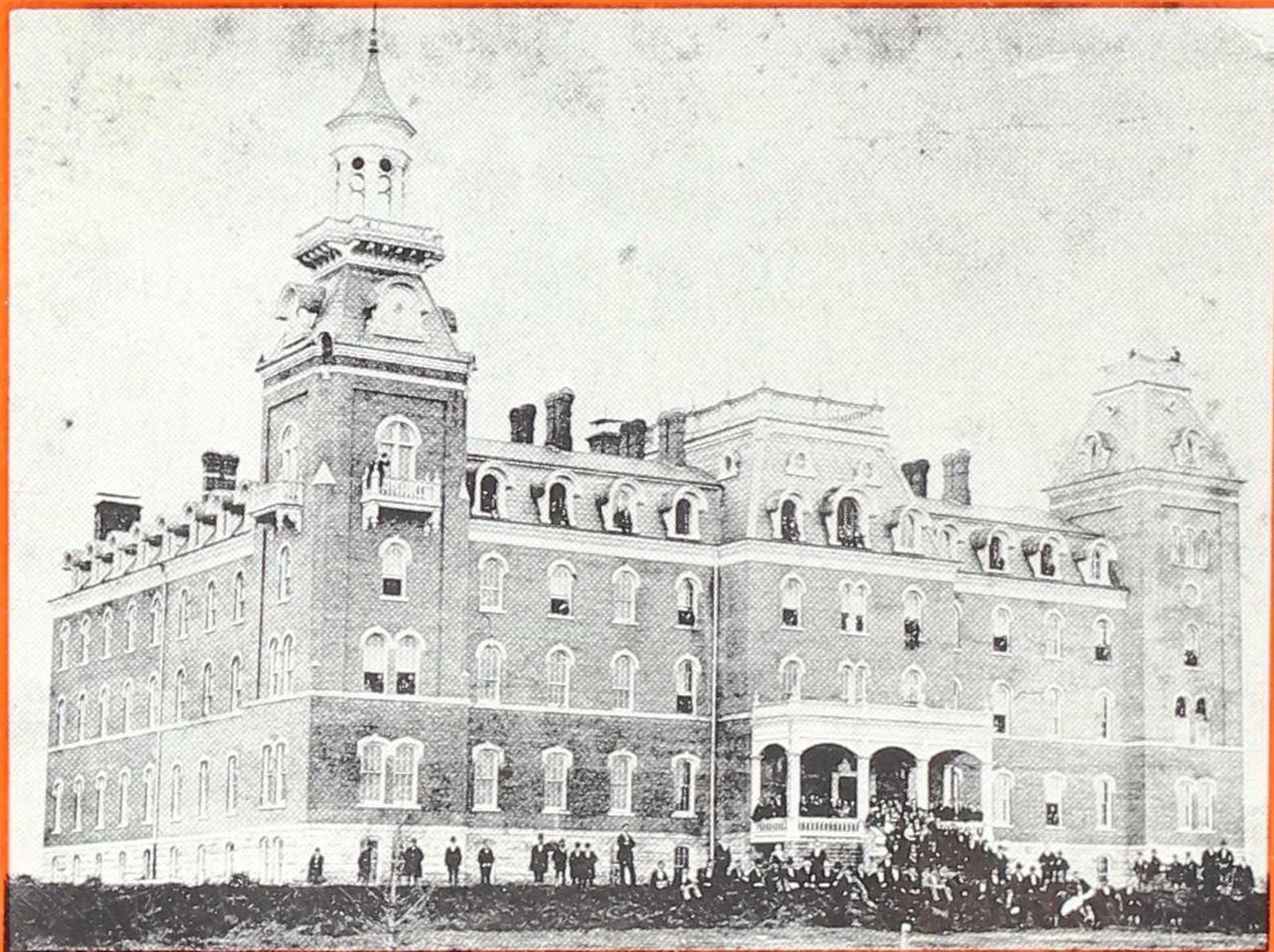


The
PALIMPSEST



IOWA STATE COLLEGE

The student body is pictured in front of Main Building in the early 1870's. It housed all classrooms and rooms for the students as well as most of the faculty. Except for a farm house and a few barns it was the whole College.

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The Meaning of Palimpsest

In early times a palimpsest was a parchment or other material from which one or more writings had been erased to give room for later records. But the erasures were not always complete; and so it became the fascinating task of scholars not only to translate the later records but also to reconstruct the original writings by deciphering the dim fragments of letters partly erased and partly covered by subsequent texts.

The history of Iowa may be likened to a palimpsest which holds the record of successive generations. To decipher these records of the past, reconstruct them, and tell the stories which they contain is the task of those who write history.

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THE PALIMPSEST

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A New Kind of Education

On a raw rainy afternoon in September, 1868, Adonijah Strong Welch, a dignified Florida senator, accompanied by his family, left the train at Ames to board the lumber wagon which had been sent to escort him, the first president of Iowa Agricultural College, to his new home on the campus.

As the weary party watched the college buildings emerge from the rough, unbroken prairie ahead of them, they saw the Farm House, the barns, a dozen stunted apple trees, and a row of willows in front of the Farm House which were the only other trees upon the grounds. Main Building was only halfway completed. Undismayed, the group unpacked at the bare, dirty Farm House.

One of Welch's children later recalled:

From the moment, when from the veranda, he looked about his new domain that rainy afternoon, his great heart was filled with love for this school. . . . That devotion, which was greater than his ambition, was unfaltering through years of the most arduous labor, through suc-

cesses and failures, in health and in illness, until the day when he closed his eyes on all earthly labor.

The dramatic growth of Iowa State College during its first century can be attributed in large measure to such men as President Welch. Its road was often drab and discouraging, but a succession of devoted administrators and faculty and a great new idea in education caused it to live and grow to great heights.

The idea of providing the farmer and mechanic with a better education was becoming popular throughout the nation a century ago. Thus, in 1848, Fort Atkinson in northeast Iowa was being abandoned and the first Iowa General Assembly promptly memorialized Congress for the donation of the land and buildings to form a branch of the state university. This branch was to be an agricultural college — but nothing ever came of it. Meanwhile, men like Suel Foster, Muscatine horticulturist, and William Duane Wilson, editor of the *Iowa Farmer*, continued to champion the cause of industrial education in Iowa. It was not until the Seventh General Assembly, recently moved from Iowa City to the new capital in Des Moines, that definite action was taken.

It remained for three pioneer farmers, meeting in a rooming house amidst a February snowstorm, to draft the measure which eventually became "A bill for an act to provide for the establishment of a State Agricultural College and Farm with a

Board of Trustees, which shall be connected with the entire agricultural interests of the State." Opponents wanted to kill this bill for reasons of economy and even tried to repeal it after it was passed. But its three ardent champions — Benjamin F. Gue, Robert A. Richardson, and Ed Wright — mustered sufficient strength to pass the measure. The bill was signed by Governor Ralph P. Lowe on March 22, 1858, which is now the official founding date of the college.

Curiously enough, no college was begun in the ten years following the enactment of the bill. The Panic of 1857 brought hard times to Iowa and the Civil War absorbed most of the new state's energies. Few people thought much of the prospects of the new college and only six counties — Hardin, Jefferson, Marshall, Polk, Story, and Tama — sought it. Story County won by floating a \$10,000 bond issue and by enlisting private donations in Boone County as well as Story to bring the total amount to \$21,355. With this and a \$10,000 initial appropriation by the General Assembly the college was started.

A 648-acre tract was purchased and residents of the region made donations at considerable sacrifice in order to bring higher education close to their children. Amidst such enthusiasm the community celebrated with a big Fourth of July picnic.

Work now began in earnest — a farm house and farm buildings were quickly built. Then they

fenced the land and broke the sod. Private enterprise helped from that point. Manufacturers furnished implements for trial, breeders contributed foundation stock, and nurserymen donated fruit trees. Despite such progress it was discouraging business. The site was practically on the frontier.

According to Benjamin F. Gue:

A few log cabins of the early pioneers contained the entire population that then inhabited the country between the capital and the College Farm. Arriving upon the ground designated by that classic name, it seemed to me that it must have been selected as a place of exile, where students would some day be banished, remote from civilization and its attendant temptations, to study nature in its native wildness. Standing on the eminence where the College now looms up, we could see only one of the most beautiful landscapes in the west, but almost as wild as when Noah's Ark floated over a world of water. *When and how* a great State College was to be built up here, was a problem too difficult for any of us to solve. But we had got the idea, the land, and an endorsement of the Legislature, and we must work it out.

Fortunately, substantial Federal aid had become available with the passage of the Morrill Act. This bill, which was signed by President Abraham Lincoln on July 2, 1862, was especially designed to aid agricultural colleges.

The Morrill Act provided public lands to the states on the basis of thirty thousand acres for each senator and representative which that state had in Congress. The proceeds were to constitute

a permanent "endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

It was a broad charter — "the several pursuits and professions of life" covered just about everything. According to Professor Earle D. Ross of Iowa State College:

First and foremost, the act committed the expanding and consolidating nation to mass higher education. Historically the provision marked the extension of the public elementary and secondary school systems to the collegiate realm. It thus brought the nearest approach to Jefferson's educational pyramid in the state realm, but with much broader apex than he had visioned. The conforming state universities, dominated largely by the old traditions in aim and subject matter, had never made such an appeal. Here indeed was 'democracy's college' — in design and aspiration. The opportunity clearly was open to all aspiring young people who found existing institutions and courses of study unavailable or unacceptable.

The new Land-Grant colleges were to offer studies in agriculture, science, engineering — in fact almost anything that would help young people prepare for life in the rapidly industrializing

world. The Iowa General Assembly, convened in special session in September of 1862, promptly accepted the provisions of the Morrill Act. Thus, Iowa was the first state in the Land-Grant family. Additional debate was necessary to decide where to place the federal aid. The State University of Iowa thought it could expand its offerings so that it could be designated, but the proponents of the Agricultural College thought differently. In the end, the idea prevailed of a separate college of agriculture and mechanic arts.

Peter Melendy of Cedar Falls selected the Iowa lands, amounting to about 204,000 acres, which were to go to the College endowment. So well were they selected and so carefully administered that the College gained about \$800,000. As a result the Morrill Act endowment yields today something over \$20,000 annually which is used for faculty salaries.

As early as 1859 a committee for a College building, with a bit of reverse snobbery, took a look at the Old Capitol occupied by the State University and reported:

We have studied every way to economize the funds of the State, having all the time in view a good school rather than a display of architectural beauty — no costly dome or curious winding stairs — but . . . of good respectable appearance, about good enough for the farmers of our state, *and good enough for anybody else.*

Even without a “costly dome or curious wind-

ing stairs," construction proved to be a series of misfortunes and pyramiding costs. When the contract was completed President Welch reported: "With singular lack of foresight the architect had completed the structure without making any provisions for lighting, heating, supplying with water or with adequate drainage." Additions of wings and various alterations and repairs brought the total expense of the building to \$230,000 before it burned down at the turn of the century.

With its initial faculty the college had much better success. Benjamin Gue and Peter Melendy were constituted a committee to look into similar colleges, in order to find out everything necessary for the organization of the new Iowa venture. They took their work seriously and actually visited sixteen colleges and schools, as well as the Smithsonian Institution, and the editorial offices of leading agricultural journals. They became fully aware of the important task that faced them:

We became convinced at an early day that the most difficult part of the mission intrusted to us was the selection of a corps of professors thoroughly competent for the work — eminent as teachers of experience in conducting an Agricultural College. On the character and ability of its faculty will the character and success of the Institution depend more than upon all other circumstances taken together. Buildings, cabinets, libraries, and rich endowments will all be in vain, if the living agents, the professors, be not men of ripe attainments, fine culture, and eminent teaching powers.

With little money or other inducements, they fell back on the sound principle of looking for young men, well grounded in the sciences, but with professional reputations still to be made.

For president they needed a more mature man with the necessary background for guiding a new enterprise. Their choice of Welch was excellent. Born on a Connecticut farm, he was a graduate of the University of Michigan, an honor student, who also held the degrees A.M. and LL.D. Following graduation Welch had studied law, but soon turned to teaching. His career included a year in the California gold fields, the principal's post in a new Michigan state normal school at Ypsilanti, and lumbering and fruit growing in Florida, where he went in 1865 because of failing health. He was a United States Senator when he accepted the Iowa offer of \$3,000 per year with house included.

A preparatory class came to the College in 1868, but the president was not inaugurated until March 17, 1869. It had been decided to admit women as well as men to the College, a revolutionary idea in those days, and Gue, Welch, and others repeatedly mentioned the equal educational opportunities for both sexes.

It was a workaday college from the beginning, with room for few frivolities. The rising bell rang at 5:30 a.m., and clanged the beginning and end of each period through a strictly regulated day

that ended at bedtime. The first students not only attended classes, but worked in the fields, tended the grounds, prepared meals, and built new buildings as part of their education.

Except for the farm and, later, a few professors' houses, the Main Building was the College. The students slept, ate, recited, and studied under one roof which also sheltered most of the faculty. The annual vacation came during the winter months when nearly everyone turned to school teaching as a means of providing cash for his next term in College.

The year started in March when the weather generally was inhospitable. Each student was required to bring a bed tick from home, and this tick was filled from a pile of clean straw near the entrance of Main Building. Beds were easily made with the supply of new straw, but when the straw broke into bits, as it did after a time, and the slats beneath fell down, the soft beds that mother made were present in troubled dreams.

President Welch not only looked after the academic schedules of his students, but tended closely to their spiritual needs and social pleasures as well. Daily chapel was held, mid-week religious meetings were encouraged, and Sunday services were never omitted.

Main Building was heated by a central hot air furnace, and the impracticability of this scheme was demonstrated every time a cold blast swept

in from the northwest. One part of the building would be too warm and the windows would be thrown open while the windward side would be uncomfortably cold. The heating system was so bad it was soon replaced by steam.

Light was furnished first by candles and later by gas generated from naphtha, but the illumination was inferior to that furnished by kerosene lamps in the students' homes. Water was pumped from the spring north of the farm to a supply tank in the south wing but was not well distributed. Bathing facilities consisted of a bowl and pitcher — which was what most students of those days were used to at home.

