors of the book also see other advantages in more accurate classification of market livestock. It would enable farmers to produce the kind of meat desired by consumers. A proper relation between market standards and accurate grades for meat sold across the counter would not only insure the consumer of getting what he asks for, but it would reflect consumer demand more directly to the producer.

It is entirely possible, say the authors, that development and use of definite standards for livestock and meat may lead to selling on the basis of carcass grade and weight. Such procedure would eliminate the expense of excess fill. It would also offer an incentive to maintain healthy herds and to exercise greater care in the handling of livestock to avoid shrinkage, bruising and other losses in shipment.

The new book, which has been published by McGraw-Hill, brings together for the first time all of the pertinent information dealing with the marketing of livestock in the United States.

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Dean Nicholson To Retire in June After 46 Years

Veteran Head of Student Affairs Office Has Worked with Every President of Minnesota

It will be forty-six years next fall since a slender young man from Yellow Springs, Ohio, later a Nebraskan and graduate of the University of Nebraska, class of '94, came to the University of Minnesota as instructor in chemistry and laboratory assistant to Dr. George B. Frankforter.

When the end of June comes this man, known to tens of thousands of students as Dean Nick, otherwise Edward E. Nicholson, dean of student affairs, will retire under the age ruling. Almost no one else is now on the staff who was here when Dean Nicholson came. Andrew Boss, professor-emeritus at University Farm probably was, but he has been retired for several years, though one still sees him about. Dean Nicholson is proud of having worked with every president of the university. Although Dr. Folwell had retired as president he was teaching long after 1895.

Edward E. Nicholson, his middle name (one guess) is Everett, is not only dean of student affairs, he is the only dean of student affairs that Minnesota ever had. Dr. Cyrus Northrop thought he was the very man for the place when a need for such an official developed at Minnesota, and, although at first he did not have the present title, he undertook the task and his record is open for all to read. As Dean Nicholson recalls it he and the late Dr. Everhard P. Harding were Dr. Frankforter's lab. assistants. Dr. Harding had been a massive linesman on famous Minnesota football teams of the late eighties and early nineties. He was professor of chemistry until his death a few years ago.

"My first opinion of Minnesota was amazement at its size," said Dean Nick. "Why, there were 2,100 students." Your correspondent was also surprised to learn that there had been so many in '95, but Dean Nicholson ought to know. "At Nebraska," he went on, "we then had only about 1,800, so you see Nebraska was pretty big, too, for the Grover Cleveland era, but the difference of 300 in favor of Minnesota impressed me."

Both the young chemistry instructor and Mrs. Nicholson enjoyed social affairs, the dean explained, and soon they found themselves being invited to many student events, sometimes as guests, for they were not much older than the students, and sometimes as chaperones. A kind of mutual approval sprang up between this couple and the student body, which laid the groundwork for the job into which Dean Nicholson was to find his way.

About five years after his arrival at Minnesota Mr. Nicholson was placed on the students work committee of that time. This was a body of several faculty members who served for a stated number of years, one retiring each year and the senior member in service being the annual chairman. When it came Dean Nicholson's turn to be chairman he tried some new tricks. For one thing, he kept records of all of the committee's doings; for another, he endeavored to get at the roots of the matter when students were in trouble. That is to say, when a student's mark began to slide, or when he showed other signs of delinquency, Nicholson didn't wait until the case became a serious one. He tried to pry the student out before he got in too deep. These policies seemed to succeed, for when his year of service as chairman was up Prexy Northrop asked him to continue in that post.

"I was interested in the students and always did whatever I could for them," he explained. "My rule was that if a student

University Old-Timers Start Season on Campus Links



Prospect for Human Teeth Gloomy; "There They Go," Says 'U' Researcher

'U' Press Publishes Book For Layman or Scientist By Brekhuis

Well, prospects look pretty gloomy for those old friends of man, his teeth. They do, at least, if one follows the reasoning of Dr. P. J. Brekhuis, professor of oral diagnosis in the University of Minnesota School of Dentistry and winner a year ago of the First William J. Gies Prize of the American College of Dentists.

"Decreased functioning is mainly responsible for dental deterioration in civilized man," Dr. Brekhuis says in his new book, "Your Teeth, Their Past, Present and Probable Future," which is soon to be issued by the University of Minnesota Press. That statement, Dr. Brekhuis declares, does not mean merely that you have probably lost your second molar and have a hole in some other tooth. It means that in all likelihood, down the years to come, human teeth are going to become even poorer than they are today; possibly fewer, too.

Dr. Brekhuis is one of the few really distinguished research men in the field of dentistry, a profession that has developed high-peaks

could catch me outside the class or laboratory, my time was his."

Student Contact Reorganized
The upshot of this situation was that Dr. Northrop named a committee, with Dr. Henry Nachtrieb, then head of zoology, as chairman, to see what form a student-administration organization should take. On recommendation of this committee Dean Nicholson was given a couple of laboratory assistants to carry part of his work in chemistry, and he was continued as the head of the committee for students. This was the beginning of the deanship of student affairs. Literally, the academic faculty was divided into an executive and an administrative committee, the first legislative and the second, administrative. It was of the second committee that he was made chairman. He was later made assistant to the late Dean John Florian Downey of the College of Science, Literature and the Arts. The present organization, carrying the title, dean of student affairs, was finally created in the last year of the presidency of Dr. George Edgar Vincent.

Naturally, there were many problems having to do with student life in the early days of the University of Minnesota, just as there are today, probably in forms not greatly changed. The demarcation between fraternity men and non-fraternity men, or "barbs" as they were then called, was much

of technical skill but has only recently concerned itself much with basic scientific investigations. The honor already mentioned, which was bestowed on him at Baltimore a year ago last fall, indicates the standing of the Minnesotan and the authority with which he may speak about the teeth.

"Destruction of human teeth is the most prevalent disease in the world today, worse than any other known destruction of human tissues," Dr. Brekhuis declared. "This is not merely a matter of cleanliness and diet. If we contend that man gets too few minerals in his food, too little calcium, say, how does it happen that the rest of his body is so well nourished? Why do his other bones not suffer from calcium deficiency? The fact is that they don't, and that this matter of calcium deficiency is far over-rated."

Neither is it just a matter of eating soft foods instead of raw or unprepared foods, although this is important. Dr. Brekhuis holds with Darwin, who first pointed out that an animal's teeth are not merely to eat with, but also to fight with. Long before he began restricting himself to cooked and specially prepared foods, man had stopped fighting with his teeth, and tooth deterioration had set in. In the animal kingdom teeth are differentiated according to the needs of the possessor, and animals have almost no tooth trouble.

On the other hand, there are well established instances among non-humans where animals that changed their food habits lost their teeth, although vestigial remains

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Stan. Larson, professional, is giving President Guy Stanton Ford a word of advice and, looking on from left to right are Ray Smith, intramural director; Dean Joseph M. Thomas, Frank McCormick, Dean W. F. Lasby (dentistry) and Dr. W. F. Holman, supervising engineer.

Outdoor Lab. For Lightning Research Planned

The University of Minnesota will have two science laboratories instead of one on Hennepin Island when the department of electrical engineering adds a new Outdoor Lightning Laboratory to the existing St. Anthony Falls Hydraulic Laboratory some time this summer. Plans for the new outdoor laboratory, which will consist of power lines and outdoor equipment rather than buildings, were made public recently by Professor John M. Bryant, department head.

The Northern States Power Company will provide the current for experiments; the Joslyn Company will furnish poles and wiring, and construction will be done by REA, Professor Bryant said. The installation will be made on the lower lobe of the island, lying downriver from the Hydraulic laboratory.

Professor Bryant, with the assistance of Morris Newman and other members of the department of electrical engineering, has been at work for several years on the problem of developing a satisfactory lightning arrester for large electrical installations, a task that has never yet been achieved, despite the vast extent of the electrical industry. They have evolved a special surge generator, to pro-

(Continued on page 2, column 2)

Veteran Dean Will Retire in June



Dean Edward E. Nicholson

Summer School Ready with Broad Choice of Courses

First of Two Sessions Will Begin June 16, Director Teeter Says

THOUSANDS TO COME

Instruction to Be Offered in Nearly All Fields, Education Stressed

Sessions running from June 16 to July 25 and from July 28 to August 29 will comprise the University of Minnesota's summer offerings for the current year, Professor Thomas A. H. Teeter, director of summer sessions, has announced. Normally, between 4,500 and 5,000 students attend the first sessions of summer work at Minnesota, with second term enrollment sufficient to bring the season's total to something less than 7,000.

Because of the consistent demand for technically trained men who are needed in the war industries, unusually broad offerings have been arranged for the Institute of Technology and especially in the School of Chemistry, Mr. Teeter said.

Summer courses are offered in all divisions of the University of Minnesota except the Law School. The Center for Continuation Study will conduct on June 30 and July 1 and 2 a special institute in problems of higher education to which prominent outside speakers will be brought to throw additional light on the work being done in the Workshop in Higher Education. The Workshop was a feature of the summer session a year ago and is being repeated this year. In its work members of the College of Education faculty take up with the more advanced students a series of approaches to educational situations on which there is general need for further enlightenment.

Another institute planned for the Summer Session will be that conducted July 23 and 24 by the Department of Journalism, the theme of which will be publication of school yearbooks and school newspapers. Outside speakers will supplement the regular journalism faculty.

Three visiting teachers will come to Minnesota to assist in English literature and writing courses in the summer session. They are Professor Newman I. White and Professor W. H. Irving, both of Duke University, Raleigh, N. C., and James Gray of St. Paul, novelist and critic of literature. Professor White will offer courses in Shelley, Professor Irving in the literature of the Eighteenth Century, including the period of John Gay, and Mr. Gray will conduct courses in creative writing.

To Teach More Spanish
Expanded offerings in Spanish will be scheduled for the summer sessions in view of the keen current interest in Latin America.

In the field of education, which is a major part of all summer sessions because it is the time of year when teachers can get away for additional study and self-betterment, a wide and varied program has been prepared. A four-week summer term has been arranged for teachers of agriculture who are on a twelve-month basis. Among novel courses will be one in sight saving, sponsored by the departments of Ophthalmology and of Preventive Medicine and Public Health and a special course in conservation of hearing in which the Department of Preventive Medicine and Public Health will cooperate with the Department of Otolaryngology.

The Institute of Child Welfare will conduct a full program during the first term and have some courses in the second.

The usual school for custodians and engineers will run from June 9 to 13 inclusive.

Will Have "Curriculum Laboratory"

Many public and private school staff members wish to work in the Summer Session on particular problems of importance to their

(Continued on page 4, column 1)

Article Tells of Helps for Those Who Work Way

Working one's way through college is by no means easy, but college administrators have greatly expanded the means whereby deserving students may obtain some form of financial aid, whether through employment bureaus, such as now find jobs for so many thousands, or the loan and scholarship systems, it is pointed out by Dorothy G. Johnson, director of the University of Minnesota Employment Service in an article recently published in The Journal of Higher Education.

Nevertheless, she points out, the student planning to go to college must not expect unreasonable help, for instance, that the employment bureau will have a job awaiting him when he reaches town. The student applicant must call at the employment bureau for a personal interview during which his individual characteristics, his experience, his interests and his aptitudes can be appraised. He must also draw up his schedule of classes so that he may know the hours at which he will be free to work. After that the bureau brings him into contact with an employer, as an applicant. The bureau does not give him a job. He must get that from the employer. The bureau does, each year, help very large numbers find work. At the same time, there are always more applicants than jobs.

Procedures in college employment and testing bureaus today are rapidly doing away with some of the one-time disadvantages of part-time employment by students, Mrs. Johnson said. Tests and interviews help to place the students where they will be happy and efficient in their work. Guidance also helps the student avoid health impairment and the employment bureau makes every effort to determine which employers treat their workers fairly and have good working conditions to offer.

Students need by no means do poorer work in classes because they are employed outside, Mrs. Johnson said.

"There are as many data to confirm the belief that the concentration required improves scholarship as there are to indicate that the demands on time lower scholarship," she said. "If a student finds it necessary to extend his college course over a somewhat longer time he has the satisfaction of knowing that if he had not worked he would have had no college course at all.

"Regardless of advantages or disadvantages, the number of self-supporting students continues to increase. When the future gives us a long-range view of our present economy it should be interesting to note to what degree unemployment has been a factor in this. With a long list of applicants for every job, employers have been in a position to raise their minimum requirements for employment, both in training and experience; labor in its struggle to protect its members has almost excluded the beginner; conditions of small business have not been such as to encourage further ventures.

"Advanced training has seemed to be the one course to offer any hope of a future, and without it the youth was stymied. The desire for a college education, which was a personal ideal, has taken on an added factor of necessity, and for thousands this has meant, 'work your way.' The student who works his way graduates confident that he has achieved much and with his job-training is better equipped for a permanent job than any classmate who has yet to learn the meaning of work responsibility."

Many Faculty Members Are 'Who'

Minnesota faculty members number 192 in the new 1940-41 edition of "Who's Who in America" according to a count made by Dean Malcolm M. Willey, assistant to the president. This is a net gain of 28 persons over the last earlier edition, which listed 164 members of the Minnesota staff.

Thirty seven Minnesotans appeared for the first time in the new volume. Since the last edition came out, seven Minnesotans named in it have died and two have left Minnesota.

Staff members added in the current volume average lower in age than those listed before. Their average age is 50.36 years, whereas the average age of those listed in the last earlier edition was 57.70 years.

Heads Employment Bureau on Campus



Dorothy G. Johnson

Best Planting Varieties Listed For Farmers

Minnesota farmers who are eager to plant the varieties of farm crops that have proved best for the various sections of this state now have a reliable guide in "Improved Varieties of Farm Crops," just issued by the Agricultural Extension Service at University Farm. This up-to-date listing of varieties has been compiled as the result of a conference of crops specialists from the agronomy division, the Extension Service, and the Agricultural Experiment Station, including the branch stations in different parts of the state.

Recommendations are made on the basis of tests conducted over a period of years at scattered stations. Actual performance of each variety in the field is the guide used.

The new publication includes a complete list of wheat, oat, barley, rye, flax, soybean, pea, field corn, pop corn, and sweet corn varieties which have earned approval of agronomists. Recommended varieties have been thoroughly tested under different conditions and have been compared with other varieties as to yield, disease resistance, and several other important factors.

Since it is especially difficult to distinguish between different hybrid corn varieties, seed should be purchased only from reliable sources, the agronomists say. It is especially important to use adapted varieties of corn because no single hybrid or corn variety is suitable for all parts of the state. The authors of the pamphlet not only furnish a guide as to the suitability of the different Minhybrids which have been developed by the stations, but they also give useful information on the commercial hybrid varieties. They have based their recommendations on the results of three and four years' testing of commercial hybrids in the yield trials conducted annually by the Experiment Station and the Extension Service.

The publication is more than a mere listing of the recommended varieties. It includes also brief comments as to advantages and disadvantages of each. A copy of Extension Folder 22 may be had at the office of the county agent or by writing Bulletin Room, University Farm, St. Paul, Minn.

Lightning Study Will Be Pushed

(Continued from page 1, column 4) duce the equivalent of lightning bolts, and also a new type of fuse which they are testing throughout rural areas in Minnesota. It is intended to keep surges caused on main transmission lines by lightning from reaching farm structure connected through feeder lines.

A portable laboratory, probably of the school bus type, will be used in experiments, both in the new outdoor laboratory and in rural areas.

The public probably will have to be barred from the lower tip of the island when the electrical experiments are under way, Professor Bryant said. Work on the installations is expected to start in about a month.

Old Story in New Binding War is bad, says Bugs Baer, but after all, a fellow just unearthed an Egyptian tablet 5,000 years old. On it is this inscription, "The world's going to pot. Children refuse to obey their parents and everybody wants to write a book."

Child Must Learn Rights of Others Anderson Says

Each individual in a human society has rights, but he must not abuse them, and childhood is the time for training persons to live with others, Dr. John E. Anderson, director of the Institute of Child Welfare in the University of Minnesota told the Louisiana Parent-Teacher Association in a recent lecture. "Children and Democracy" was his subject.

"Rights involve obligations which are to be met voluntarily," Dr. Anderson said. "Hence, any training program is concerned not only with the negative aspect of what is due the individual from society, but also with the positive contribution that he makes to society in return.

"A democratic society assumes that each makes his contribution in his own way—in other words, that there is no single way of solving all problems to be imposed from above, but rather a common approach that can grow out of diversities in point of view and background. Through the interplay of individuals and by joint decision this common way is to be found.

"Since the springs of action and the attitudes and ideals which make possible so many diverse and valuable contributions to democratic living are found in home life, democracy stresses the importance and protection of the home and family. Our problem, then, is one of seeing how each family can preserve the individuality of its members and at the same time build in them the capacity to work for common social purposes.

"Practically," he said, "we should seek:

1. "To develop in children and youth the capacity for decision and choice by giving them responsibilities and opportunities to develop self-reliance.

2. "To give children and youth experience in group discussions, family councils, and committees, at which practical principles of action are worked out, in order that they may learn to work with others for common purposes.

3. "To expose children and youth gradually to situations of greater and greater complexity and of greater vigor in external demand, in order that they may acquire persistence and hardihood to work for both personal and group goals. This would produce the independence of thought and of action necessary for life in a democratic society and is the opposite of the procedure in a totalitarian society, in which the individual is trained to become completely dependent upon one leader and to identify himself emotionally with that leader.

4. "To develop within the family circle and school clear formulations of democratic ideals and the manner in which they may be attained. In a democracy, because we have the right to criticize and be criticized, we often go too far in being critical and censorious in the presence of younger persons. As a result children lose confidence in the democratic process and look elsewhere for ideals and goals. The growing person needs ideals and examples that he can admire, and substantial amounts of positive and purposeful stimulation.

5. "To give all children a clear realization that obligations are inter-related, it is not enough for the child to have the world come to him; he must realize that he must give in return.

6. "To substitute for mere lip-service actual demonstrations and examples of democratic practices and acts in our everyday lives. A good example that can be admired and imitated is much more powerful than any precept."

If we are to do these things, he explained, we must modify the approach of parents to children and youth—many attitudes, ideals and goals come from the home. The importance of the parent as an interpreter of life and as a source of inspiration to his children should be clearly realized.

May Get Marine Commissions

Five University of Minnesota boys are going to have commissions as second lieutenants in the United States Marine Corps if present plans work out. Lt. C. E. Simensen, USMC spent three days on the campus recently examining applicants who will graduate in June and who desire commissions. It was required that they enlist as privates, first class, and go after graduation for a three months training period at Quantico Ma-

Will Direct All Work in Agriculture



Dr. Clyde H. Bailey

Two Professors Get Fellowships From Foundation

Dr. David H. Willson, associate professor of history, and Dr. Ernst C. Abbe, associate professor of botany, are among 85 scholars from the United States, Canada and Latin America, who have received fellowships from the John Simon Guggenheim Foundation to assist them in carrying on scholarly works now under way. Both will be given leaves by the University of Minnesota to continue their researches. Professor Willson's project is the writing of a life of James I king of England and Scotland. Dr. Abbe will continue studies of historical, climatic and geological factors bearing on a heavily glaciated region in the subarctic. He does his work on the shore of Hudson's Bay. Three years ago he made an expedition to that area. Dr. Willson will work in the Widener Library, at Harvard, for eight or nine months and will spend the remainder of his leave working in the Huntington Library, San Marino, Calif.

'Gloomy Outlook for Teeth,' Brekhus

(Continued from page 1, column 3) show clearly that they had teeth at one time. One example of this is the ant-eater; another, the duck-billed platypus of Australia, famed creature of childhood books and cross-word puzzles. But of course the duck-billed platypus is queer in many ways, what with having fur, laying eggs, and being able to sting like a snake.

Sub-human anthropoids have more and, of course, better teeth than man, and the pre-anthropoids, such as the fossilized lemurs found in South Dakota, had more teeth than anthropoid apes have. They had two laterals, three or four big-cuspid, or pre-molars and more molars than their descendants have today.

Man originally had a splendid and effective set of teeth, but deterioration has gradually followed the artificial preparation of food and the taking away of the natural function of the teeth. Not only have teeth deteriorated, but Dr. Brekhus' researches show that the process is progressive and that man's jaws are growing smaller and his tooth loss from pyorrhea, dental caries and mal-occlusion are steadily increasing.

