

ILLINOIS AND THE LAND-GRANT TRADITION

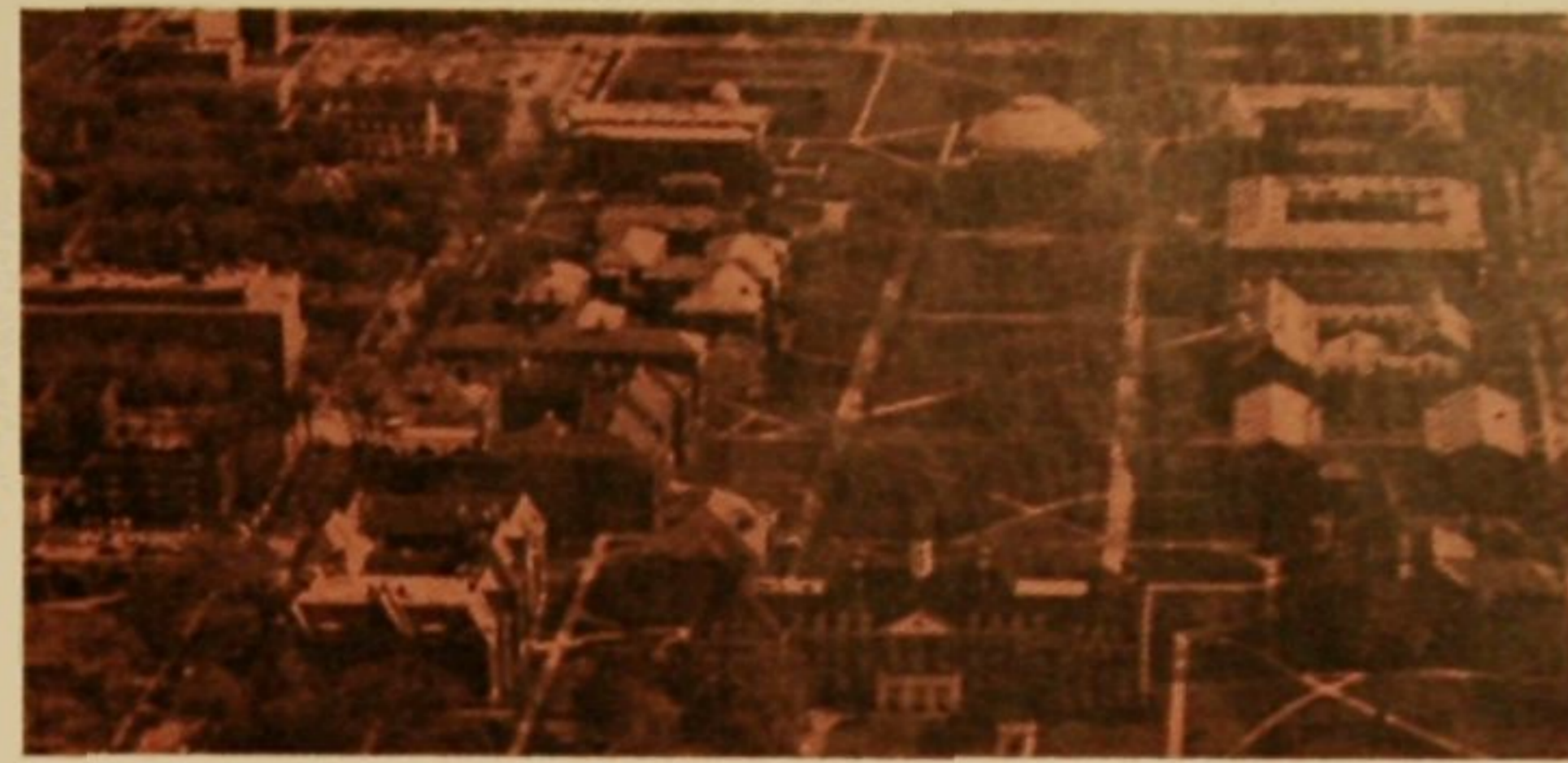
The University of Illinois: Yesterday, Today, and Tomorrow

In Observance of the Centennial of the Land-Grant Colleges and State Universities



1862-1962

ILLINOIS AND THE LAND-GRANT TRADITION



The University of Illinois: Yesterday, Today, and Tomorrow



THE FUTURE

So much, incomplete as it is in the telling, for the past and present. What of the future? What changes and problems confront the University of Illinois and the other land-grant institutions as they enter their second century?

Quite obviously the University will share in the tremendous wave of students who will be seeking to enter the nation's colleges in the years immediately ahead. The number of students seeking collegiate educations is expected to double by 1970, and tax-supported institutions such as the University will be called on to absorb a large share of them. By the end of the present decade, some authorities think, the University will have 32,000 students on its campus in Urbana-Champaign, another 20,000 in its branch in Chicago and still another 2,700 in its Chicago Professional Colleges. Those are considered estimates, not just wild guesses; for already enrollments in Illinois colleges have jumped at a rate that would have astonished and delighted Jonathan Baldwin Turner.

If the University is not to deny the young people of Illinois an education and if it is to maintain and improve the high standards it has set for itself in the past, it will face extreme difficulties in attracting the necessary staff. Everyone who has studied the problem agrees that the faculty shortage will be acute; for although college enrollments may double in the 1960's, no comparable doubling of college faculties seems remotely possible without great sacrifices in quality. One conservative estimate is that the nation's colleges must recruit between 15,000 and 17,000 new teachers a year in the coming decade — this at a time when the number of doctorates granted has been slipping and when

the competition by government and industry for bright, young scholars and scientists has been unprecedented. Already the competition for faculty members is intense; in time it will become fierce.

Besides faculty, the University will be hard-pressed for classroom and laboratory space, office space, dormitory space. The University has never made up the lag in facilities resulting from the depression years of the 1930's, the shortages of the World War II years and the need to meet the enrollment boom in the postwar years. The Universities Bond Issue, which the voters approved in 1960, will help the University to catch up on its postponed building needs. But the fact remains that the University is starting from behind the mark in matching its resources to swelling enrollments and increased demands for its services.

Faced with limited resources and an unprecedented demand, the University is already being confronted by the alternatives that are confronting its sister institutions — on the one hand, a decline in quality of instruction and a restriction of its services to the people of the state; or, on the other hand, changes in teaching methods and administrative arrangements which will make even more efficient use of its resources.

What changes? President David Dodds Henry, talking at a national conference for regents and trustees in May, 1961, about forthcoming changes in education generally, might well have been speaking of the University of Illinois when he said:

In looking ahead new methods of instruction must be examined and the results reported. Educational television must find its place. Learning machines must be examined with impartiality. Independent study tech-

niques must be examined. Class size must be reviewed. Courses must be appraised. Calendar organization, with a view to the twelve-month utilization of plant and the most effective utilization of faculty, must be on the agenda. The advance placement of students must be considered. The interrelationships of various academic programs must be examined. Student economics in relationship to ability to pay must become a study instead of a hypothesis. The distribution of students at different levels of instruction must carefully be defined and goals established. The retention of able students must be improved. New studies must find their way into the curriculum but only after an examination of their accumulative effect. Some old programs must be dropped or adapted. The balance of emphasis on functions must also be determined carefully as between instruction, research and service; one cannot grow at the expense of the other. Non-teaching academic staff will have to be utilized more in the instructional task. Improved vocational guidance of students amid the many new demands for specialized services has a high priority on institutional attention. College teaching as a career should not be forgotten as universities help other professions in their recruitment. The need to educate more women for the professions is obvious. Stretching the length of educational programs, as requirements in the field become more complex, poses special problems.

That is a succinct summary of some of the problems of the University of Illinois as the land-grant institutions enter their second century. Whatever the problems, the University of Illinois will strive to educate and serve the people of Illinois at the same high level it has in the past. It can do so if it has the understanding and the support of the people. In one sense, it has no needs of its own; as President Henry has expressed it, "Rather people have needs, and it is up to them to determine whether or not their universities will be utilized to fulfill those needs."

THE PAST

Just a few feet from Wright Street, which marks the boundary between Champaign and Urbana, is the grave of John Milton Gregory, first head of the University of Illinois. A plaque bears an inscription of simple eloquence: "If you seek his monument look about you."

The University of Illinois today is a monument not only to John Milton Gregory but also to a number of other pioneer educators whose aim was to bring higher education to the common man. That monument is an institution which has never lost sight of its obligation to teach and serve the people of Illinois. Students come to it for instruction from every county of the state, as do students from every state in the union and from some eighty foreign countries. Each year a host of other people, between sixty and seventy-five thousand of them, come to it with serious educational purpose to attend a variety of conferences and short courses. Practically every citizen of the state feels its influence, directly or indirectly.

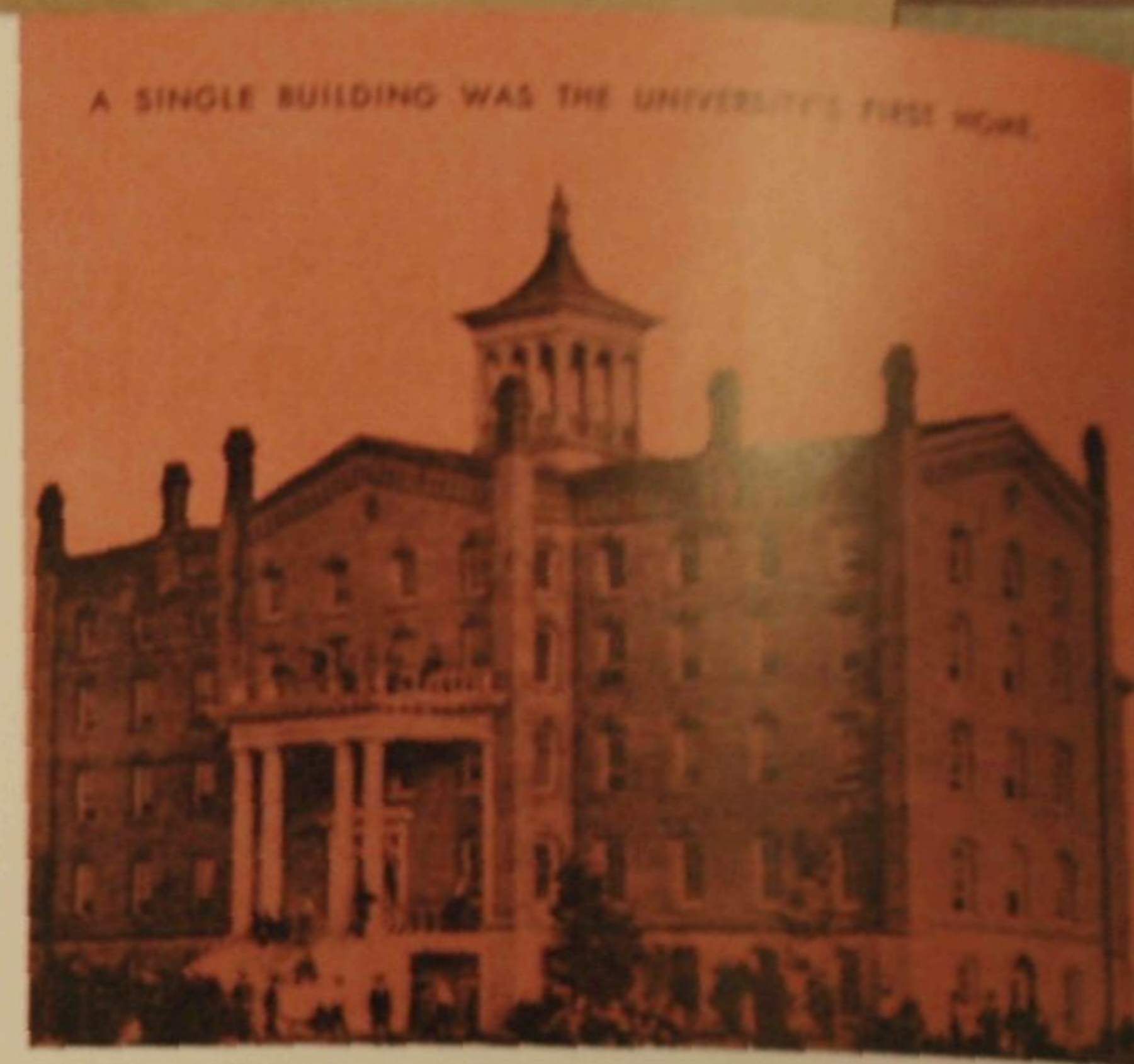
This year the University of Illinois is joining sixty-seven other colleges and universities across the country in celebrating the centennial of the Land-Grant Act. The people of this state should take a special pride in the centennial, for two men from Illinois played important parts in creating the land-grant institutions. One was Jonathan Baldwin Turner, a many-sided reformer who is credited with the original idea for the act. The other was Presi-