If life was simple, expenses were low. The budget for two sisters in the 1870's was a little less than \$270 for both for one year. This included railroad fare for 150 miles and return and "a pretty dress apiece for Sundays." Some could not afford railroad fare. The father of one coed told how he used to take her to College in March and come for her in November, traveling by team more than fifty miles over frozen trails from before sun-up until after dark on each trip.

At first there were but two curricula, a "Course in Agriculture" and a "Course in Mechanics." Shortly afterwards a "Ladies Course" was added. The first class was comprised of 173 students, 136 boys and 37 girls.

President Welch turned out to be a good

teacher and a capable administrator. The faculty, too, in the first two decades, was far better than might have been expected in a rude, almost experimental college in the west. Isaac P. Roberts, an alert young farmer from Jefferson County, was made superintendent of the college farm and instructor in practical agriculture in 1870, then went on to Cornell University, there eventually to become Dean of Agriculture. Charles E. Bessey began the classification of the diseases of plants, and trained at the College (and later at the University of Nebraska) more men into botany than possibly any other man who ever lived. He established at the College "the first botanical laboratory in the United States for undergraduate instruction."

Many other outstanding teachers could be mentioned. Louis H. Pammel had a great interest in weeds, grasses, and plant pathology. He was a tireless worker who introduced at the College one of the first courses in bacteriology to be offered in America. Herbert Osborn became the best authority in the Mississippi Valley on injurious insects. His name is perpetuated by the Osborn Science Club on the campus today. Joseph L. Budd developed into one of the great pioneer horticulturists of the nation.

Although Welch had a broad view of education, and the curricula were by no means confined to narrow vocational lines, his faculty immediately

set about building new curricula of the kind that were to become the hallmark of the Land-Grant Colleges of the future. Agriculture as a science was almost unknown — Roberts complained that he might as well “look for cranberries in Rocky Mountains” as for suitable books on agriculture in the College library. To compensate for the lack of suitable texts, the College farm was used for demonstration. Nearby farms were visited for observation of good and bad practices. Even dead animals were dug up, and — after placing the class carefully to the windward — used in anatomical lectures.

Within two years after the opening of the College, the “Course in Mechanics” had been divided into the departments of mechanical engineering and civil engineering. Developments in engineering, while no less important than those in other areas, were less unique because other institutions were teaching engineering, and there was no suspicion of “book-learning” for engineers as there was in many instances for farmers.

Veterinary Medicine, which heretofore had been practiced largely in connection with fine horses, was given a new role in controlling the diseases in Iowa farm flocks and herds so that the livestock industry of the state could flourish. Milikan Stalker, a graduate of the class of 1873, was, by 1879, head of the College’s “Veterinary School” which conferred a suitable diploma. Iowa was the

first state to establish a veterinary school in one of its publicly-supported institutions.

But among the small, stalwart, pioneering faculty none perhaps was more remarkable than the wife of the president. At Welch's inaugural, Benjamin Gue had pointed out:

In this people's college dedicated to the encouragement and promotion of industry, we must aim to make labor attractive not only to the boys who are seeking knowledge in their department, but to the girls, who can never become accomplished and thoroughly educated women without a knowledge of the art of housekeeping and the best methods of conducting every household occupation with system, intelligence and womanly grace.

President Welch spoke in much the same vein, and in 1869 Mary B. Welch was assigned the task of teaching home economics in what appears to be one of the first efforts of its kind in the United States. In cooperation with Mrs. Potter, the College matron, a rotation system was developed in which the students received practical laboratory training each week in the kitchen, dining room, and laundry under the general supervision of Mrs. Welch. In 1872 Mrs. Welch began giving lectures. During her fifteen years of service these lectures covered cooking, sewing, house-furnishings, health, care of the sick, ventilation, water supply, courtesy, hospitality, and entertainment.

In 1875 Domestic Economy was first mentioned in an official report, and in 1876 an "experi-

mental kitchen" was authorized. Believed to be the first of its kind in any college, the kitchen was originally only a tiny room in the basement where the girls were obliged to practice the culinary arts in small detachments.

President Welch himself actually taught at various times such subjects as rhetoric, German, Shakespeare, psychology, geology, political economy, sociology, genetics, and the history of civilization, as well as landscape architecture. He has been credited with setting the first general pattern for the naturalistic park-like campus of today.

It would seem that with a learned and efficient president, a hardworking faculty, and a devoted (if sometimes ill-prepared) student body, the people of Iowa would have been immensely pleased with their new state college. Such was not the case. The College, like others of its kind, was struggling hard to make a place for itself in academic circles, and did not immediately have great things to contribute. Narrow vocational interests charged that Welch, with his rather broad view, was allowing the College to drift "away from its original intent."

Welch had his strong supporters, and, had he kept his physical vigor, he might have been able to weather the storm. But his health was never robust, and the strain of teaching, administration, and carrying on public relations was telling. In 1882 he was glad to accept an invitation of the

Federal Commissioner of Agriculture to inspect agricultural schools in Europe. In 1883 he was removed from office by a three to two vote of the trustees. When he returned from Europe, Welch accepted the blow philosophically and continued as a member of the staff until his death in 1889.

Bessey served as president while Welch was away, and Seaman Knapp was made president for a single year. Knapp had been a strong member of the faculty, a supporter of Welch, and later moved on to prominence as a planter, educator, and federal agriculturist in the South.

At the end of Knapp's brief tenure the board made the almost whimsical selection of Leigh S. J. Hunt, who "had qualities of true genius but none of them was academic." Not yet turned thirty, he was particularly boyish in appearance — on at least one occasion he was mistaken for a freshman — and overly conscious of his dignity and authority. He resigned, on the pretext of ill health, July 20, 1886, after a scant year in office.

The board next chose W. I. Chamberlain, secretary of the Ohio Board of Agriculture. Cordially welcomed by Welch, Chamberlain began his four-year tenure auspiciously. However, he encountered some of the same kind of opposition which Welch had met, and, after certain campus unrest not directly related to this opposition, he resigned in 1890. His administration had been good, but not outstanding.

Through its formative years the College was often strengthened by the addition of its own graduates to the staff. Among them was E. W. Stanton, who taught in the department of mathematics and served in administrative capacities over a period of forty-eight years. He was vice president, and dean of the junior college. He was named acting president four times, though he never achieved the presidency. He was secretary of the board of trustees — with intermissions to hold down the president's chair — from 1874 to 1909. As such he kept careful watch on the financial dealings of the College. It is said that he and Herman Knapp, '87, made a perfect pair in the keeping and management of funds. Knapp, too, had long and devoted service with the College. He was business manager from 1887 to 1933, recorder from 1887 to 1920, treasurer from 1887 to 1935, and twice acting president.

The campanile, which is in the center of the Iowa State College campus and is perhaps the best-known landmark of the institution, contains the Edgar W. and Margaret McDonald Stanton Memorial Carillon. Stanton in 1899 gave the first bells in memory of his wife, who was the first Dean of Women at the College. After the death of Stanton, in 1920, additional bells were provided from his estate, and the carillon made a memorial to both him and his wife.

NED DISQUE

A Modern Land-Grant College

If Iowa State College has a single "grand man" it is perhaps William M. Beardshear, whose name today has been given to the big limestone building erected on the site of Old Main. Beardshear came to the presidency in 1891, a decade which proved to be the turning point for Iowa State College as well as for all Land-Grant colleges. It was about this time the United States Department of Agriculture gained new strength and status, and the Land-Grant colleges thereupon became better organized and received more financial aid both on a state and national level. The almost explosive force of industry and commerce in the nation and the coming of modern technology increased the importance of the Land-Grant movement.

Furthermore, Beardshear was not only a good educator, public speaker, and administrator, but the sort of a man to inspire love and respect among students, faculty, and the citizens with whom he mingled. More anecdotes, true and apocryphal, cluster about him than any other man in the history of the institution.

When Beardshear died in 1902 at the height of his career, his death was largely attributed to the tireless manner in which he drove himself. The

College had turned the corner into the bright pathway of the Twentieth Century, and it seemed as though Beardshear had been a martyr to a great cause.

Ohio-born, and a Union soldier at the age of fourteen in the Civil War, Beardshear had studied for the ministry at Otterbein University. He had filled several pastorates, and had spent a couple of years in the Yale Divinity School before coming to Iowa in 1881 to head Western College at Toledo. He was Superintendent of Schools in West Des Moines when he was named President of Iowa Agricultural College.

The dissident farm groups were still difficult to handle, and to assure them that teaching and experimentation in agriculture were in safe hands, James "Tama Jim" Wilson was brought in to be head of that program. "Tama Jim," so-called to distinguish him from other Jim Wilsons of the time, was a canny Scotchman whose success in agriculture was surpassed only by his eminence in politics. He reorganized the agricultural program along the lines of thought prevailing at that time, then took a leave of absence to become United States Secretary of Agriculture for four terms, during which he maintained a considerable connection with the College.

Many of the stories about Beardshear — vouched for by people who knew him personally, but possibly embellished in the telling — were

about his relations with students. Some of them concern the drama and the power of his oratory in student convocations where he liked to conduct the affairs of student government.

Herman Knapp tells how Beardshear, after the usual Chapel services one day, advanced to the rostrum and announced that last night a widow lady living near the College had lost six chickens. There were smiles and then laughter, but ten minutes later not a dry eye showed in the audience. Everyone was indignant that any boy or boys had thought it sport to steal chickens from a henhouse or to deprive a poor widow from part of the support for her table. At the close of the convocation Beardshear told Knapp, "I know who stole the chickens. I will call them into the office tomorrow morning and let you know the result." Knapp was surprised that any man could deliver such a lecture and at the same time pick the culprits from the audience, but Beardshear was right, as it proved when the boys were brought to his office. "There were two and only two," he told Knapp later, "I knew I had them."

A. T. Erwin, a long-time faculty member, now retired, has another story about Beardshear's alertness against the chicken thievery of the period. He tells how a group of boys who planned a raid on a farmer's chicken yard on the old Boone road one moonlight night were suddenly joined by Beardshear who emerged from the shadows.

“Good evening, boys, you out for a stroll?” he inquired. “Well, fine, do you mind if I stroll with you?”

They strolled right past the farm that the boys had spotted for the raid. At Boone, thirteen miles away, Beardshear put them on a train bound for Ames. They arrived on campus just in time for breakfast.

John Boyd Hungerford of the class of 1878 has another tale of this uncanny sense of Beardshear. Apparently early students, like their counterparts of today, were wont to complain loudly about the food served in the College dining hall. One evening in May, 1894, the Board of Trustees lingered on the front porch of Old Main after their meeting to smoke, swap yarns, and discuss the business of the session. In time there appeared on the lawn in front of them a dozen or more white-clad figures who seated themselves and began to speak in sepulchral tones. They explained that they had starved to death in a college boarding department at a place named Ames, Iowa, and predicted that their numbers soon would be increased by others now in the process of starvation. By turns they related their stories. One told how rancid butter had destroyed his digestive organs, another could never get half enough to eat, still another said the food was half-cooked, or overdone, never right. College hash came in for a series of indictments. There was a proper finale

to the drama by a speaker evidently not on the program. The voice was familiar rather than sepulchral and the speaker, silhouetted against a clear sky, bore a close resemblance to the College president. With every attribute of command and authority he made the closing announcement that there would be a meeting of all present (he had their names on a pad) in his office at ten o'clock next morning.

Students generally respected President Beardshear's type of discipline. He was inclined to keep a fairly loose rein and encourage them to have fun within bounds.

Beardshear was equally successful in building the academic stature of the College. With the departure of "Tama Jim" for Washington, the way was open for C. F. Curtiss '87 to become Dean of Agriculture. (The idea of divisions within the College as practiced today was just emerging, and the term "Dean" was beginning to be used.) Curtiss, a stern, hard-working individual, was apt to be found in his office weekends and holidays as well as during ordinary working hours and liked to keep himself in trim by chopping wood on his farm south of town. He filled in for "Tama Jim," who was officially on leave from the post from 1898 to 1902, then served thirty more years as dean in his own right. Curtiss was followed by H. H. Kildee '08, who turned administrative duties over to Floyd Andre '31 in 1949. The Divi-

sion of Agriculture at Iowa State College achieved preeminence under these three men.

Another fortunate appointment of Beardshear was Anson Marston who came from Cornell University to teach engineering in 1892. One of the most colorful figures in the history of the College, and one of the strongest, he was made the first Dean of Engineering in 1904. Under Dean Marston the Division of Engineering gained nationwide recognition.

Marston used to say he became a civil engineer out of contrariness — “my teachers always used to tell me there wasn’t anything left for a civil engineer to do in this nation, what with the railroads already built.” He found plenty to do in Iowa — especially in road building. Iowa roads were terrible. The legislature, shortly after Marston became dean, designated Iowa State College as the Iowa State Highway Commission, with the deans of agriculture and engineering jointly responsible for its administration.

Marston was on the Iowa Highway Commission for twenty-seven years from its founding. During the first years the commission had only advisory authority, but through its efforts there was made available for the first time to road builders a series of standard plans for roads, systems for road drainage, culverts, bridges, and expert advice on how to build them.

For years Dean Marston was a legendary fig-

ure who drove up to the road grade in a 1909 Buick, raised Cain in behalf of proper drainage and crowning, and disappeared with mud shooting from his spinning wheels. The Iowa Highway Commission became a separate entity in 1913, but Iowa State College still does important research for the benefit of Iowa roads, under contract with the Commission.

Iowa had only twenty-one miles of concrete road in 1919, and Dean Marston is credited with a substantial part of the effort that "pulled Iowa out of the mud" in the 1920's. Marston also supervised the construction of College buildings, laid out a sewage disposal system for the College, and served as consultant for many state and national projects. Ironically, Marston was killed in an automobile accident on an Iowa highway in 1949, while still active at Iowa State, although he had retired as Dean of Engineering in 1932. He was followed by T. R. Agg, and then by J. F. Downie Smith who left the College in 1957 for a position in industry.

To find a worthy successor to Beardshear was no easy task. The Reverend Albert B. Storms of the First Methodist Church of Des Moines was finally chosen. Storms was able to show definite progress in the work which Beardshear had left unfinished — that of bringing the College fully into the modern era. Under his guidance the main divisions completed their organization, enrollment

showed marked growth, and, with increased support, the staff was strengthened. Storms himself served as Dean of Science and General and Domestic Science, which now has become simply the Division of Science.