"Congenitally missing teeth are steadily on the increase," Dr. Brekhus said. "There is some disturbance of the tooth germ in modern man. I refer to teeth that never do come through, not to those lost by decay. The laterals are often missing; then the third molars, often called wisdom teeth; then the bi-cuspid. There is a steady reduction from the regular formula in the number of teeth with which the human being is born."

He holds out no great hope that the trend of tooth condition will reverse itself; thinks, indeed, our teeth are more likely to get worse.

rine Barracks, Virginia. Thereafter those who make the grade will receive reserve second lieutenantcies and will be called to duty for the period of any national emergency. Lt. Simensen said about 95 percent of those sent to Quantico under this system receive commissions. After being commissioned they receive a further period of intensive training in an officers' school.

Dr. C. H. Bailey Will Succeed Dean Coffey

Dr. Clyde H. Bailey, who was born and reared almost within a stone's throw of Minneapolis' famous flour mills and who has since become recognized as a world authority on flour milling and cereal chemistry, has been chosen to serve as acting dean of the University Department of Agriculture. He will take the place of Dean W. C. Coffey when the latter becomes acting-president of the University on July 1.

Dr. Bailey was graduated from the School of Agriculture, University Farm, in 1905, and received his bachelor of science degree at North Dakota State College in 1913. He earned his M.S. degree at the University of Minnesota in 1916, and his Ph.D. degree at the University of Maryland in 1921. Dr. Bailey has traveled widely on scientific missions and has visited leading technical and agricultural institutes from Moscow to Honolulu. In 1936, he spoke before the International Congress on Bread Production at Leipzig, Germany, and returned to Europe in 1937 and again in 1938 to participate in similar worldwide meetings and to visit European research laboratories. He became vice director of the Experiment Station in September, 1938, having been connected with the division of agricultural biochemistry for many years.

This year, Dr. Bailey is engaged in a project of nationwide import, since he is chairman of a committee of eminent food technologists chosen to advise the National Federation of Millers in regard to the production of enriched flour.

His popularity with University Farm students and faculty is attested by the fact that in 1937 he was awarded the "little red oil can"—a symbol awarded annually to the student or faculty member judged to have contributed most to campus life during the year.

Dr. Bailey's professional life has been spent largely in the field of agricultural chemistry, and with special emphasis upon cereal chemistry. He has been president of the American Association of Cereal Chemists, and has had many students from all parts of the world who engaged in advanced study and research in that field. He has also been an officer of the American Chemical Society, and of other scientific bodies.

In 1932 the Thomas Burr Osborne gold medal of the American Association of Cereal Chemists was awarded to Dr. Bailey for distinguished contributions in cereal chemistry. He was the second person to receive that marked recognition.

As president of the Minnesota chapter of Sigma Xi in 1927-28, he instituted the series of popular annual lectures that have been continued at the University since that time. In the University he has served in various general capacities, and has been a member of the Board of Admissions since it was organized in 1932.

Dr. Brekhus, a small, white-haired man with a bright twinkle in his China-blue eyes, was born in Norway and came to the United States at the age of 21. He had had only one year of the high school course in his home country. Reaching Minneapolis in 1896 he entered Augsburg Seminary, supporting himself by summer work, and took the academic degree in 1902. Intent on further education, he decided it would be better to give his full time to earning the money he needed rather than studying part time and working part time, a policy now approved by many of those best informed on education. He taught several years, then went to the University of Minnesota and was graduated in dentistry in 1910. He has been connected with the School of Dentistry since that time and has long held professional rank. He is chairman of the department of oral diagnosis, does some teaching, but puts in his main efforts on researches on the teeth.

His book, he says, is based on scientific investigation, but is not a textbook nor intended for scholars only. He has written it to give the ordinary fellow who is interested, the main facts about his teeth. Dr. Brekhus, of course, would like everyone to have perfect teeth; his standards may be high, but his predictions are not very bright.

"The dentist will help you care for your teeth while they last," he says, "and then he will fix you up with a set of false teeth when the real ones are gone." That's just about all there is to it.

"Blood-Testing" Plants for Minerals Shows Soil Deficiencies, Botanist Says

Work Under Way Several Years Pushed Ahead by Dr. E. S. Miller

Processes whereby University of Minnesota scientists can tell whether a plant is getting the minerals from the soil that it needs for healthy growth by taking a spectroscopic photograph of the stem juices are being perfected and are now in use according to Dr. Elmer S. Miller of the department of botany.

The system is a direct equivalent of the blood test a physician might make on a patient who came in complaining of anemia.

Physicists long ago learned that when spectroscopic photographs are made of certain materials, the chemicals contained in them can be determined by the arrangement of lines on the plate and by their place in the spectrum, indicating color. It was by such processes that scientists determined the relative amounts of different gases in the sun.

Dr. Miller evaporates the stem juices of a plant he is examining, and places the resulting powder on an electrode through which an electric current is passed. By studying the resulting picture he can tell what minerals the plant lacks, which ones it gets enough of and the like. These lines he calls the "fingerprints" of the plant, the scientific term being "emulsion spectra."

The practical use of the process will be important all over the state. Plants that are doing poorly in some regions may be sent to the laboratory. There the stem juices will be photographed and the "emulsion spectra" will tell what soil elements are lacking, and to what degree. During the past summer this work was begun on potato plants from the Red River Valley and on truck garden produce from the Twin City area. It can be extended almost indefinitely. Once the emulsions are prepared tests can be run through the spectrograph one a minute.

The long labors often required for success in a scientific experiment are instanced in the present work, for the assembling of equipment was started five years ago at University Farm, by Professors W. H. Alderman, R. B. Harvey and Clayton O. Rost. Dr. George O. Burr is directing the present phase of the work, which is being done by Dr. Miller.

The tests will show not only what fertilizing elements a plant needs, but also whether the plant takes them up after they are applied. The results will also predict deficiencies in the vigor of certain plants grown on certain types of soil, or areas in the state.

From the scientific rather than practical side, he is also trying to learn the role of the various elements in maintaining plant growth and health; also how much of these elements a plant should have, and at what stages of growth.

"It's like studying the feeding schedule of a baby," Dr. Miller said.

Earlier experiments in which juices taken from the leaves of plants were used proved far less satisfactory than the present method of utilizing stem juices. They seem to give a more comprehensive picture of the plant's chemical constitution.

A grant from the Graduate School has made the work possible.

Graduate Chosen To Study in Chile

One of two American graduate students recently selected by the State Department to study in Chile as exchange guests of the Chilean government is the holder of a master of arts degree from the University of Minnesota, Dean Theodore C. Blegen of the Graduate School has been informed. He is Charles C. D. Watland, a native of Albert Lea, Minn., and a graduate of Swarthmore College. Mr. Watland is at present an instructor in Romance languages at Johns Hopkins University. The appointment is made under terms of the Convention for the Promotion in Inter-American Cultural Relations signed at Buenos Aires, December 23, 1936. Dean Blegen was further informed that the recent ratification by Mexico of this convention has brought to fifteen the number of American republics which have agreed to carry out the terms of the convention. It provides for the annual exchange of two graduate students or professors between the signatory countries and the United States of America.

Bach Festival To Be May 5-9

Although not so named, the week of May 5 will be Music Week at the University of Minnesota, during which the Fourth Annual Bach Festival of the Bach Society, University of Minnesota, will be held under the general direction of Professor Donald N. Ferguson and the Thursday convocation hour will be devoted to music directed by Dr. Abe Pepinsky.

For the convocation Professor Pepinsky will direct the University Symphony Orchestra in the D Minor Symphony of Caesar Franck and Barbara Scott of Mason City, Ia., an outstanding student in the Department of Music, will play as a piano solo Liszt's E. Flat Piano Concerto. Miss Scott is a junior in music.

The events of the Bach Festival will all be in Northrop Memorial Auditorium and will be presented on Monday, Wednesday, Thursday and Friday evenings, at 8:30 p. m. except Friday evening, when the "Mass in B Minor" will start at 8. No admission will be charged. The respective programs will be, on Monday, a general Bach program by the Bach chorus, directed by Professor Ferguson; Wednesday, Bach organ recital by Professor Arthur B. Jennings; Thursday, orchestral program by University Symphony orchestra, Professor Pepinsky conducting; and, Friday evening, the "Mass in B Minor," conducted by Professor Ferguson. For the mass, the soloists will be Agnes Rast Snyder, contralto; Sidney Suddendorf, tenor; Conrad Rast, bass; J. Herbert Swanson, baritone; duets by Eunice Hokenson, soprano, Katherine Hennig, soprano, Carol Suddendorf, contralto, Phyllis Stranger, contralto, and Hollis Johnson, tenor.

Linnean Club Publishes "Log" Of Its History

"Linnean Memory Log," a publication of the Linnean Club, composed of students in Botany at the University of Minnesota, has been completed and presented to the present membership by those who belonged in 1938-'39 and 1939-'40. A handsome, paper-bound volume with an attractive nature picture on the cover, the "Log" includes a brief history of the club's first fifteen years, contributed by R. Bruce Ledin and Eloise Newcomb. It was begun on May 12, 1925, with one of its main purposes that of encouraging the interest of women in science. No men were invited to join until several years later. One of the first male members was Mr. Pei Sung Tang, a graduate student working with Professor W. S. Cooper. Featuring the scientific articles in the booklet is a fine descriptive article on the celebrated Nerstrand Woods, southeast of Northfield, Minn., one of the few remaining natural groves of virgin hardwoods in the state. It was written by R. Bruce Ledin and is illustrated with a number of attractive photographs.

Surgery Head Lectures in Chicago

"Distension and its effect upon the bowel and bodily economy" was the subject of the Louis A. Greensfelder memorial lecture delivered at the Michael Reese Hospital, Chicago, Tuesday, April 15, by Dr. Owen H. Wangenstein, head of the department of surgery in the University of Minnesota Medical School. It is an annual lecture delivered upon invitation by the hospital board. The other speaker was Dr. Alfred Blacklock of Vanderbilt University, who discussed, "Shock, prevention and treatment."

U. Debate Team Wins Second Place

University debaters placed second in the Western conference tournament at Northwestern university. Debating for Minnesota on a permanent union of Western hemisphere nations were Harding Ornstein, Law sophomore; Victor Powell, Arts senior; Paul Hagstrum, University college senior; and Stanley Wronski, Education junior. Debate teams also attended the annual congress of Delta Sigma Rho, national forensic honorary fraternity.

Dried Plant Juices Report Soil Minerals



Dr. E. S. Miller is shown operating equipment in botanical research of broad state interest.

Gun Shed Voted By Regents Board; Leaves Approved

Opportunities for more adequate military training at the University of Minnesota were expanded by the Board of Regents at their February 14 meeting when the board voted to allot \$3,211 as sponsor's share toward the cost of a new gun shed to be attached to the University Armory. Total cost will be \$26,900, the remainder to be provided by WPA. The shed will make adequate provision for housing some new artillery pieces which the War Department has assigned to the Army ROTC at Minnesota, commanded by Col. Charles A. French.

Four members of the faculty were granted leaves of absence by the board, two of them men who have begun their new assignments. Dr. Wallace H. Cole, professor of surgery, will spend six months at the American Hospital in Britain, Ltd., at Basingstoke, England. He is now on that assignment. Starting February 16, Dr. Gustav Swanson, assistant professor of entomology and economic zoology at University Farm, went on leave of absence for a year in a position with the fish and wildlife service of the United States Department of the Interior.

Professor Alburey Castell of the department of philosophy will have a leave of absence during the college year 1941-'42 to serve as visiting lecturer in Columbia University and to devote part of his time to a project for a two-volume history of philosophy.

Dr. Ernst C. Abbe of the department of botany will take a sabbatical furlough next year to complete researches begun during his University of Minnesota expedition to Hudson Bay several years ago. He also will carry on investigations in several eastern herbaria.

Among new courses approved was one in news photography that will be begun in the spring quarter of this college year, carrying a laboratory fee of \$5 per quarter for materials and replacement of damaged equipment. It will be taught by H. L. Smith, a new member of the department this year.

A memorandum of agreement was signed with the Quaker Oats company with respect to its financing an agricultural extension program looking to the production of improved grades of oats. In past years similar programs have been conducted for such crops as barley, wheat and flax. Among gifts received were one of \$1,800 from the Rockefeller Foundation for a research assis-

Sight Health Will Be Taught

Planned especially for public health nurses but also open to medical social workers, a new course in sight conservation will be offered during the first summer session at the University of Minnesota. It will be sponsored by the Minnesota Society for the Prevention of Blindness, Minnesota Academy of Ophthalmology and Otolaryngology and the National Society for the Prevention of Blindness, the work being offered under direction of the Department of Preventive Medicine and Public Health, headed by Dr. Gaylord Anderson. Miss Eleanor W. Mumford, representing the National Society for the Prevention of Blindness will conduct the courses. The course is said to be the only one of its kind ever offered.

Mothers Day At University To Be May 10

Mothers Day at the University of Minnesota, to which the mothers of all students are invited, no matter where they live, and which draws to the campus visitors from every district in the state, will be held this year for the first time in the new Coffman Memorial Union. May 10, Saturday, has been set as the date. It will also be the last Mothers Day at which the parents of students will have a chance to meet President Guy Stanton Ford and Dean Edward E. Nicholson. Dean Nicholson has been chairman of the Mothers Day and Dad's Day committees from their inception.

Between 1,400 and 1,500 mothers are expected to visit the campus during the day, and it is estimated that about 1,100 persons will attend the banquet at 6 p. m. in the Coffman Memorial Union, counting both the mothers and the sons or daughters whom they take with them.

Special events are being planned at University Farm, but all mothers are invited to attend an entertainment in Northrop Memorial Auditorium from 2:30 to 4:30 p. m. at which Orchesis, university dance society, and Masquers, the dramatic club, will vie with one another in a program now being prepared.

Tours of the campus, a visit to the Fine Arts room in the Union, where movies of campus life will be shown, or a trip to the Museum of Natural History, where a special lecture is being arranged, will be in order following the show in the auditorium. The dinner will be served in the main ballroom of the Union.

Mortar Board, women's senior society, will sell corsages to students for presentation to their mothers.

Students committee members are Phoebe Foulke, president of Women's Self Government association; Dencie E. Stalker, president, Y.W.C.A.; E. Bernie Eliason, president, Y.M.C.A.; Victor Jung, president, All-University Student Council; Victor Cohn, editor, The Minnesota Daily; Jean M. Russ, chairman, Women's Self Government Association branch at University Farm.

Representing the faculty are Dean Nicholson, Dean Anne Dudley Blitz, E. B. Pierce, general secretary of the Alumni Association; Carroll S. Geddes, financial adviser to student affairs, T. E. Steward, director of News Service, G. Ray Higgins, manager, Coffman Union, and Leigh H. Harden, assistant to Dean E. M. Freeman, College of Agriculture, Forestry and Home Economics.

tant to work with Dr. I. M. Koltzoff of the department of analytical chemistry; the sum of \$656.16 to establish the T. A. Erickson Leadership Fund, honoring the retired head of Four-H Club work in Minnesota, and the sum of \$600 from the Committee on Scientific Aids to Learning, National Research Council, for Dr. Miles A. Tinker's work on visual fatigue in the department of psychology. Two hundred fifty dollars was received from the John Simon Guggenheim Memorial Foundation for publication of papers of the astronomy department. From Mrs. Fred B. Snyder, wife of the regent, was received a gift of copies of publications in the field of fine arts and of sketches by Eugene Speicher. These will go to the University Gallery.

Two 'U' ROTC Units Flourish

The Naval R.O.T.C. unit at the University of Minnesota was established in June, 1939 and began active service when college opened that fall, enrolling 60 freshmen. Like all naval units, it offers a four year course which students must start in their freshman year.

Now nearing the end of its second year the unit has 58 men in its second year class and 96 freshmen. Four officers conduct the unit under the direction of Commander B. G. Colyear, with Lt. Commander Harold F. Pullen as executive officer.

Two more classes must enter before the unit is complete with men in each of four classes. Each of the next two classes will comprise 125 men, and as each enters, one more officer will be added. This will make the final complement 500 men and six officers, assuming that all who enter remain in college, a record which is never quite reached.

Nationally, according to Lt. Commander Pullen, the Navy will establish 27 R.O.T.C. Units, of which 19 are now in existence. Eight more will be established next fall, and the entire 27 will have a complement of 7,200 students. Naval R.O.T.C. Units are established only at colleges or universities which already have an army R.O.T.C.

Each year each college N.R.-O.T.C. unit is entitled to enter three men in the United States Naval Academy, if that number passes the examinations. This year Minnesota has entered one man in the Naval Academy.

Minnesota has had an army R.O.T.C. from the day the university was opened. These were created under the Morrill act, sponsored by Senator Morrill of Vermont during the Civil War when the shortage of capable officers became appalling. Minnesota was opened in the fall of 1869, and since the Morrill act was already in effect at that time, an R.O.T.C. was created in the first year. It was commanded by Major General Richard W. Johnson, Rtd., an officer who had a distinguished record in the Civil War. General Johnson commanded the Fourteenth army corps in Sherman's army before Atlanta and was in command of the division that bore the brunt of Bragg's attack at Murfreesboro.

A total of 902, including bandmen, are enrolled in the R.O.T.C. at Minnesota, which has been voluntary since 1934. The advanced course, covering the last two years, is always voluntary in all colleges, but at Minnesota, as at a great many other institutions, the basic course was compulsory until the change was made less than a decade ago.

Complete enrollment figures for the Minnesota army R.O.T.C. are as follows:

	Basic	1st Year	2nd Year	Total
Coast Artillery Corps	438	122		560
Signal Corps	42	10		52
Medical Corps	64	27		91
Band	18	10		28
	566	170		736
Advanced				
CAC	52	60		112
Signal Corps	18	7		25
Medical Corps	15	10		25
	87	79		166

Colonel Charles A. French is professor of military science and tactics and commanding officer of the army's unit at Minnesota. Men who graduate and satisfactorily complete the advanced course receive reserve commissions in the United States Army. Many are being called to active duty. With the exception of Col. French all of the officers attached to the Minnesota unit are reservists who have been called to active duty. Most of them are men who entered the army through the Minnesota R.O.T.C.

Dr. W. A. O'Brien's May Radio Topics

Five radio lectures on public health will be delivered on Saturdays during May by Dr. William A. O'Brien, professor of preventive medicine and public health, University of Minnesota, who is heard over WCCO and WLB each Saturday at 1:00 a. m. He speaks on behalf of the State Medical Association. Dr. O'Brien's subjects will be: May 3, Summer roundup; May 10, Community Hospital; May 17, Maternity Hygiene; May 24, Better Health for Babies; May 31, Care of children's teeth.

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Summer Session Plans Complete

(Continued from page 1, column 5)

own schools. Such individual work, with competent assistance, will be available through registration in problems courses listed in the main areas of education. All staff members will schedule office hours for individual conferences.

Problems of curriculum reorganization are of current concern to workers in both elementary and secondary education. To meet the needs in the curriculum area, the 1941 Summer Session provides both discussion and practice courses. The Curriculum Laboratory will serve as a workshop in both sessions for people concerned with curriculum problems.

Elementary teachers, supervisors, and administrators will find an exceptionally broad program in their fields. The core of courses required for the elementary major will be given in both terms of the Summer Session. Problems of supervision and of diagnostic and remedial instruction will be emphasized, in addition to problems in elementary school teaching in the social studies, in reading, and in arithmetic. Laboratory practice and observation will be available through the use of the Child Welfare Institute and the Tuttle Demonstration Elementary School. An instructor trained in remedial reading has been added to the staff of the Tuttle School to provide demonstrations for the large number of elementary school teachers interested in reading problems.

High school teachers, also, will find an expanded offering in the 1941 Summer Session, in the provision both of advanced academic courses and of professional courses for the discussion of current problems of teaching secondary school subjects. University High School will provide demonstrations of practical applications in this field.

Increased attention is being given in Minnesota to the training of school administrators. In the Summer Session, visiting instructors and regular staff members in school administration and secondary education will provide a variety of basic and advanced courses for principals and superintendents. Special provision has been made for advisory work in connection with graduate study.

Training courses for personnel workers will be given in both terms. The University of Minnesota program in this field includes training in the use of tests and other diagnostic materials, the psychology of personality, the procedures of counseling, clinical practice, and the planning of group programs. Basic guidance courses will be offered for administrators and teachers, as well as for prospective personnel workers.

Courses in philosophy of education and history of education will provide background for the consideration of current educational problems. Courses of interest to many groups also have been arranged in radio in education, in the use of visual aids in teaching, and in health education.