dent Abraham Lincoln, who in the dark days of the Civil War signed the act into law after it had earlier been vetoed by President Buchanan.

In one sense, the University and its sister land-grant institutions grew out of a talk that Jonathan Baldwin Turner gave at a teachers' institute in Griggsville, Illinois, one May day in 1850. Turner, who had grown up on a farm in Massachusetts, had left his classics studies at Yale a month before graduation to come west to teach. He arrived in Jacksonville on horseback in May, 1833, to teach Greek in the single brick building that called itself Illinois College.

By then the movement for educational reform was already getting under way. Turner became a leader in it. He spent a summer touring the state to plead for better schools, and he became a leader in the state teachers' association. He had other interests as well; he was an outspoken abolitionist in a town of pro-slavery sympathies, a dabbler in land speculation, a licensed minister, and the editor of a fiercely independent newspaper, for which he wrote long editorials on agriculture, education and other concerns. After leaving Illinois College in 1848, he turned to farming, and his seventeen-acre homestead became almost an agricultural experiment station. Indeed, by 1862 it reportedly had more kinds of plants than the Smithsonian Gardens in Washington.

A sharp-tongued critic of traditional education,



Turner told his audience at Griggsville what was wrong with American universities. All of society, he said, is divided into two classes—the professional class and the working class. Colleges of his day provided a good liberal education for the professional class, he acknowledged, but it constituted only a small fraction of the population. Nowhere were there colleges for the great mass of people.

"In other words," he said, "society has become, long since, wise enough to know that its teachers need to be educated; but it has not yet become wise enough to know that its workers need education just as much." What Turner proposed was a system of education which was adapted to the needs of the common man and which would elevate him to his rightful place in society. Education should be practical as well as academic, he argued, and it should not be the monopoly of the privileged few but the right of everyone with the desire and ability to learn.

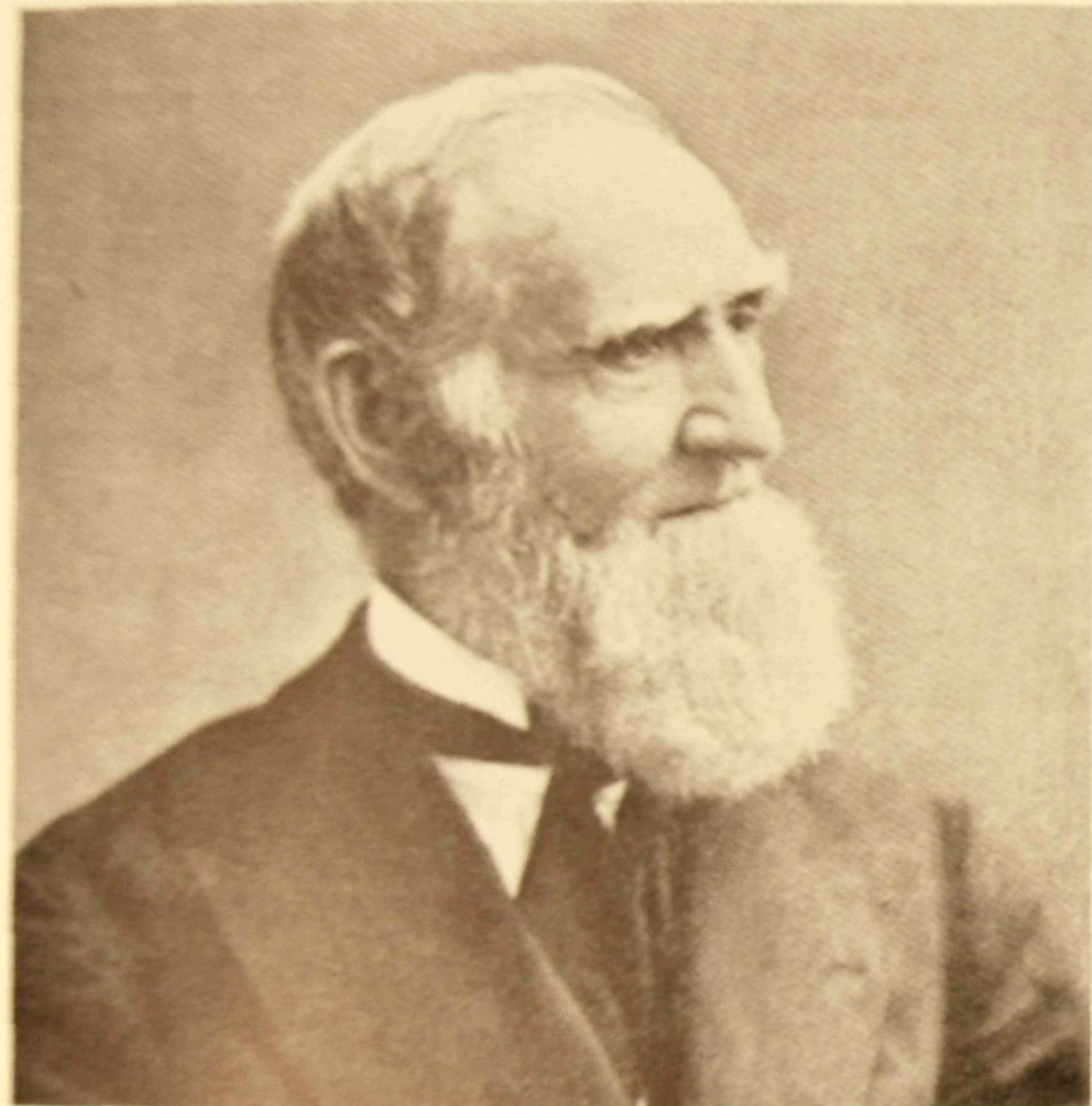
Turner repeated his plea on later occasions. A convention that heard him in Granville in late 1851 enthusiastically agreed to publish his talk for distribution to all of the state's newspapers and to the nation's farm press, to send speakers throughout the state, and to petition the Governor to take steps to establish a state university of the sort Turner had described.

Later conventions carried on the campaign, not without opposition. From 1852 onward the cam-



JONATHAN BALDWIN TURNER

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JONATHAN BALDWIN TURNER ADVOCATED A PEOPLE'S UNIVERSITY.

paign became national rather than state-wide in scope. Leaders of the movement saw that they must rely on the united effort of similar groups in other states to gain Congressional aid for their project.

Historians disagree over whether Turner or Justin S. Morrill of Vermont should get credit for originating the Land-Grant Act, which gave the states federal land to sell so they could establish

and endow colleges within reach of all Americans. Actually, there is credit enough for both to share. After his talk at Griggsville, Turner worked hard to promote sentiment for his idea of a people's college, especially in the Midwest; Morrill, as a Congressman from Vermont, was the driving force that eventually pushed the bill through Congress.

It is the Morrill Act which is being commemorated across the land in this, its centennial year. It is the act which a task force report of the Hoover Commission in 1949 called "the most effective grant-in-aid ever made by the Federal government." It is the act which created the colleges and universities that enroll one in five of the nation's college students, that grant 40 per cent of all doctoral degrees, that train half of all of the regular and reserve officers entering the armed forces, that educated twenty of the thirty-eight living Nobel Prize winners who attended college in this country. And it is this act which led to the creation of the University of Illinois.

In 1863 the Illinois Legislature unanimously accepted the Morrill Act, under which the state received 480,000 acres of land scrip to found a university. Five years later, after several communities had contended for the site, the state's university opened with an enrollment of about fifty young men and a staff of three teachers and a head farmer. It was called Illinois Industrial University, its name until 1885, and its home was a single



A COLLAPSED CEILING IN 1938 LED TO THE RAZING OF UNIVERSITY HALL, THE MAIN BUILDING FOR MANY YEARS.

unfinished building in the middle of a field so muddy that for years faculty and students wore rubber boots when crossing it in winter or spring.

Since that modest beginning, when a single building was its home and when students sometimes came downstairs from their dormitories to recite in bathrobe and slippers, the University of Illinois has grown tremendously.

More than a hundred major buildings dot its 535-acre campus in Urbana-Champaign, where its staff has increased from four persons to several thousand. That campus is home for fifteen colleges and schools, which offer instruction at undergraduate and graduate levels in a wide array of curricula. The campus is home, too, for a long list of bureaus, institutes and experiment stations, and headquarters of extension and other state-wide services.

Adjoining the main campus are 1,183 acres of agricultural experiment fields. Nearby are timber reservations of 145 acres, an airport of 771 acres, Allerton Park and a 4-H camp of 1,744 acres, and a radio-telescope site of nearly 219 acres.

The Chicago Undergraduate Division at Navy Pier is teaching 4,500 students each year in more than 60 curricula. Since it was established in 1946, more than 60,000 students living in the Chicago area have studied at the Chicago division.

From the start, Navy Pier was considered only a temporary location for the Chicago division of the University. Work is now progressing to provide Chicago with a four-year division which by 1970 is expected to have an enrollment of some 20,000 students. The University has acquired 107 acres of land for the new campus in an urban renewal area immediately adjacent to the Congress Street Expressway and the proposed South Expressway. Plans call for the new campus to open in the fall of 1964 with an enrollment of about 9,000 students,

FROM ALL OVER THE WORLD, STUDENTS COME TO THE CHAMPAIGN-URBANA CAMPUS TO STUDY IN A WIDE VARIETY OF CURRICULA. MORE THAN 60,000 STUDENTS HAVE STUDIED AT THE CHICAGO UNDERGRADUATE DIVISION, ESTABLISHED IN 1946.