Following the resignation of Storms in 1910 and after two years of temporary guidance by Stanton, the retiring Commissioner of Agriculture in New York, Raymond Allen Pearson, was made the seventh president of the College in 1912. It was in Pearson's regime that there were strong pressures from both within and without to abolish most of the liberal and scientific subjects taught at the College and to return to narrow vocationalism. Another proposal by an investigating committee was that all Home Economics work should be transferred to the State University of Iowa, while all Engineering should be centered at the Iowa State College in the interest of efficiency and economy. Undergraduate men at the College, seeing the possibility of the removal of nearly all of the coeds, were particularly opposed.

Through all such difficulties, the College continued to progress toward its present form. R. E. Buchanan, who has served the College well in many capacities, was first made Dean of Science (1913-1919) and then Dean of the newly-formed Graduate College (1919-1948).

Millikan Stalker became the first Dean of Veterinary Science (later changed to Veterinary

Medicine) from 1898 to 1902. Under Dean C. H. Stange, Veterinary Medicine acquired a first-rate plant for both research and for the teaching program which had been lengthened to four years under J. H. McNeil in 1903. Home Economics, the last area to gain divisional status, was so designated in 1913, and Catherine J. MacKay was named Dean. In 1919 S. W. Beyer replaced Buchanan as Dean of Science, and in 1923 Anna Richardson followed Catherine MacKay as the head of Home Economics.

World War I provided the first real test of what Iowa State College and its sister institutions could do in a national crisis. The original Morrill Act had provided that "military tactics" should be taught in all Land-Grant colleges. In the midst of the Civil War, when the Act was passed, the North was feeling the lack of qualified officers for its armies, and the Land-Grant colleges seemed a good place to train officers for the future. As it turned out, Congress did not see fit at any time to provide much support for these military training programs, and the colleges themselves, in the main, did not comply whole-heartedly with the military training requirement.

When war broke over Europe in 1914 a shocked nation took notice. In December, 1915, the War Department insisted upon a second year of drill, and the next year there was established a full Reserve Officers Training Corps. The fac-

ulty at Iowa State College immediately petitioned for such a unit.

Eventually, the whole College was in the war effort. When the United States itself became a belligerent, President Pearson became one of two assistant secretaries for food production within the United States Department of Agriculture. Other staff members followed into military and civilian tasks connected with the war effort. The Agricultural Extension Service and the Experiment Station aided in food production in Iowa. The most immediate demand upon technical institutions such as Iowa State was the training of selected contingents of drafted men in mechanical trades and special skills. Auto mechanics, blacksmiths, and machinists were trained by the College. It was not until October 1, 1918, that a collegiate program combined with army requirements was finally inaugurated. Although Iowa State — like the rest of the nation — was unprepared, it was generally agreed the College had met its first serious wartime test well.

Through much of his regime, President Pearson carried on a running feud with President Walter Jessup of the State University of Iowa, and with the finance committee of the State Board of Education (now the Board of Regents) over matters of appropriations and areas of teaching and research proper for one institution or the other. The University, in general, seemed to feel that it

was the leading educational institution of the state, while the College felt it had advanced to a stage where it should be accorded equal status and treatment. The legislature authorized one of its periodic surveys of higher education at this time, and two prominent educators from outside Iowa, who formed the survey committee, generally agreed with Pearson's idea of equality and urged cooperation. Complete cooperation did not come about, and Pearson resigned in 1926 to become president of the University of Maryland.

Of Pearson's administration, Professor Earle D. Ross declares:

Pearson's failure to achieve more fully for the College the ideal which he declared at his election was due, in part at least, to his own limitations. His vision of the Land-Grant idea was somewhat restricted. A vigorous, and in general, understanding champion of the technical lines, from his training and personal interest he was less sure of the general. . . . Furthermore, to the overemphasis of his critics and the regret of his friends, Pearson was a victim of an obsession for details to which too much of his time and energy were devoted. . . . These shortcomings are noted not by way of depreciation but rather in partial explanation of the circumscription in development of the most achieving administration to that time. With all the inhibiting conditions, Raymond Pearson had contributed most to the working out of the great idea upon which the College was established, after the formative contribution of Adonijah Welch. . . . Pearson had brought the College to the verge of the promised land although he was not destined to lead in the full occupation of it.

Raymond Hughes, who succeeded Pearson, was a native Iowan who had lived in Ohio since childhood. He was a graduate of Miami University, where, after graduate work at Ohio State University and Massachusetts Institute of Technology, he returned as professor of chemistry, dean, and then president.

The presidency of Raymond Hughes was marked by moderation, by increasing harmony with the State University, by the building of a stronger college, by excellent relations with students, and — unfortunately — by the vicissitudes of a great depression. Hughes served until his retirement from administrative duties in 1936. Genevieve Fisher became head of Home Economics in 1927, Charles E. Friley came from Texas to take the deanship of Science in 1932, and Charles Murray became Dean of Veterinary Medicine in 1936.

Friley, who followed Hughes to the presidency, was a graduate of Texas A. & M. College whose special interest and field of study was college administration. Let Ross, the historian of Iowa State College, speak again:

The new executive was to be numbered among a new generation of forward-looking Land-Grant leaders who recognized not alone the great responsibility of training experts in the branches of technology, but no less than that of providing a competent rational understanding of the broad social implications of applied science in all

realms and of the consequent essential place of the general subjects. This conception of the true Land-Grant idea was the thesis of his inaugural address on "The Place of the Technological College in Higher Education." Such an emphasis was in the best tradition of the college—a fuller application of the philosophy of progenitor Welch. Especially among the younger scientists there was an increasing appreciation of the essential place of the general subjects in any program of higher education and of the dependence of their own professions, not only upon directly 'supporting' sciences but upon the humanities as well.

In 1938 Harold V. Gaskill, a psychologist, was appointed to succeed Friley as Dean of Science. He was succeeded in 1957 by Richard Bear who came from Massachusetts Institute of Technology.

As Friley assumed the presidency, the worst of the depression was passing. Enrollments climbed. Research and extension agencies turned from emergency activities connected with that depression to long-range projects. And a second World War loomed on the horizon. From the late 1930's the campus was alerted to the international scene through lectures, broadcasts, forums, and discussions. In 1940 the College took further "measures" looking toward national defense. The attack on Pearl Harbor speeded the preparations. In June, 1942, a non-collegiate naval training school was organized for three groups—electricians, diesel firemen, and cooks and bakers. Schooling for amphibious firemen was added later. Young women

were trained for work in the engineering department of Curtiss-Wright airplane corporation. A naval collegiate V-12 program began July 1, 1943, with eight hundred cadets. An Army specialized training program was begun that same year. Research and extension programs again were geared to wartime activities. When peace came again, the College was faced with a flood of ex-G.I.'s who made notable records in scholarship and established the pattern of marriage as relatively common for students in college — a pattern that has been maintained to this day.

Henry D. Bergman succeeded Charles Murray as Dean of Veterinary Medicine during the war, and he in turn was followed by I. A. Merchant in 1952. Ralph Hixon became Dean of the Graduate College in 1948. New buildings were erected after the war to compensate for the almost total lack of campus construction since the depression began. Campus programs were expanded.

When the tenth president of Iowa State College assumed office in 1953, he was indeed the head of a "technological university." After a careful search which had included consultation with all segments of the faculty, James H. Hilton was chosen. Hilton, a native of North Carolina, and Dean of Agriculture at North Carolina State College at the time of his selection, was the first alumnus of the College to serve as its president.

NED DISQUE

The Development of Extension

The men who made the plea for an Iowa Agricultural College in 1858 knew that such an institution, if operated directly on the farmers' land and in their homes, would lead to better farming, better farm homes, and better farm communities. With this in mind, President Welch conducted a farmers' institute at Cedar Falls in December, 1870, and later that winter one each at Council Bluffs, Muscatine and Washington.

Since no money was available for such activities, Welch worked out a plan for local support. A written request signed by fifty farmers who desired to attend all the meetings was required. In addition, local people provided a meeting place and paid current expenses of lecturers and all other local costs. From this shortage of College funds was established the principle of helping people to help themselves which is fundamental in Agricultural Extension everywhere today. These three-day institutes have been credited with being the first off-campus work by an agricultural college.

Mrs. Welch reported that she had received requests for several lectures in 1882-1883, including a course of six lectures to a class of sixty women

in Des Moines — possibly the first example of extension work in home economics. These two events were forerunners of the present-day philosophy that regards every farm, every home, every factory, and every place of business in the state as a proper place for the educational endeavors of the College.

Beardshear also advocated taking the College to the people and bringing the people to the College. His excellent speaking voice was heard at conferences in all parts of the state, and other staff members learned to leave the campus and mingle with the people. Railroads were induced to provide special rates for excursions to the campus, and thousands of Iowans took advantage of these educational trips.

In the winter of 1901 Curtiss organized the first short course on campus — one dealing with livestock. It was so successful that another was planned for the following winter, this to include the subject of corn. Perry G. Holden, formerly of the University of Illinois but at that time with Funk Brothers seed corn company, conducted the course. His enthusiastic farmer audience clamored for more, but the tight program which lasted from early morning until evening would not allow it. Finally Holden suggested, half in jest, that the only open time was from 2 a.m. to 8 a.m. The farmers decided to come at 5 a.m., bringing lanterns and breakfast with them!

Presidents
of
Iowa State College



ADONIJAH S. WELCH
1868-1883



SEAMAN A. KNAPP
1883-1884



LEIGH S. J. HUNT
1885-1886



W. I. CHAMBERLAIN
1886-1890



W. M. BEARDSHEAR
1891-1902



ALBERT B. STORMS
1903-1910



R. A. PEARSON
1912-1926



R. M. HUGHES
1927-1936

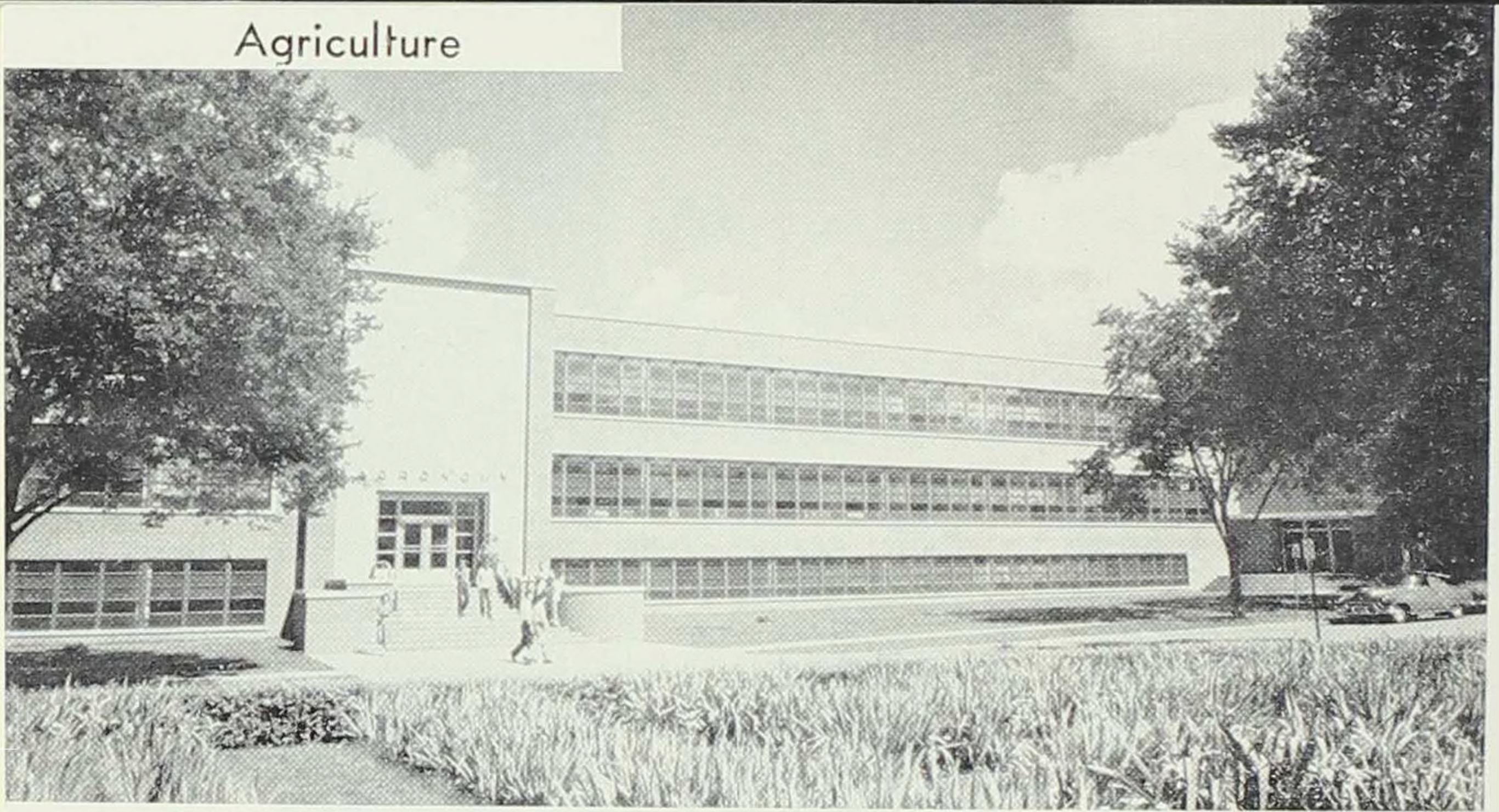


CHARLES E. FRILEY
1936-1953



JAMES H. HILTON
1953-

Agriculture



One of the newer buildings on campus is the Agronomy Building which was completed in 1952.