Last summer, courses were initiated in the field of education for distributive occupations. This work, jointly planned by the School of Business Administration, the State Department of Education, and the College of Education, will be expanded in the first term of the Summer Session this year. These courses will be of value to teachers, co-ordinators, and supervisors of distributive occupations classes and programs established in the public schools under the provisions of the George-Deen Act for the further extension of vocational education. Related courses will be offered in the School of Business Administration.

In the special fields of art education, music education, and physical education, both undergraduate and graduate courses will be available, with work leading either to the bachelor of science or master of education degree. Courses will be offered in the first term in

agricultural education and home economics education, and in both terms in industrial education.

The Department of Physical Education for Women offers courses in the Summer Session which carry credit toward a master of education degree, a major in physical education, a minor in physical education, or a nine-quarter-credit state teaching endorsement. In the Department of Physical Education for Men a five-year curriculum, leading to a master of education degree, has been designed to prepare students for administrative and teaching positions in physical education. This department also offers a four-year curriculum, leading to a bachelor of science degree. Courses which may be applied toward either degree are given during the first and second terms of the Summer Session.

The School of Business Administration offers many of its regular courses in both terms of the Summer Session. This year, again, the school is co-operating with the State Department of Education and the College of Education to offer courses in the field of education for distributive occupations.

An attempt has been made to increase the offerings of the Division of Library Instruction for the 1941 Summer Session. Basic courses, taught by regular and visiting staff members, are offered in both terms.

Many Lectures Planned

In the field of entertainment a notable series of special lectures and convocations has been arranged, and a number of plays will be produced by the University Theater, among them "Call It a Day," "The Tempest," and "The Merchant of Yonkers." A quartet from the Chicago Opera Company will sing. The list of speakers includes Professor Ralph Dennis, head of the department of speech, University of Chicago; Constantine Brown, foreign editor of the Washington Star; Dudley Craft Watson, who will discuss "Mexico"; Julien Bryan, who will present a series of lectures on Latin America, illustrated in color; Karl Robinson, Alaskan traveler; Carveth Wells, also a travel lecturer; Bathie Stuart, lecturer on New Zealand and Wallace Stegner, novelist, member of the faculty at Harvard. Virgil M. Hancher, now president of the University of Iowa, will deliver the commencement address at the close of the first summer session.

Dean Nicholson Serves 46 Years

(Continued from page 1, column 2)

sharper than it is today. Feeling between the two groups was high, chiefly due to ill-conceived and youthful philosophies. There was also a good deal of cribbing, the dean thought. Maybe he knew.

To deal with the latter he proposed to President Northrop the establishment of a student council in the Arts College, and with it, the creation of an honor system. President Northrop was lukewarm on this suggestion, but finally the plan was adopted for the one college. It worked so well that it was eventually extended to other colleges. But by now it was found that the same proceedings and rules for student governance could not be applied with equal ease in all colleges, so the independent college councils were supplemented by the All-University Student Council.

Among the many student activities that have been re-organized through student effort initiated in the office of the dean of student affairs, are university publications, under the Board in Control of Student Publications, the finances of student activities, the management of student trips, the fraternity situation and the like.

Dean Nicholson's method has been to have student groups propose changes beneficial to student government instead of endeavoring to force new organizations on the students. A referendum in the spring of 1923 led to organization

Dr. J. S. MacCartney Speaks in Winnipeg Medical School



Dr. James S. MacCartney

Dr. James S. MacCartney, associate professor of pathology, recently spent two days in Winnipeg as visiting lecturer at the University of Manitoba, where he delivered seven lectures before various medical groups and classes during his short stay. He described the University of Manitoba as one of the most progressive. He has recently visited and found medical classes going at an approximately normal gait, despite the war.

of the Board of Publications, which slowly but surely pulled the student publications out of the financial mire and made at least The Minnesota Daily a considerable money maker.

Student Finances Supervised

Creation of the supervisory system for all student activities that involve the handling of money, and the appointment of Carroll Geddes to manage that division of the work has removed the cry, so often heard in times past, that student activities were a source of graft.

Final governance of student activities rests (other than the always final power of the president's office) in the Senate Committee on Students Affairs, which may always take up any student tangle that a subordinate committee has been unable to unsnarl.

Gray Friars, Iron Wedge and Silver Spur, formerly, perhaps, more active on the campus than today, were created as men's service clubs on the campus. When they got too deeply into politics, student leaders proposed and carried through a new method of election under which carefully chosen committees select the members of these bodies which were formerly self-perpetuating.

"I believe one of the great advantages of bringing students into university activities is that it gives a number of our fine students a chance really to learn about the university," said Dean Nicholson. "When they are graduated they carry this knowledge with them. It makes them better citizens and it certainly makes them better supporters of the University of Minnesota. They know enough about it to be able to help at the right times and places."

Helps in Tight Places

Dean Nicholson's work is not restricted to student organizations. He has also to do with student disorganization. It would be too much to expect that between 9,000 and 10,000 young men, and there are that many young men at Minnesota, should never get into trouble. Some of them do, and Dean Nicholson's acquaintance with certain sturdy police officials, sheriffs, jailers and the like has stood many a misfortunate in good stead.

"I deal with the officers of the law on the basis of mutual understanding" he said. "I have always tried to be honest in my recommendations. As a result, if I have said that it was my honest opinion that John W. So and So would be a good boy if he were let out, John has usually been paroled."

In like fashion he has received innumerable requests that he recommend a senior for some business position. He has never tried to interfere in any way with established placement organizations, but has so wide an acquaintance that inquiries just come to him anyway.

Dean Nicholson says that girls sometimes come to him for advice, although most of his dealings are with men students.

"Girl students sometimes want

Big Ten Meet Will See Many Records Broken

Many records may fall at the University of Minnesota's Memorial Stadium next month when Big Ten trackmen gather for their annual championships. The meet may result in more new conference standards of track and field excellence than any since 1935 when Jesse Owens was revising world marks to suit his taste as a member of Ohio State's team.

A check of the existing records and the best performances of the stars who will compete on the Stadium track on May 16-17 indicates that as many as eight of the 15 existing standards may be surpassed.

The surprising thing is that the Big Ten records continue to undergo alteration after 40 years of attack by some of the best trackmen in the nation. Some year the ultimate in performances may be reached, but evidently that point has not been attained.

For example, the Big Ten best in the mile is 4:10.8, set by Don Lash in 1936. The conference half-mile standard is 1:52.2 set by Ohio State's Charley Beetham in 1937. Now it appears that a longlegged Hoosier may crack either or both of these marks. He is another of Coach Billy Hayes' distance runners, Campbell Kane. He will be the defending champion in the mile, and his list of additional championships reads like the record book. He is the national 880-yard champion. Big Ten indoor mile and half-mile titlist and he has won most of the available honors during the recent indoor season. He has run the mile in 4:11 indoors and the 880 in 1:53.5 on a 10-lap indoor dirt oval.

In the quarter-mile, the Conference best for a course with two turns such as the Memorial Stadium oval is 47.8 seconds established by Indiana's Ivan Fuqua in 1934. There are at least two 440-yard experts eyeing that seven-year record. Indiana's Roy Cochran holds the current world's indoor record for the distance at 48.2 seconds. Warren Breidenbach of Michigan, the defending champion, has been timed at 47 seconds.

Ever since Fred Wolcott, the Rice champion, won three national titles on the Minnesota track and set an American record in the 120-yard high barriers in the bargain, the Gopher course has been regarded as particularly record-inviting. Competing for the Big Ten crown next month will be Bob Wright of Ohio State, once winner over Wolcott and American record holder in the 70-yard high hurdles; and Don Olsen of Illinois, American record holder in the 70-yard low hurdles. To better existing conference marks, they must hit the tape under 14 seconds in the high and 22.6 seconds in the low events.

Field event marks will be particularly vulnerable. Don Canham and Wes Allen, a pair of six foot, seven inch highjumpers from Michigan, will go after the six foot, seven and one-quarter inch record held by Dave Albritton of Ohio State. In the pole vault, there will be three 14-foot vaulters competing, including Minnesota's Jack DeField; defending champion Bill Williams from Wisconsin and Ed Thistlewaite of Northwestern. The record is 14 feet, two and three-quarter inches by Cassels of Chicago.

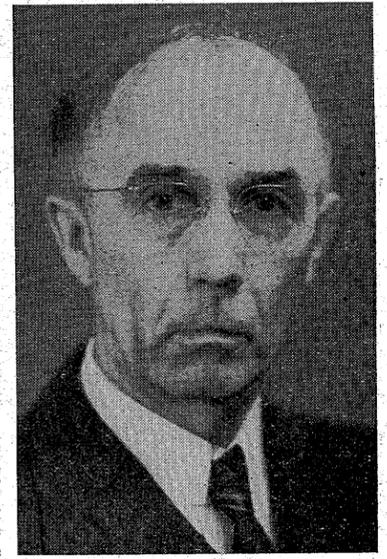
Finally, there will be Archie Harris, national collegiate discus champion. He will attempt to better his own conference record of 166 feet, 5 3/4 inches set last year at Evanston.

to see a matter from a man's point of view," he said. "Also, men students sometimes want to try to find out how a woman ticks, and they go to Dean Blitz with that question. If a young man just can't understand why the girl with whom he is in love 'acts that way' he may seek his information in the office of the dean of women. It works both ways."

Being quite human, Dean Nicholson has his definitely shady side, for he goes fishing and smokes cigarettes. Twenty years ago he used to take a little walk about the campus in mid-morning to get in his smoke. Now standards have changed in this regard, and he even dares smoke right in his office, though not when students are present. His fly-rod and his penchant for small-mouthed bass fishing are well known.

Dean Nicholson has managed the Dad's Days and Mother's Days of the University ever since they

Rowley New Head Mechanical Dep't. In Engineering



Professor Frank B. Rowley

Professor Frank B. Rowley has begun his new duties as head of the department of mechanical engineering in the Institute of Technology. He was formerly director of the Engineering Experiment Station and Oak Street Laboratories, which posts he will continue to fill.

Professor Rowley, an outstanding teacher of engineering, has been at Minnesota since 1907, coming from the University of Wisconsin. His first position was that of instructor in mechanical drawing.

He has been president of the American Association of Heating and Ventilating Engineers and of the American Society for the Promotion of Engineering Education. Professor Rowley also has been awarded the F. Paul Anderson medal of the American Society of Heating and Ventilating Engineers for distinguished work in that field especially his studies of heat transmission through insulating materials. Insulation and air-conditioning have been among his chief subjects of research.

Dr. Rowley is also a flyer who owns his own plane.

Engineers' Day Plans Complete

Oxygen equipment for high flying, a chemical warfare exhibit, man-made lightning, and a foundry in operation will be just a few of the attractions at the Institute of Technology open house to be held in conjunction with the Thirty-ninth annual Engineers' Day on Friday and Saturday, May 16 and 17. All engineering buildings will be open to the public from 3:00 to 10:00 p. m. on May 16.

Dale Drinkwater, general chairman of Engineers' Day, has announced that "Parents and friends of engineering students are especially invited to attend the open house. It is the best opportunity for them to view the facilities of the Institute and to see the work that is being done here."

Other events during the two-day celebration in honor of "St. Patrick, patron saint of engineers," will be the opening ceremonies, knighting of seniors on the steps of Northrup auditorium, a parade through the campus and downtown Minneapolis, a dansant, field events, and a dance at the Radisson Hotel.

Theme of the open house will be "How the Institute Aids in National Defense." For the first time, a special explosives exhibit will be shown in the chemistry building. The new wind tunnel, which is just nearing completion, will be open for inspection. Hundreds of other interesting and educational displays are being arranged.

Members of the executive committee for Engineers' Day are John Elliott, Leigh Morrow, Wiley Souba, Robert L. Peterson, Arthur Brickman, Gene Selmanoff, Tom Matteson and Robert Nelson.

were established in the late 'twenties. He also was the moving figure in the organization of the Minnesota Dad's Association, which has worked on a statewide basis to advance the university's interests.

A'weel! One can't remain even a dean forever. But many hope they will still see Dean Nicholson from time to time after he has retired.

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Will Latin Lands Follow Our Lead In Event of War?

Historian Sees Balances of Self-Interest and Sympathy Favor That Course

"In very large measure the defense of this hemisphere, whatever the type of defense employed, weighs upon the United States," Professor J. Fred Rippey of the University of Chicago told a University of Minnesota audience during the recent Student-Faculty Conference on Latin American affairs. "If the United States can meet the tests of efficiency and continued respect for the rights and sensibilities of the Latin Americans, our neighbors are likely to collaborate with us in their defense and ours," Dr. Rippey said.

He prefaced his remarks with a statement that the United States seems to be coming ever closer to actual military participation in the war, saying "The purpose will not be so much to save the British Empire for its own sake as to support and preserve it as the best means of defending the United States and the Western Hemisphere."

In this, he declared, the attitude of Latin America assumes considerable significance. After reviewing the behavior of the Latin American republics during the last war, when 13 of them declared war on Germany, Dr. Rippey continued as follows:

What Will Republics Do

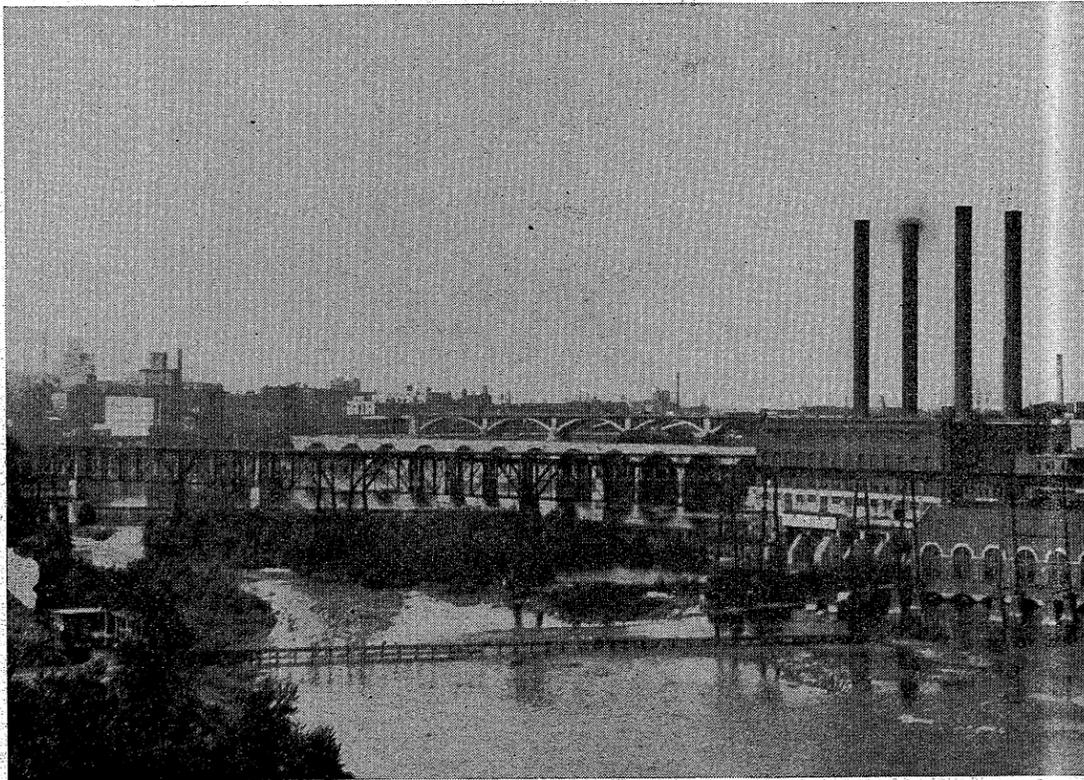
If the United States should be drawn into the present war in defense of England, what alignment of the Latin American states may be expected? It would be risky to place much reliance on what happened last time. This survey of the conduct of the Latin American nations during the last war has been a concession to human interest rather than a confident attempt to illuminate the future. Conditions in Latin America in 1941 are not what they were in 1917 and conditions in Europe are vastly different. Yet analogy is a speculative device hard to resist. Moreover, we have no better recourse because public opinion in Latin America—or at least in many parts of it—is not only difficult to ascertain but is a factor of comparatively minor importance. Gallup polls have not been taken, the masses are illiterate, and in the majority of the states the press is controlled.

With the exception of a few newspapers and journalists clearly under the dominance of totalitarians of the Italian, Spanish, Russian, or German variety, the organs of public opinion frequently condemn the aggressors. But of course mere condemnation does not signify a willingness to take positive action, and there appears to be no overwhelming insistence on the historical protective role of the British fleet, although allusions to this role occasionally appear.

The influential Latin Americans are probably as friendly to England in 1941 as in 1917. Mexico is slightly irritated over the oil issue, but the Mexican government was not friendly during the last war. The influence of the five billion dollar British capital investment in Latin America is not easy to forecast. The totalitarians are suggesting confiscation in some quarters; Latin America's respect for property rights is perhaps not as great as in 1917; and Latin Americans are aware of the increased dangers that would arise from the transfer of these investments to totalitarian hands. It is impossible, however, to determine whether British investments will tend to cause the leaders of the region to support England or tend to influence them to stand aloof while the war for the conquest of the British Empire continues.

In all probability the Latin Americans are more friendly to the United States than they were in 1917. The policies of Franklin D. Roosevelt and Cordell Hull have won their approval so far. The abandonment of the Caribbean protectorates, of interven-

This Is How Minneapolis Looks from Campus



Graduate Dean's Study of Immigration From Norway Reviewed by Colleague

Commentator Praises Author for Writing Important American Story Before It Was Lost

The following is a review of Dean Theodore C. Blegen's "Norwegian Migration to America" (published by the Norwegian-American Historical Association, Northfield, Minn.) by Professor A. C. Krey of the Department of History.

It is a strange fact that though migrations of people have long been recognized as among the most powerful causes of social and cultural change they have practically never been studied at the time of their occurrence. It is all the more strange because such social phenomena have recurred time and again since history began. The reputed cradles of western civilization, the valleys of the Tigris-Euphrates and the Nile, have been thus transformed many times. Nor is there any considerable portion of Europe which has not been similarly affected in historical times. Even Britain, though remote from the centers of ancient activity, has experienced at least three such movements since the beginning of the Christian era.

The effects of such migrations have been noticed in nearly every aspect of life subjected to study. They appear in the names of places and persons, in language and literature, in architecture and art as well as in anthropology. The political, economic and social consequences have engaged the attention of historians. In nearly every case, however, the studies have not begun until long afterward when the original participants were long since dead and even the literary evidence, usually meager, had mostly disappeared. Hence most of the conclusions drawn by scholars engaged in these studies have been of a conjectural nature, tentative and uncertain. Even in our own country, which for more than a century has afforded an almost perfect laboratory for the study of migration and its consequences, there was danger that the opportunity might be lost. Perhaps it was the appearance of premonitory signs that the migrations here would not continue indefinitely that has aroused modern scholarship. At any rate, many scholars, both here and abroad, have devoted much of their energy during the past twenty-five years to the study of various aspects of migration. This volume presents the fruits of those

studies for one of the groups that migrated to America.

As the title indicates this volume is devoted to a study of the migration from Norway in its American transition, the adjustment of the first generation more or less fully conditioned to the life of the homeland to the strange ways of the adopted land. An earlier work by the same author had treated Norwegian migration to America during the period from 1825 to 1860. The emphasis in that work was upon the breaking of the old world ties and the beginnings of the settlement in this country. In the present volume the author is concerned with the full tide of Norwegian migration which followed after 1860. Though that tide has now ebbed, there are still a considerable number of persons involved in it who are still living and a yet greater number of children who can recall much of the experiences of their parents in the process of migration. There remain, too, many letters written to relatives in the homeland or to friends settled in different parts of this country. Articles in newspapers and even books recounting the experiences of these people and revealing, often unconsciously, the effects of the process still abound in public and private collections. Fortunately, too, there were among them and their children many scholars who appreciated the importance of the problems involved and contributed valuable writings on various aspects of the change from the old world to the new. The Norwegian American Historical Society has rendered especially notable service toward this end. It has not only aided in preserving and publishing records, but has also encouraged properly qualified scholars to undertake various studies. With published and written material in such abundance and so many of the participants in the migration still living, the time was peculiarly favorable for completion of this particular study. A few years later would have been too late, a few years earlier too soon.