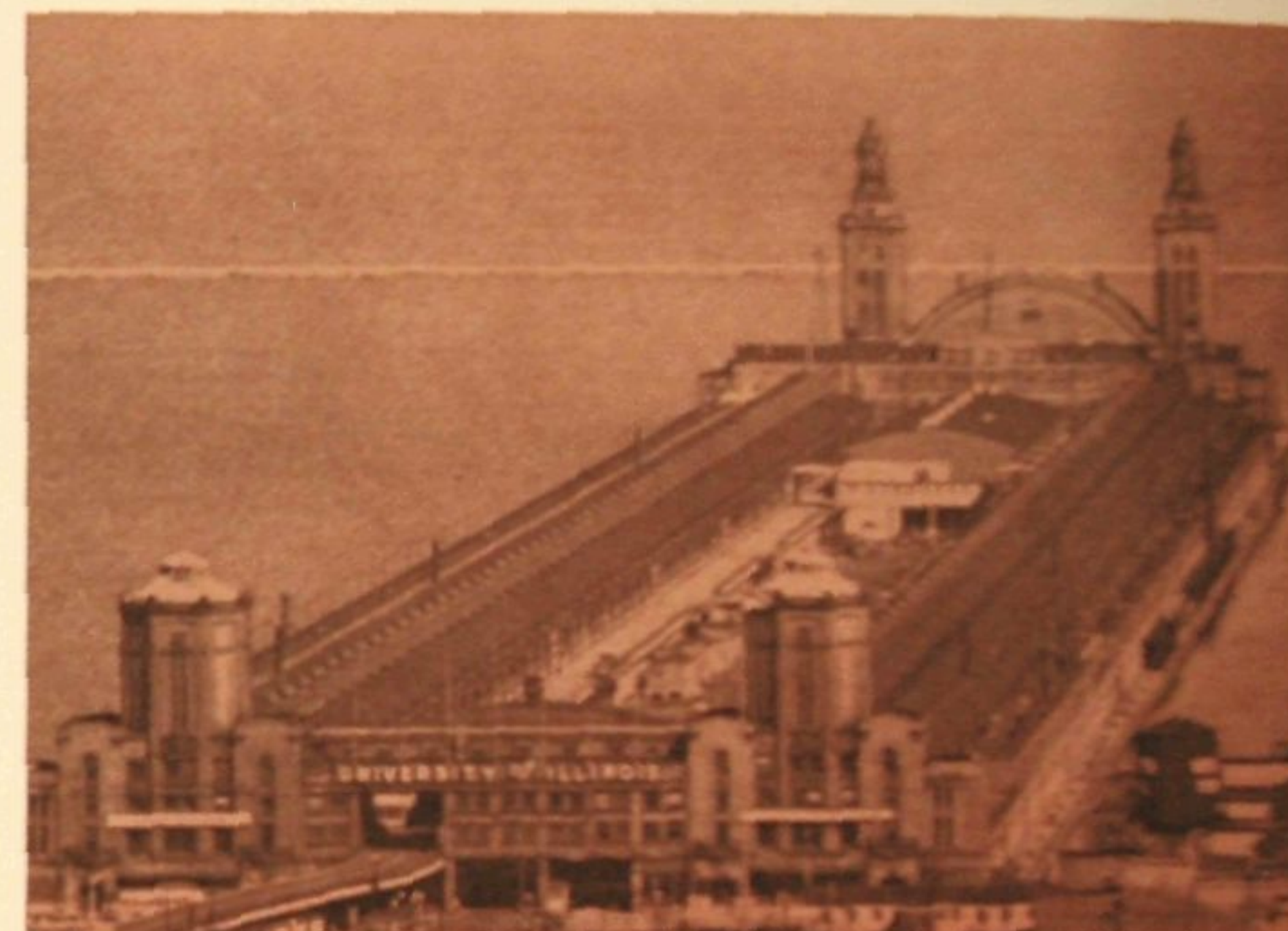
THE CHICAGO PROFESSIONAL COLLEGES ARE THE NUCLEUS AND MAJOR PART OF THE STATE MEDICAL CENTER DISTRICT.

some 4,500 more than can be adequately accommodated at Navy Pier. The state, through a bond issue, expects to spend \$50 million on initial construction on this new Chicago campus.

The new campus will be only blocks from that of the University's Chicago Professional Colleges — dentistry, medicine, nursing and pharmacy. Those four colleges comprise the nucleus and major part of the State Medical Center District. Created by the legislature in 1941, the center is unequalled in the world for size and diversity; one in every five physicians in the United States has taken some phase of his training there. The complex of hospitals linked with the colleges is called the Research and Educational Hospitals, and the 400 research projects under way in them cover some aspect of every malady known to man.

As the University has grown, it has increased its services and value to the state and indeed to the nation and world. In his inaugural address — never actually delivered, because a preceding speaker usurped his time — John Milton Gregory said: "We are not here to reproduce, in this new locality, some old or well known style of college or university. . . . Hosts of earnest men are impatiently waiting to see how we will meet the great duty which the country has entrusted to us."

How well has the University of Illinois met the great duty entrusted to it? Let us look at some of its accomplishments in three broad areas which overlap — teaching, research and extension.



TEACHING

When the Land-Grant bill became law, it introduced new concepts to American education: that learning should be practical as well as academic, and that a college education should be available to not just the privileged few but to all who had the desire and ability to learn.

Instructing the youth of the state was the first objective of the University of Illinois, and it has remained the major one. Over the years, the University has provided college educations to thousands of young men and women who otherwise would have been deprived of one. Today it can count more than 150,000 living alumni and former students. In Chicago alone, there are more than 50,000 of them, including some 1,900 physicians, 700 lawyers, 700 dentists and 1,900 pharmacists.

In any one year, an impressive number of students comes to it for knowledge. During just one term in 1960-61, for instance, 39,762 different persons enrolled for its residence instruction, its extramural courses and its agricultural short course.

As the University has an international reputation, it is perhaps only natural that its student body should be a cosmopolitan one. Most of its students, of course, still come from Illinois. In a recent typical year, 87 per cent did; but the remainder came from all but one of the other 49 states, from four U. S. territories and possessions, and from 80 foreign countries. For years, the University has offered knowledge to those beyond the boundaries of the state and at the same time has

enriched the education of Illinois students through their association with persons from other parts of the world. As early as the end of World War I, its graduates were found in thirty-nine foreign countries; even then, among every hundred students on the Urbana campus, twenty-six were

MOST OF THE UNIVERSITY'S CLASSES ARE STILL SMALL ONES.



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from other states, four from foreign lands. Last year, it ranked sixth among all institutions in the United States in the number of foreign students enrolled.

For many physically handicapped students, Illinois is one of the few universities where they can get an education. These handicapped students—163 of them last year, including 101 in wheelchairs—have been aided immeasurably by the Student Rehabilitation Center. Its program has won national acclaim. Its objective is to give physically handicapped students the opportunity both for education and for as normal and healthful a life as possible. The students are offered special counseling and physical therapy. Four special elevator-equipped buses transport them around the campus. Buildings have ramps for them, and the designs for all new buildings take their special needs into account.

Even if its own students were the only ones to benefit from its instruction, the University could be proud of its contributions to state and nation. Actually, however, its influence extends far beyond them in space and time, for it has emerged as one of the great suppliers of teaching talent. It ranks seventh among the nation's colleges and universities in producing teachers for higher education. Along with fifteen other institutions, it has provided the undergraduate training for one-fourth of all the college teachers in the United States. Its Graduate College ranks third in the United States in the

number of doctoral candidates granted degrees in recent years.

The University has also helped to meet the desperate shortage of teachers for elementary and secondary schools. The College of Education, established as a school in 1905, at first was intended mainly for teachers who wished to supplement their normal-school training with a college course to qualify for graduate work. Even then, though, prospective teachers constituted an important part of its enrollment. Today prospective teachers get professional training in education in the College of Education and subject-matter instruction in the other colleges of the University. The deans of eight colleges of the University make up the Council on Teacher Education, which plans teacher education programs and is responsible for student teaching and placement. The University produces more teachers than any other teacher-training institution in the state except one. It had 4,202 students enrolled in its teacher-education curricula in October of 1960.

In other ways, the University has served the state and nation through its alumni. It ranks sixth among institutions attended by the presidents of the nation's 500 leading corporations — led only by Harvard, Yale, Massachusetts Institute of Technology, Cornell and Princeton — and first among the public colleges and universities. Some 8,500 physicians and 3,000 dentists have been graduated from its Colleges of Medicine and Dentistry.



THE UNIVERSITY PREPARES MANY OF THE NATION'S TEACHERS.

Students can pursue their interests in a wide variety of subjects, for the University offers undergraduate, professional and graduate instruction in almost every field of human endeavor. Its scope has expanded greatly since the 1880's, when President S. H. Peabody answered all correspondence in his own hand, himself issued all class permits and entered all grades. It has separate colleges of agriculture, commerce and business administration, dentistry, education, engineering, fine and applied arts, graduate study, journalism and communications, law, liberal arts and sciences, medicine, nursing, pharmacy, physical education and veterinary medicine. It has schools of library science, life sciences, music, and social work. Within those major units are scores of instructional departments offering hundreds of individual courses. The programs of study often cut across departmental lines. In the Center for Russian Area and Language Studies, for instance, the student can get the background he needs by taking work in history, geography, political science, sociology and other departments.

The University has never lost sight of one objective of the Land-Grant Act — to make instruction practical as well as academic. This is not to say

that the University has concentrated on vocational training as distinguished from professional preparation for a career; it does mean that the University has offered instruction in many fields which had little or no place in higher education before the Civil War.

The Land-Grant Act reflected a public concern over the failure of traditional higher education to meet the needs of agriculture and what was then called the mechanic arts. When the Land-Grant Act was passed, as Eugene Davenport remarked in 1912, "even Harvard taught less botany than is now taught in almost any good high school." Agricultural scientists headed for Europe, where the pioneers in agricultural research were already at work. And although industrialization had already begun to hit America with the force of revolution, the traditional colleges were doing little or nothing to meet the needs of the nation in science and technology.

Like its sister land-grant institutions, the University gave early and special emphasis to instruction in agriculture and engineering. Soon after the University opened, it was offering students two classes in agriculture, one elementary, one advanced; and in its second year, it brought a well-known expert in pomology to give special lectures in vegetable physiology and horticulture. In 1889 the College of Agriculture tried something that no other land-grant institution had attempted but that all eventually were to adopt. It cast its courses into

an array of agricultural specialties, each representing a semester's or year's study. This systematization of knowledge has been credited as an important contribution to the development of agricultural science. The College had its period of most rapid growth after 1904 with the spontaneous but determined efforts of farmers to help make it a leading agricultural institution. Looking back at its accomplishments over the previous decade, J. C. Blair reported in 1914 that its enrollment had jumped from 339 students to more than a thousand, its faculty from 27 to 136. Today the University ranks third in the nation in the number of bachelor of science degrees granted in agriculture.