FLOYD ANDRE
Dean, Agriculture,
1949-



R. K. BLISS
Dir. Agr. Extension
1912-46



R. E. BUCHANAN
Dean, Science, 1913-19;
Dean, Grad. Coll.,
1919-48; Dir. Agr.
Exp. Sta., 1933-48

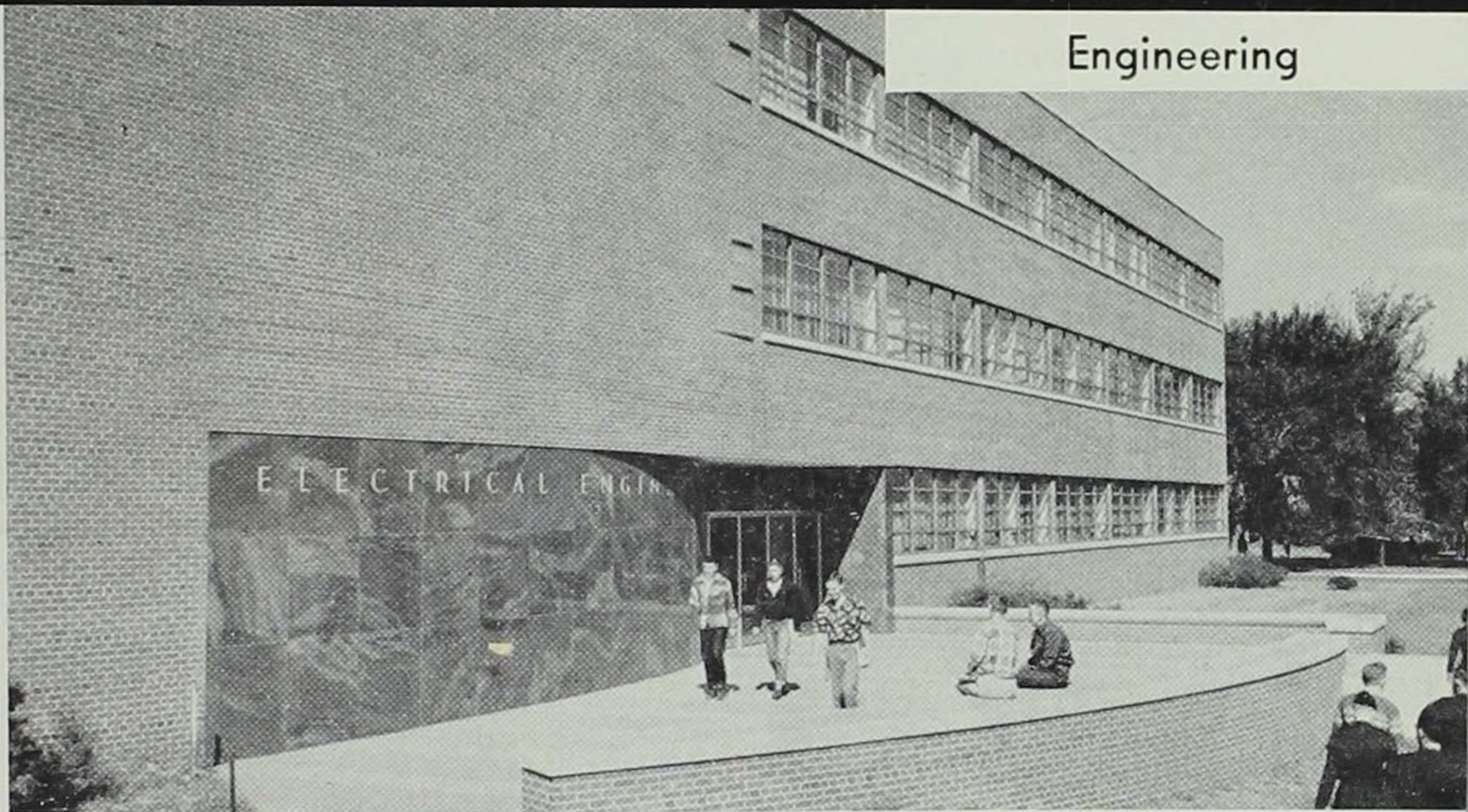


H. H. KILDEE
Dean, Agriculture
1933-49

A class learns grafting technique at the Horticulture Farm.

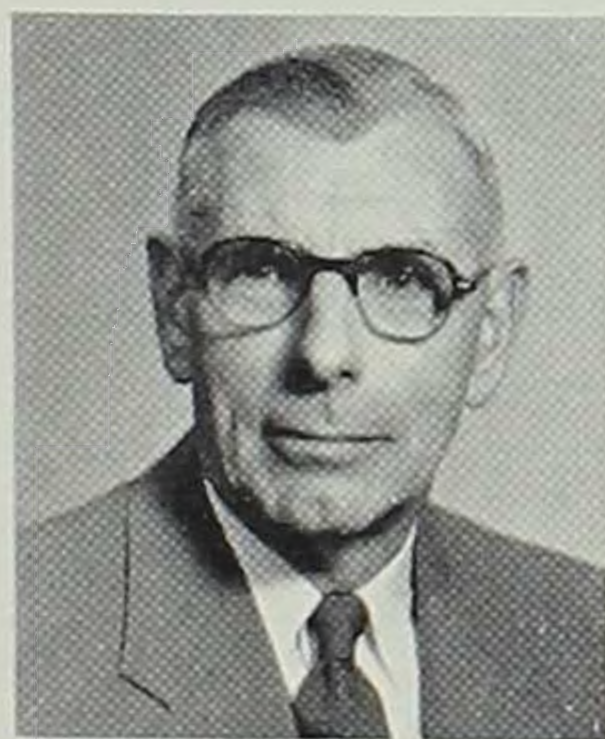


Engineering



The latest electrical laboratories are to be found in the Electrical Engineering Building which was completed in 1950.

New glass bubble cap distillation column in Chemical Engineering Laboratory was designed and erected by chemical engineering seniors.



M. S. COOVER
Acting Dean,
Engineering, 1958-



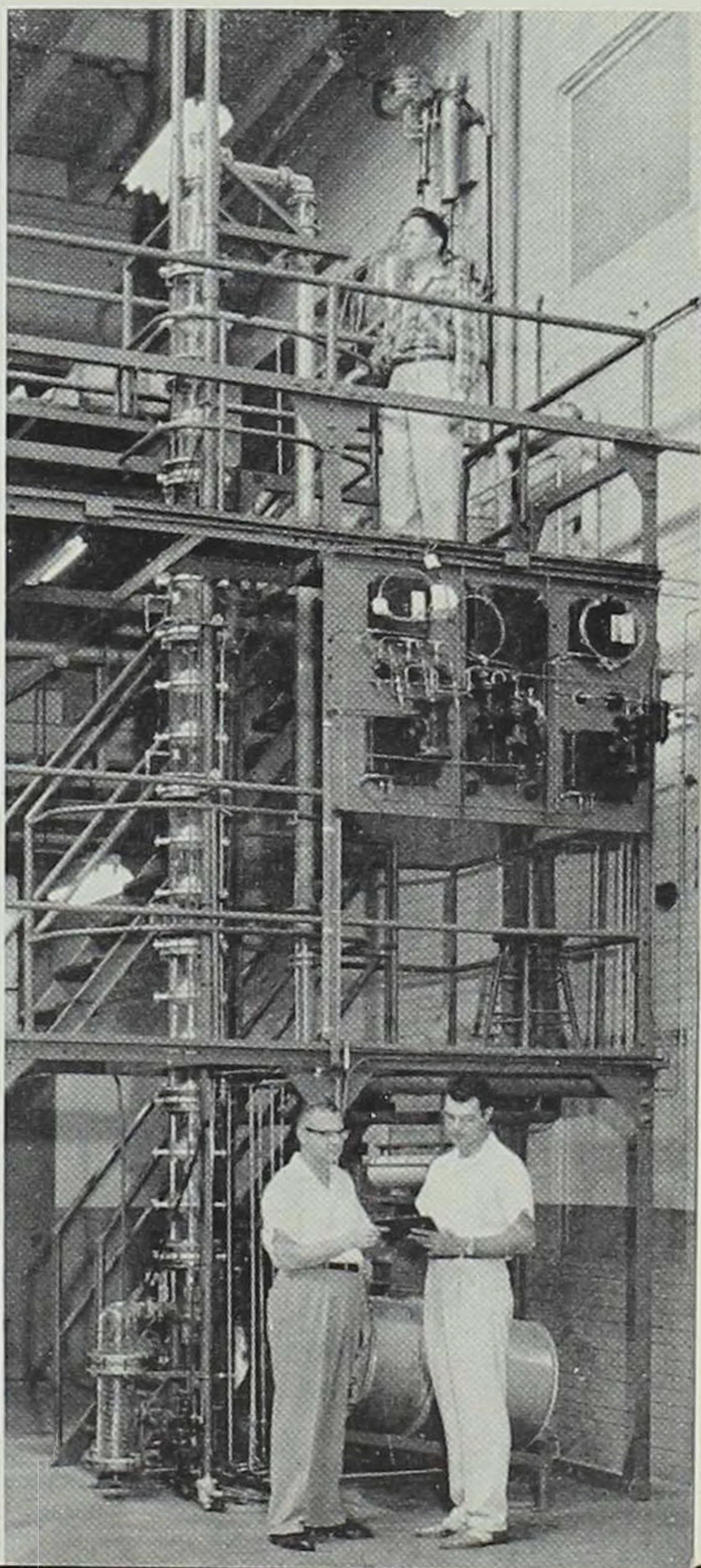
W. L. CASSELL
Distinguished Prof. in
Engr., 1939-



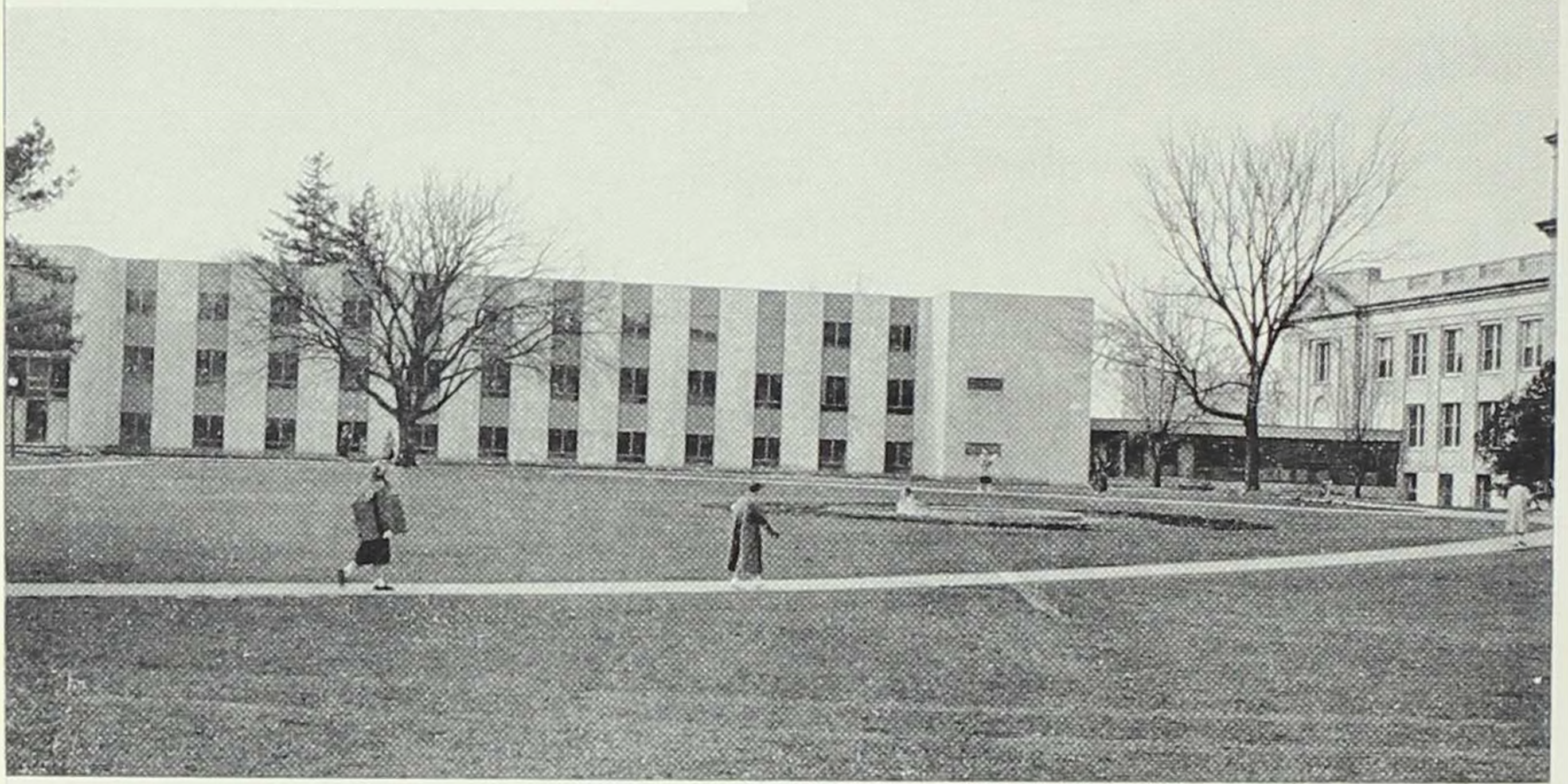
ANSON MARSTON
Dean, Engineering
1904-32



GLENN MURPHY
Distinguished Prof. in
Engr., 1932-



Home Economics



The latest campus addition is the new wing to the home economics building, MacKay Hall. It is ready for use this fall.



HELEN LeBARON
Dean, Home
Economics, 1952-



F. FALLGATTER
Head, Home Economics
Educ., 1938-58



BELLE LOWE
Prof. Foods &
Nutrition, 1918-56



PEARL SWANSON
Asst. Dir. Agr. & Home
Ec. Exp. Sta. in charge
of Home Ec. Research,
1944-

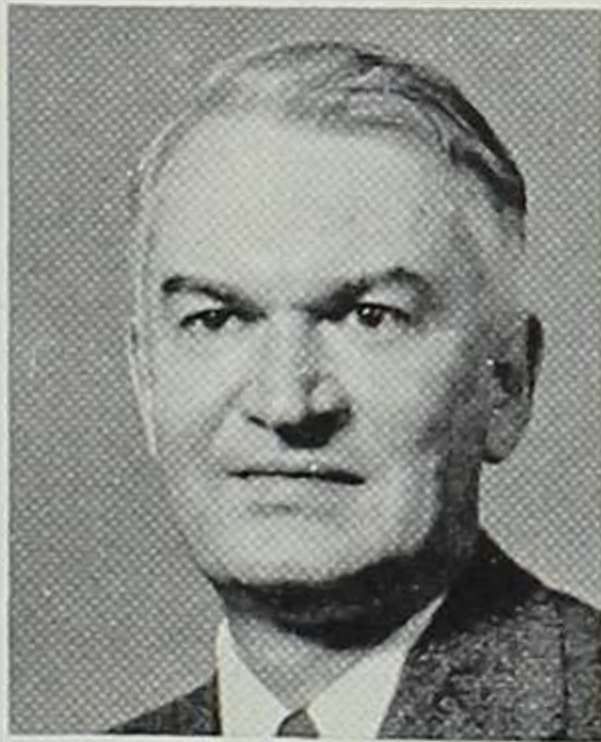
Dinner at a home management house.