The execution of the task called for an unusual combination of qualities. It required someone thoroughly conversant with the American scene yet someone who also understood the homelife and homeland from which the migrants came. To insure maximum results required someone of maturity and broad understanding, capable of appreciating the whole range of human interests. He must understand at one and the same time the homely needs of the simple toiler and the cultured aspirations

Continued on page 2, column 1

Predicted Drop In 'U' Attendance Becomes Visible

National emergency conditions brought a definite decline in enrollment at the University of Minnesota as the spring quarter opened, but early indications that the drop might approach seven percent were changed when the Graduate School enrollment was completed and showed a decline of only 96, namely from last year's 1,860 to 1,764. Decline for the entire institution as compared with the spring quarter of 1940 was 562 students, or 4.1 percent.

The figures showed, however, that the current tendency is downward, though mildly, and prepared the administration to expect further declines when college reopens in the fall and accompanying losses of income from student fees. All major units showed a falling off in enrollment, although there were small increases in certain special fields, such as medical technology and dental hygiene.

Principal declines were in the Institute of Technology (124 to 1,789); Agriculture, Forestry and Home Economics (134 to 1,108); and College of Education (132 to 1,141). The University of Minnesota's largest unit, the College of Science, Literature and the Arts, lost only 48 students as compared to a year ago, and retained an enrollment of 3,824 as compared to 3,872 in 1940. The Medical School lost 10; Business Administration 23; Law School 32 and the School of Nursing 22. General College declined by only 15.

These figures represent the attendance at the close of the fourth week of the quarter and must be taken as final and representative.

No great decline in summer session enrollment in June is anticipated, inasmuch as the major attendance then is drawn from American teachers, and schools are as yet unaffected by defense activities, while in some instances special training courses have expanded school programs.

Uppgren to Address Harris Institute

Dr. Arthur R. Uppgren, associate professor of economics, University of Minnesota, will be one of the nationally prominent economists who will take part in the seventeenth annual institute of the Norman Waite Harris Memorial Foundation at the University of Chicago in July, it was announced. He will give the lecture on "Raw materials and inter-American solidarity."

'U' Reorganizes Two Departments Names New Heads

Dr. E. G. Williamson Becomes Dean of Students; Dr. W. S. Carlson Director of Admissions

BOTH NOW ON CAMPUS

Duties of Former Registrar Divided Between Two Men in New Setup

Reconstruction of two important university departments and appointment of officers to man them after July 1, was carried out May 9 by the Board of Regents of the University of Minnesota on recommendation of President Guy Stanton Ford. Dr. Edmund G. Williamson was named dean of students, which post he will assume upon the retirement in June of Dean Edward E. Nicholson, whose title is dean of student affairs. In reorganizing the department so long headed by the late registrar, Rodney M. West, the regents created two new posts, the director of admissions, and recorder, the title registrar being dropped. Dr. William S. Carlson, now head of University High School, was named director of admissions. True E. Pettengill, for several years assistant registrar, will become recorder. He will direct all that phase of the work of the registrar's office that has to do with keeping records, recording grades and handling the procedures of registration.

Division of the former registrar's office into two functions is a recognition by the university that problems of admission, of relations with other educational institutions in the state and a sympathetic administration of the changing regulations that govern the relationships of the many colleges within the institution to one another requires the full attention of one man. Important personnel duties are also involved with respect to students. These will be among Dr. Carlson's duties. Mr. Pettengill will be at the head of the division that carries on the work ordinarily associated in the public mind with the office of registrar, his new title being recorder.

Exact duties of the director of admissions are not being prescribed, although the general lines his work must follow are obvious. One of his tasks will be that of humanizing contacts with new students.

Besides carrying on many of the lines of administrative work and work with students now handled by the dean of student affairs, the new dean of students will incorporate into that office the general direction of the University of Minnesota's broad program of student personnel, guidance and testing work. Dr. Williamson was head of the University Testing Bureau before he organized the new office of coordinator of personnel activities, from which he is now being promoted. Dr. John G. Darley is now head of the testing bureau.

Dr. Williamson will have advisory relationships to such units as the health service, Coffman Memorial Union, employment bureau, dormitory groups, YMCA, YWCA and the like. Discipline, students' loans and financing, housing, the testing bureau, the speech clinic, the advisory office for foreign students and the like will be in his province, and he will maintain the contacts of Dean Nicholson with purely student organizations.

Dr. Carlson, the new director of admissions, became widely known last year for his book, "Greenland Lies North." A graduate of the University of Michigan with a Ph.D. degree, he has studied at the University of Copenhagen and in 1928-'29 and 1930-'31 was leader and aerologist of the University of Michigan's Greenland expeditions. Later he went into high school teaching, and since 1937 has been at the University of Minnesota where he now holds the rank of associate professor. He was born in Ironwood, Mich.

Continued on page 2, column 5

Krey Reviews Blegen Study

(Continued from page 1, column 3)

of the esoteric. To add to the difficulty, Norway at the time of the greatest emigration was in the throes of a cultural prejudice that accentuated the use of local dialects. He must be acquainted with the publications of a wide range of scholarship and capable not only of assimilating those findings but also of expressing the results of his study in effective English prose. No small order! Yet the person obtained for the task was a professor of American history whose ancestors had come from Norway and whose father had been at particular pains to teach his children the Norwegian language and literature. A distinguished scholar endowed with an engaging personality, he found ready access to the confidence of people of all walks of life whether in this country or in Norway, where he spent more than a year in the study of the material. Unusually sensitive to language and sound, he caught not only the varied prose but also the poetry and music of the people whom he was studying. Unusual too was the range of human activity and writings about those activities with which he was more than acquainted. Those who promoted this study were indeed fortunate not only in their choice of time for its execution but even more so in their choice of the scholar to execute the project. Few historians are as well equipped for a special task as he was for this one.

After a brief chapter or more devoted to the departure from the homeland, a phase of the problem which he had treated more fully in his earlier volume, the work moves on to the problems of adjustment to the new country. That adjustment begins with the journey itself on the sea and overland. It involves matters of language, of religion and morals, of intercommunication orally, by letter and by press, of education both elementary and higher, of means of livelihood modified to new conditions of folkways and other aspects of everyday life. There is pathos in the yearning to satisfy the higher demands of religion, art and literature, the nostalgic striving to maintain some connection with the homeland whose progress the arrested development which the migration has caused prevents the migrants from appreciating. No less distressing are the effects of developments in the new world, the slavery controversy, Civil War and moving frontier upon the efforts to retain some degree of solidarity among themselves. Much of the material the author has drawn from other studies, but much of it is the result of his own original research. Novel even to those who are fairly familiar with the main outlines of Norwegian emigration is the chapter on "The Canadian Interlude." An appendix on "John Quincy Adams and the Sloop 'Restoration'" contains further information about the Norwegian "Mayflower" for which the author acknowledges important aid from Professor George M. Stephenson and others.

Though the work is throughout a scientific study, that fact is delightfully obscured by the way in which the author handles his material. The reader is quite unaware that the work is statistical, though the pertinent statistics are all included. The experiences, the problems, the trials and adjustments are recited in terms of actual persons whose conversations, letters, articles or books are quoted. The statements gain authentication as well as vividness from his use of the actual instead of the abstract or the statistical. Much of the material is drawn from the lives of the leaders of the immigrants, e.g. Ole Rynning, Koren, Eielsen, Lauritz Larsen, the Preus family, Stub, Colonel Heg, Ole Bull, Rasmus B. Anderson, Ueland, Lawrence M. Larson, Magnus Svendsen, and Rolvaag and the many others, but it soon becomes clear that the author has drawn also from the lives of virtually every Ole, Lars, Nels, Thor and Hans, not to overlook the Karens, Claras, Elizabeths, et al, who took part in the migration. The tragedy and comedy as well as the prose of the process of adjustment are set forth, but the author does not sacrifice the scientific object of his study by indulging in bizarre or extravagant episodes. The treatment of the material throughout is accompanied with warm sympathy and almost intuitive insight, yet the author never permits himself to fall into the temptation of filiopietism. The genuine appreciation of the difficulties of the

Involved in Reorganization of Two 'U' Offices



True E. Pettengill
Recorder



Dr. E. G. Williamson
Dean of Students



Dr. William S. Carlson
Director of Admissions

'M' Awards Go to 56 in Five Sports

Letters numbering 56 in five indoor sports were awarded to University of Minnesota athletes recently by the Senate Committee on Intercollegiate Athletics upon the recommendation of coaches. Fifty-four of the awards were to players and two to senior student managers.

The Gopher basketball squad contributed the largest number of "M" men, 17. There were 12 awards in swimming, 11 in wrestling, 10 in hockey and five in gymnastics. Letter winners were as follows:

Basketball: Warren Ajax, Don Carlson, Kenneth Exel, William Lind, Frank Holick, John Olsen, Don Smith, James Smith, George Taragos and Will Warhol, Minneapolis; Roger Carlson, George Boerner, Max Mohr, St. Paul; Reuben Epp, Mountain Lake; Stuart MacDonald, St. Cloud; and Harold Thune, Murdo, S. D. Also Arvid Edwards, manager, St. Paul.

Swimming: Robert Acker, Glen Baker, Arnie Elchlepp, Melvin Hendrickson, Leon Lundblad, Charles Ringer and Dexter Phillips, Minneapolis; George Brandt, St. Paul; Charles Anderson, Hibbing; Don Garniss, Mt. Vernon, N. Y.; Ray Hakomaki, Eveleth; David Robinson, Virginia.

Hockey: Bob Arnold, Kenneth Cramp, Ray Fischer, Burton Joseph, Fred Junger, Minneapolis; William Ian Anderson, Allan Eggleton, Bill Galligan, James Magnus, St. Paul; Harold Paulsen, Virginia. Also Edward Baran, manager, Minneapolis.

Wrestling: Peter Culbertson, Bill Kuusisto, Leonard Levy, Morris Nemer, Frank Wolinski, Minneapolis; Hubert Easler, Harmony; Alphonse Janesko, Hammond, Ind.; Wallace Johnson, Chicago; Clifford Perizzo, Delavan; Lloyd Schumacher, Perham; Milton Hard, Staples.

Gymnastics: Delver Daly, Frank Grossman, Robert Hanning, Newton Loken and George Olson, all of Minneapolis.

Trackmen, who also competed during the indoor season, will not be awarded letters until the close of the outdoor season sometime in June.

process adds to the concrete treatment of his facts to make the work as interesting as a novel. Indeed, one reviewer who sought to thumb through the volume before retiring found himself so engrossed that he stopped to read nearly all of it, at the cost of a night's sleep.

One of the most distinguished American historians, professor of history at Harvard, has predicted of this volume, "it is certain to serve as a model for similar studies of other immigrant groups." With that judgment the present reviewer is in no position to quarrel. He can only hope that it will be so. For some of the groups of American immigrants the opportunity to make such a study is already past. For others it is rapidly passing. They may be similarly studied if scholars of equal qualification can be found to carry it through. Meanwhile, the historians, social scientists and scholars of literature will welcome in this volume a study which not only describes the transition of the Norwegian migrants but throws new light on every migration in past times. There is only one criticism which this reviewer has to offer. It is quite clear from the reading of this volume that the author possesses probably as no one else

Regents Re-elect Present Officers

Officers of the Board of Regents were re-elected at that body's annual meeting on Friday, May 9. Standing committees were appointed for a two year term.

Fred B. Snyder of Minneapolis was re-elected first vice-president and presiding officer; George W. Lawson of St. Paul, second vice-president; W. T. Middlebrook, secretary; Clayton Griswold, assistant secretary, and Julius Schmah, state treasurer, remains treasurer, ex-officio.

Under the Act of 1851, which governs university procedures, the president of the university is "chancellor" and head of the Board of Regents. In practice, however, the first vice-president conducts the meetings as moderator.

Civic Bodies Honor Pres. G. S. Ford At Joint Luncheon

President Guy Stanton Ford, who will retire at the end of this college year, was honored at a joint luncheon meeting of the Junior Association of Commerce, Minneapolis chapter; the Civic and Commerce Association, and the Council of Civic Clubs held in the Curtis Hotel Thursday, May 1. The main dining room of the hotel was packed by those who attended.

Walter Finke, director of social services for the state of Minnesota, acted as toastmaster and introduced Dean Walter C. Coffey of the Department of Agriculture, who spoke briefly. Dean Coffey will succeed President Ford July 1, becoming acting-president of the university.

Frederick H. Stinchfield, distinguished Minneapolis attorney and former president of the American Bar Association, delivered the principal address, in which he praised education and, while pointing out its shortcomings, declared that it is to the universities we must look if the problems of the future are to be solved in a way that will leave mankind its dignity and freedom, together with reasonable economic independence. He emphasized the economic benefits to the community of having the university here, as well as the cultural and aesthetic values of an educational institution.

President Ford closed the meeting with a sincere and graceful talk in which he thanked those who had honored him and expressed his great confidence in the future services of the University of Minnesota.

Mr. Finke presented to President Ford a scroll inscribed with words of appreciation and affection.

Union Representatives Named

President Guy Stanton Ford has named four representatives of the university to serve on the board governing the Coffman Memorial Union under rules recently adopted. They are W. T. Middlebrook, comptroller, and Professors Roland S. Vaile, Edmund G. Williamson and Evron Kirkpatrick.

the information and insight to write the final volume on this process, the amalgamation of the second and third generation with the American society of which they have already become a prominent part.

New Airport Given University, Boosts Aviation

Land acquired at a cost of more than \$25,000 has been donated to the University of Minnesota by a new corporation, American Aviation, Inc., for the construction of an airport less than ten miles north of University Farm and about equidistant from existing airports in Minneapolis and St. Paul.

The new field will give a most important lift to flight training at Minnesota inasmuch as current military training programs at other airports has restricted the opportunity for civilian flight training almost to nothing.

Professor John D. Akerman, head of the department of aeronautical engineering, declared that acquisition of the field will stimulate Minnesota air training beyond any records of the past.

American Aviation, Inc., will operate an airport on the land, which has been deeded to the University of Minnesota. It will erect hangars and conduct a commercial airport. Under terms of the deed and agreement, the entire establishment will revert to the university at the end of 30 years. At the same time, an ample area has been set aside for the erection of hangars and equipment by the university. Four runways will be built, providing ample facilities for both private and university aviation.

The tract, which covers 250 acres, is in the northwest part of Ramsey county, adjoining Highway 8 (Forest Lake Cutoff) and County Road J. It is level as to terrain and there are only a few obstacles which an air survey shows must be removed to make take-offs and landings safe.

Thomas L. O'Hearn, university attorney in charge of real estate matters, conducted the negotiations in behalf of the university after a committee of the Board of Regents had reached an agreement with American Aviation, Inc.

Federal agencies are being approached for funds to help in development of the field.

'U' Reorganizes Two Departments

(Continued from page 1, column 5) in 1905. Dr. Carlson belongs to many learned societies and is author of many scientific papers.

Dr. Williamson, born in 1900 at Rossville, Ill., took his Ph.D. at Minnesota in psychology, working under Dr. Donald G. Paterson. From 1932 until 1938 he was head of the University Testing Bureau, whose main purpose it is to see that students discover the lines of work for which they are best fitted. In 1938 he left the Testing Bureau, which was organized according to a plan laid down by himself, and became Coordinator of Student Personnel Services, in which position he has had ideal training for the new duties he is about to assume. Dr. Williamson is nationally known in the testing and personnel fields and is now president of the American College Personnel Association.

True E. Pettengill, named to the position of recorder, is now assistant registrar. Mr. Pettengill is a graduate of the College of the City of Detroit, now Wayne University, who later taught mathematics there and served as assistant to the director of appointments in the University of Michigan. He took the M.S. degree at Minnesota in 1930. His division will have charge of the entire system of student records.

Study Seed Disinfectant

Remote as it is from the tropical jungles where rubber may be raised, the University of Minnesota continues to contribute to investigations that look to making the position of the United States more secure with respect to that important raw material. Recently Dr. E. C. Stakman returned from investigations in the Amazon basin aimed at examining conditions for expanding production of hevea Brasiliensis. The United States Rubber company has now continued an existing agreement whereby it supports studies in the Division of Plant Pathology and Botany, University Farm, having to do with the effectiveness of chemical fungicides for use in protecting seeds of the rubber tree. The United States Rubber company gave \$600 to support the researches from May 1 to November 1, 1941. In charge of the work is Dr. Eric G. Sharville, an associate of Dr. Stakman.

Quigley an Editor Of Eastern Review

Dr. Harold S. Quigley, professor of political science in the University of Minnesota and expert in matters pertaining to the Far East, will be one of the editors of the newly established "Far Eastern Quarterly" which will be published in editorial offices on the campus of Columbia University.

Twenty editors, representing for the most part, as many different universities and foundations, will produce the new review, which is described as "a historical, political and socio-economic review of eastern Asia and adjacent Pacific islands."

The prospectus states: "The members of the editorial board of The Far Eastern Quarterly are of the opinion that, in view of the growing and broadening interest in Far Eastern studies in the West and in the United States in particular, arising in part from the increasing importance of Eastern Asia in international affairs, there is need of a special publication devoted primarily to the modern and contemporary Far East. What we have in mind is a review devoted to China and Japan and their dependencies, Siberia, the Indo-Chinese peninsula, the Philippines, the East Indies and adjacent islands. It will publish materials relating to the following subjects: Law, history, politics and government, diplomatic and cultural relationships, economics, sociology, geography and biography."

Journalism Gets School Designation

The University of Minnesota now has a School of Journalism and Dr. Ralph D. Casey, formerly chairman, has been designated director of the school. The change brings the titles of both the department and its head into line with accepted practices in other American Universities.

Action of the Board of Regents covering the change was as follows:

"Voted, that the designation of the Department of Journalism be changed to School of Journalism and that the title of Professor Ralph D. Casey be changed from Professor and Chairman to Professor and Director, with the stipulation that this involves no changes in the internal status of the department or in the administrative relationships with the College of Science, Literature, and the Arts, or the general University administration."

New 'U' Farm Radio Program

A University Farm Hour, produced under the direction of Richard B. Hull, extension radio specialist on the staff of the University of Minnesota department of agriculture, is being broadcast over station WLB from 6:00 a. m. to 7:00 a. m. every day, Monday through Friday. A comprehensive analysis of farm problems is given, together with market news, livestock and grain quotations, first headlines of the day, and various other interesting and educational features from the Agricultural Experimental Station. This program will take the place of the University Farm Hour formerly broadcast from 12:30 p. m. to 1:30 p. m. Mondays, Wednesdays, and Fridays.

Overfeeding Raw Fish Kills Foxes Dr. R. G. Green Warns Fur Farmers

University Bacteriologist Performs New and Important Service to Industry

Feeding foxes and other penned fur-bearers on fur farms a diet containing any considerable amount of whole or uncleaned fish is about as bad as feeding a human being a diet with a large content of straight whisky, Dr. Robert G. Green, University of Minnesota bacteriologist and expert in the diseases of wild animals has discovered.

Recently, by discovering that foxes had been fed too much whole and uncooked fish, Dr. Green has stopped an epidemic that had been killing as many as 50 percent of the foxes on certain farms. These animals developed Chastek paralysis, a form of encephalitis. Fox farms in Minnesota, Wisconsin and Colorado were all involved in the outbreak and in the researches made by Dr. Green.

In recently published papers in the Journal of Nutrition, prepared with Drs. W. E. Carlson and C. A. Evans, Dr. Green shows that there are factors in the skins, heads and entrails of uncooked fish which destroy the Vitamin B1 in other food fed to animals, and that it is this destruction which caused the Chastek paralysis.

He hastens to point out, however, first, that fish is just as good a food for humans as it ever was, because humans eat only the white meat of the fish after separating it from the heads, skin and entrails, and also that fish intended for human food is invariably cooked. Cooking, he said, destroys whatever factor it is in the aforementioned parts of fish that is destructive to Vitamin B1.

When Dr. Green first discovered, about a year ago, that it was the fish in the diet of foxes that was causing their illness he feared that his discovery might interfere with the procedures of the State Conservation Department, which has been selling a considerable part of the coarse fish seized from Minnesota lakes to fur farms. Subsequent investigations, however, have shown that if the fish is cooked before being fed, or if not more than ten percent of fish is included in fox diet and that fed only on alternate days, with foods rich in Vitamin B1 fed on the other days, coarse fish may safely be used as fox food.

"One thing this study has shown," he said, "is that what we regard as the inedible parts of a fish are really inedible, not merely unpalatable."

Outcome of the research on fox food, Dr. Green said, makes him believe that research already done by others, showing that whisky causes a vitamin deficiency, is explained. He thinks it destroys the Vitamin B1 in other food taken, just as the dangerous parts of fish do in the diet fed to foxes.