In its second year, the University offered its first engineering course — a class in civil engineering. The first building devoted primarily to engineering, a former mule stable at the corner of Wright and Springfield, was put into use in 1870. The following year engineering got its first permanent building, a small affair occupied by mechanical engineering, architecture and military science. Today the College of Engineering, which is one of the foremost in the world, has an enrollment of about 4,000 students, an academic staff of about a thousand.

Over the years, Illinois, and her sister land-grant institutions evolved programs that accommodated practical instruction without neglecting the academic. At Illinois there has always been a close link between the academic and the practical. When the University opened, its students enrolled in such

courses as algebra, geometry, natural philosophy, history, rhetoric and Latin. Indeed, a minority of trustees and an element in the agricultural societies were alarmed that the University offered traditional liberal arts subjects, especially Latin and Greek; to them, this was a perversion of the aims of an industrial university.

What the critics wanted was vocational training along craft lines, and they turned out for a mass meeting in Bloomington in 1870 to consider "the reforms needed in the management of the Industrial University." The dissatisfactions resulted from a genuine difference of opinion over what industrial education should be. Impressed by the arguments

FUTURE VETERINARIANS GET TRAINING AND OPPORTUNITIES FOR RESEARCH IN THE DIAGNOSTIC SERVICE AND ANIMAL CLINICS.



of Regent Gregory and the report of a committee that visited the campus, the critics were mollified. Today the College of Liberal Arts and Sciences, which offers both degree curricula and service courses, is the largest college of the University.

Even before the first World War, the University of Illinois had a national reputation for excellence. Historian Guy Stanton Ford of Minnesota once remarked that Illinois had assembled so many distinguished scholars that the first thing a college president did when planning to strengthen his own staff was to consult the Illinois faculty roster. His story is not hard to believe, for three successive presidents of the University of Minnesota — Lotus D. Coffman, Ford himself and W. C. Coffey — all had taught at Illinois. According to another story, President Charles W. Eliot of Harvard lost so many bright young men to Illinois that he was determined to learn at first-hand what the attraction was. He spent four days on the campus in 1908, and he evidently was impressed; for later, after President Edmund James of Illinois had addressed the Harvard Alumni Association, President Eliot concluded the meeting with the remark, "Men of Harvard, there is your competition of the future."

Today, as then, the University continues to strive for excellence. One test of the quality of any university is the caliber of its graduate instruction. The University has been included among the top twelve institutions in the United States for graduate work by Bernard Berelson in his recent study,

Graduate Education in the United States. The graduate faculty is composed of carefully selected members of the various colleges of the University.

As the University has grown, some of its friends have feared that its sheer size may threaten its standards. Such a fear is nothing new. Back in 1916-17, when the University had a student body of about 7,000 and a faculty of 840, some observers were alarmed at its expansion. At that time President James asserted that a university organized on "sound, democratic, self-governing lines" need never fear its own growth. More recently President David Dodds Henry has spoken to the same point. In November, 1958, at a conference in Austin, Texas, on issues confronting state universities, he observed that growth is a normal function of a living institution; that quantity and quality are not necessarily opposites; that balanced growth and proper resources can make size a positive virtue, not a subject for apology:

Quality is a matter of resources and purpose, not of size. It derives from standards, not from numbers. It is influenced by people, not statistics. The large institution devoted to standards, determined to have quality, insistent upon achievement in the classroom by students and teachers, upon the best of personnel practices and the highest qualifications in professional selection will have quality if it has resources. The smallest institution with the smallest teacher-pupil ratio without these standards will not have quality.

The only size that is important to the individual is the size of the group or the groups of which he is a member.

Today, although the total enrollment of the University may seem enormous to outsiders, the fact is that students generally meet in small classes and get a good deal of individual instruction. Even in courses with large enrollments for their lecture sections, students generally meet in small groups for discussion. The typical class meeting on the Champaign-Urbana campus has 24 students. And 83 per cent of all undergraduate classes have fewer than 30 students. Most instructors welcome individual conferences to help clarify the subject for the student and to steer him towards a deeper exploration of it.

Since its beginning, the University has taken a strong interest in the students as individuals. Sixty years ago it became the first university to have a dean of men. (It had a dean of women four years before that.) Thomas Arkle Clark, the first dean of men, inspected rooming houses, loaned students money, kept an eye on their grades, helped them find jobs, and conferred with their parents. At one time his office had nearly 150,000 calls a year.

As the University grew, it became impossible for one individual or small group to perform all those services for the students. But, although the University has grown, it has continued to take a strong interest in its students. In all departments, advisers confer individually with students to help them plan their study programs. The University Honors Program is designed to encourage able students. Perhaps the most familiar is the all-



RESEARCHERS HAVE DEVELOPED PLATO, A TEACHING MACHINE.

University James Scholars Program, open to a selected group of superior students who in high school have demonstrated their promise and their ability to handle more difficult studies than the average undergraduate. James Scholars may enroll in courses and curricula to match their abilities. They are assigned permanent advisers who work closely with them, and they may enroll in special courses and sections open only to them.

To help students make the most of their abilities, the University maintains a Student Counseling Service, which is open to both students and those planning to attend college. At the Service, students can take scientific vocational and scholastic aptitude tests and get professional counseling help with study and personal problems and with vocational decisions.

To preserve its high standards and to maintain its efficiency, the University has a continuous program of self-examination. For almost 30 years, it has been helped by the Bureau of Institutional Research, which studies teaching loads, class size, enrollment trends, and so on. Individual colleges and departments are continually assessing old programs, improving them, and introducing new ones.

Looking to the future, the University is experimenting with new teaching methods, some of which it has already adopted. In language courses, instructors are making a wide use of tapes and records. Students can hear native speakers, record their own speech and make immediate comparisons.

Proceeding at their own speed, they need not hold back or be held back by the pace of the class as a whole.

Although the University has not yet adopted teaching machines for classroom instruction, it has experimented in their use and design. These machines hold promise as an efficient way of providing individualized instruction to large numbers of students and at the same time giving the instructor a step-by-step record of his students' progress. The Office of Research in Medical Education is studying the possibilities of teaching machines in medical education. The College of Education and the College of Engineering are working on the development of teaching machines. At a faculty conference at Alorton House in the spring of 1961, the College of Engineering demonstrated a teaching machine which it had developed, "Plato." Working at his own speed, the student can punch desk buttons to get lessons flashed on a TV screen, to test his comprehension of what he has read and to get help when he needs it. Work is now being done to utilize a single computer for a number of students.

The University is also one of the more than three hundred institutions in the nation teaching some courses by television. Although its potential has scarcely been tapped yet, television has already demonstrated that it can help to cut instructional costs, conserve valuable space and equipment and increase teaching effectiveness in some subjects. Videotape recordings of courses free the teacher

from a rigid schedule and permit him and his assistants to discuss a lesson before it is presented to students. Taped courses can be stored for reuse time and again; they can be modified, lesson by lesson, as the teacher seeks to improve his presentation and to keep his subject matter up to date.

Each semester some 1,300 students on the Champaign-Urbana campus now get some part of their instruction by television, closed-circuit or broadcast, and their number is expected to increase significantly in the years ahead. Televised courses have been offered in economics, sociology, speech, library science, and physical education for women. Some laboratory work in mechanical engineering has been taught by television; and closed-circuit cameras in the metals testing laboratory of theoretical and applied mechanics, too small a room to handle the enrollment, have transmitted demonstrations to a large hall nearby, where a number of receivers give students a clear view of even the tiniest detail. The performances of music students in choral and orchestral conducting have been recorded on videotape. Played back immediately, the tapes permit the student to observe his own conducting techniques while his instructors and fellow-students give their critiques of his performance. For the first time in the fall of 1960, President Henry addressed new students in a special telecast carried by WILL-TV, the University's non-commercial station. Faculty members led discussions of the talk among small groups of students



IN RECENT YEARS, TV HAS BECOME AN IMPORTANT TEACHING TOOL.

who had gathered around receivers in various rooms on the campus to hear it. Specialists from the Student Counseling Bureau have given student orientation talks and lessons on how to study over WILL-TV.

In Chicago, the College of Dentistry has used television for at least two lessons a week for the past several years. In addition, it has televised a number of demonstrations for special groups. The faculty has found television an excellent teaching tool. For one thing, it permits magnification; in operative dentistry, for instance, the smallest filling can be magnified to occupy a full 27-inch screen. For another thing, it has meant fewer instructors and larger classes with no loss of educational effectiveness. The Departments of Physiology and Surgery in the College of Medicine also have made occasional use of television in their instruction.

RESEARCH

Although the Morrill Act and the legislation creating the University both made reference to teaching, neither specifically mentioned research. Yet from their early years, the land-grant institutions took research as one of their major functions. The early investigators had no organized body of knowledge to guide them, and they had to make their own way. Many of their findings resulted from accident or crude experimentation. They were spurred on by the constant pressure for practical application of their findings, and they designed much of their work to solve problems of their immediate localities. In time, knowledge became increasingly systematized and specialized; the scope of research broadened, and its nature changed. World War II gave impetus to basic research by teaching colleges how little they had done in the years preceding it. At the same time, the gap between basic research and its application narrowed.

From its early years, too, the University of Illinois took research as one of its major functions. During its first year, however, its agricultural experimentation got off to a fumbling start. About all the head farmer discovered was that his farms were in bad shape. His buildings, fences, soil and drainage system were all in sad need of repair. His first experiment in raising vegetables was an utter failure because the early spring rains rotted his seed and unfenced cattle foraged and trampled on what little did come up. Far from advising farmers,

the University had even circularized them to learn what crops could be grown and how they could be cultivated.

Despite that unhappy beginning, the University was soon making important contributions to the state and nation. Farmers, among others, learned that what the professors were doing at Urbana was not theoretical puttering but affected their incomes and ways of doing things. When Eugene Davenport came to the campus in 1894, the most common complaint about the College of Agriculture was that it was not doing enough research. Actually, its experiment station had undertaken some 150 experiments of different kinds and had issued 33 bulletins in its first seven years of existence. The output of research simply could not meet the demand.

Over the years, the University has been able to point to an impressive array of research accomplishments of its staff — too many, indeed, for any complete listing.

One of the early successes of the agricultural experiment station was proving conclusively that the hybridization of corn produces sturdier plants and better yields. A University professor was one of the first, perhaps the first, to recognize the nature of corn smut.

As early as 1917, the agronomy department was demonstrating that adding soil-building materials to fields could mean extra money in the farmer's

pocket, and it had dollars-and-cents evidence to document its point. On fields in Saline County, for instance, it showed that adding manure and limestone to the soil could increase the value of yields from \$5.52 to \$12.30. It produced similar figures for other counties.

In its early years, the engineering experiment station discovered uses for large deposits of Illinois clay which had been thought to have no economic value. In its very first year, it began experiments dealing with concrete and its reinforcement. The resulting information has guided engineers throughout the world.

EARLY AGRICULTURAL RESEARCH PROVED TO FARMERS THAT THEY COULD INCREASE CROP YIELDS BY SOIL-MANAGEMENT PLANS.