Science



The addition to the Science Building, finished in 1955.



RICHARD S. BEAR
Dean, Science
1957-



HENRY GILMAN
Prof. Chemistry
1919-

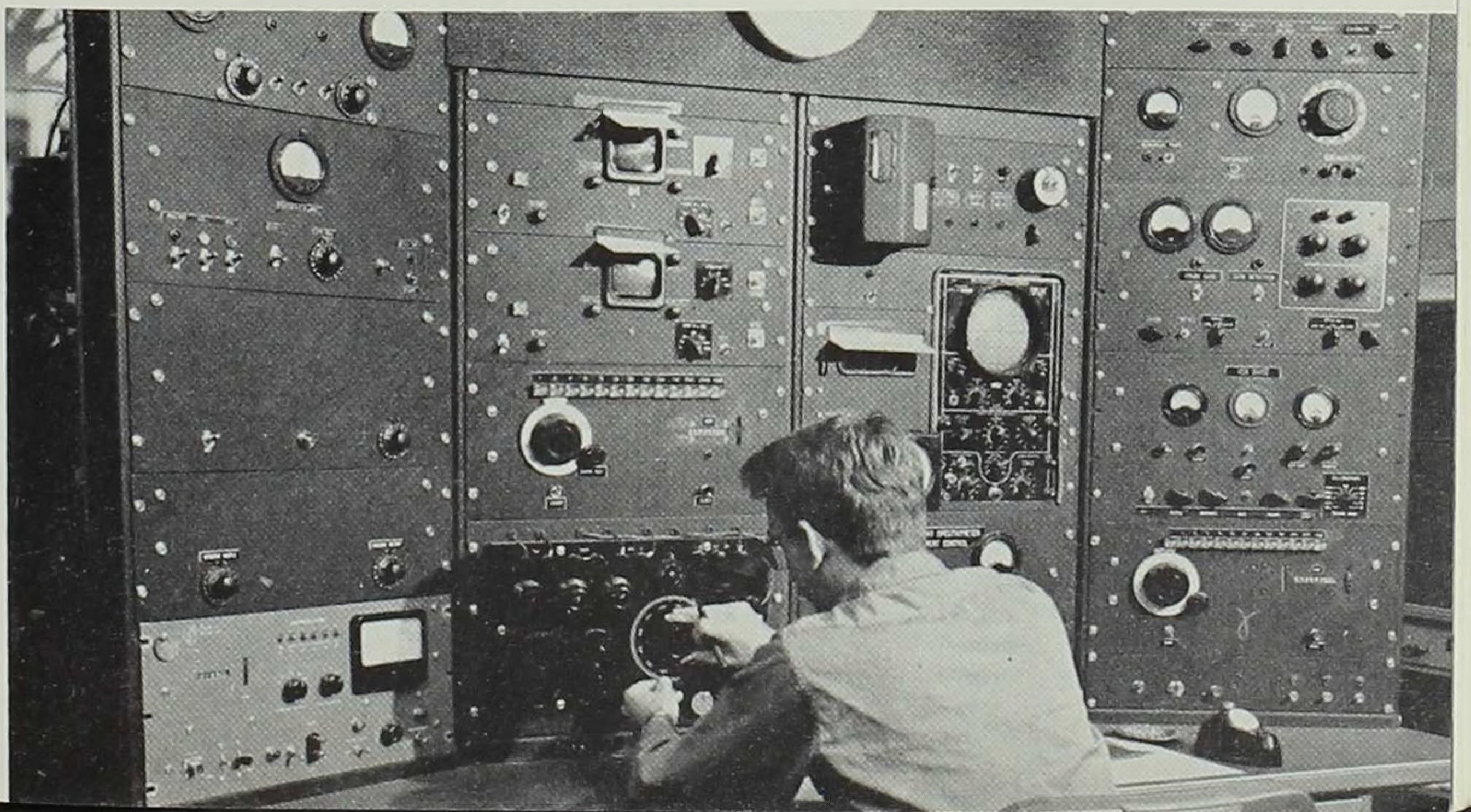


G. W. SNEDECOR
Dir. Statistical Lab.
1933-47

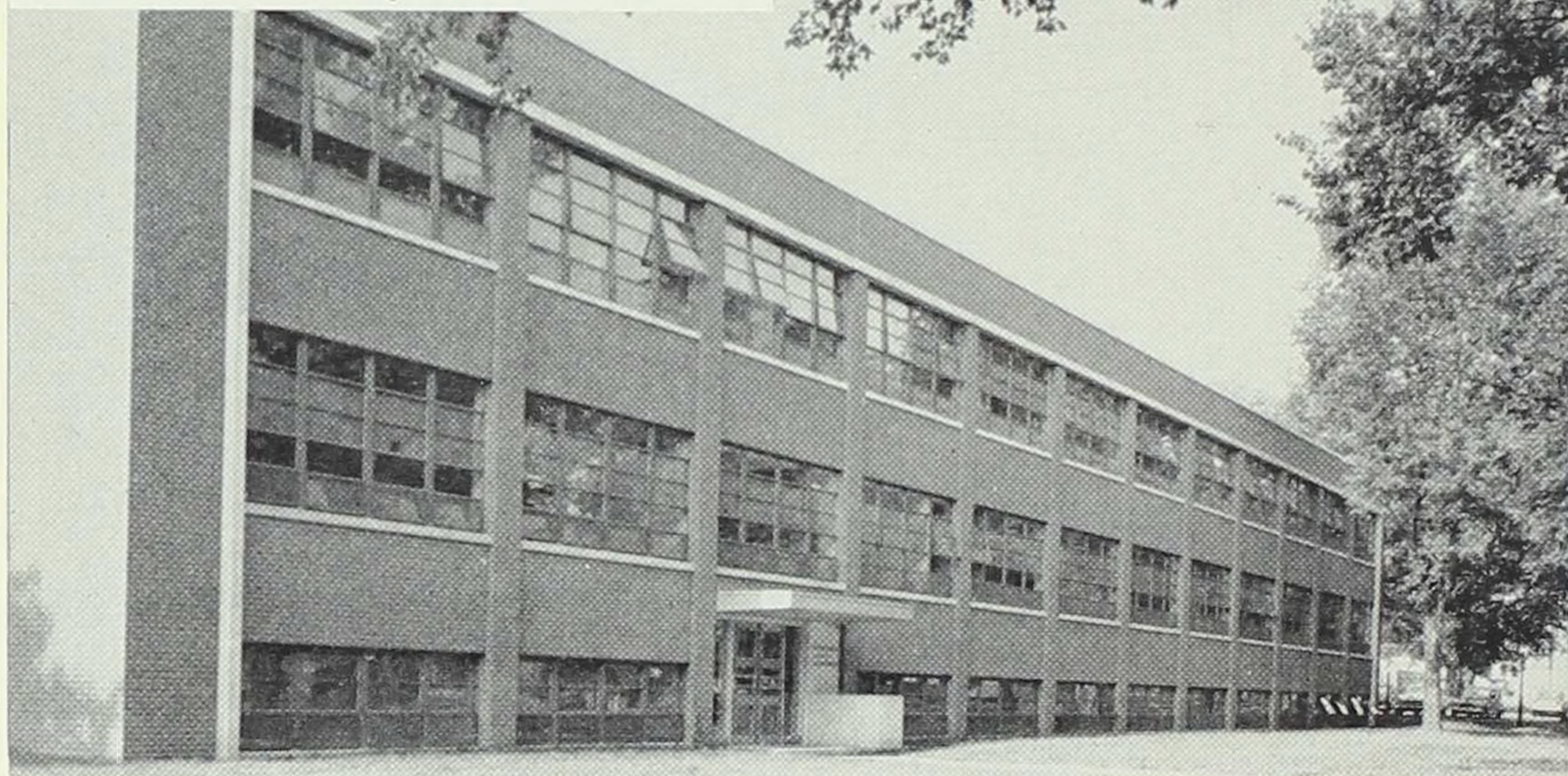


F. H. SPEDDING
Dir. Institute for
Atomic Research
1945-

The control panel of the intermediate-image beta-ray spectrometer in a physics laboratory.



Veterinary Medicine



The Veterinary Diagnostic Laboratory was completed in 1956.