TEACHING 60,000 OVER RADIO AT 'U'

More than 60,000 children in Minnesota schoolrooms hear each week part or all of the University of Minnesota's "School of the Air" program as broadcast over Station WLB, Burton Paul, director, reported last week to the University Radio Committee. Now in its third year the "School of the Air," sending varied programs of educational value, interestingly and colorfully presented, has grown to be a major factor in the state's educational procedures.

Among many items on these programs are visits to famous cities of the world, courses in vocational information and guidance, music appreciation programs, lessons in French and German, "Old tales and new from many lands," "Art for you," representative authors, and a "band clinic."

The lessons are broadcast to elementary schools, junior high schools, and senior high schools according to their appeal.

Minnesota Is Sixth In Potato Producing

Minnesota was sixth in 1940 among potato-producing states, with output of 18,144,946 bushels, the census bureau announced today in Washington. Maine was first with 33,678,069 bushels and Idaho, 26,605,110 bushels, was second, followed in order by New York, Michigan, Pennsylvania, Minnesota and Wisconsin.

School Kids Shiver at Big Wolves



Children from nearby public schools love to sit and stare at the wild life habitat groups in the Minnesota Museum of Natural History. Here they are watching the wolves.

People Must Feel Personal Worth Is White's Thesis

A book "serving the need of a feeling of personal worth" is the new "Psychology of Dealing With People" (Macmillan) by Dr. Wendell White of the University of Minnesota's General Extension Division. This volume, a rewriting of the same author's, "The Psychology of Making Life Interesting" is popularized psychology in the hands of a person who knows the needs of the popular reader and also the limits to which a serious subject can properly be "popularized." He does not abandon being a professional psychologist for the sake of winning readers. In his introduction Dr. White says:

"As our relationships with other persons grow in complexity, proficiency in getting along with others and in stimulating them to activity becomes increasingly important. Today we feel a constant need of being versed in the science, and skilled in the art, of dealing with people.

"Methods of dealing with people must be formulated in terms of human nature. Man has certain fundamental wants, certain fundamental motives or needs, that initiate and sustain all of his activity. Although other factors steer man, passion is the gale. The fundamental wants usually act together and, on different occasions, in different combinations. Seldom can a given response be attributed to a single motive; and seldom can its recurrence, in the same or in different individuals, be attributed to the identical combination of motives. But to understand the combined influence of human wants upon human behavior we must know something of the part played by each.

"One of the fundamental wants—that to which I devote this volume—is the want for a feeling of personal worth. This want is a significant factor underlying most of what man does. It obviously finds expression in a multitude of ways and lies hidden in a variety of disguises. In addition to being pervasive this want is forceful and persistent; it gives rise to some of the most intense activity and presses forever upon us. How hard man struggles to avoid a feeling of worthlessness—to achieve a feeling of importance! How persistently he demands that his worth be acknowledged! How high he places humankind in the order of existence! And how he prides himself when he feels that he is, and is considered to be, of especial significance among his fellow men.

"What is the strength of the want for a feeling of personal worth in comparison with that of the sex want, the want for a livelihood, or the want for freedom from extreme monotony? None of the fundamental wants can be called a master passion for each in turn may swallow the others. But the gratification of the want for a feeling of personal worth takes precedence no less frequently than does the gratification of any other want. Often pride walks out on love, disdains a fortune, or remains on a treadmill to keep itself unassailed. There are many occasions in the life of a man when he can forego anything but a sense of personal worth.

"Feelings of personal worth may be achieved through self-approbation and the approbation of other persons. But usually the approbation of other persons, to be gratifying, must be thought merited; for approbation that is clearly unmerited makes the one receiving it conscious of his failure to measure up to the standard with which he is credited, and so it becomes mortifying to him. Moreover, unmerited approbation may be regarded by the recipient as insincere, and hence as dispraise or an indication that he is considered a dupe. Those who in the spirit of approbation paint other persons most truly, praise them best.

"If people usually take pride only in approbation that they think justified, who do so many persons truckle to flattery? Worth in certain human traits is very intangible and subjective; hence, to a vain person almost any praise may be deserved praise. And some who do recognize flattery as undeserved approbation, especially people with feelings of inferiority—nevertheless like it because it proves that their favor is sought after, and therefore valued. But they would take more pride in merited than unmerited approbation. Thus there is little to be said in favor of praising people for qualities in which they are in real

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Collect Books on Military History

Establishment of a collection of books and materials in the field of military history in honor of the memory of Captain William H. Folwell, son of the late first president of the University of Minnesota, William Watts Folwell, has been announced by Frank K. Walter, librarian of the University of Minnesota. Nucleus of the collection is a considerable amount of material, largely from the possessions of the late Captain Folwell, given to the university library by his sister, Miss Mary Heywood Folwell. In view of the steadily increasing interest at present in military matters Mr. Walter said today that the library was eager to receive books, papers and the like in the field of military history and that all donations would be carefully examined with a view to adding them to the William H. Folwell collection.

Technical Seniors All to Get Jobs

Defense Forces and Defense Industries Are Ready for Graduates

Seniors in technical departments of the University of Minnesota will all be in jobs by the time college closes, Professor Alex Levens, placement director of the Institute of Technology, believes. At present about 75 percent of the 450 seniors in the various engineering divisions, the School of Chemistry and the School of Mines and Metallurgy, have been placed. Approximately ten percent of the seventy-five percent, however, represents men who will receive reserve commissions at commencement, and are expected to be called into service. The signal corps unit of the ROTC is drawn altogether from men in electrical engineering. Others are coast artillery prospects. Such divisions as aeronautical engineering, mechanical engineering and chemical engineering are receiving constant calls for graduates.

Demand for graduates of the College of Agriculture, Forestry and Home Economics is a little better than last year and 80 to 85 percent of the seniors are in line for placement. About seventy-five percent of forestry graduates will probably find posts in civil service under the government. Prospects for summer temporary work are definitely better than last year, Leigh Harden, assistant to Dean E. M. Freeman, said. Allowance must be made at the College of Agriculture for the fact that a considerable part of its graduates go on into graduate work rather than seeking jobs at once. The college has 170 in its senior class, including young women in home economics.

Heavy demand for teachers in specialized fields was reported in the office of Dr. C. P. Archer, placement director for the College of Education. Such students as have specialized in industrial arts, physical education for both men and women, commercial subjects, home economics and the like, will all find jobs. There is also an increasing demand for Spanish teachers. In fields such as history, English and social sciences the supply is still a little above the demand. The general condition with respect to inquiry for employees is better than last year's.

Scholarship Named For Mrs. G. S. Ford

In honor of the wife of the retiring president of the University of Minnesota the Minneapolis College Women's Club has changed the name of its biennial graduate fellowship for a woman student to the Grace Ellis Ford Fellowship of the Minneapolis College Women's Club. The club also notified the Board of Regents that it wishes to increase the value of the fellowship from \$500 to \$750. It was requested that the full name of the fellowship be employed "so that the name will always be associated with the club and with Mrs. Ford, who has for so many years served the club with loyalty and distinction."

University Offers Chinese Language By Correspondence

For the first time in its history the University of Minnesota is offering a course in the Chinese language—Mandarin Chinese, the speech of the literate classes. Russian, and even Esperanto, once touted as a coming universal language, have been offered on the campus but Chinese never was until August J. Pacini, an employee of the Archer-Daniels-Midland company, proposed to Algonon H. Speer, director of the correspondence study department, that he be permitted to write a Chinese correspondence course. First lessons of the course have now been completed.

In his introduction Mr. Pacini says:

"The Chinese language, with its numerous dialects, has no alphabet. It is written by means of characters, each of which represents an entire syllable. These syllables are simple, and are easily pronounced.

"The representation of these sounds by means of our letters has been called 'romanization.' Several systems of romanization occur in various textbooks, by far the most frequent being that devised by Sir Thomas Wade and therefore called 'Wade romanization.'

"The best method of learning Chinese pronunciation correctly is through the help of a native instructor competent to teach. Next in order are phonograph records of the spoken sound, some of which are quite difficult to obtain. In the absence of either of these helps the student can do fairly well by working out the sounds as romanized in our alphabet."

Physical Educators Speak in Dakota

Members of the physical education faculties at the University were prominent in the discussions of the annual Central District Physical Education association convention which was held at Fargo, N. D., April 2-5. Participating were Dr. Ancel Keys, professor of physical education for women; Ralph Piper, assistant professor of physical education for men, and Miss Genevieve Braun, instructor of women's gymnasium. Dr. Keys and Miss Braun participated in a discussion of "Lactic acid removal after severe exercise." Dr. Nordly was a participant in a panel discussion of national defense, and Miss Baker spoke on "Contributions of the modern dance." Mr. Piper spoke on "The status of night football."

Lime the Cure For Garden Slugs

When garden slugs wage war on the tender young plants in the cold frame, they can be headed off by a three-inch ribbon of hydrated lime spread around the plant bed, says A. G. Ruggles, state entomologist. The slug is a mollusk like the snail, but without a shell. When it encounters the powdered-lime barrier, it shrivels up and dies. The lime should be spread completely around the bed of plants, and it must be renewed after every rain or watering. If plants are in the open garden, slugs can be controlled by sprinkling calcium arsenate and lime plentifully on leaves and on the ground.

Rah! Treasury! Idea Sounds Good

The following letter has been received over the signature of Henry Morgenthau, Jr., secretary of the treasury of the United States.

"The strength of any government's credit rests in its ability to borrow from its citizens through the sale of securities. The greater the number owning government securities, the greater is the national interest in the affairs of the government and the more secure is its credit. In the belief and the spirit of our people lie the real defenses of America against the chaos of the world.

"Never in our history has the unquestioned credit of our government among our own people and other people been so vital. Every government issue is eagerly received and many times oversubscribed. Especially gratifying has been the acceptance of United States Savings Bonds. These bonds were first offered in 1935. To date more than sixteen million separate bonds in denominations of \$25, \$50, \$100, \$500 and \$1,000 have been purchased. Already they have become the most widely held single security in America.

"Prior to the present great war the trend of national income was sharply upward, and has so continued. The greater the income, the greater the spending, and with such spending there ever rides the increased cost of living. Every time an investor buys a Savings Bond and holds that bond to ten-year maturity, he is not only building individual security, but just as surely, for his own benefit, he is putting the brakes on the high cost of living.

"A number of companies are cooperating with their employees through salary allotments for the regular purchase of Savings Bonds. Many thousands of individuals on their own behalf have joined the Regular Purchase Plan offered by the Division of Savings Bonds and are buying these securities each month. I bespeak your cooperation in taking this message to your associates and any who may be under your direct supervision."

Community in Crisis Subject of Conference

"What are we defending? Against what are we defending it?" was discussed by Everett Fraser dean of the University of Minnesota Law School, at the opening meeting Thursday, April 17, of the Central States Conference on Adult Education, in the Center for Continuation Study on the University of Minnesota campus. Carl Vitz, Minneapolis public librarian, set forth the purposes of the meetings on the "The American Community in Time of Crisis."

At an evening session Thursday the defense of democracy was considered from the several points of view of the worker, the employer, and the citizen of the Northwest. Adult education in a program of national defense was the main Friday topic with sections on citizenship, methods and materials of education, health and nutrition, adjustment of out-of-school youth and many other factors in the large picture.

Lyman Bryson, professor in Columbia University, addressed the Friday dinner meeting at 6 p. m. in the Continuation Center and Charles J. Turck, president of Macalester, spoke at the closing luncheon on Saturday.

What Will Latin America Do When War Spreads?

Continued from page 1, column 1

and of overwhelming pressure in behalf of the property and dividends of American investors has accorded perfectly with their desires. Colombia has been fully appeased and relations with the other ten states of the Caribbean area are cordial. Mexico too is friendly and so likewise are the majority of the states of South America. Argentina, however, may be disposed to stand aloof again and may have greater influence than in 1917 on Bolivia, Paraguay, and Uruguay. Nor can one be fully confident of Brazil, for while Oswaldo Aranha, the Brazilian foreign minister, is cordial and perhaps reliable, Getulio Vargas, Brazil's streamlined dictator, as well as the Brazilian army seem somewhat unpredictable.

Germany's present position in Europe, very different from its position in 1917, may be expected to have considerable weight. Italy, the ally of Great Britain in 1917, is now an ally of Germany; the French government is a puppet of Germany's, and both Spain and Portugal may soon be forced to Hitler's side. Direct propaganda of the Nazis may not be more influential than German propaganda of a quarter of a century ago, and Germany's economic position in Latin America—unless Hitler gets control of the investments of his victims—is not better than in 1917. Yet the potentialities of indirect propaganda through Hitler's Fascist satellites—through Italy, France, Spain, and Portugal—may have tremendous significance.

No Sure Prediction Possible

In view of all these changes, it would not be safe to assume that the Latin Americans would follow the United States into a war on England's side. They might be propagandized or terrorized into another course. Much will depend upon whether they shall decide that Great Britain is their first line of defense, and determine to fight on that line. To date, the evidence of their disposition on this vital issue is rather indefinite. One may reasonably expect, however, that some of them will join the United States and that the majority will at least adopt an attitude of benevolent neutrality toward England and their American neighbor.

Many are predicting that if England should be swiftly overwhelmed the totalitarians would soon extend their aggressions to America. First, it is declared, they will advance through the seizure of some of the Dutch, French, and English colonies adjacent to Latin America or through commercial and "fifth column" activities. Later they will make a direct military assault on Latin America. To prepare against these contingencies already has become one of the major foreign policies of the United States. It is a military and economic problem that will require the most skillful diplomacy.

If England should be defeated, we shall soon learn whether there is any solid basis for our apprehensions regarding Germany's ambitions in Latin America—unless Hitler should be held in check by Joseph Stalin. We now know that uneasiness regarding Germany designs in the region during the years 1898 to 1917 was largely unfounded, but we cannot be sure whether the absence of aggressive attentions at that time was due to lack of American ambitions on Germany's part or to deadly rivalry and strife in Europe. Nor can we assume that Hitler's aspirations regarding Latin America will be no greater than those of Kaiser Wilhelm II, no matter what disavowals Hitler may make.

What Chance for Common Front

What are the prospects for a United American front against the aggressions of the conquerors in the New World? As already stated, the recent Latin American policies of the United States, policies commonly described by the term "good neighbor," have been for the most part agreeable to the Latin Americans. They ought to be, because they have been characterized by a mildness and generosity probably unequalled in the annals of diplomacy. Mexico has been annoyed because the petroleum companies have not been abandoned wholly to their own devices, or even restrained in their retaliatory resentments; and Argentina is somewhat offended because she cannot sell us more beef and flaxseed. But these are exceptions.

The policies of Roosevelt and Hull are based upon certain fundamental assumptions: (1) The Latin Americans will respond to moderation and kindness; (2) they are devoted to democracy in spite of

many deviations in practice; (3) they are sufficiently nationalistic to make the sacrifices necessary to defend their national independence; (4) the idealistic and economic foundations for hemisphere unity are solid enough to insure an effective collaborative defense.

It is necessary to analyze some of these assumptions. For the most part they are grounded upon Jeffersonian convictions regarding the innate wisdom and virtue of common men: their desire for self-government, their love of liberty, and their natural appreciation and respect for their fellows. Hitler is said to proceed on an entirely different set of assumptions: to rely on gnawing frustrations, raging animosities, base greed, quaking fear, and short-sighted imprudence. He governs by means of terror and the hope of reward. Eventually the non-German subordinates among his world elite will be cast off like rubbish, but he expects them to be too stupid to foresee their eventual tragedy. He appears to assume that they will never suspect the concentration camp or the firing squad that awaits them. Both Jefferson and Hitler may be right regarding some men and women, but one of them must be in error with respect to humanity at large.

What Are Latin Americans Like?

Here we are concerned with the inhabitants of Latin America. Do they conform to Hitler's concept or Jefferson's?

Many of the twenty nations of Latin America in this year 1941 are ruled by dictators, near dictators, and oligarchies. Seven of the eleven countries of the Caribbean region are under the dominance of dictators. Four of the seven secured their positions in 1930 and 1931. The other three came to power later. Fulgencio Batista seized control of Cuba in 1933 and in the same year Tiburcio Carías Andino took charge of Honduras. The rule of Anastasio Somoza in Nicaragua began in 1936. Four of the eleven states of the Caribbean area are democracies or semi-democracies. Two of them, Costa Rica and Colombia, are real democracies; the other two, Panama and Venezuela, are approximately so. To these may be added Mexico, more nearly a democracy than a dictatorship. The remaining Latin American states, the eight of southern Latin America, are divided between dictatorships and democracies in a ratio approximately equal to that of the Caribbean countries.

Chile has passed through a number of vicissitudes in recent years, but appears for the moment to have returned to the democratic ranks. Uruguay had been almost a model democracy for more than two decades until, in 1933, Gabriel Terra set himself up as dictator. But Terra has ceased to rule Uruguay unless he continues to dominate the nation through President Alfredo Baldomir, his brother-in-law; and it is not certain that he does. Baldomir seems to be democratically minded. Argentina is under the domination of a plutocracy of landlords and business men. Although the Argentines are being granted considerable personal freedom, they have been deprived since 1930 of complete electoral freedom. Peru is controlled by a plutocracy with a fringe of professional men whose representative in the national government is a near dictator and was a dictator until recently. This leaves Paraguay, Bolivia, Ecuador, and Brazil. The first three are ruled by coteries of army officers. One of the generals serves as dictator in Paraguay, and the same is true in Bolivia. In Ecuador, however, a civilian heads the government, and some of the personal liberties of the citizens are respected—sometimes. It is well known that Brazil is under the dictatorship of Getulio Vargas, who rules by cleverness rather than by cruelty.

Dictatorships Predominate

Thus, if considered from the standpoint of the heads of the national governments, the majority of the nations of Latin America must be listed as dictatorships, mild or stern. From the viewpoint of popular attachments, however, Roosevelt and Hull are probably correct in assuming that the Latin American nations are on the side of democracy. But Roosevelt and Hull consort with the heads of the Latin American governments as if each of them were a model president of a democratic republic. This procedure offends some of the liberals both of the United States and of Latin America. Their zeal exceeds their knowledge of Latin American political and social con-

ditions. To eliminate these dictators would require intervention, and more or less permanent intervention. A temporary thrust would probably result only in the substitution of one dictator for another. Any fundamental remedial action might require the sending out of governors-general or long military occupation with frequent supervision of elections. Such action would mean the loss of the friendship of the Latin Americans, for while the people probably prefer the democratic system they would object to its imposition from the outside. It seems better therefore to work with the dictators than against them.

The best proof of the basic devotion of our neighbors to democracy is the fact that most of the dictators pretend to have the greatest respect for certain democratic procedures, such as elections, constitutional conventions, and the regular convocation of legislative bodies, and the further fact that nobody in Latin America is berating and ridiculing democracy. In many of the countries, however, genuine democratic government cannot be had until the people are better prepared for the duties of citizenship. When they shall acquire adequate preparation, or whether they will obtain the democratic system as soon as they are capable of operating it, no prudent man will venture to predict. If the ambitious and unscrupulous should retain a monopoly of the bombing plane, the press, and the radio, the ambitious and unscrupulous might be able to enslave men everywhere. Perhaps only the moral principles of rulers can induce them in the future to give the people liberty and a voice in government.

Are Devoted to Independence

The Latin Americans are strongly devoted to their national independence. On this point there is little doubt; they are ardently nationalistic. It might be possible, however, for a handful of frustrated, defeatist, and corrupt public leaders to sell the independence of a number of nations for a place among Hitler's elite. That most likely would be the assumption upon which Hitler would proceed. Much will depend upon the patriotism and astuteness of power-loving Latin Americans. In the past the region has produced a few politicians willing to exchange national birthrights for pottage, but it also has produced a multitude of patriotic leaders ready to die for their respective fatherlands.