THE MORROW PLOTS AMERICA'S OLDEST EXPERIMENT FIELD * ESTABLISHED IN 1876 *

Here are being demonstrated practical lessons in soil management, exemplified both soil improvement and soil depletion. Cereals on these plots range from 22 to 113 bushels per acre, according to the way the land has been handled.



IN 1898 THE UNIVERSITY BUILT A TEST CAR TO MEASURE ENGINE PULL AND FOUND BASIC FACTS IMPORTANT TO EVERY RAILROAD.

In physics, Jakob Kunz in 1913 made the first modern sensitive photoelectric cell. Using such a cell, J. T. Tykociner in 1922 devised and demonstrated the first practical sound-on-film motion picture. After spending ten months at work and not quite all of his \$1,000 budget, he stood before a group of electrical engineers in 100 Physics building to show that historic film, a movie of his wife. "I will ring the bell," she said from the screen, and she did. From sound movies Tykociner turned to studying ultra-short radio waves, a field to which he made notable contributions. Without his recognizing it at the time, his experiments foreshadowed radar. Cows kept wandering between the two transmitters he had set up on the agriculture farm, and he hired an assistant to shoo them away. The interference they caused was one of the first observations of a phenomenon later developed in radar.

Today the University of Illinois continues in the forefront among a comparatively few institutions with the resources for strong, diversified research programs. Fewer than a hundred of the nation's colleges and universities have comprehensive programs in basic research. Just 173 of the larger ones, including Illinois, account for 97 per cent of the dollars spent on research in institutions of higher learning.

The University now has the equivalent of more than seven hundred full-time persons engaged in research—more than comprise the total academic

faculties of a number of major universities. Financial support for these researchers comes largely from contracts, grants and gifts. Such research support has nearly doubled in the past half-dozen years; it has jumped from \$7,500,000 in 1955-56 to about \$13,400,000 a year at present. Of 350 research projects in the College of Engineering alone, 266 are sponsored by federal and state agencies, private companies, industrial associations, and private foundations under grants totalling some \$6,250,000.

Now, as in the past, a good share of the University's research is centered in its experiment stations. Scientists in the early land-grant colleges had got the idea for the experiment station from the Continent, where it had existed since 1851. From Germany, the stations had spread to Italy, Belgium, Denmark, France, Holland, Canada, and even Java.

The University began setting up its agricultural experiment station in February, 1888, when the Hatch Act made Federal money available for its maintenance, and by the following August the station had mailed its first bulletin to more than six thousand farmers and editors throughout the state. One of its foremost projects became its soil survey of the state. From this survey emerged the "Illinois system of permanent fertility," a program based on the assumption that the soil could be maintained at its highest fertility by natural proc-

esses if only a few basic soil-building materials were added when needed. C. G. Hopkins of the staff became so convinced of the doctrine that he bought a piece of the poorest land in Southern Illinois, named it "Poorland Farm" and set out to demonstrate the truth of his proposition. For the benefit of Illinois farmers, he and Dean Davenport helped to form a company to exploit a Tennessee deposit of phosphate, but both disposed of their financial interest in the concern for fear that their motives would be misinterpreted. Also growing out of the soil survey was the selection and development of a series of experimental plots on typical soils where field crops, vegetables and orchards were variously tested. The University now has farms and experimental fields in some thirty counties of the state. At Dixon Springs, in Southern Illinois, it has leased five thousand acres in the Shawnee National Forest area to demonstrate the value of good farming practices against rugged odds.

The Agricultural Experiment Station embraces thirteen research departments. Projects now under way are as varied as designing the most practical kitchen arrangement and preventing insect epidemics in pine trees. To find out how milk is made and why certain factors influence its production, biochemists have grown mammary tissues in a controlled laboratory environment for the first time anywhere. Never before have mammary tissues

out the University solve problems of measurement. When measuring instruments are not available, the engineers help to design and develop them. For instance, for zoologists studying the muscles of birds, they devised a platform which measures the force exerted by pigeons on landing and takeoff. Other researchers wanted to measure the muscular development of paraplegic students in the therapy program. Engineers helped them to build a device which measures the amount of work done by the arms of a paraplegic when he rotates a disc. Still other researchers are trying to reduce the water needs of corn by treating it with a solution which cuts down its loss of moisture. The engineers helped them build a simple instrument which measures the rate of moisture loss.

Throughout engineering, this merging of disciplines is taking place. Radio astronomy, for instance, has brought together astronomy and electrical engineering. Biophysical research represents an overlapping of biology, psychology, physics and electrical engineering. Cooperative experimentation is even being conducted by specialists in engineering and music. Researchers are feeding various rules of music into an electronic machine which composes music in different styles. The project promises to cast light on the rules of musical composition and to provide a tool for the study of style. The researchers also have designed a musical typewriter which prints musical scores automatically from a punched tape.

Elsewhere in the University, too, research workers from various specialties are combining their knowledge to tackle common problems. In the Zoonoses Research Center created in 1960, veterinarians, medical doctors, biologists and climatologists are working together to solve a broad range of health problems. Concerned with diseases transmissible between animals and man, the center has only one counterpart in the world, an institution

THE NUCLEAR REACTOR IS IMPORTANT TO RESEARCH AND TEACHING.



established in Argentina in 1956. The School of Life Sciences coordinates work in the departments of botany, entomology, microbiology, physiology and zoology. The Institute of Communications Research brings together specialists from economics, sociology, psychology and linguistics to investigate problems of human communication. Its current projects range from a study of the role of space satellites in international communication to the pausal phenomenon in speech, from the portrayal of education in the mass media to groundwork for a semantic atlas of the world.

To review even briefly the current research in progress at the University is manifestly impossible. Each year it takes a booklet of more than a hundred pages just to list the scholarly and research publications of the faculty.

Some of the research is designed to prolong human life. All of the common diseases of mankind are being investigated by the University's health sciences. Heavy emphasis is being given to preventing, controlling and curing cancer. Other studies involve the transmission of the common cold, isolating the influenza virus, determining the effects of various pharmaceuticals and learning the effects of radiation on the central nervous system.

Some is designed to make day-to-day living as economical and as comfortable as possible. The Small Homes Council is dedicated to finding construction techniques which will cut building costs and result in more liveable homes. Its own staff of

architects draws on the expert knowledge of sociologists, psychologists, home economists, engineers and economists. Builders from all over the world have come to the campus to learn of its work.

Some is designed to give man a better understanding of the institutions under which he lives. In government and labor relations, for instance, researchers are studying the economic problems of older workers, government procedures in Illinois and elsewhere, the problems of state financing.

To carry out their investigations, faculty members need a wide array of facilities, some simple, some elaborate and expensive.

The heart of any institution dedicated to investigation is the library. One of the first things John Milton Gregory did when he became regent was to build a library for the University. The first books he collected were eight cases of government documents from Washington. By the time the University opened, he had bought another 644 for an even thousand dollars. In the early years of the century, when the library allowance was comparatively scanty, the instructional departments kept the growth of the library from being retarded by dipping into their own funds for books. The Graduate College used nearly all of its first research funds to buy a collection for the library.

The University Library, the fifth largest in America, now has more than 4,000,000 books and other items. No state university has a larger collection; among all American universities, only Har-

vard and Yale have larger ones. In addition to its books, the library has pamphlets, broadsides, films, microcards, music scores, maps and aerial photographs. Some of its special collections — the H. G. Wells papers, the Carl Sandburg papers — are well known. Scholars the world over envy its collection of 100,000 rare volumes in 16th and 17th Century English literature, and they come from afar to use its collections of Shakespeare and Milton.

Not all research can be carried on in the quiet of the library, though its resources are used at some point or other. Much investigation requires laboratories, elaborate machinery, complex instruments.

THE UNIVERSITY'S LIBRARY IS THE FIFTH LARGEST IN AMERICA.

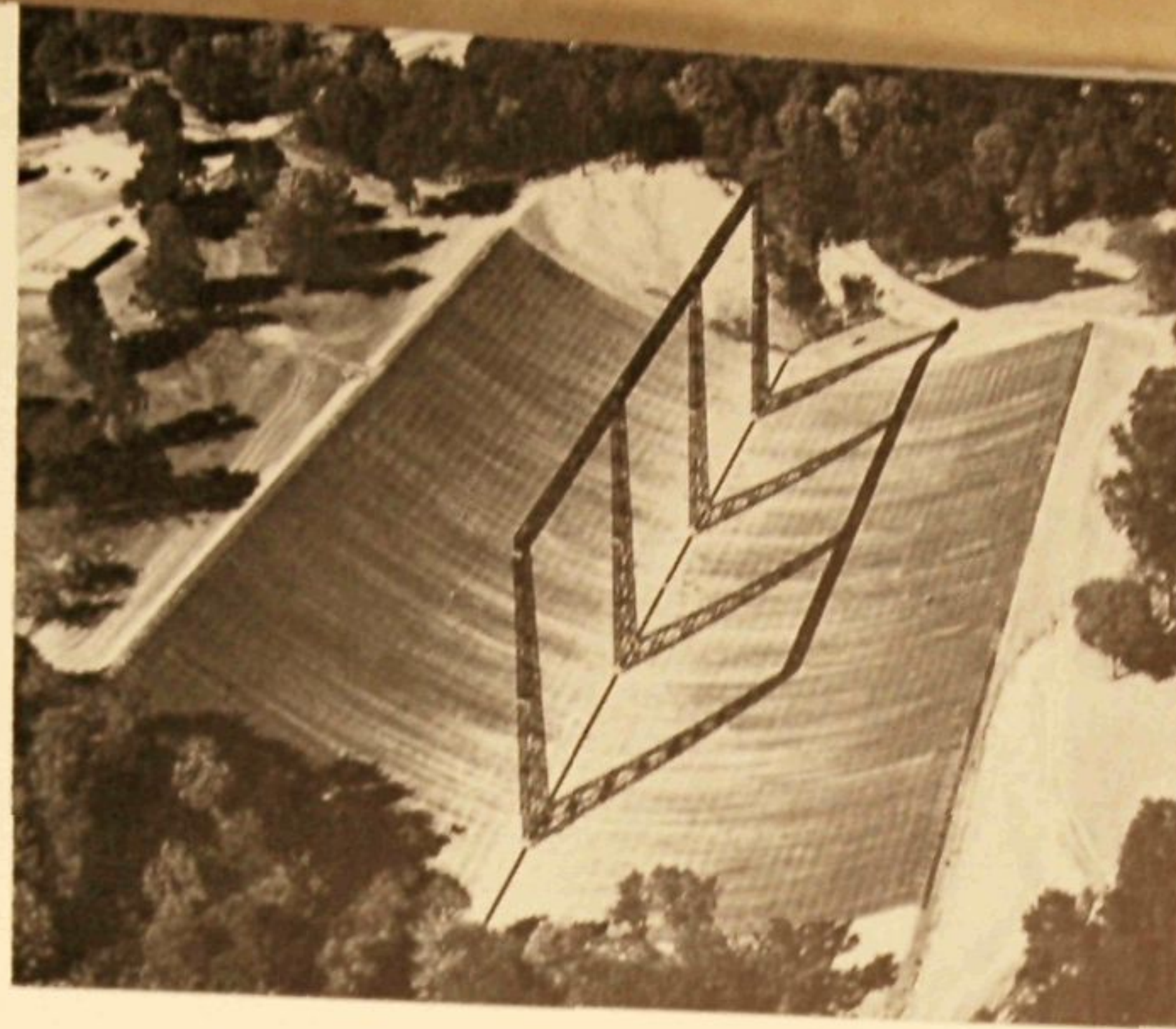


By means of a huge radio telescope, astronomers are hoping to improve their understanding of the universe by studying signals from sources that may be billions of light years away. The telescope is in a ravine 35 miles from Champaign-Urbana, a site chosen because it is secluded from man-made radio interference, heavy automobile traffic and population centers. A parabolic "radio mirror," 600 feet long and 400 feet wide, concentrates signals from space on receivers supported by 165-foot towers.