I. A. MERCHANT
Dean, Vet. Med.
1952-

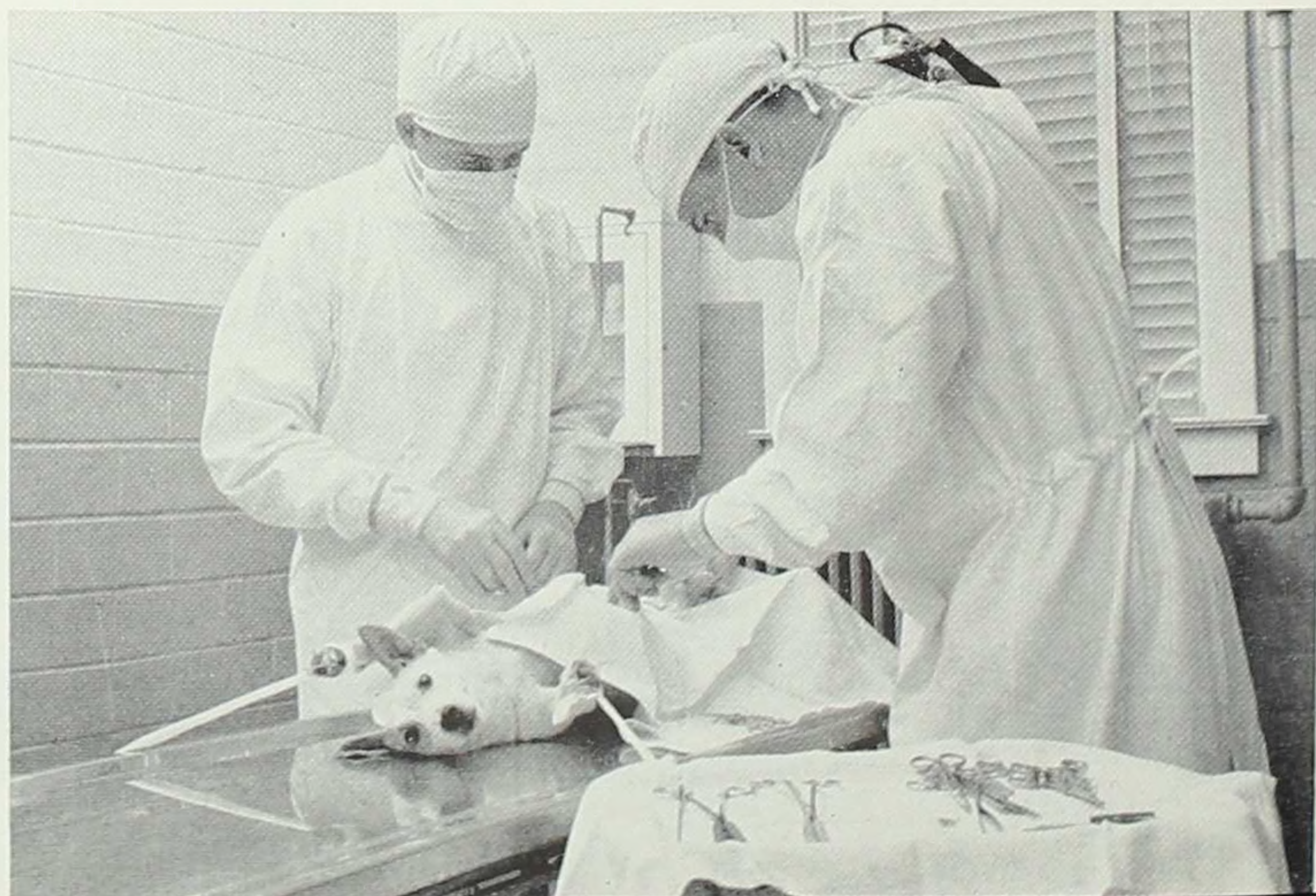


H. D. BERGMAN
Dean, Vet. Med.
1943-52

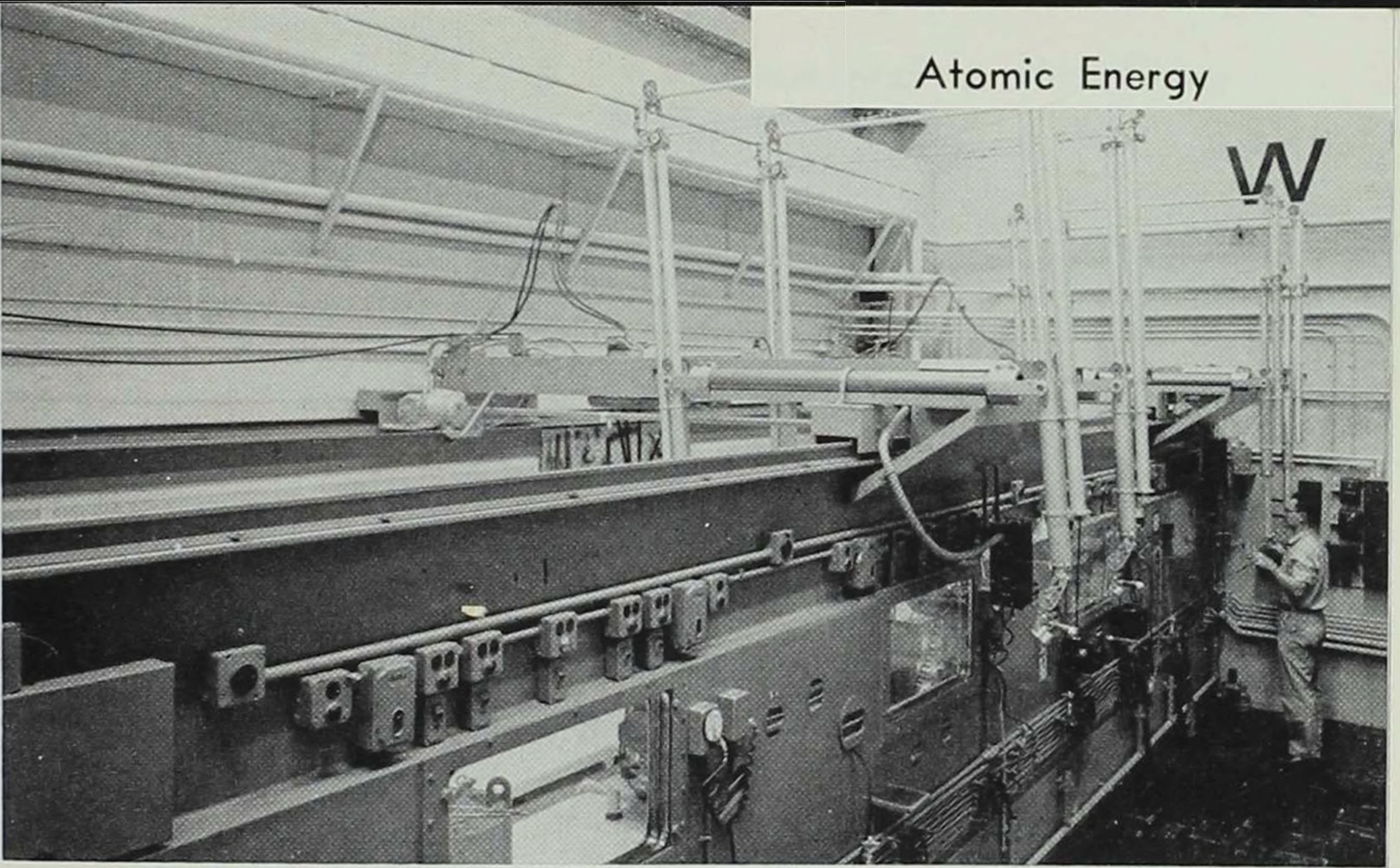


C. H. STANGE
Dean, Vet. Med.
1909-36

In the small animal clinic, veterinarians are preparing to help a pet dog.



Atomic Energy

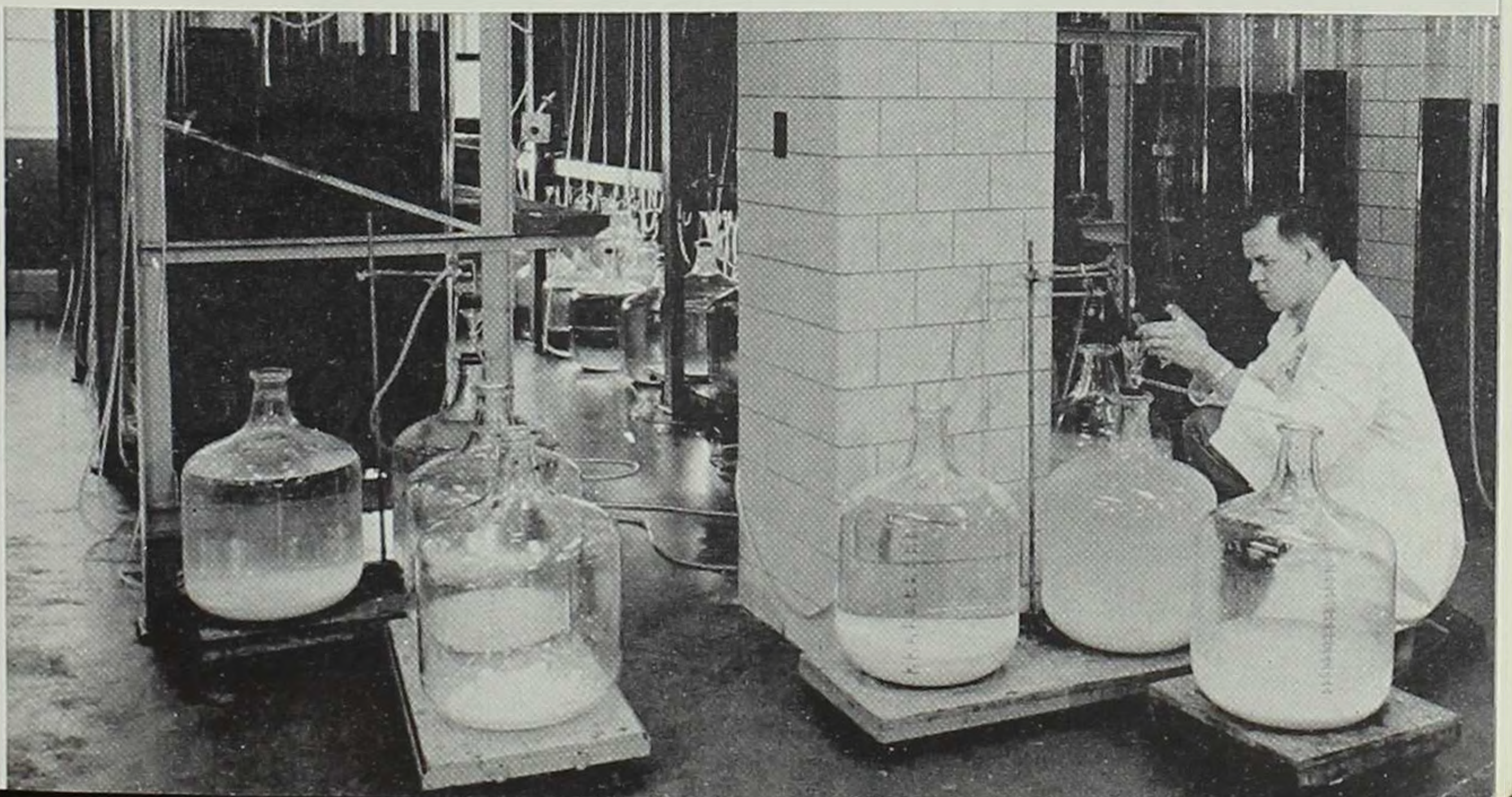


Facilities for handling radio-active materials. The lead glass windows which are eight inches thick have the same shielding qualities as steel.

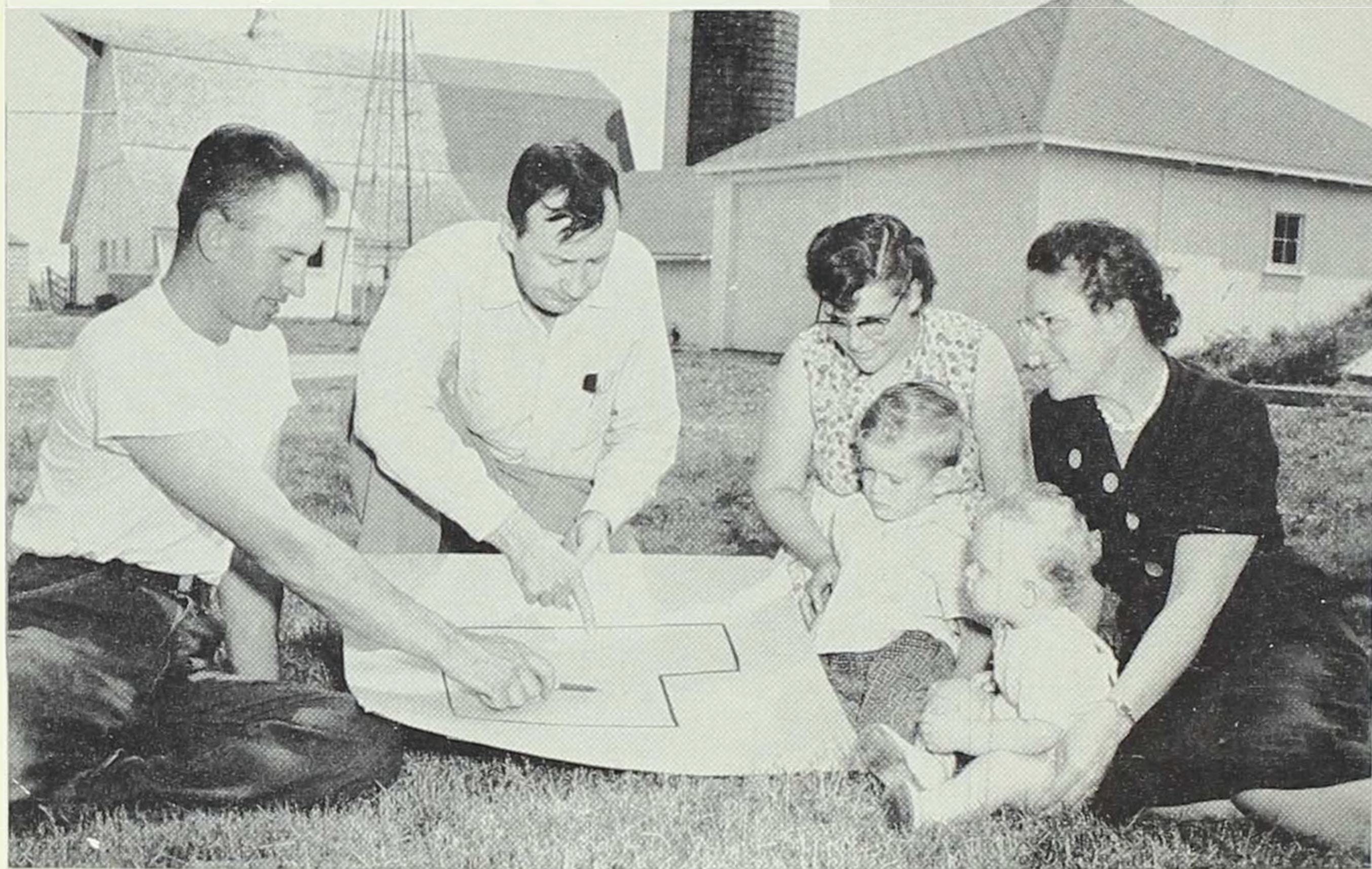


The Research Building, completed in 1951, provides laboratories for important research.

Pilot plant for separation of rare earths in the Research Building. Bottles contain rare earth solutions in various stages of purification.