Mere determination to fight, however, will not protect Latin America from powerful overseas aggressors. Their defense will require industrial capacity, and the Latin Americans have comparatively little of it. Their defense will require large and well trained armies, and they do not have them as yet. Their combined armies total some six hundred thousand soldiers and officers and they have between them not more than a thousand war planes. War vessels would also be helpful, but the Latin Americans could assemble altogether only five or six obsolescent battleships, three or four modern cruisers, and twenty or twenty-five destroyers and submarines. Their defense will require full military collaboration among themselves and with the United States—a collaboration not easily achieved—and it will require similar economic collaboration. Economic cooperation will be important even during the preliminary stages of the totalitarian assault when attempts will be made to employ trade and capital investments as means of penetration and disruption. A Pan-American economic front of some sort will be essential. A measure of centralized control over exports, imports, and production may be required in order to counteract Nazi bullying and the fatalities of the divide-and-rule tactics said to be Hitler's favorite device. The economic problem will be most difficult in southern South America where the nations have been so dependent on European markets. Argentina, Chile, Paraguay, Uruguay, Ecuador, and Bolivia normally do from sixty to seventy per cent of their export business with the United Kingdom and the region now under Fascist and Nazi domination.

Steps Toward Joint Action

At Panama in September 1939 the delegations of Pan America initiated plans for common action in dealing with problems arising from the European war. At Havana in July 1940 further progress was made in preparations for hemisphere defense. Arrangements are being completed for the ad-

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T. E. Steward, Editor, 14 Administration Building
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Building Program at 'U' Shows Profit

All current statistics seem to agree that the cost of building in the United States has risen approximately 30 percent since the summer of 1938, three years ago. This rise had only begun in the summer of 1939, when contracts for the new Coffman Memorial Union and other new buildings on the campus of the University of Minnesota were let. Allowing for the intervening year and for the possibility that the national figure of increase may not be wholly applicable in any one locality, and lumping building and furnishings, let us say that The Coffman Union, today, would cost twenty percent more than it actually did. The figure one gets is a cool \$400,000; quite a lot of money in anyone's language. That is the "paper" profit on the building, and since there is no prospect that costs will go down in the foreseeable future, it must be regarded as the actual profit. Thus one must reach the conclusion that if the University of Minnesota needed and wanted the Coffman Memorial Union, it made a very wise move in erecting it when it did. Those who have watched its tremendous use by student, faculty and alumni now have no doubt that the building was needed. There is, also, the further fact that PWA has gone out of business and that, had the project been postponed, no money would have been obtainable from that source. In fact, the building probably never would have been built had there been delay. "Minnesota Chats" extends its congratulations to those who decided to build the Coffman Memorial Union.

ministration of the European colonies of Hitler's victims, for the disposal of surplus commodities through a Pan-American agency, for greater economic unification, for the suppression of alien subversive activities, and for military and naval collaboration. The major part of the task remains to be achieved, of course. Resolutions and recommendations have to be acted upon constantly back home. It is to be hoped that the leaders in the various American capitals will take to heart the impelling lessons of Europe and that no nation will weaken in face of an approaching peril and refuse to cooperate in the vain expectation that somehow it may escape while other nations are being enslaved. Loss of profits is an insignificant sacrifice for the preservation of liberty, if one loves liberty. Temporary or even permanent curtailment of sovereignty is a small price to pay in order to avoid its total destruction.

Defense the Main Problem

The most urgent problem confronting the Americas is the problem of defense. We believe the Latin Americans are convinced of this. But there is the further problem of effecting agreement on the best type of defense. On that issue the people of the United States have not yet reached full accord.

Clearly there are two types of defense. One is long-range defense by supporting the nations resisting the aggressors. The other is defense confined strictly to the Western Hemisphere and its adjacent waters. We may emphasize exclusively the one or the other or we may divide our efforts between the two. The decision on this point should be a Pan American decision, if possible. It has implications as important for Latin Americans as for ourselves. All-out aid for Britain and her allies is likely to slow down the construction of the economic foundations of inter-American solidarity. The more we purchase from the British, Free French, Dutch, and Belgian empires the less we can purchase from Latin America; the two vast regions are largely competitive. The more money we lend to England, Greece, and China the less we may lend to Latin America. It is therefore important that Latin Americans be induced to accept our views regarding methods of defense so that they may be prepared to extend full aid and suffer whatever sacrifices the defense policy may require.

Whatever the type of defense adopted and whatever the subsequent modifications, we believe most of the Latin Americans will cooperate with the United States unless they should conclude that the issue of the gigantic conflict is doubtful. In that event they might try to pick the winner. Such a possibility underlines the most im-

portant factor in the present crisis. The United States must demonstrate the efficiency of the democratic system. If the United States should fail in this, the Americas may be lost unless the aggressors collapse or find pre-occupations elsewhere. If the United States can without delay make itself strong as well as just, the Americas may be preserved for the continuation of the experiment in self-government and freedom.

In very large measure the defense of this hemisphere, whatever the type of defense employed, weighs upon the United States. If the United States can meet the tests of efficiency and continued respect for the rights and sensibilities of the Latin Americans, our neighbors are likely to collaborate with us in their defense and ours.

People Must Feel Personal Worth

(Continued on page 2, column 4)

ity weak, instead of acknowledging their good qualities.

"There are, on the one hand, persons who are so unsympathetic with others that they do little to give them cause for self-esteem, and who are so desirous of gaining ascendancy that they see little merit in others. Moreover, when they express approbation, however niggardly, they do so with insincerity. Some of the most ingenious can disguise their insincerity with subtlety, but they can ordinarily do so for only a short time.

"There are, on the other hand, persons who are generous and modest—who enjoy seeing their fellows experience self-regard and who do not think of chiseling a monument to themselves out of every human relationship. Such persons are disposed to perceive and acknowledge the merit of others, and to help them become praiseworthy; they are disposed to do what this book suggests. But the disposition to help others find cause for self-approbation and to express due approbation of them is not enough."

The book then goes into detail on many phases of constructively practical psychology.

150 of Faculty Listed as Leaders

One hundred fifty of the members of the University of Minnesota faculty are listed in the recently published biographical directory, "Leaders in Education," a recent count by Dr. Tracy F. Tyler showed. The new volume is a companion book to "American Men of Science," and is published by The Science Press. Its compilers are J. McKeen Cattell, Jaques Cattell and E. E. Ross.



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Major Discovery By Dr. Geo. Burr Patented by 'U'

Chemical Methods Employed to Harden Common Oils as a Tung Substitute in Varnish

A discovery that is expected to have major industrial applications has been made by Dr. George O. Burr, professor of botany and physiological chemistry, who has had it patented and has assigned his patent to the University of Minnesota under an arrangement for sharing the proceeds. Several industrial companies are at present inquiring about the possibility of being licensed for its use and practical employment of the process is in the nearby offing.

The process has to do with methods of giving oils that are reasonably abundant in the United States approximately the quick-drying properties of tung-oil, and is therefore one of great importance in the varnish, shellac and lacquer fields. The change is effected by chemical treatment.

The Burr patents are absolutely the first ever sought on such a process and search of patent records made when applications were filed showed no prior applications of any kind comparable to his.

Dr. Burr took his Ph.D. under R. A. Gortner in 1923, then worked for a number of years in University of California laboratories, but returned to the University of Minnesota in 1928, having been brought back by the late Dr. J. Arthur Harris, then head of the department of botany. Dr. Burr's work has to do largely with discovery of the essential fatty acids and physiological studies on the utilization of fats. It was this that led him into the study of oils and the discovery of his quick-drying technique.

The invention may free the United States of dependence of tung oil from China which is very difficult to obtain under present conditions of restricted shipping. The following statement describes Dr. Burr's work:

"Cotton, corn, peanut, soya bean, linseed and many other oils are mentioned by the patent as being convertible by the new process into the desired oil. Untreated, these oils require some four days to dry into a film. After treatment by the process of the patent, they produce a clear, tough, glossy, nonwrinkling film in but two days, which is comparable with the drying speed of tung oil.

"In these oils, the inventor points out, the bonds joining the carbon atoms in the oil molecules are not paired up or conjugated. By pairing up the bonds or "conjugating" them as the chemist would say, the oils may be converted into fast drying oils like tung oil. Likewise, the drying qualities of the oils may be controlled by the degree of conjugation. The more the carbon atoms in the molecules are conjugated, the faster the oils will dry.

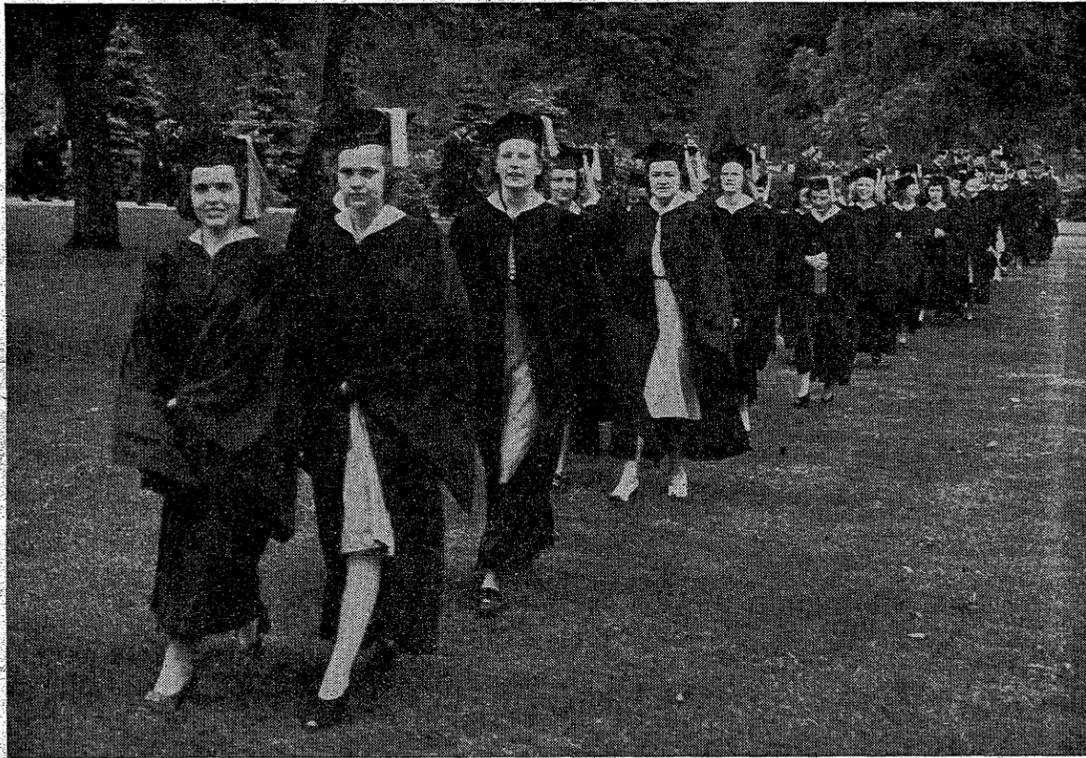
"To conjugate the oils, they are heated in the absence of water with an excess of alkali. In one example, linseed oil is made fast-drying by heating it with sodium ethylate (the alkali) in ethyl alcohol for about six and one-half hours.

"The product may be used in paints, varnishes, lacquers and drying waxes, the patent states, in place of tung oil."

'Who's Who' in Sport Lists 'U' Athletes

Former and present Minnesota athletes and coaches are recorded in "Who's Who in Minnesota Athletics," recently published by Dick Fisher and Peter W. DeGrote. The volume contains the athletic records of about 1,000 athletes from Minnesota colleges, and from the University of Minnesota. Some of these date back as far as 1885. It also contains a history of athletics of the various colleges of the state, and a year by year record of Minnesota football.

College Year Nears Climax on Cap and Gown Day



Broad Preparedness Program on Campus Serves National Purposes

Research, Military and Aviation Training Join With Fitness Program in the Picture

Because it touches life and training at so many points, the University of Minnesota's defense preparatory activities are many and varied, a survey shows.

Twenty-five young men, all seniors in the Institute of Technology, have already been commissioned as ensigns in the Navy; approximately sixty graduating seniors will receive commissions as second-lieutenants in various branches of the United States Army on Commencement Day, June 14, and more than 80 students, including two women, will complete the CAA flight courses as the spring quarter ends. One man has been commissioned in the regular army of the United States, something that had not happened on the campus for many years, and a considerable number have been accepted for commissions in the Marine Corps, as flyers in naval aviation, or as army flyers.

At the conclusion of the college year a considerable number of students whose draft numbers have been reached but who have remained in college under the regulation permitting deferment until July 1, will be inducted into the Army, and also on July 1 students who have become 21 since the first registration day last October, will register for the draft, their names to go at the end of the list of those registered on the first R-Day.

More than 500 men, some college graduates and some not, are enrolled in the various short courses of the engineering defense program for industry being carried on under the direction of Professor Charles A. Koepke, and the number of these courses is still being expanded.

Although the bill making financial provision has not yet passed Congress, Professor John D. Akerman expects that a new quota of CAA flight trainees will be opened at the University of Minnesota for the summer term, probably numbering 50 primary and thirty advanced trainees, those having been the figures for the last three quotas, one last summer and two during the college year.

The University of Minnesota, also, is one of the institutions which have carried on successfully, a special program of investigation, suggestion and training for young men who will be called in the draft. Conducted by a special committee headed by Dean Wesley E. Peik, this committee asked

data of all men with low draft numbers and gave physical examinations and tests of recreational and hygienic knowledge to large numbers. Considerable numbers of those who took the tests later entered special classes provided for those who wished to increase their preparation for the transition from civilian to army life. This admirable program will be continued when new students register in the fall.

Individual faculty members and administrators in large numbers have been engaged in special defense activities, an outstanding example being the flight of Dean John T. Tate to England to confer on scientific problems. Among others are the studies of special diet and their effect on physical performance carried on by Dr. Ancel Keys of the department of physiology, the experiments in preparation and preservation of blood plasma by the special laboratory in the medical school, the conference on civilian diet in times of emergency, conducted in the Center for Continuation Study, and Dean Walter C. Coffey's appointment as state chairman of the United Service for National Defense by Governor Harold E. Stas-

(Continued on page 3, column 1)

"Blitzed" Turf Of 'U' Stadium To Be Replaced

The department of physical education and athletics of the University of Minnesota will start at once laying 17,000 yards of bluegrass sod on the Memorial Stadium field. The entire area, including end zones, will be sodded except for small patches that are still in good condition. When the field was covered following the Michigan game last fall, the heavy canvas and rubber cover was rolled over it to keep it from freezing prior to the Purdue game, and when the Armistice Day blizzard struck, snow piled up so deeply that it took all week to shovel it off. As a result the tightly covered grass was smothered. Only at one corner where they pulled up the cover early in the week to note the condition of the field, and thus let in some air, did the sod survive. After being sodded, the field will be carefully watered throughout the summer and will be as good as ever by fall, according to Frank McCormick, athletic director.

Honor Society Members Named At Yearly Event

Phi Beta Kappa elected 42 to membership in its University of Minnesota chapter at the end of the college year and Sigma Xi, comparable society in the field of science, announced election of 99 graduate students and faculty members and two in the undergraduate group. The latter were awarded the Thomas F. Andrews prizes for undergraduate research. These funds come from the estate of the late Mr. Andrews, youthful geology graduate and explorer for minerals, who lost his life while exploring in Africa.

Elected to Phi Beta Kappa were: George F. Albrecht, Gladys Aronsohn, Margaret Blegen, Newman Bortnick, Eleanor Busch, Elizabeth Cavert, Victor E. Cohn, Roy Copperud, Roger D. Derby, Richard Diercks, Lillian Elvebach, Clarence Frame, Philip A. Golde, Wayne R. Gruner, Alice I. Hankey, Infried Haskins, Jane A. Hedlund, Lorene Horazdovsky, Jeanette Kraemer, Marion Kruse, Dorothea S. Larson, Sara Lebedoff, Dimmes McDowell, Helen Merriam, Harry W. Mixer, Phyllis Morris, Eloise Newcomb, Alan K. Peterson, Patricia Plank, Josephine Price, Howard Sacks, Charles L. Sewrey, Annette Shedorfsky, Saul Shabrowitz, Kendon R. Smith, Edwin H. Spanier, Rivian Steinman, Miriam Thatcher, Jane E. Thomas and Dorothy Tomhave.

Miss Elizabeth Jackson, English department, was elected president for next year; Marbury B. Ogle, classics, first vice-president; L. H. Reyerson, chemistry, second vice-president; Clara H. Koenig, secretary, and Raymond Grismer, romance languages, treasurer.

Sigma Xi Elections
For Sigma Xi, the Andrews prizes went to Burton H. Boyum, geology, and Aaron Lerner, inorganic chemistry.

Faculty members and graduate students elected were: Richard S. Abrams, John M. Adams, Kenneth A. Anderson, Richard O. Balkengren, Cyrus W. Bemmels, Julius Brechner, Wallace W. Brookings, Charles M. Burrill, Albert W. Buzicky, Alfred C. Caldwell, Kenneth D. Carlender, Donald F. Chamberlain, Sih Chang Chang, Walter A. Connell, Roger H. Cowie, George E. Crossen, A. Louis Dippell, Ray Pearce Dunn, Paul L. Earle, Earl B. Fischer, Gypsy Bell Falkenberg, Siegfried W. Fruehling, Howard M. Fryman, Kenneth R. Geist, Douglas L. Gibson, Robert J. Goodlow, William E. Gordon, Leland B. Gunderson, Gerhard O. Haglund, Hsu Ke-Chin, Thomas P. Hughes, Robert A. Huseby, Dwight Ingle, Laurine D.

Ideals Upheld in President's Honor's Day Talk

Choice Between Two Divergent Ideas of Today an Obvious One to Us

DEFENSE EFFORT VITAL

University Head Sees No Reason to Think Youth Shrinks from Sacrifice

In a Cap and Gown Day address which was his last formal statement before the University of Minnesota student body, President Guy Stanton Ford told the graduating seniors they must maintain their ideals and their dreams; warned that mankind shall not sink back from a vision of law and order to the credo of claw and fang, and proclaimed that we must now "cut through this confusion of the moment to see the struggle between two eternally divergent ideas of man and his destiny."

"Remember that each day of loyalty and service to your own and your nation's ideals is an honors day for you," said President Ford. "It may bring distinctions remembered by your fellow men when this day is forgotten."

In his address he quoted liberally from a personal letter written by the late Dean Royal A. Chapman of the Graduate School, who wrote a contemplative essay on the theme, "Is this Success?"

President Ford's address follows:

It is with peculiar pleasure that I respond to Mr. Eben Finger's presentation of the class of 1941. In a certain sense I am one of that class, for you and I began our present responsibilities, now ending, in the same year. You are the only class with which I have tried to keep step during four years in the president's office. I am glad to testify that you have set a good pace in your constructive participation in all the varied activities inside and outside the classroom during your citizenship in the university community. I congratulate you upon your record and

(Continued on page 4, column 1)

Jack, Robert Newell Jeffrey, William L. Jellison, Sister Teresita Judd, K. Arthur Kelsen, Lloyd L. Kempe, John H. Kendall, Milton F. Kernkamp, Miles S. Kersten, Arnold S. Kitzes, Herbert C. Knutson, Frederic J. Kottke, Herbert H. Kramer, John A. Layne, Hoff Lu, Stephen L. Macindoe, Richard C. Marmaduke, Allan E. Martin, Philip H. Marvin, John L. McKelvey, Robert L. Meller, Robert G. Merman, George B. Middlebrook, Walter G. Moore, Richard H. Mote, Charles V. Netz, H. Page Nicholson, Reuben M. Olson, Thomas F. O'Neill, Z. John Ordal, Edwin F. Orlemann, Milton A. Petty, Warren Pickering, Robert E. Priest, A. Earl Pritchard, Charles B. Reif, Edward C. Ritchell, Norton D. Ritz, Charles G. Sage, Wallace S. Sako, Peter F. Salzberg, Lawrence A. Schaal, Robert A. Scheidbrauer, Alois R. Schmid, John W. Schulze, Asbjorn M. Secerson, Walter B. Shelley, C. Dana Singer, Leonard M. Stahler, Henry S. Stillwell, Sun Yun-Pei, Carl E. Swanson, Richard Thibodeau, Clarence P. Truog, Howard E. Turner, Harold Urist, Richard L. Varco, Antonio Volante, Richard K. Vorhees, Helen M. Ward, Irvine A. Watson, Allen I. White, William J. White, Ambrose G. Whitney, Ted S. Zajac.

Officers of Sigma Xi for the coming year will be: President Frank H. MacDougall, professor of physical chemistry; vice-president, Clayton O. Rost, professor of soils; secretary-treasurer, Alan E. Treloar, professor of zoology; chairman of symposium committee, J. W. Buchta, professor of physics; electors, George M. Schwartz, associate professor of geology; Harold Macy, professor of dairy bacteriology and Isaak M. Kolthoff, professor of analytical chemistry.

Many other honors were announced including various groups of importance comparable to those reported here.