In the Digital Computer Laboratory, investigators can use such research tools as Illiac, a high speed electronic computer, and an IBM 650 computer. Using such machines, they can in a short time process data that would require weeks or months of calculation by other methods.

The Betatron, like the microscope, is a research tool that opens the way to new knowledge. It has manifold uses in medicine, industry and scientific research. It enables medical scientists to destroy cancers without injuring other tissues. It permits engineers to take pictures through thick metal castings and forgings to find flaws and to check the assembly of complicated mechanisms. It makes valuable contributions to nuclear physics by producing cosmic ray energies in the laboratory — in abundance and with precise control.

The largest betatron in the world went into operation at the University of Illinois in 1950, the result of work done by Prof. Donald W. Kerst. Scientists for years had tried to build a machine



USING A HUGE RADIO TELESCOPE NEAR DANVILLE, ASTRONOMERS HOPE TO IMPROVE THEIR UNDERSTANDING OF THE UNIVERSE.



DATA-PROCESSING IN MUCH RESEARCH IS SPED BY ILLIAC, A HIGH-SPEED DIGITAL COMPUTER, DESIGNED AND BUILT ON CAMPUS.

it incorporated such advances in design that if the original 1940 betatron could be built the same way, its 2½-million-volt rays would come from an instrument the size of a penny matchbox. Besides the 340-million-volt instrument, the Physics Research Laboratory operates betatrons of 80-million and 40-million volts.

Much stimulation for research comes from the Graduate College. In 1957 it created the Center for Advanced Study to recognize distinguished scholars and to encourage their investigations by freeing them from departmental duties and obligations. Its research board annually grants thousands of dollars to the faculty, usually to give a start to promising research projects which eventually might find support elsewhere. The number of visiting scholars brought to the campus has more than tripled in the past half dozen years, the number of graduate fellowships from all sources grown from 199 to 619.

Important as research is, it still lacks the public appreciation that teaching has. It is costly, to be sure, but it brings a tremendous return on the dollars spent on it. In dollars and cents, one authority has estimated, the development of hybrid corn alone has repaid the amount spent throughout the years on all agricultural research. But most of the fruits of research cannot be measured in dollars and cents—who can put a cash value on a life saved, on a home made happier?—although they affect the lives of all of us.

which could produce high-energy electrons by means of a magnetic field. They wanted these electrons—with energies of millions of volts—for direct use and to create equally high-energy x-rays, which would have many uses. The first betatron was invented at Illinois by Professor Kerst in 1940. His second, completed in 1941, is the prototype of the 24-million-volt betatron now produced commercially for industrial radiography, cancer treatment and scientific research.

When the 340-million-volt betatron for scientific research began operation at the University in 1950,

In the years ahead, investigation along a broad front will continue to remain a major function of the University. In a talk at a dinner of the Center for Advanced Study in May, 1961, President Henry expressed the need for future research in this way: "Higher education must expand in an expanding America, and it must expand in all of its aspects—not just in enrollments. We must keep open the college door, but we must also maintain the outgo of ideas from the laboratory to field and probe the unknown in the never ending search for new knowledge."

THE BETATRON, NOW WIDELY USED IN NUCLEAR RESEARCH, INDUSTRIAL RADIOGRAPHY AND CANCER TREATMENT, WAS INVENTED AT THE UNIVERSITY IN 1940 BY PROF. DONALD W. KERST.



EXTENSION AND SERVICE

No one today can truly say that his education is complete. In a society that grows increasingly complex, in a world that is undergoing what some have called an "explosion of knowledge," the individual must continue to learn in order to do his job effectively and to fulfill his role as a responsible citizen.

Today, as in the past, the people of Illinois have looked to the University to make available to them the insights of its great teachers, the research findings of its investigators, the aid and counsel of its specialists in myriad fields.

Many persons who learn from the University never set foot on its campus. The University has gone to them by one means or another — by extra-mural classes, by correspondence courses, by bulletins and other publications, by field worker, by radio and television.

Many others do come to the campus for a day, a week, a month to profit from the special training programs, short courses, demonstrations, clinics and workshops that the University conducts for them.

The University carries its services to the people of the state through two agencies — the Division of University Extension, which cuts across college lines and offers work of collegiate level, and the Agricultural Extension Service, which concentrates on serving the farm population and emphasizes a practical and technical approach to its problems.

Making the entire state the campus of the University is the objective of the Division of Univer-

sity Extension, which "extends" the resources of the University and helps it to carry out its continuing education function for the people of Illinois. Like the Graduate College, the extension division draws from the faculties of all of the instructional units in staffing its offerings. More than seven hundred faculty members took a personal part in the University's extension activities last year.

To make the most efficient use of its staff and funds, the Division of University Extension concentrates its efforts on projects to which the University can make a unique contribution. It avoids offerings that any other institution or organization could more appropriately conduct or that are inconsistent with the University's standards and objectives. Four general extension representatives in different areas of the state work closely with the individuals, groups and organizations wishing to avail themselves of the resources of the University.

Agricultural extension work at the land-grant institutions such as the University of Illinois grew out of their Farmers' Institutes. At first heavily inspirational, the programs of these Institutes became increasingly informational as research workers in the experiment stations and elsewhere on the campus accumulated a store of scientific findings of practical value to agriculture. By 1890 cooking schools had become a part of some such Institutes. The women in several Illinois counties formed a "domestic science association" in 1898 to work with the men in planning and conducting these Institutes.



But in time the University aimed its educational program not just at the farmer but at all citizens who could profit from it. In 1892 some three hundred persons came to the campus to hear a lecture series given by professors of English, engineering and zoology. Each week end faculty members traveled to Chicago, Oak Park and Sullivan to meet their adult education classes, and in 1894 the University was proudly offering twelve courses of six lectures each.

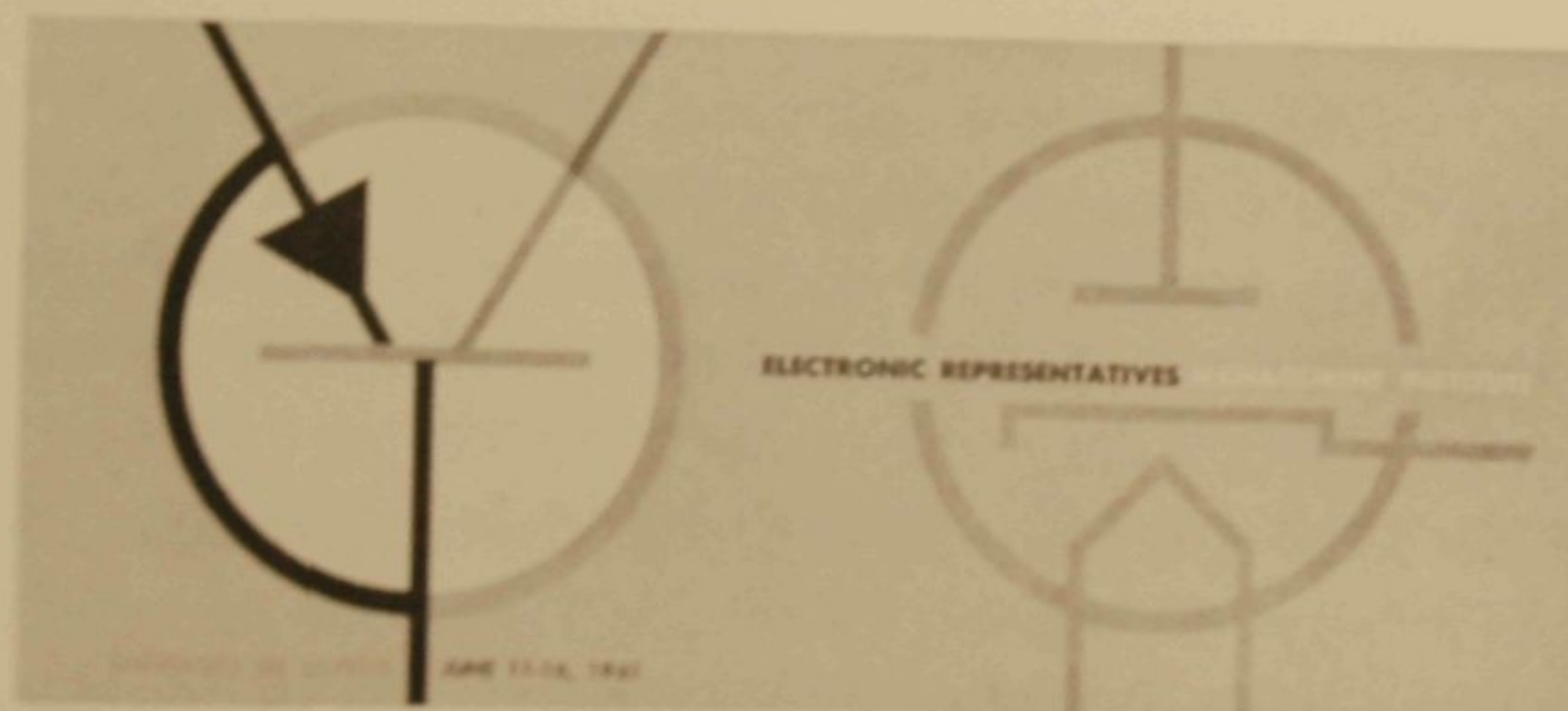
In the years that immediately followed, the number of short courses and conferences increased steadily. Early in the century, the mid-winter conference season brought hundreds of dairymen, swine breeders, corn growers, horticulturists and homemakers to the campus for information and ideas that would help them do their jobs more effectively. In 1901 the University was host at its first farmers' week program, which was continued down through the years as Farm and Home Week. That same year it began its program of work with rural young people. Railway cars, made available by two railroads in 1906, carried soil and seed demonstrations to persons unable to come to the campus. A little later University home economists outfitted a special railroad car with household equipment and appliances for a tour of the state.

Such activity led farmers to organize groups that worked closely with the University in its extension activities. The Tazewell County Farm Bureau, organized in 1913, was the first county organization

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of its kind in the United States to use the term "farm bureau." The University's home economics department was among the first—and in the northern states the first—to parallel the farm bureau with county home improvement organizations and a system of home advisers. By the first World War, the University had become a center of influence in the daily lives of the people of Illinois. A great network of agricultural extension activities spread from the campus to the farthest counties, and through it passed information on all aspects of rural living.