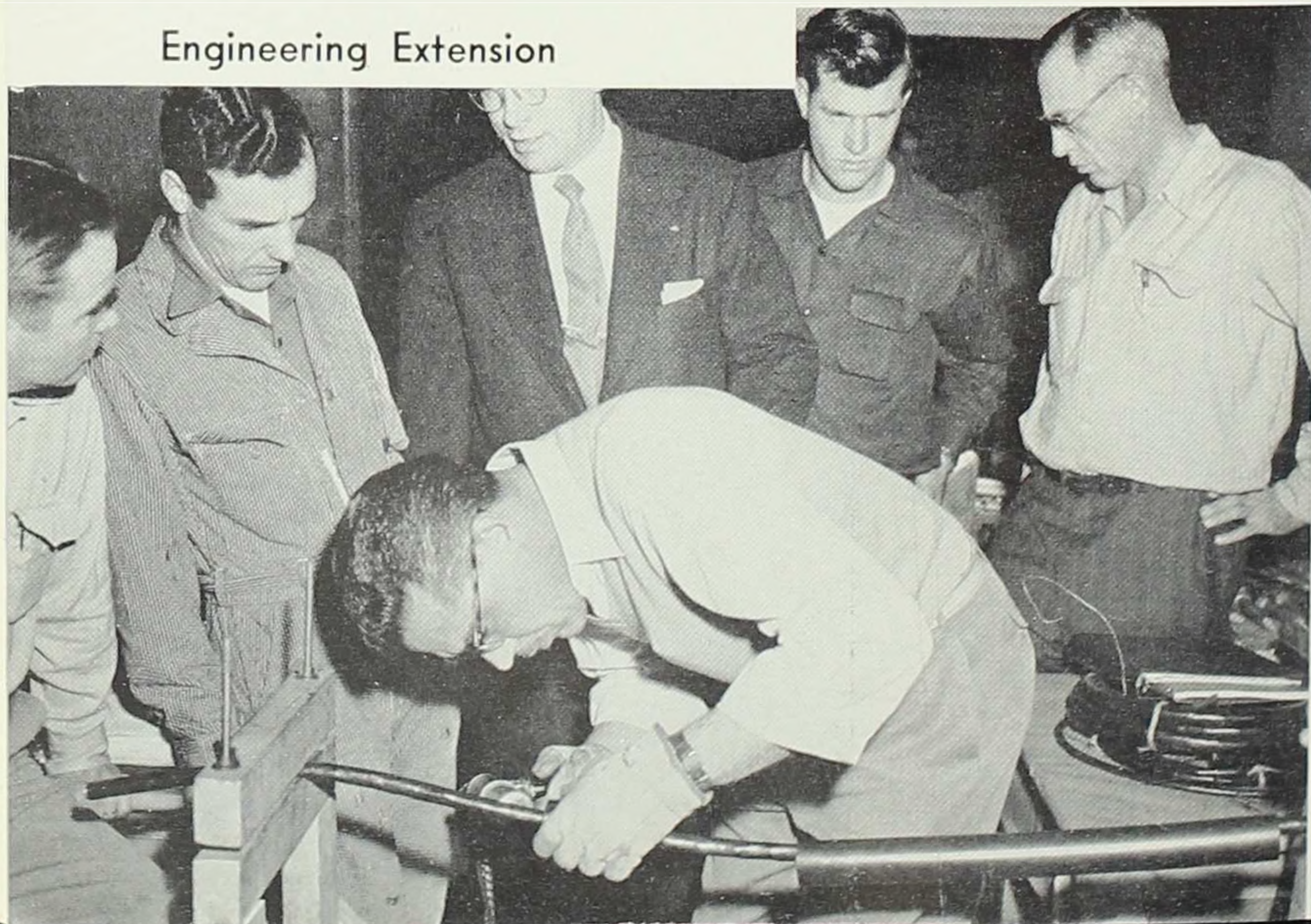
Agricultural Extension



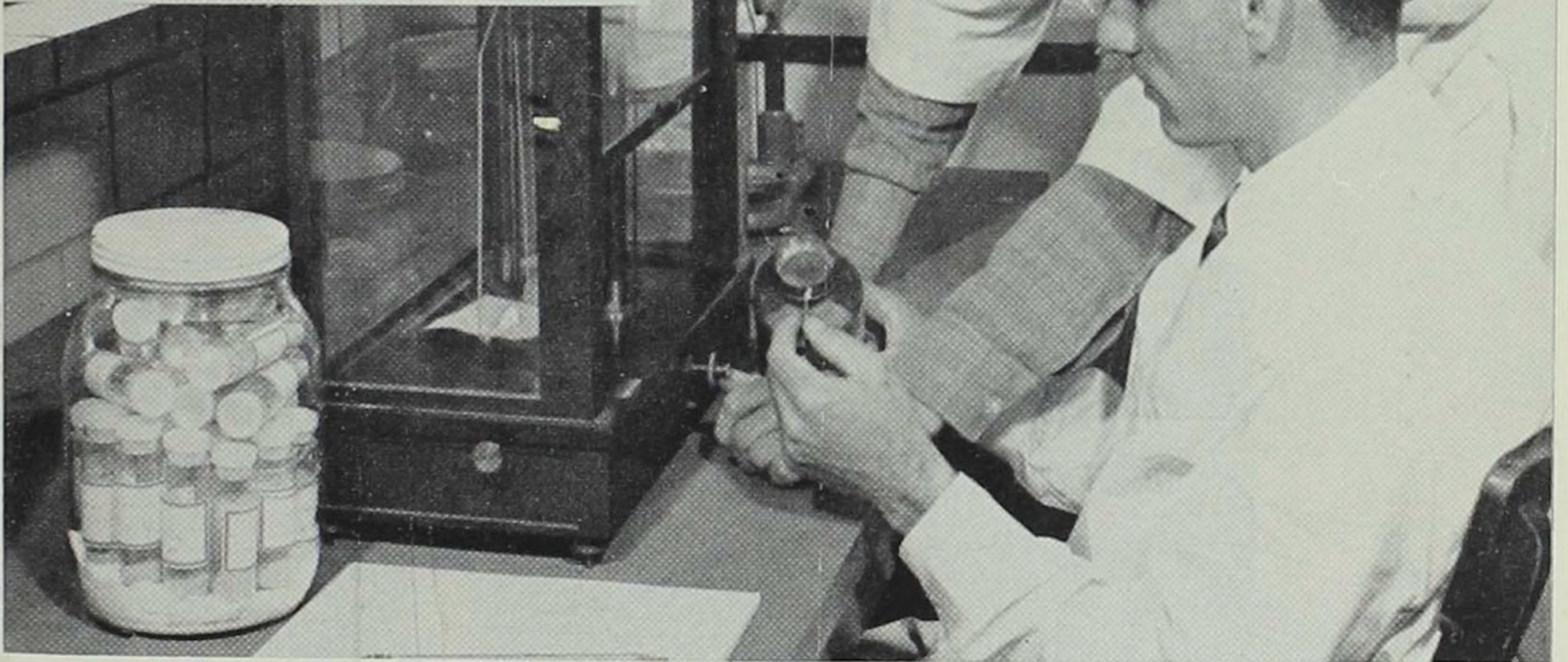
A county extension director helps a farm family with future planning.

A telephone plant school is one of the many schools sponsored by Engineering Extension.

Engineering Extension



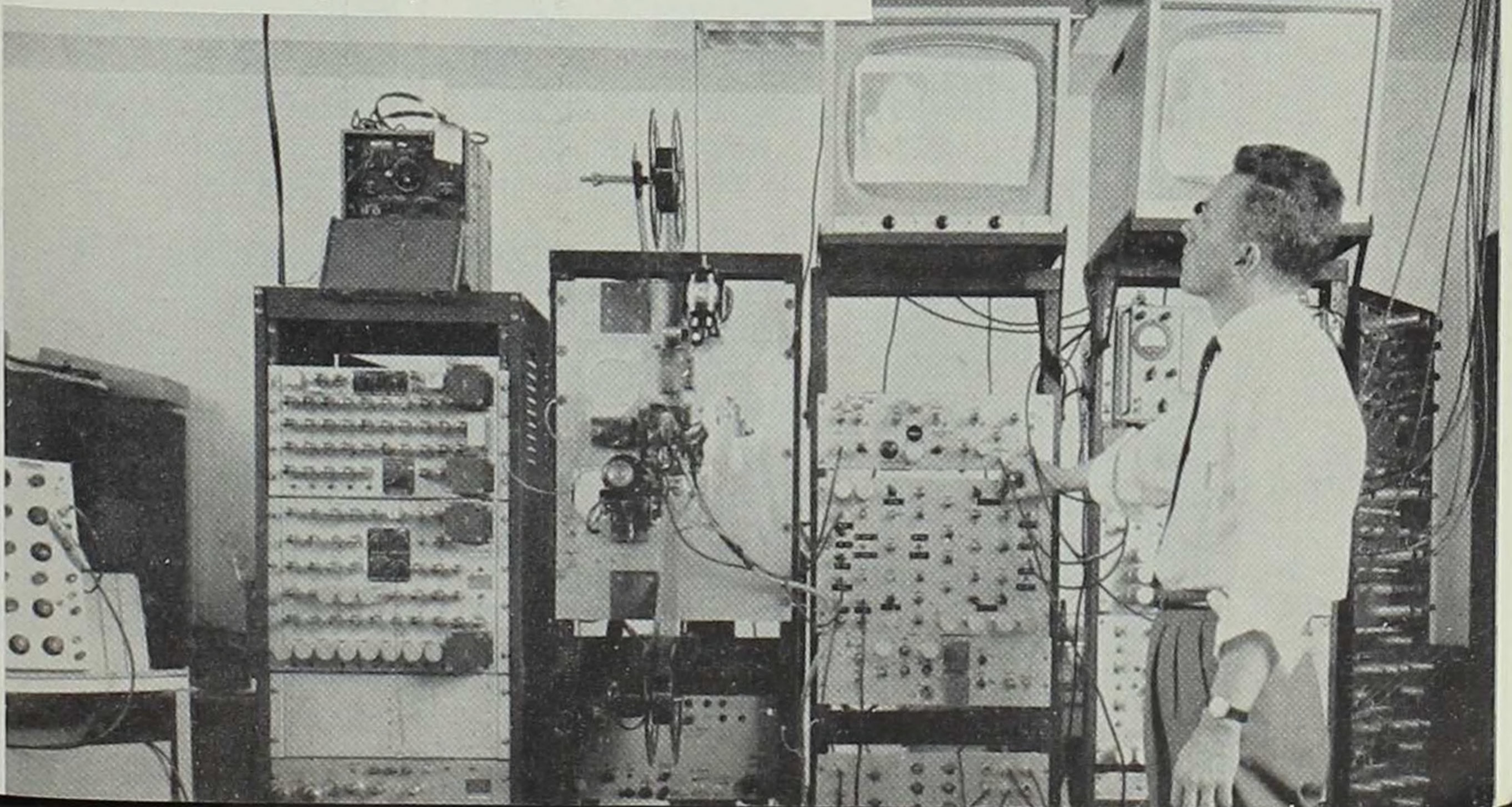
Agricultural Experiment Station



Weighing enzymes to supplement baby pig rations in swine nutrition research.

ISC color television system for broadcasting in color from black and white film.

Engineering Experiment Station



Prominent Deans & Professors



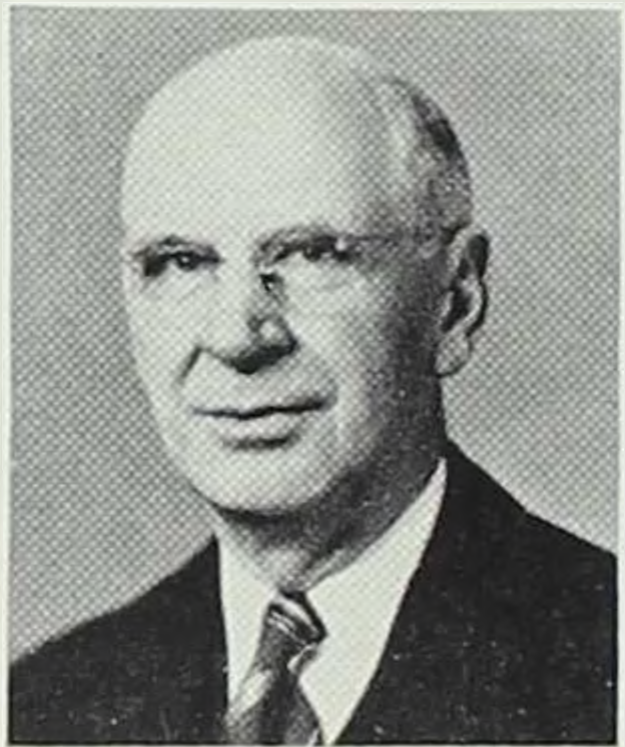
C. H. BROWN
Librarian, 1922-46



O. H. CESSNA
Chaplain, 1900-32



C. F. CURTISS
Dean, Agriculture
1902-32



J. B. DAVIDSON
Prof. Agric. Engr.
1905-56



M. D. HELSER
Dean, Junior College
1933-55



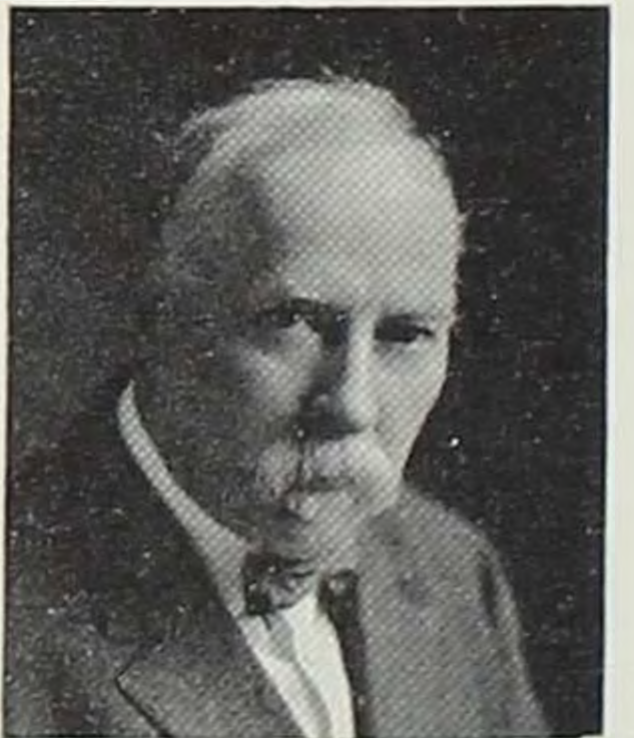
JAY LUSH
Prof. Animal
Husbandry, 1930-



CATHERINE MACKAY
Dean, Home Economics
1913-21



P. MABEL NELSON
Dean, Home Economics
1944-52



L. H. PAMMEL
Prof. Botany
1889-1931



MARIA ROBERTS
Prof. Math.
1891-1942



E. W. STANTON
Prof. Math.
1872-1920



O. R. SWEENEY
Prof. Chem. Engr.
1920-52

Prominent Alumni



H. J. BRUNNER
'04, Past Pres. Int.
Rotary



GEO. W. CARVER
'94, Scientist



CARRIE C. CATT
'80, Woman Suffragist



B. B. HICKENLOOPER
'21, U. S. Sen.,
former Gov.



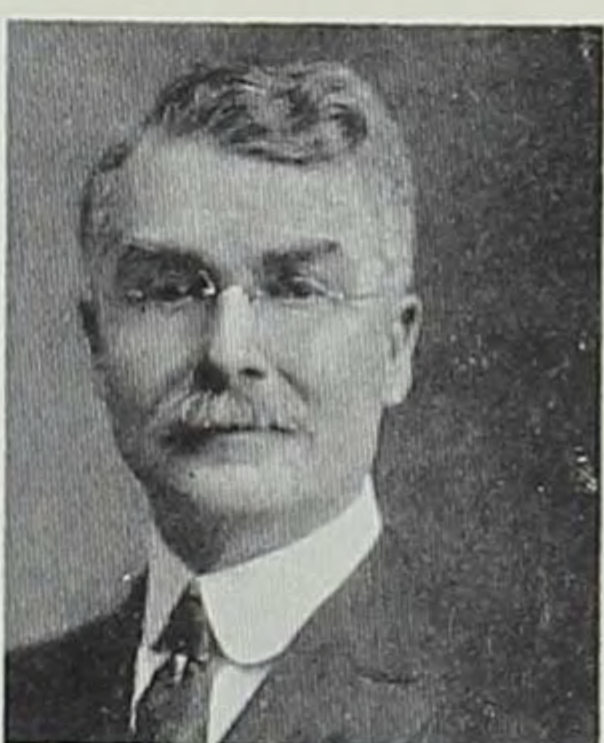
ALLAN B. KLINE
'38, Past Pres. Amer.
Farm Bureau



T. H. MACDONALD
'04, Chief, U. S. Bur.
Pub. Roads



ELWOOD MEAD
'83, Reclamation
Engineer



HERBERT OSBORN
'79, Zoologist



EARL O. SHREVE
'04, Pres. U. S.
Chamber of Commerce



HENRY A. WALLACE
'10, Vice Pres., Secy.
of Agric.



HENRY C. WALLACE
'92, Secy. of Agric.



E. N. WENTWORTH
'07, Livestock
Specialist, Historian

Campus Life of Yesterday



The big tent (background) made its appearance on campus on Excursion Day as well as graduation day in the early 1900's. Open houses, a planned program and picnic lunches were the order of the day. Coeds are shown taking a ride in a wagon all dressed up for the occasion.