Book on Writers Of Scandinavia Wins Attention

Six famous Scandinavian novelists, including the two most familiar today to American readers, Sigrid Undset and Knut Hamsun, are the subjects of the recent book, "Six Scandinavian Novelists" by Professor Alrik Gustafson of the University of Minnesota, which has been attracting widespread and favorable comment in the literary world. It appeared last winter from the Princeton University Press, which published it for the American Scandinavian Foundation. The Saturday Review of Literature, New York Herald-Tribune and The Germanic Review (Columbia University Press) were all especially favorable.

Professor Gustafson has been at Minnesota only a few years, having come from Cornell University, Ithaca, N. Y. A graduate and Ph.D. from the University of Chicago, he went to Sweden after completing his work in America and there studied at the famous University of Uppsala, and at the University of Lund, the latter on a fellowship from the American Scandinavian Foundation. He has been described as, "one of those brilliant Americans of Scandinavian descent who have contributed so much to the closer cultural unity of the United States and the Scandinavian countries." Upon returning to America he taught at Augustana College before going to Cornell.

Written by Einar Haugen Thompson, professor of Scandinavian language in the University of Wisconsin, the review of "Six Scandinavian Novelists" that appeared in "The Saturday Review of Literature" said:

"In these unhappy times, when the light from Scandinavia is under at least a momentary eclipse, it is cheering to hail the appearance of a solid and appreciative study of Scandinavian literature. In former days America has taken many of these novelists to her heart. Today, through the lurid light of what may be the Scandinavian Gotterdammerung, we are offered a chance to take stock of their abiding value.

"Three of the names here presented will be strange to most present-day Americans: Jonas Lie and Jens Peter Jacobsen, lights of the 1880ies, and Verner von Heidenstamm, Swedish lyricist. One will have been more familiar to our parents than to us, namely, Selma Lagerlof, over whose, "Gosta Berling" many an American tear has been dropped. Only the last two are still household names among American literati; Knut Hamsun and Sigrid Undset.

"But whether they are dead or alive, their significance is vivified for us in Gustafson's pages. With tact, with learning, and genuine enthusiasm he builds up a picture of six great novelists each of whom has moulded a truly fascinating world of the imagination out of the materials life had to offer. Through the detailed, painstaking analysis of these pages we gain an unmatched panorama of the past half-century of creative art in Scandinavia. We meet men and women intensely preoccupied with the problems of life, love and literature.

"The six essays are similar, in their handling of material: each sets the stage with a striking introductory episode, then sums up the formative influences on the author, and then launches into a detailed analysis of the writer's masterpiece. Professor Gustafson achieves a centrality of effort by not scattering his comments over the writer's entire production, except in passing: his attention is fastened steadily upon the great work, which he illuminates by partial retelling, quotation, comment and analysis.

"He has here presented America with a new and fascinating picture of literary Scandinavia, perhaps the soundest and most mature work in this field that has yet appeared in the English language."

Eugene Philip Palmer of Bismarck, N. D., a senior in the Institute of Technology, will become a second lieutenant in the regular United States Army upon his graduation, in June, it has been announced by Colonel Charles A. French, professor of military science and tactics and commandant of the R.O.T.C. Although hundreds of university students have won commissions in the reserve corps, which go to those who successfully complete the advanced R.O.T.C. course, this may be the first time a man from the university has gone at graduation directly into the regular army.

Stay in College Is Advice to Men Not Called

Minnesota young men were called on to continue their training in college on a serious professional level until called for selective service in a statement issued last week by President Guy Stanton Ford of the University of Minnesota. He based his statement on one recently made by John W. Studebaker, United States commissioner of education, who, he pointed out, "isn't a president who wants you to come back to college" but a "responsible federal official who urges you not to go off the deep-end only half trained."

"I have had it on my mind to write something that would urge on the great body of you the good sense and real national service that justify a personal program of carrying on your education until you are told you are actually needed off the campus," Mr. Ford wrote.

Saying that he concurred, he then made the following quotation from Studebaker:

"I wish to say an additional word to your students. This has to do with the tendency of students to enroll in short defense training courses instead of completing their regular college curricula. The defense training program operates under the jurisdiction of this office. I therefore have a keen interest in the effectiveness of the program. It should be said, however, that the demand of industry for fully trained professional personnel in all the fields related to national defense is already greater than the supply and the need for these fully trained men is going to be greater with the passing years.

"It would be a mistake, therefore, for a student who is competent to complete a full college course which is related closely to defense to drop out of that course and complete some short course in order to engage in industrial employment at less than a full professional level. The first obligation of college students is to fit themselves for the highest type of service; they should not give up the chance to prepare for their unique service in order to render a service on a level which can be rendered by a much larger number of men and women."

Funds Support Medical Research

Grants in aid with which to continue important researches now under way, have been made to two members of the Medical School faculty at the University of Minnesota, Dean Harold S. Diehl said today. Dr. Cecil J. Watson, associate professor and director of the division of internal medicine, has received \$3,600 from the John and Mary R. Markle Foundation to support his studies of "the significance of the excretion of various porphyrins." To Dr. Arthur T. Henrici, professor of bacteriology and president of the American Bacteriological association, the National Tuberculosis Association has granted \$500 for a study of the relation of acidfast actinomycetes to tuberculosis.

Minn. Graduate Famous as Artist



Ivan Dimitri

Chemist Puts Squeeze on Costly Machine



"Satevepost" Writes Up Union With Color Spread

With its new Coffman Memorial Union as the topic, the University of Minnesota "made" the Saturday Evening Post in its issue of May 24, in which appeared a splendidly written article by Bradley L. Morison, Minneapolis newspaper man and editorial writer. A Stanford graduate himself, Morison claims the University of Minnesota as his second alma mater, and has proved his loyalty by the attractive and sympathetic treatment he has given his piece, "Clubhouse on the Mississippi." Allotments of the "Post" to the Twin City area were completely bought out by appreciative readers.

Not the least attractive feature of the article are the splendid color photographs by Ivan Dimitri, which is the "lense" name of Levon West, Minnesota graduate of some fifteen years back, who has made a successful career in several fields of art. Besides his color photography, much of which is done for the "Post," Mr. Dimitri has a national reputation as an etcher. His etching is done under his actual name of Levon West, and the Ivan Dimitri appellation was chosen for his photography. Mr. Dimitri took several thousand pictures to select among when he came to make his layout; said he was paid enough so that it was worth while to shoot everything and select the very best he had taken. The superb color sense of Johns Hopkins, whom the university engaged as interior decorator for the building, contributed largely to the photographic opportunities.

Mr. Morison's article concludes that the Coffman Memorial Union is indeed colossal but that the need for it and the use of it lie along the same vast lines, wherefore the structure is entirely good. Minnesotans have come to agree with him in this. In one place Morison says:

"The undergraduates who swarm in and out of the Coffman Memorial Union are, on the whole, a lusty, strapping, well-behaved and friendly lot. About half of them come from the Twin City area, but the prairie and towns of the Middle West are widely represented. With its heavy concentration of Scandinavian stock the student body runs to the blond, tall and handsome undergraduate, and the men generally are cast in a rugged mold, which helps to explain, among other things, the spectacular successes of Bernie Bierman's Gophers.

"Roughly half of the undergraduates at Minnesota earn a portion of their way through school, some 300 of them at part-time work provided in the Union. An air of democratic good-fellowship pervades this super-clubhouse, for all the aristocratic dignity of its appointments. Fraternity and sorority lines, never too tightly drawn, are still further relaxed in the Union. Here the daughters of Lowry Hill socialites in Minneapolis bowl with South Dakota's children of the soil, and here the son of the Mesabi range miner shoots

Dr. H. H. Barber of the School of Chemistry, University of Minnesota, has made a good many faces red by a recent invention of his. By placing a few drops of a chemical reagent in a tiny flask and then squeezing a ten-cent rubber bulb attached to a hole in the flask's side he applies pressures that accomplish what has hitherto been done by an expensive piece of apparatus. What's more, Dr. Barber has written a book on qualitative analysis in which he tells just how he accomplishes separations in this simple way, and this has led to certain loud moans by those who despise ten-cent pieces of apparatus, wherein the profit margin is small indeed.

The simple maneuverings whereby he makes qualitative analyses for little or nothing has been called "the Barber method." His new book, of which Dr. T. I. Taylor is co-author, is being published by Harper's, under the title, "Semimicro Qualitative Analysis."

The special apparatus consists primarily of the use of specially adapted vacuum and pressure filtering apparatus and a rubber bulb for obtaining a vacuum and applying a pressure on or to the solution to be filtered. By the use of the rubber bulb a force 1,000 times that of gravity may be easily obtained, while the force obtained by the ordinary equipment is about 150 times that of the gravitational force. The cost of the vacuum-pressure-rubber bulb apparatus is about \$1. Furthermore, each student has his own set of apparatus, and does not have to await his turn in line to use a limited number of centrifuges. In addition to the special apparatus, the Barber technique offers the analyst numerous types of apparatus specially adapted to the rapid and efficient handling of small amounts of precipitates and filtrates.

An added feature of the Barber-Taylor method of semimicro qualitative analysis is pH control throughout the entire procedure of analysis and the introduction of a selected list of organic reagent for ion identification.

And since the Barber-Taylor method of analysis has been built around the special apparatus, they have been able to modify and change the procedures of analysis so as to better adapt them to semimicro work.

pool with the scions of St. Paul's exclusive Summit avenue."

"Of course," Morison says further, "it is colossal, but the University of Minnesota, they will protest, is a colossal institution. You can't build a social center for more than 15,000 students out of orange crates."

And "that ain't hay."

Physical Therapy To Be New Course

The University of Minnesota has found a calling in which there are many more jobs than men, and is promptly doing something about it. This was announced by Dr. M. E. Knapp, who will head a new twelve-months course for physical therapy technicians, who will be taught in University Hospitals. The course will start with the first summer session on June 16th. Both civilian hospitals and army hospitals need more men skilled in phys-

Melendy Bequest Gives Scholarships For Pharmacists

The will of the late Adelle C. Melendy of 2422 Pillsbury avenue, Minneapolis, widow of Samuel W. Melendy, pioneer Minneapolis druggist, leaves an estate in excess of \$100,000 to the University of Minnesota and provides that the money be used to finance special lectures and scholarships in the College of Pharmacy under the name, Samuel W. Melendy Memorial. Mrs. Melendy died May 8.

Terms of the will became known when it was filed for probate today by the Northwestern National Bank and Trust Co., the executor.

The Melendy bequest is one of the largest to be made to the university of Minnesota in several years. Mr. Drake pointed out that the university will get practically the entire proceeds of the estate, inasmuch as gifts to institutions of that type are tax free. One other small bequest, to a friend, was specified.

Both Mr. and Mrs. Melendy were close friends of Frederick J. Wulling, retired dean of the College of Pharmacy.

Specifically, the will provides that of the income from the fund \$150, be used each year for a lecture on some subject intended to advance the interests of ethical pharmacy, given by a pharmacist of national reputation, Dean Frederick J. Wulling to be the first lecturer; that \$50, be used each year to support the medicinal plant garden of the college, preferably in a research project, and that the residue of the income be used for a scholarship to students, to be known as the "Samuel W. Melendy Memorial scholarships." These scholarships shall have a fixed value and a stated objective, to be prescribed by a committee that shall include the faculty of the College of Pharmacy.

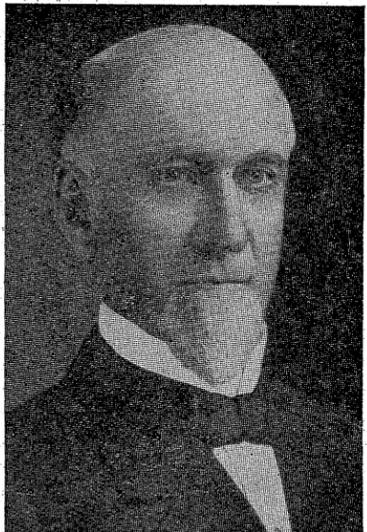
Commenting on the Melendy gift, President Guy Stanton Ford said:

"It is very fitting that Mr. Melendy's life-long association with the College of Pharmacy and with Dean Wulling has been crowned by this generous gift to endow scholarships and lectureships in pharmacy. Research in pharmacy is highly important and this fund gives the college a unique distinction. The gift is a striking illustration of how discerning donors can support the work of the university in fields not maintained by public funds. The will of Mrs. Melendy provides a fine memorial to a lifelong friend of the University of Minnesota."

Mr. and Mrs. Melendy came to Minneapolis from New England in 1871 and Mr. Melendy was associated with George R. Lyman in the operation of a retail drug establishment known as Lyman and Melendy, the latter being the managing partner while Mr. Lyman devoted his time to the Lyman-Eliel Drug Co., which became the Minneapolis Drug Company. He was a lifelong supporter of the College of Pharmacy and often found time to enlist the interest of influential friends in the cause of the college.

sical therapy than they can find, Dr. Knapp said. They will have to do with the physical side of treatment, under a doctor's directions and will work in such mediums as muscle re-education, diathermy, massage, heat therapy and the like. Graduates who have degrees in physical education, nursing or medical technology are desired as students in the new course, it was announced.

His Fortune Given for Study



Samuel W. Melendy

Preparedness Plays Big Part In 'U' Program

(Continued from page 1, column 3)

sen. This combines six agencies in efforts to create favorable conditions for men in the armed forces. The bodies involved are The YMCA, YWCA, National Catholic Community Service, Jewish Welfare Board, Travelers Aid and the Salvation Army.

Frank G. McCormick, director of athletics, together with Sam Cobb of Ohio State University and James O'Neill of Manchester, N. H., heads a special committee of the national American Legion to promote the Legion's Defense Program through Physical and Health Education and Recreation. Their job is to cooperate with other organizations that have facilities and funds to carry on such programs. These the Legion lacks but the McCormick committee is working with schools, playgrounds groups, athletic conferences of all types, the Western Conference being typical, and the like, to support and encourage what they are doing for health education and recreation.

Among the duties devolving upon the officials of the university is that of recommending how cases of individual students seeking draft deferment shall be handled. The law gives the power of action to the local draft boards only, but suggestions from the university staff are welcomed. This task has been placed in the hands of Dean Malcolm M. Willey. In line with semi-official recommendations from Washington, most of the really technical students, including medics, dentists, chemists, engineers, pharmacists, pharmaceutical chemists, agricultural engineers, physicists and the like will be recommended for deferment until they have completed their training.

When the list was announced, President Guy Stanton Ford sent the following communication to the student body through the medium of The Minnesota Daily, student newspaper:

A Message to Students

"Many of you who registered last October for military service are now nearing the time of induction. I am certain that you sense that the gravity of the world situation requires that each of us perform to the utmost of his abilities the duties imposed by established governmental authorities.

"For some of you a year of military service will constitute your contribution to the defense of democracy. Others will be called upon to employ your talents in those civilian occupations which contribute directly or indirectly to the national safety, health and interest. It is becoming increasingly clear to the authorities in Washington that the conservation of highly trained personnel for certain vital civilian occupations is a necessary part of national defense.

"We in the University have been asked to cooperate with officials of the Selective Service System and with local boards in the identification of those students, especially juniors and seniors in certain curricula, whose abilities and skills can best be employed through the deferment of military service. A committee of deans has been studying the needs of various professions and occupations for trained personnel and has recommended that local boards give consideration to the problem of conserving human talents. May I make it clear that the law gives responsibility for determining where best to use your talents to the officials of the Selective Service System and to your board. At the present time the pressing military and manufacturing demands take precedence over other needs in the judgment of these officials.

"The University Committee has further recommended that students who will be called for military service within the next few months consult the dean of their college at an early date. Each dean will review carefully all of the circumstances and will transmit relevant information to the University Committee. In each case for which the facts justify recommendation of deferment, I shall forward that information to the prop-

President Speaks At Vincent Service

President Guy Stanton Ford was one of four speakers Monday, May 19, at memorial services in New York in honor of the late Dr. George Edgar Vincent, fourth president of the University of Minnesota. Other speakers were John D. Rockefeller, speaking for the Rockefeller Foundation, of which Dr. Vincent was president after leaving Minnesota; James R. Angell, former president of Yale, who spoke on behalf of the University of Chicago, where Dr. Vincent was once a faculty member, and Arthur E. Bestor, president of the Chautauqua Association, which was founded by the Vincent family. President Ford spoke on behalf of the University of Minnesota. The ceremony was in the building of the New York Academy of Medicine.

er board. In the case of a favorable recommendation by me, the student need not communicate with his board.

"Other students, for whom the University can make no recommendation, may feel justified in petitioning their board directly. The Registrar's office will provide such students with information as to course of study, academic standing, etc., to be presented to the local board in connection with the student's own request for deferment.

"May I point out that it is now the established policy of the local boards to postpone induction into military service for as long as sixty days until the student has completed the regular work of the quarter or of summer school under certain conditions.

"You should confer with your dean to determine where best you may employ your abilities within the requirements of the Selective Service law and the established policies of the local boards."

The Institute of Technology has been the great hunting ground this spring for both the nation's vast industrial machine and the armed services seeking men with training that equips them for immediate usefulness. Professor Alex S. Levens, placement officer for the Institute, made a recent study for Minnesota Chats, as a result of which he said:

"This year we have established a new record in the number of companies that have sent representatives to interview our senior and graduate students. To date there have been one hundred thirty companies. There has been an increase in entering salaries. Our average for all of our 1940 graduates was \$127.50, with a range from \$100 to \$165, whereas this year our average is approximately \$140 with a range from \$130 to \$180 for those holding bachelor's degrees. Holders of masters and doctors degrees are offered salaries approximately \$25 and \$50 higher, respectively.

"In addition we have had many requests for experienced engineers. There seems to be an urgent demand for civil, aeronautical, mechanical and electrical engineers. We have a few positions available at salary ranges from \$3,000 to \$6,000."

Professor Levens also prepared a chart showing the following interesting distribution of graduates of the Institute of Technology who have been placed:

In defense industries 147; in non-defense industries 77; Navy ensigns 8; United States Army Engineers 6; Army air corps 7; naval ordnance laboratories 2; naval aircraft factories 10; ROTC commissions 23; fellowships for graduate work 12; service at Panama Canal (engineering) 6.

The men named above represent the following courses: Aeronautical engineers 48; agricultural engineers 2; architects 9; civil engineers 30; chemical engineers 43; chemists 15; physicists 3; electrical engineers 49; mechanical engineers 75; mining engineers 6; five year combined course in business and an engineering specialty 20. The total is 303.

Some changes in the officer personnel of United States General Hospital No. 26, organized in the University of Minnesota Medical School have been made since it was last described. This is a hospital unit staffed to care for 50,000 troops, according to Dean Harold S. Diehl, under whose direction it was organized.

The present personnel of this unit, including administrative and section heads, is as follows:

Unit director, L. Haynes Fowler, lieutenant-colonel; others, Majors Robert M. Barr, Reuben Er-

Inspecting Officers Pay Formal Visit



Col. Chas. A. French, retiring head of the Army ROTC on the campus introduces Col. Raymond Briggs to Dean Malcolm M. Willey as Col. MacKirdy and Cameron look on. As chief inspecting officer for the Minnesota ROTC, Col. Briggs paid his respects to the president of the University, represented by Dean Willey.

ickson and Gordon C. McCrae; Captains Richard H. Barnes, Lyle J. Hay and Robert C. Schenck; first lieutenant, Lyle French; second lieutenants, Norman O. Holte and Dale D. Shepard.

Chief of surgery, Lt. Col. Fowler; assistant chief, Major John R. Payne; chief of orthopedic service, Major Edward T. Evans; chief of eye, ear, nose and throat service, Major Jerome A. Hilger; chief of medical service, Lt. Col. Joseph Borg; assistant chief, Major Royal C. Gray; chief of laboratory service, Major Gerald T. Evans; chief of X-ray service, Captain Curtis B. Nessa; chief of dental service, Major Edward W. Nelson.