Today the Division of University Extension uses a variety of means to carry the University's resources to the people of the state. One means is extra-mural classes. More than 10,000 adults enrolled last year in the 453 late-afternoon, evening and Saturday classes that the University offered in 84 cities. Those classes covered a wide range of subjects. In a single semester, the faculty may be giving off-campus instruction in subjects as diverse as accountancy and nuclear physics, guidance and electrical engineering, plant pathology and literature, rhetoric and atomic chemistry. But in all of the courses the quality is as high as in the work offered on the campus for resident students. This extra-mural instruction is intended mainly for adults with full-time jobs who cannot attend campus classes but who want to increase their professional knowledge, satisfy intellectual or cultural interests, or work for a degree.

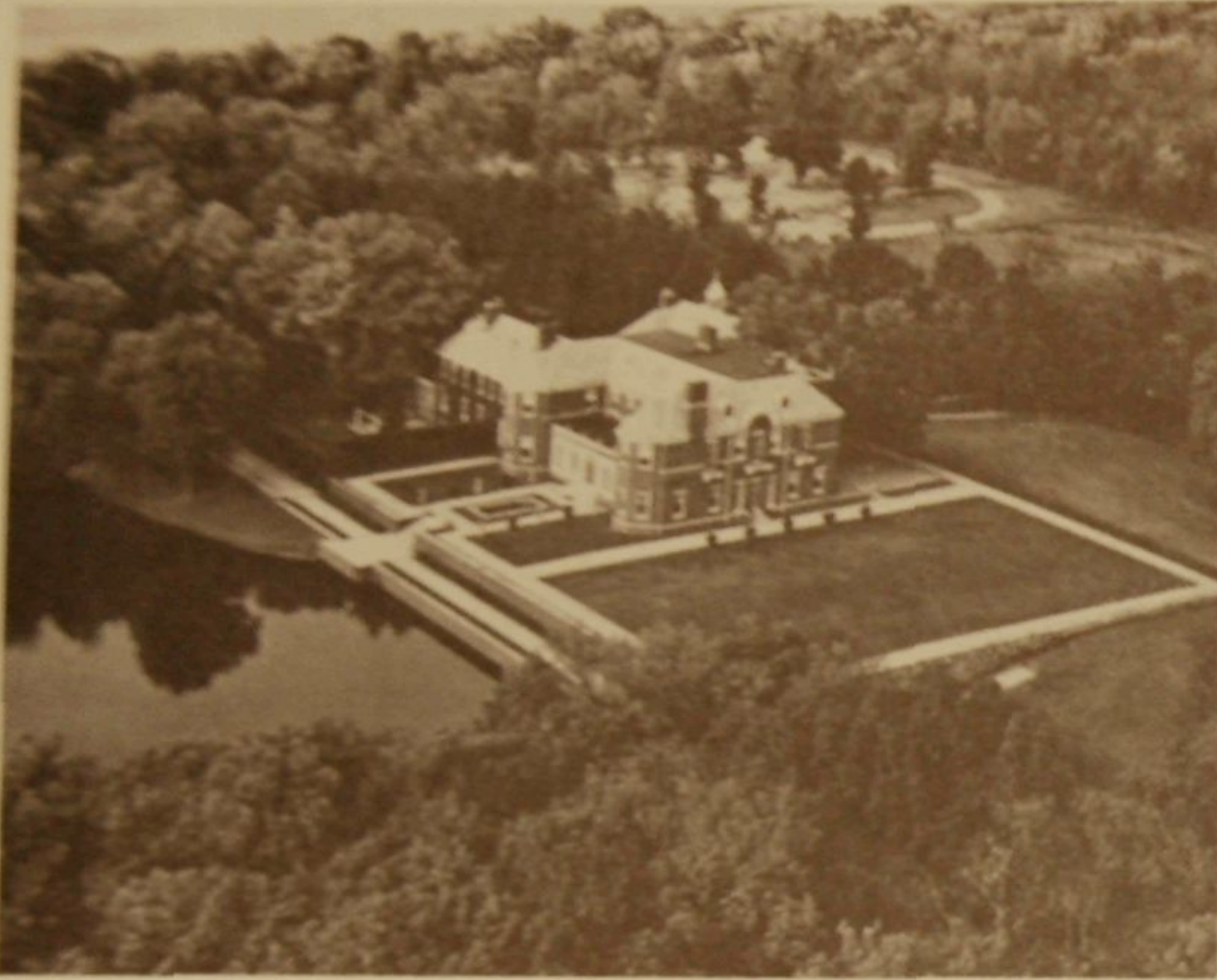


WITH THE VARIOUS COLLEGES, THE UNIVERSITY EXTENSION DIVISION CO-SPONSORS SHORT COURSES, CONFERENCES, CLINICS IN A PROGRAM OF CONTINUING EDUCATION. THE AGRICULTURAL EXTENSION SERVICE CONCENTRATES ON SERVING THE FARM POPULATION.

Since 1934 other persons have found that the campus is no farther away than the nearest mailbox. By enrolling in college-credit correspondence courses, they can start work at any time, not just at the opening of a new semester, and can proceed at their own pace. On any given day of the year, 2,500 persons are taking some of the more than one hundred courses that the University teaches by mail. They can earn up to two years' credit by correspondence, and their teachers are the same ones who teach on-campus courses.

A good share of the effort of the University Extension Division goes into helping professional groups and faculties in various subject areas arrange conferences and short courses. Many specialized groups call on the University for training programs and conferences that will keep them abreast of the latest developments in their fields. So great is the demand that the University cannot fill all such requests, even though the participants themselves usually cover all or part of the out-of-pocket costs.

Yet more than ten thousand persons each year do get new information and ideas from the array of short courses, institutes, clinics and training sessions that the extension division helps to sponsor. The conferences cover literally hundreds of subjects — architecture, banking and finance, business management, construction, direct mail, floriculture, food technology, library science, social work and veterinary medicine, to name a few.



ALLERTON HOUSE, NEAR MONTICELLO, IS A CONFERENCE CENTER.

HOTT MEMORIAL CENTER IS ALSO USED FOR CONFERENCE ACTIVITIES.



Center for many such conferences is Allerton House, about 25 miles from the main campus. The house and the country estate of which it is a part were given to the University in 1946 by Robert Allerton, member of a pioneer Illinois family. Three miles away from Allerton House and used in conjunction with its conference activities is Hott Memorial Center, a large private residence that was given to the University in 1960 by Mr. and Mrs. Maxwell Hott. The main campus, too, of course, provides facilities for a good share of continuing education. But faculty members still travel widely throughout Illinois conducting meetings and workshops. In a single year, for instance, the Institute of Labor and Industrial Relations conducted 92 adult education programs of various kinds in all parts of the state.

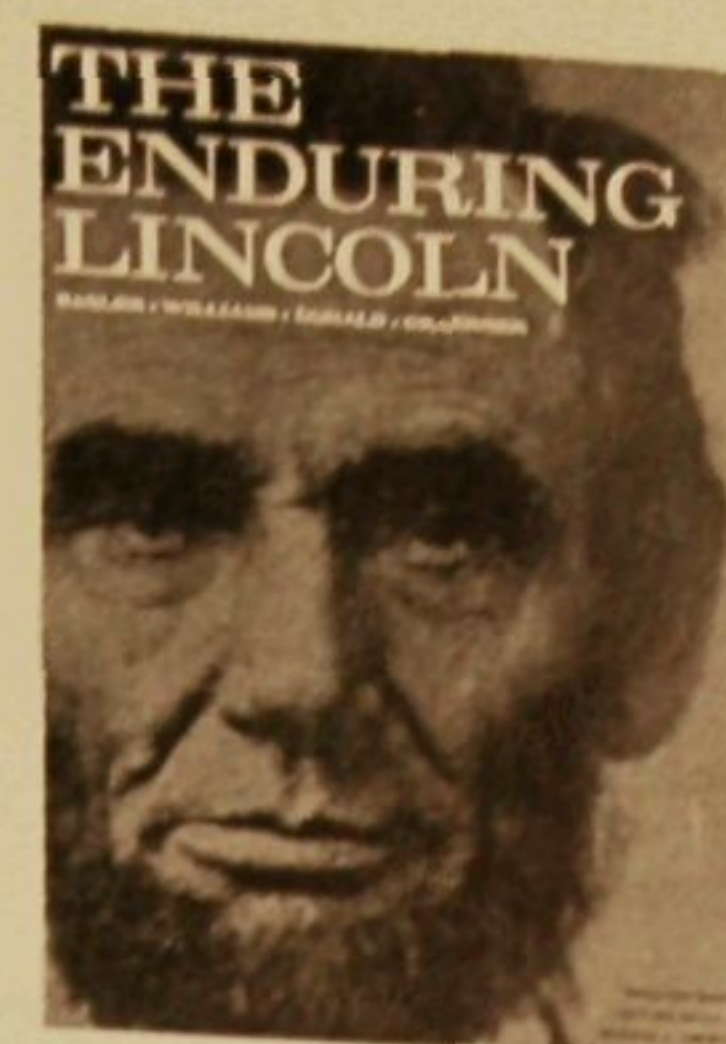
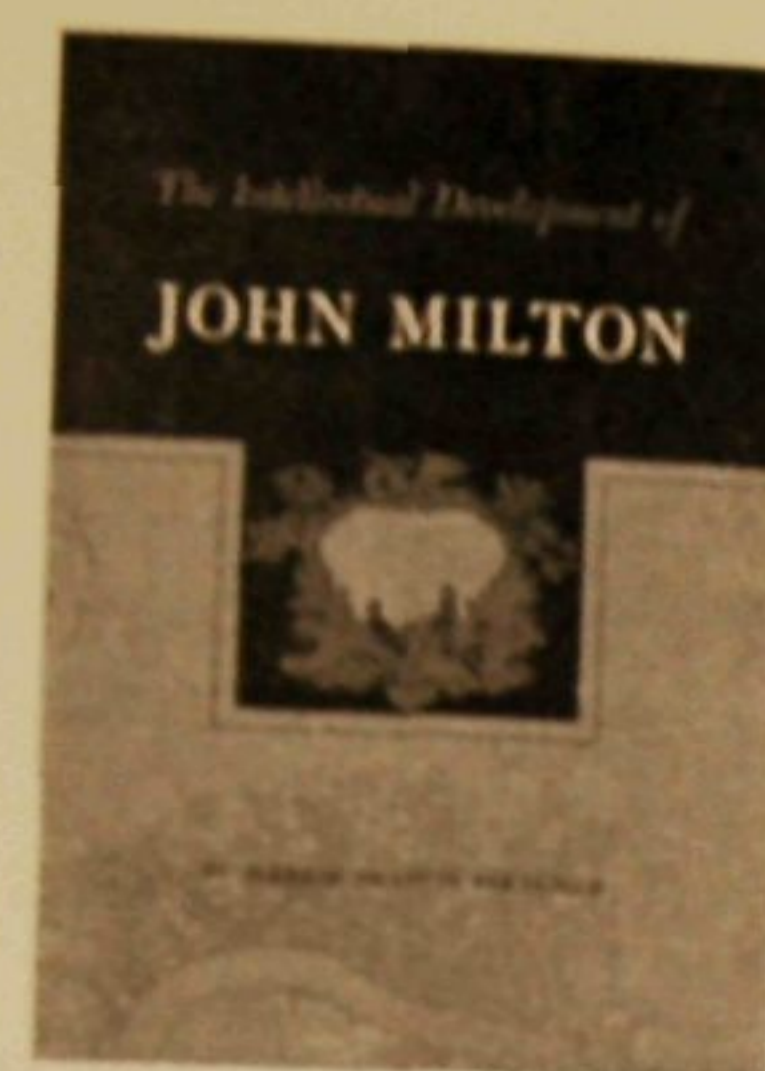
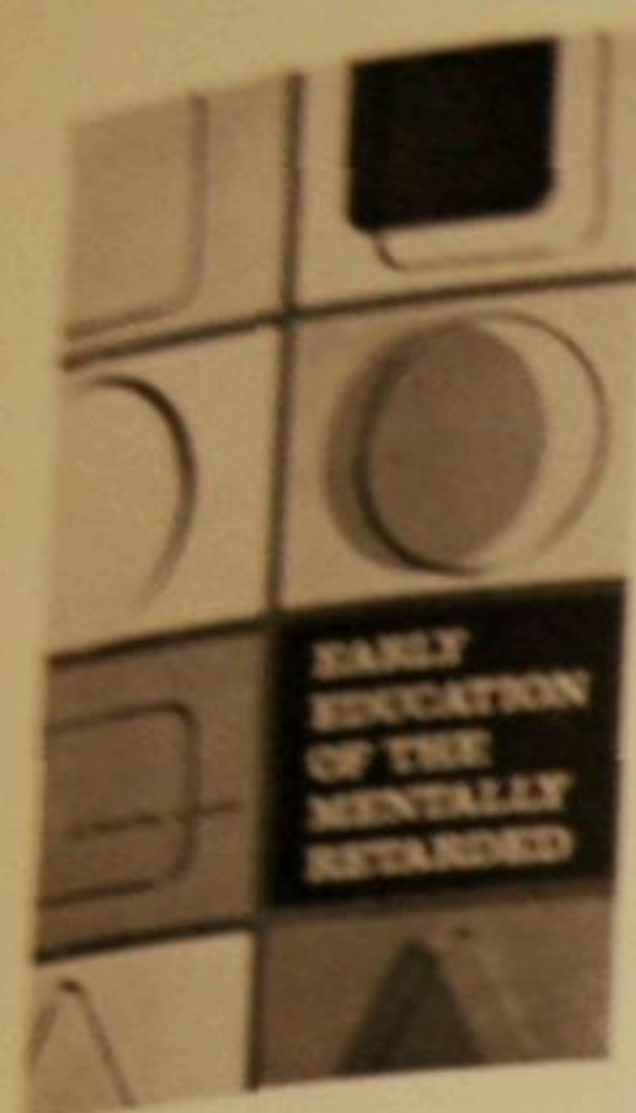
Some of the training courses offered through the University Extension Division are for persons whose occupations are directly related to the public welfare. Early in World War II, the University offered 24 different courses in 18 Illinois communities where war production was crucial. Some 3,600 persons studied chemistry, engineering, physics, production management and similar subjects as part of this war-emergency program.