Specific recommendations to be followed next fall were included in a report of progress by the committee under Dean Peik on "Contributions to the defense program in the areas of health, physical fitness and recreation." These recommendations were:

Recommendations for the Fall Quarter

1. that the medical examination given to selectees at the beginning of the spring quarter, 1941, be offered again on an optional basis. It was suggested that in order to make such an optional program effective the following procedures seemed desirable:
 - a. that definite periods be set aside when the special medical examinations are to be given.
 - b. that the program and the periods decided upon should be called especially to the attention of those in the draft group.
 - c. that in publicizing the program a rather complete picture should be given of the procedures, the outcomes, and the values to the individual of participation in the program.
 2. that the health information test be eliminated from the program for the fall quarter, 1941, because its objectives have been attained.
 3. that the faculty of each college of the University consider the problems of health education in connection with its curricula, especially the desirability of requiring each student to take an introductory course in personal and public health for credit. Such a requirement might be waived for those students, who, on a comprehensive pre-test showed adequate command of personal hygiene, public health and preventive medicine.
- Note: This recommendation is based on the evidence secured from the performance of the 663 men who took the health information test at the opening of the spring quarter, 1941, as well as from a survey of similar requirements in other comparable institutions.
4. that we recommend to the President of the University that all new incoming students, as part of the regular program of Freshman Week, be required to take the Physical Fitness Test as part of the medical examinations. Those students who are found to be deficient, to be encouraged to take a carefully planned individual, remedial program in physical education.
 5. that in view of the importance of national physical fitness, and the growing practice in all higher institutions the committee

Grasshoppers Not Very Threatening

With grasshopper control over the state in better shape than for several years, the state entomologist's office at University Farm is nevertheless setting up strong control measures to meet any serious outbreaks during the coming season. T. L. Aamodt, assistant state entomologist in charge of grasshopper control, announced today that Donald Denning will supervise control work in northwestern Minnesota, with headquarters at Crookston. Edward Thomas has been assigned to southwestern Minnesota, with headquarters at Montevideo, Ralph Stephens and Loren Cahlander will also help supervise the control work over the state.

Mr. Aamodt reports that so far there has been no hatching of the species of hoppers that cause serious damage. However, the eggs of the striped and migratory hoppers have developed to the stage where a little warm weather will bring them out.

County extension agents and state men have already started work with local farmers to perfect the organization and equipment which will smite the young hoppers as soon as they threaten real trouble.

Entomologists are watching areas in northwestern and south central Minnesota where they know the infestation is bad.

recommend to the college of the University that they institute a required program in physical education, with credit.

6. that the committee prepare for distribution to students and advisers, a booklet of information giving systematic guidance and advice on opportunities in courses and activities at the University in the areas of health, physical education and recreation for selectees as well as for students in general.

Dr. Ruth E. Boynton
Dean H. S. Diehl
Dean T. R. McConnell
Mr. Frank G. McCormick
Mr. Tracy F. Tyler
Mr. C. Gilbert Wrenn
Dean W. E. Peik, Chairman

The flight training course under Professor Akerman will graduate fifty students from its primary group and thirty-four secondary students. The latter are those who are taking a second course, after completing the first. Primary students have from 35 to 50 hours of actual flying and secondaries average between 40 and 50 additional hours, and thus graduate with about ninety hours in the air. An additional eight persons have taken further training for instructor's ratings.

Ground school courses will be continued through the summer. More unusual, Professor Akerman's department will give a special three months engineering course this summer to between fifty and sixty naval ensigns, all graduates in courses in mechanical or electrical engineering. Their work will be largely aeronautical engineering and ground type training. The University of Minnesota is one of four selected for this job, others being California Institute of Technology, Massachusetts Institute of Technology and New York University. This will make it necessary for the entire staff of the department of aeronautical engineering to remain on duty throughout the summer.

The University of Minnesota is

Jordan Editor Praises Weeklies In Editorial

No Minnesota weekly newspaper editor is better qualified to discuss that important field of journalism than is the veteran editor of the Jordan (Minn.) Independent, John E. Casey. It is a pleasure, therefore, for "Minnesota Chats" to reprint herewith a most interesting editorial, entitled, "The Country Weekly in Minnesota," which recently appeared in Mr. Casey's paper.

Said he: "Around the turn of the century it was predicted by some observers that the end of the village and the small town was in sight. In fact, this forecast was made rather freely by certain people whose judgment entitled them to a hearing.

"In the first decade of this century when rural free delivery of mail was being established, the pessimists declared that would hasten the end of village life. When parcel-post came, that was the final blow to small town existence, they said.

"Came the automobile and improved highways. 'Ah,' moaned the disconsolate ones, 'nothing can now prevent a staggering increase in the number of ghost towns.'

"This is 1941. How have the community centers of rural life in Minnesota fared?

"Last year another national census was taken. It revealed that Minnesota villages and small cities of the type which had been bidden a sad and fond adieu, were really prospering in their life, in education and in commerce. Most of these rural centers recorded splendid gains in population since 1930—some had astonishing gains.

"This year Minnesota newspaper publishers are observing the seventy-fifth anniversary of the founding of their organization, the Minnesota Editorial Association. This week the climax of the observance is taking place in St. Paul.

"More than 400 of the newspapers in our state are published in country towns or rural community cities.

"During the great depression very many banks in Minnesota closed their doors, other businesses failed; yet there were practically no business failures among country weeklies. On the contrary, they forged ahead. A national news magazine in 1938 studied the situation, found that the total circulation of rural community newspapers in the U. S. had grown 13% over a certain period, called publication of weekly, rural-community center newspapers "The One Bright Spot" in business.

"What is the service of the rural weekly which so merits confidence? It is primarily in recording home-county events in the social and commerce calendar concerning people on the farms and in the mines and forests and country towns. Rural weekly newspapers especially tell of life there. They have made life pleasanter there. They have strengthened rural morale, have brought to the home folks a consciousness of the pleasures, the advantages and of the great worth and dignity of living on the soil.

"The rural weekly press of Minnesota in observing its diamond jubilee this year, may rightly point with gratification to the part it has performed in building thriving rural communities throughout Minnesota.

receiving material amounts of federal money, both for the ground school courses of CAA trainees and for the ensigns whom the Navy will send here for training.

Further information on the American Legion program in which Mr. McCormick is interested is given in the following release: "The purpose of this entire activity is to develop further the manpower and morale of the nation.

"The primary job of the American Legion is to assist in and cooperate with all groups and agencies in the expansion and further development of the program and to building a rugged citizenry.

"The Legion's interest, through its Americanism Commission, is based on the fact that in the war of 1917 the War Department rejected 29.1 percent of those examined for military service because of physical disabilities. It has been pointed out that men being taken into the service at the present time show an improvement, but that the rate of rejection for disabilities is still alarmingly high. The program outlined here is intended to decrease the number of rejections."

President Ford Makes Last Address to Student Body

(Continued from page 1, column 5)
shall expect to see you maintain it as citizens of any community in which your lot is cast.

This day, however, is by tradition at Minnesota much more than a day given over to the senior class and its functions. It is the day on which we publicly announce the honors that have been earned by those who have distinguished themselves by their devotion to the main business for which this and all institutions of higher education are established and maintained, that of training scholars and forwarding scholarship in the hope, cherished by those who maintain them and teach in them, that a fuller and richer material and spiritual life will be open not to college students alone but through them and their leadership to all their fellow men. The pursuit or possession of scholarship is a profession and a control of capital that implies public responsibility as much or more than the possession or control of economic power or public office. In these days, whether in war or in peace, we are inescapably part of an integrated world where "no man liveth unto himself alone." We are members of an interdependent society where there is no profession and no business that is "not affected with the public interest." The privilege of scholarship and your disciplined power to increase knowledge, make you the trustees of the welfare of your fellow men. The measure with which you discharge that trust will be the measure of your success and it will be the measure of the success of this university in training you to live by some other ideal of success than your own advantage and material gain.

It is not my purpose to labor this point that success for those with ability and training must have in it a touch of idealism and social outlook rather than selfish gain and irresponsible power. That can be done more effectively by reading you something that came into my hands a few months ago. It was found among the unpublished papers of one who like you graduated with honors from this university and returned to its service less than a year after it was written and a few months before his lamented death.

The memorandum bears the title given it by its author, "Is This Success?" It tells its own soul-searching story simply and unreservedly. It is objective and yet vividly personal. Read without either introductory or concluding comment of mine it would make this day memorable to you. And now the document:

Is This Success?

"Today I shall be alone. So far as I know there is no one on the boat who would recognize me. Tomorrow the passenger list will be published and then there will be introductions and interviews. It has come to the point where I find seclusion only on an airplane where the roar of the motors precludes conversation, on a train or on a day like this on a boat. It is a far cry from a youthful ambition for the life of a naturalist emulating Thoreau and Burroughs to a strenuous program of consultations and the direction of research.

"It required a great mental adjustment to pass from a self-supporting student interested in the development of socialism to the direction of a research institution on which a great, highly capitalistic industry depends. It has meant the transition from the problem of choosing each meal according to the money in the pocket to the problems in which millions are won and lost. More than all else it has involved ideals, the realization of which I once thought to be the object of my life.

"A former college mate with whom I shared the struggle for advanced degrees in a well known graduate school, recently reminded me of one of our idealistic discussions in the course of which I had expressed myself as to a salary which would satisfy all my financial ambitions. He called my attention to the fact that my present salary is ten times the maximum that was specified in those days of the graduate grind. He asked what it was all about. Had I forgotten that we had pledged ourselves to the exploration of nature, not for material wealth but for the discovery of her laws of the interrelationship of organisms? Did I no longer share that aversion for a materialistic world which spends half its time chasing the almighty dollar only to spend it on movies, motor cars and jazz? Was it not as true as ever that society must learn to use its leisure with books and nature rather than at

horse racing and dancing, if a high order of civilization was to be maintained?

"I have been searching for the answer to his questions in the snatches of time when I have been looking down from the clouds or across the sea. The question was presented anew day before yesterday when an interviewer began with one of those flattering introductions, saying that she was writing a series of articles for a well known magazine on successful men, and that I was on her list. The interview was postponed but it renewed my reflections.

"After all, is this success—this crowding out of ideals by the high pressure of the modern world? Were the old ideals wrong? Did they belong to the past generation and was the gradual transition which crowded them out only an expression of nature's law of progress? Has this change indicated that I have been successful in keeping abreast with the modern world, or a weakness in giving up my ideals?

"It all came about so gradually that I was not aware at any time of a decision that meant this change. All temptations which seemed to involve a sudden departure were turned down; and there was a series of them. But little by little it came about.

Life Work Begins

"When I received my Ph.D. degree I accepted an instructorship with a salary of little less than an average clerk would receive, married a girl who believed in me and shared my ideals and who had been receiving a salary larger than mine. We worked together with enthusiasm, for she too had been an instructor in the same university. We studied the birds and insects of our neighborhood and began a detailed study of the animal population of a freshwater lake.

"Then war came. I was not accepted for active duty but discovered that my science could be applied to war time industries. When war was over there were demands that I continue my industrial activities. The university made the necessary adjustments, and weekend trips half way across the continent began. All vacation time was spent wrestling with industrial problems. Each one looked like an exception. It was worth thousands to the industry and would be solved in a few days or weeks. But there were no more vacations in the north woods where we used to travel by canoe and live in our little shelter tent, studying the things that were to be the object of our life work.

"Through it all my university schedule was left unviolated. This other work was relegated to week ends and vacations. But a change came in the University work also. Gradually I became involved in the direction of graduate students and the undergraduate classes were shifted to other instructors. I became the head of a department. As time went on it was evident that these graduate students who came even from foreign countries were interested in the economic application of my work and not in my 'ideals.' They soon absorbed all my regular hours outside of class.

"There were still two things left; a class of freshmen during three months each year who did most of their laboratory work in the field, and my own hours between four and eight in the morning. I enjoyed the enthusiasm and curiosity of the undergraduates and told them that there would be nothing in the course that would ever be worth any money to them, but that I hoped they would learn of other things in this world which are worth more than money. Life need never lose interest for them, I said, for there were "books in running brooks." Possibly they were the only ones who believed me for the Dean and the President continued to ask for instances wherein I had saved thousands of dollars for industries, which they could put in their annual reports or their speeches to the commercial clubs. I think their ideals were like mine but they were feeling the same economic pressure as I, and they were closer to its source.

No More Monastic Life

"Hemmed in by modern methods of transportation and communication, I couldn't enjoy the seclusion of a monk's monastery so I made the Einsteinian substitution of time for space and had my monastery in a modern laboratory between the hours of four and eight in the morning. This meant no parties or theaters the night before, but it was my own

time, before I had been tired by the daily duties of my position.

"To be sure these hours were not adapted to field work, but I created artificial environments and put populations of insects in them which behaved like little universes under controlled conditions. And I studied them without interruption while the economically minded world slept.

"The trips away got longer and the problems more involved. I crossed the Atlantic and the Pacific, went from the Arctic Circle to the Sahara Desert. Now the undergraduates have dropped out of the picture. My work is essentially administrative and the direction of research which is of more economic importance than ever. My time is so expensive that I cannot afford to do anything that anyone else can do for me. Interviews must be short in order to get them all in during the course of the day.

"I must make all decisions myself for I have no colleagues to consult with. I sit alone with my judgment but I am never alone with myself.

"My wife has the social obligations that belong to our position and our home establishment and servants to preside over. In our new environment we are surrounded by strange plants and animals but we have had no time to get acquainted with them. The ideals that I once had and tried to give to the freshmen, seem to be gone. It is harder than ever to get up at four o'clock. The transition seems to have been made.

"I am not unhappy in it all. I have become attuned to it. I find it hard to relax when I have a few minutes to myself. I shall probably enter into the activities of life on the boat while others will read books, because it is hard for me to let down.

"The interviewer asks if she may tell the world how I achieved success; my college mate asks what it is all about. A former professor of mine said that success was the attainment of one's ideals. I look across the sea from my deck chair and wonder. Has the old order changed and is this the new? Is this success?"

The writer of this memorandum answered his own question. It was on this trip to the mainland that the late Dean Royal S. Chapman decided to return to the University of Minnesota to take up again the life of a scientist and as dean of the graduate school to devote his efforts to encouraging young scholars in all fields and to improve the conditions under which they labored. He decided in spite of all the rewards open to him along the path he had been pursuing to remain true to the ideals that had been his from his college days. I can record what he said to me before his unexpected death, that he was, as a result of his choice, engaged in a work that gave him more happiness than anything he had ever done in his life.

Generation Responsive to Ideals

No one can venture into the inner sanctuaries of the young minds in this group of students we honor today and probe for their ideals nor test the strength of character behind the life purposes they have formulated for themselves. But no one can be associated with them and their fellow students throughout their college course and believe they are dealing with a generation that is unresponsive to anything but the lure of material gain and admiration for success by the selfish exercise of personal power. Students, like many of their elders, may be troubled and confused about current problems of profound moment for their own and their country's future, but they are not wanting in courage and hope and they will not shrink from the sacrifices that may be asked of them in the maintenance of right ideals for themselves and their country. The youth of America still has ideals, still dreams dreams, and will not barter its birthright of liberties for a place on the wave of a future that reduces mankind to servility in a world ruled by force and fraud and cunning. Youth is sustained, as we all must be, by the faith that mankind has not risen by painful struggles from barbarism to a vision of life by law and order and justice only to sink back again to the credo of claw and fang.

Two Eternally Divergent Ideas

If our minds, young or old, cannot cut through the confusion created by the short-sighted politicians or by the amateur statesmen who find no word of condemnation for totalitarianism or by the timid who play upon old prejudices and blow on the burnt embers of the past—if, I say, we

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T. E. Steward, Editor, 14 Administration Building
University of Minnesota, Minneapolis

"Minnesota Chats" Bows for Bouquet Prints Whole Thing

"Minnesota Chats" naturally takes great pleasure in printing a letter it has just received from Karl F. Geiser, professor emeritus of political science in Oberlin College. "Chats" not infrequently receives complimentary letters, but has never before printed one, nor has it ever before received one that pleased it quite so much as does Professor Geiser's.

The Editor of Minnesota Chats, University of Minnesota, Minneapolis, Minn.
Dear Mr. Steward:

I have been receiving "Minnesota Chats" for a number of years and have always enjoyed reading its interesting comments and articles. I therefore feel that I should tell you, before the academic year closes, that I consider it the most intelligent and informing university publication that has come to my notice in many years. In reading it reflectively, one gets the impression that it represents a university with high ideals of education put into actual practice. I am sure that to no small degree these ideals have been advanced and elevated through the good fortune of the university in having had connected with it for so many years the brilliant educator who is now its President; for, having known him from boyhood, to my positive knowledge, he has never been connected with anything that did not elevate and enlighten.

We all know that every state in the Union must have a university somewhere, because there is a Federal and a State provision to that effect, but in your case we know that Minnesota is a great state because it supports a great university. What more could be said?

Karl F. Geiser
Professor Emeritus of
Political Science
Oberlin College

For this remarkably kind letter, "Minnesota Chats" extends its sincerest thanks to Professor Geiser, which the editor has also expressed to him in writing.

cannot cut through all this confusion of the moment to see the struggle between two eternally divergent ideas of man and his destiny, then let us quickly find our Quislings, our Lavals, our Darlans, set up our Vichy government and ask the dictators to write for our signature their present version of a negotiated peace. When we have signed it in Munich or Rome or Tokyo, we can await the day of our Prague. We can build another tomb farther out of bombing range than that of the unknown soldier in Arlington, perhaps in the mall before this building and dedicate it to the last ideals and withered hopes of those who founded and maintained by sacrifice to the last full measure a nation dedicated to liberty and to the recognition of the sovereignty of the people over the state they created. And since the shrines we have builded to the makers of our ideals from the Galilean to Jefferson and Lincoln would be meaningless, we can take the stones from them to raise a cenotaph to our lost ideals.

Let me hasten to assure those of troubled mind or faint heart that no such denial of our past, no such betrayal of our personal and national ideals will be memorialized on this campus or on any foot of American soil. The noisy and unthinking may cheer as they did recently the crude and unhistoric cynicism of him who pictured American history as a record of the successive failure of idealists but the sure instinct of this people of ours turns the face of the nation toward ideals, the ideals penned in Independence Hall and re-stated by Lincoln at Gettysburg.

What Is a Successful Life

I return to the question I posed at the beginning. Can there be any truly successful individual life that is not touched and guided by an ideal of service to others? It

League Helping Civil Service

Aid to communities having a civil service commission in the selection of such municipal employees as firemen and members of the police department is one of the new services being performed this year by the staff of the League of Minnesota Municipalities, Clarence C. Ludwig, executive secretary of the league, reports.

Upon request of the civil service commission of a municipality the oral examination or interviewing of candidates will be carried on by League representatives in cooperation with the local authorities. Each candidate for a position who has made a satisfactory standing in the written examination is sent through a group interview, with each member of the interviewing group "rating" him on a number of qualifications. A tally of the several ratings is then prepared, and the top man selected by that method.

Recently when South St. Paul put its police department on a three-shift basis, necessitating the addition of eight more policemen, one entire shift, the league representatives, headed by Mr. Ludwig, conducted the interview.

was answered not for himself alone but for all of us in the reflective statement I read. How could there be any other satisfying answer? What meaning has life if it is lived in selfish indifference to every other life? How but through loyalty to some ideal greater than our narrow selves can we be lifted above the brute? How can we as scholars, young or old, fail to exemplify our faith that we and our fellow men, faltering and human as we know ourselves to be, are yet capable of rising above our dead selves to higher things? Possessed of this faith I would rather be called a starry-eyed idealist than wallow in a realism that was pig-eyed. It is my hope that in you and your fellow students this university is pouring into the life stream of the nation a generation uplifted by idealism, for without vision the people perish.

When these last lines were written, I turned to the radio to hear the President of the United States remind the nation that it lives for and by an ideal and that the security of that ideal, based on Christian faith and concern for the welfare of the individual, was endangered, "foe beset, pursued." To the ringing affirmation that every measure would be taken to defend it and to aid the lands and peoples that share it there followed the solemn summons to close ranks and make the sacrifices required to assure to individual and nation alike a freely chosen way of life.

None of us can know the extent of the immediate effort and sacrifice involved, but he is blind indeed who would not willingly make it to end the danger of Hitlerism rather than cower under its shadow through years devoted to military preparations that would sap our resources, undermine our democratic institutions and destroy our ideals of individual liberty. Years of study of militarism in Prussia have made me hate it and all its insidious results on the spirit of a people. By our united effort in defense against it we choose the lesser evil and make the quick ending of the peril an incident in our national life rather than the slow death of every hope we and our fathers cherished that in this western world there might arise a nation master of its own destinies and moulded to our heart's desire.

And so today your own and your nation's ideals face you more insistently than ever. Each, now and always, will demand its measure of sacrifice but now as never before in your life. Remember that each day of loyalty and service to those ideals is an honors day for you. It may bring distinctions remembered by your fellow men when this day is forgotten.