Since 1925, when it held the first short course for firemen, the University has played an important part in providing continuing training for the men in the state's fire protection agencies. More than a thousand Illinois communities depend entirely upon volunteer departments for their fire protection, and each year about one in four of the volunteers is

new to his job. The Firemanship Training Program, which was created by a special act of the General Assembly, carries basic and advanced instruction in firefighting into all areas of the state through its community and regional schools. Last year it helped to train 9,784 firemen in 148 centers. It conducts an extensive program in fire prevention and rescue for the staffs of more than a hundred hospitals, nursing homes and other institutions, and it makes consultants available to communities and fire protection districts. The week-long Fire College, which it conducts each year, is the oldest in the nation.

The Police Training Institute, also created by a special act of the General Assembly, offers instruction and other aid to Illinois law enforcement officers. Each summer it conducts the state's basic four-week course for police officers in their early years of service. Its on-campus and regional conferences cover such subjects as narcotics control, working with juveniles, traffic court practices, police-community relations, police radio communications, and command procedures. It too provides a consulting service to law enforcement agencies and professional organizations in that field. So important is the Institute that the state legislature in 1961 doubled its appropriations.

To increase appreciation of music and to advance music education in the state, the music extension section of the Division of University Extension works closely with music teachers and community leaders. It sponsors clinics, workshops, classes and demonstration programs on the campus and around



THE UNIVERSITY OF ILLINOIS PRESS HAS EARNED A WORLD-WIDE REPUTATION AS A PUBLISHER OF DISTINGUISHED SCHOLARLY AND SCIENTIFIC BOOKS, MONOGRAPHS AND PERIODICALS.

the state. Its All-State Music Activity attracts more than two thousand school musicians and teachers, its Illinois Summer Youth Music Camp another thousand.

In the Audio-Visual Aids Service, administered by the extension division, the University has the world's largest educational film lending library. The service supports itself by charging a nominal rental fee on all films it supplies. Last year the service distributed more than 79,000 educational films to schools, colleges and universities, social and community groups, churches, study groups, labor unions and other organizations. The total audience for its films was estimated at well over two million persons.

Not all of the agencies that contribute to the continuing education of the people are under the University Extension Division. Recognizing that the University has important material that can be imparted through no other channels, the University maintains AM, FM and television stations. The University Press publishes original research and interpretive studies in the humanities, social sciences and natural sciences and prints catalogs, bulletins and other University publications. Quite probably the broadcasts and publications of the University reach more persons each year than all of the formally organized extension activities combined.

The University was one of the pioneers in educational broadcasting. Its radio station, which began operation in 1922, is charged by the Board of Trustees with contributing to "a better apprecia-

tion of the arts and a better understanding of the social, economic and civic problems of the state and nation." From early morning until sunset, WILL-AM carries educational and cultural radio broadcasts to most parts of Illinois and to nearby areas of adjacent states; WILL-FM broadcasts similar material in the late afternoon and evening hours. Both stations have built up loyal followings. Since 1955, WILL-TV has been demonstrating the educational and cultural potentialities of the new medium of television. Its viewers have seen some of the finest drama ever produced for television in the highly-acclaimed Play of the Week series, which included performances of Judith Anderson in *Medea* and Helen Hayes in *The Cherry Orchard*; heard excellent music performed by faculty artists, the Boston Symphony and other soloists and groups; listened to provocative discussions of current issues by faculty members, local authorities and distinguished thinkers from the world over; and kept abreast of developments in all phases of the University's activities on "Mosaic," a locally-produced program intended specifically to acquaint viewers with the University and its work. In scores of letters to the station, viewers have echoed the sentiment of the Champaign man who wrote to compliment WILL-TV on demonstrating the "tremendous possibilities of intelligently and imaginatively handled television."

Since it was established in 1918 as the agency responsible for University publications, the University Press has published more than seven hundred scholarly and scientific books and earned a world-

wide reputation for its distinguished lists. In the early days of the University, the only formally-sponsored publication of research findings was in the reports of the Board of Trustees. Recognizing that making results generally available is often an important part of research, the University began publication of its first bulletin in 1888. Eleven years later the Agricultural Experiment Station issued its first circular, which set the pattern for the Engineering Experiment Station and other organized research divisions. Other regular publications were begun to report work in the social sciences, biological sciences, literature and language, and by the first World War, the University was sponsoring eighteen separate series of studies. The University Press was created to centralize them and to provide for the book publication of worthwhile studies by authors on the Illinois campus and elsewhere. Besides an annual output of a score or more of books, the University Press issues quarterly journals in law, mathematics, library science, language and literature. Agricultural, commerce, engineering and other divisions also publish frequent newsletters, circulars and bulletins reporting research findings and their application. Last year agriculture alone issued 88 publications with a total circulation of nearly 800,000 copies.

Each summer a select group of top management executives come to the campus for a special kind of educational experience offered through the Executive Development Center of the College of Commerce. In a four-week program of lectures, discussions and small-group study teams, they take

a hard look at such subjects as defining corporate purpose, planning corporate finances, world economic development, the emerging mass culture and the business environment, moral and ethical values in business leadership, and the businessman as viewed in literature. The seminar is one way in which the Center provides advanced educational opportunities for business and professional executives; it also plans and conducts similar programs for companies or groups of companies and supervises special private study for individual businessmen.

For more than a dozen years, the University has systematically offered help with management problems to Illinois businessmen, especially those with small businesses. Its Bureau of Business Management has, among other things, compiled reading lists for realtors, outlined bookkeeping systems for seed producers and processors, surveyed the trade areas of Illinois communities, polled consumers on their attitudes toward their shopping centers, studied the capabilities of older workers in retail stores, conducted refresher courses for young executives and with the Division of University Extension held conferences on such topics as credit management and choosing effective personnel.

The University has encouraged and guided intelligent planning by Illinois communities for nearly thirty years through its Bureau of Community Planning, the extension and research unit of the Department of City Planning and Landscape Architecture. Its staff conducts research in city and area development, publishes results of its surveys and studies, and consults with municipal officials and community leaders. Just recently it has helped to



DENTAL CLINICS TREAT NEARLY TEN THOUSAND PATIENTS A YEAR.

create a permanent research and planning commission for the development of the Wabash River Valley on a bi-state basis.

In carrying out one of its major objectives, combatting livestock diseases, the College of Veterinary Medicine operates a diagnostic laboratory and clinics for large and small animals. Those services treated 26,000 animals and received 117,000 specimens for diagnosis last year. For thirty years, the University has cooperated with the Illinois State Department of Agriculture on routine diagnostic work for the entire livestock industry of the state,

and for even longer it has had a formal program of extension instruction in veterinary medicine.

Although the terms "extension" and "service" appear nowhere in the name of the Research and Educational Hospitals in Chicago, the concepts are clearly there. Since they are intended for teaching and research, the hospitals limit their care and treatment to Illinois residents who have conditions of educational interest, who are referred by their physicians or social agencies or who are admitted in emergencies. Yet each year many thousands of persons benefit directly from their facilities and services. Illinois residents used the hospitals for 172,915 patient days and made 192,699 visits to their outpatient clinics in 1959-60. The Illinois Eye and Ear Infirmary, staffed by the College of Medicine and operated by the State Department of Public Welfare, had more than 85,000 clinic visits, provided more than 2,500 patients with hospital care and performed more than 2,700 operations. In its clinics, which provide training for students and opportunities for research, the College of Dentistry treats nearly ten thousand patients a year.

Although its home is in Springfield, the Division of Services for Crippled Children is under the jurisdiction of the Chicago Professional Colleges. It is the official state agency for utilizing federal grants-in-aid for the diagnosis, hospitalization and after-care of children who are crippled or who have conditions which lead to crippling. Through medication and physical therapy, through its training and education programs, it helps handicapped children who in times past might have been a burden to relatives or society to become self-supporting and self-respecting adults.

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