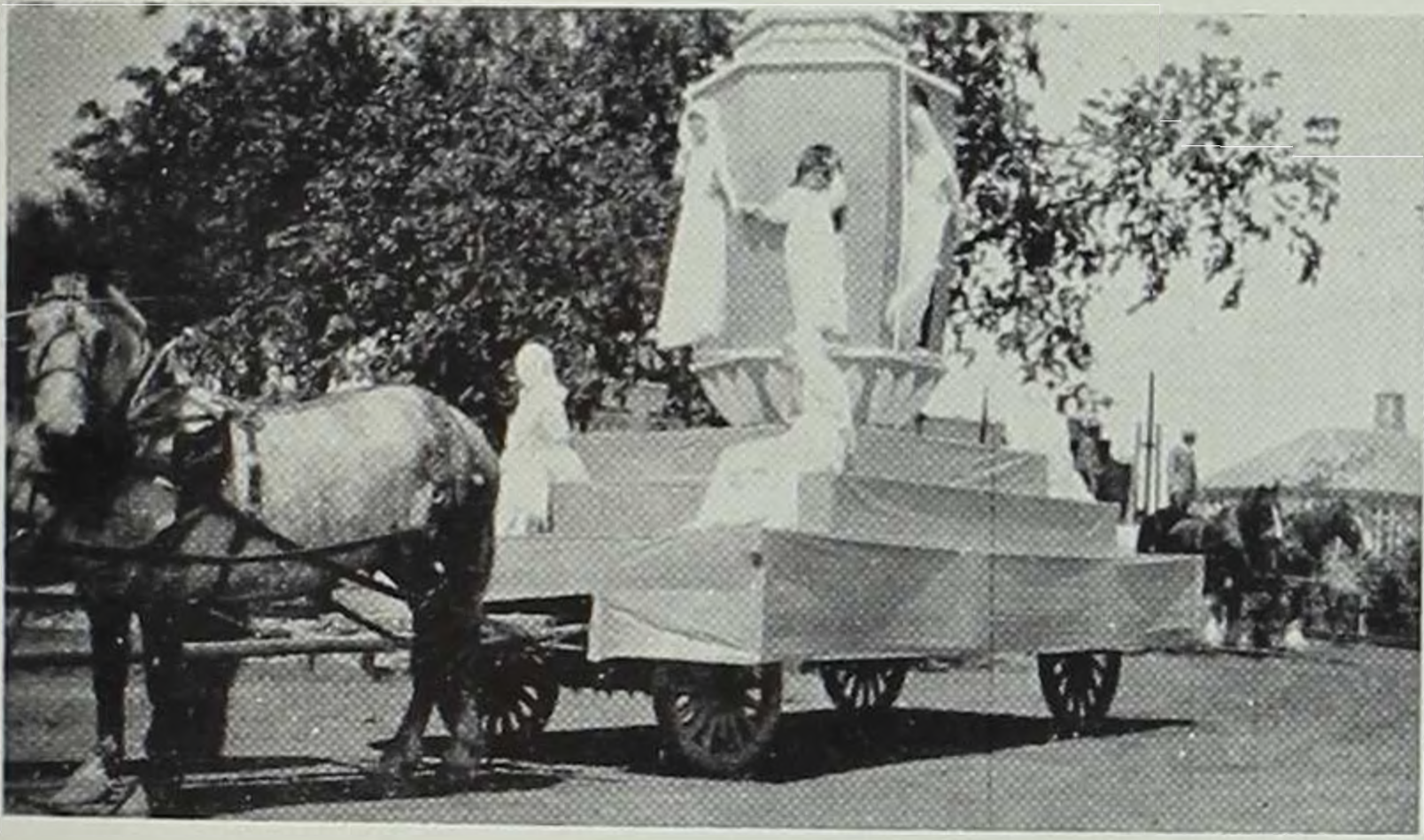
In 1909 coeds wound the maypole at their May Day celebration honoring senior women.



The Engineers honored their patron saint with top hats, clay pipes and the "wearing of the green."

This is a typical float in the Ag Carnival parade in 1914. Other attractions of the Carnival were the midway, saddle show, races, and minstrel show.

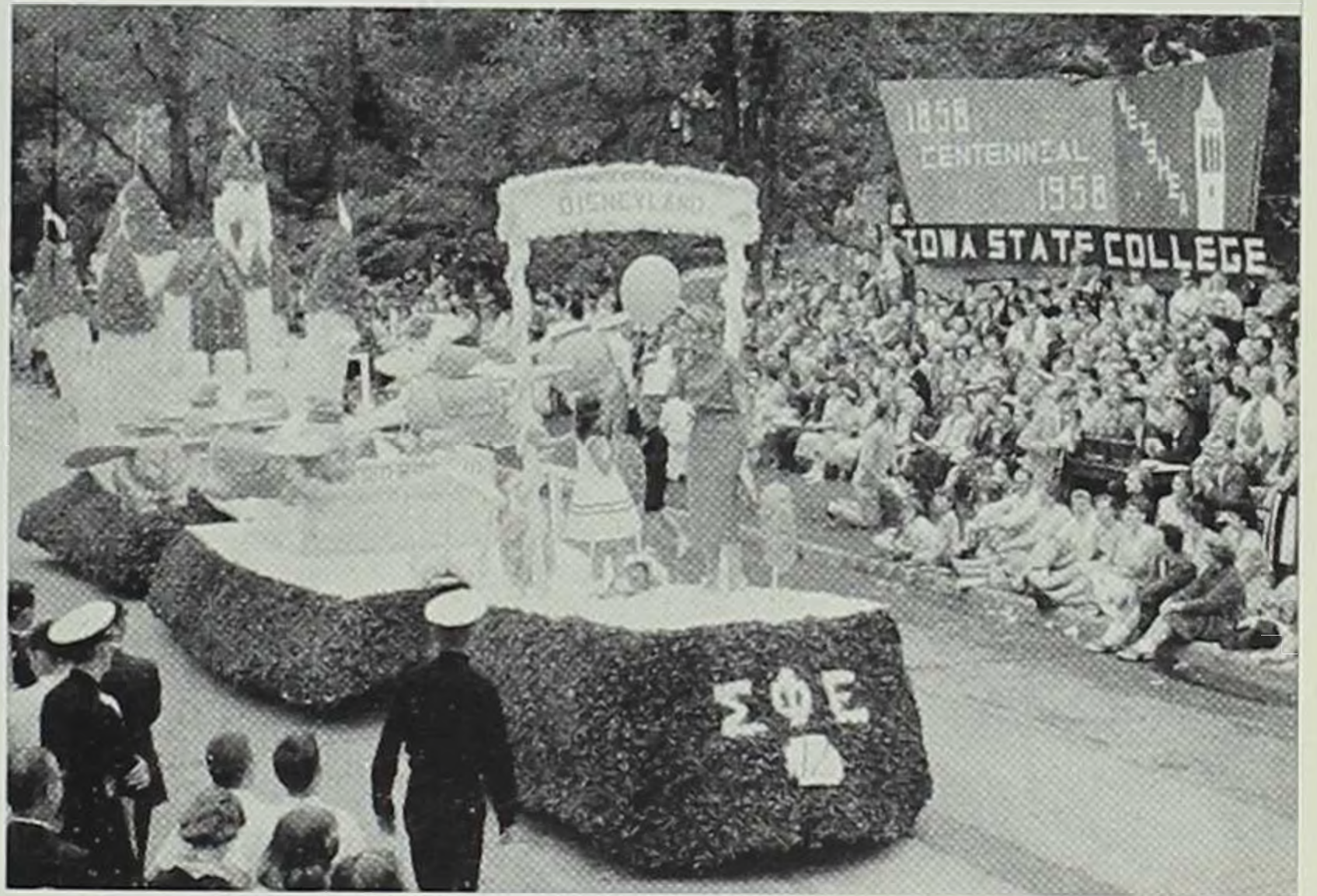




Veishea

This replica of a Wedgewood vase was a winner for the Ceramic Engineers in the Veishea parade of 1926.

Sweepstakes winner in the 1958 parade was created by Sigma Phi Epsilon fraternity.



Veishea canoe races are about to get under way.



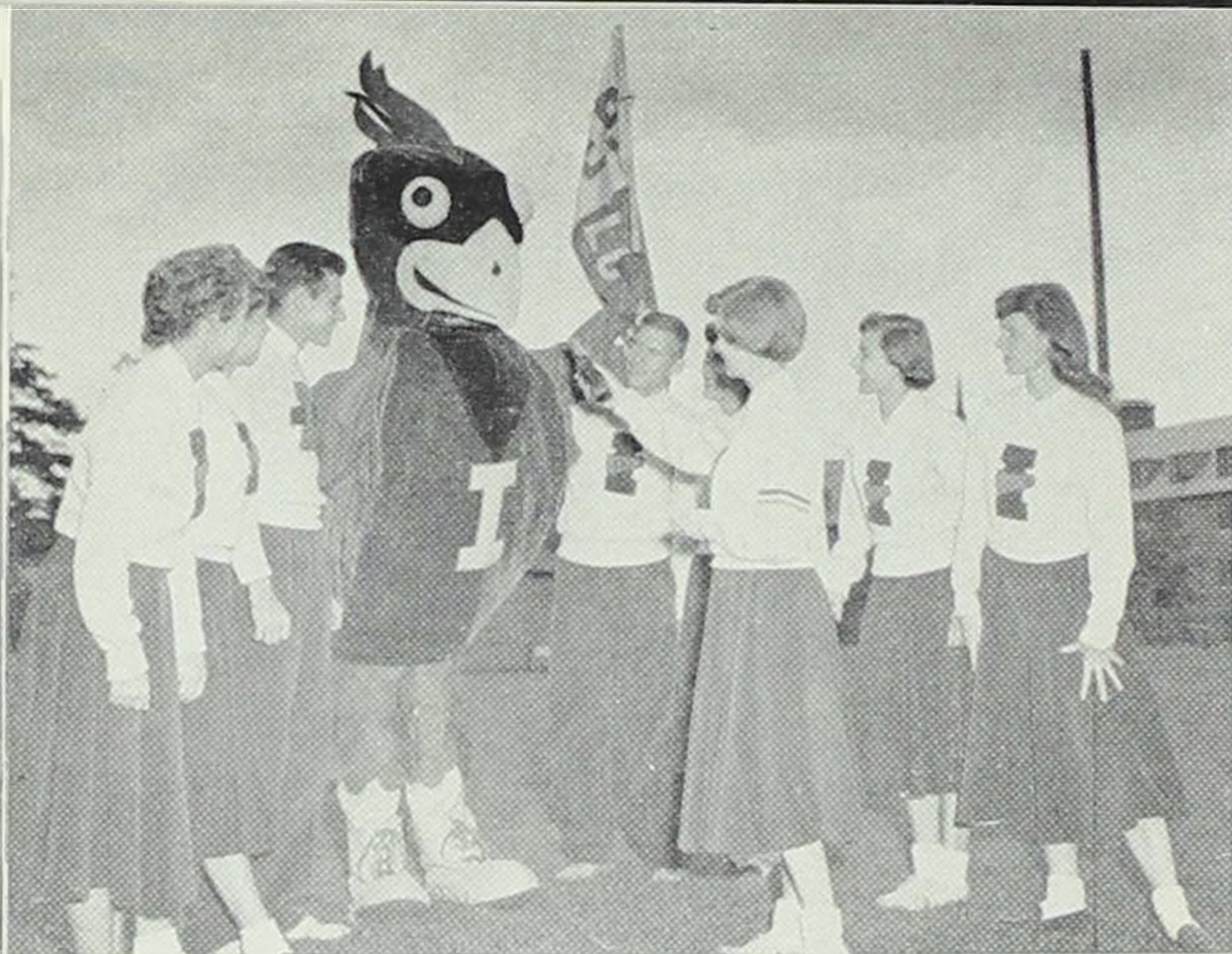
A student demonstrates equipment at a chemistry open house.

The horse show is a popular event at Veishea.



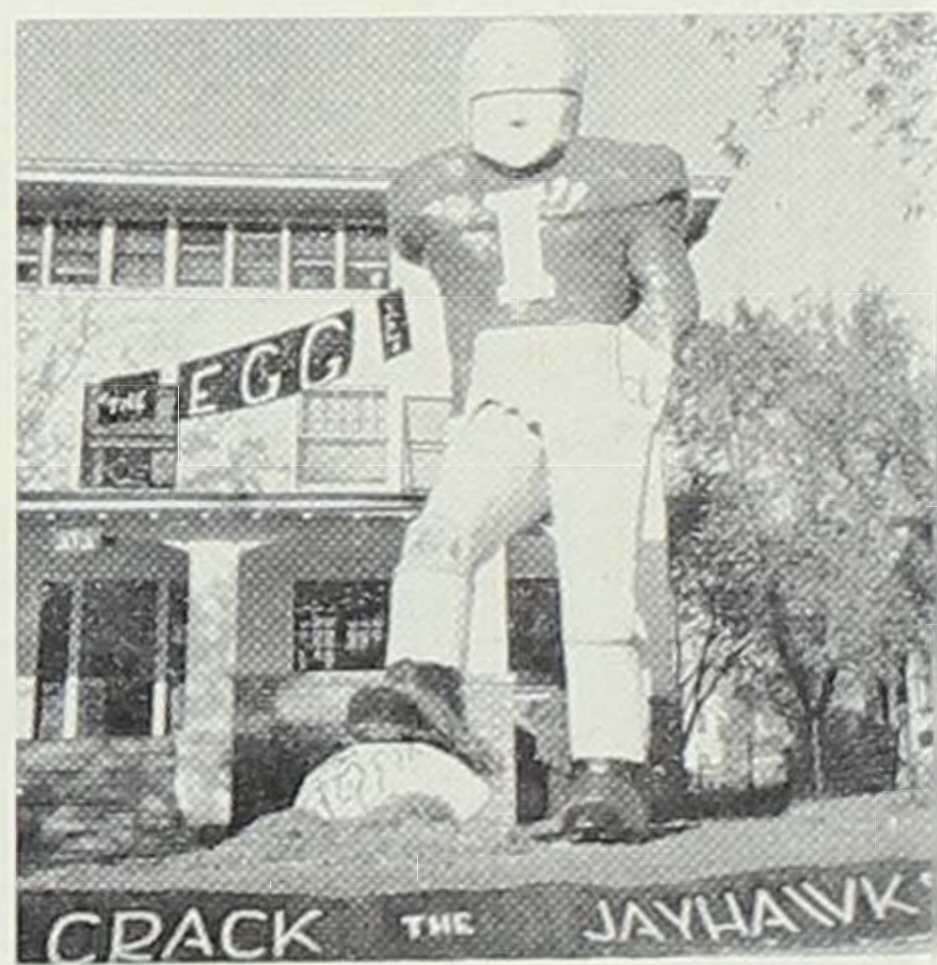
Campus

Life

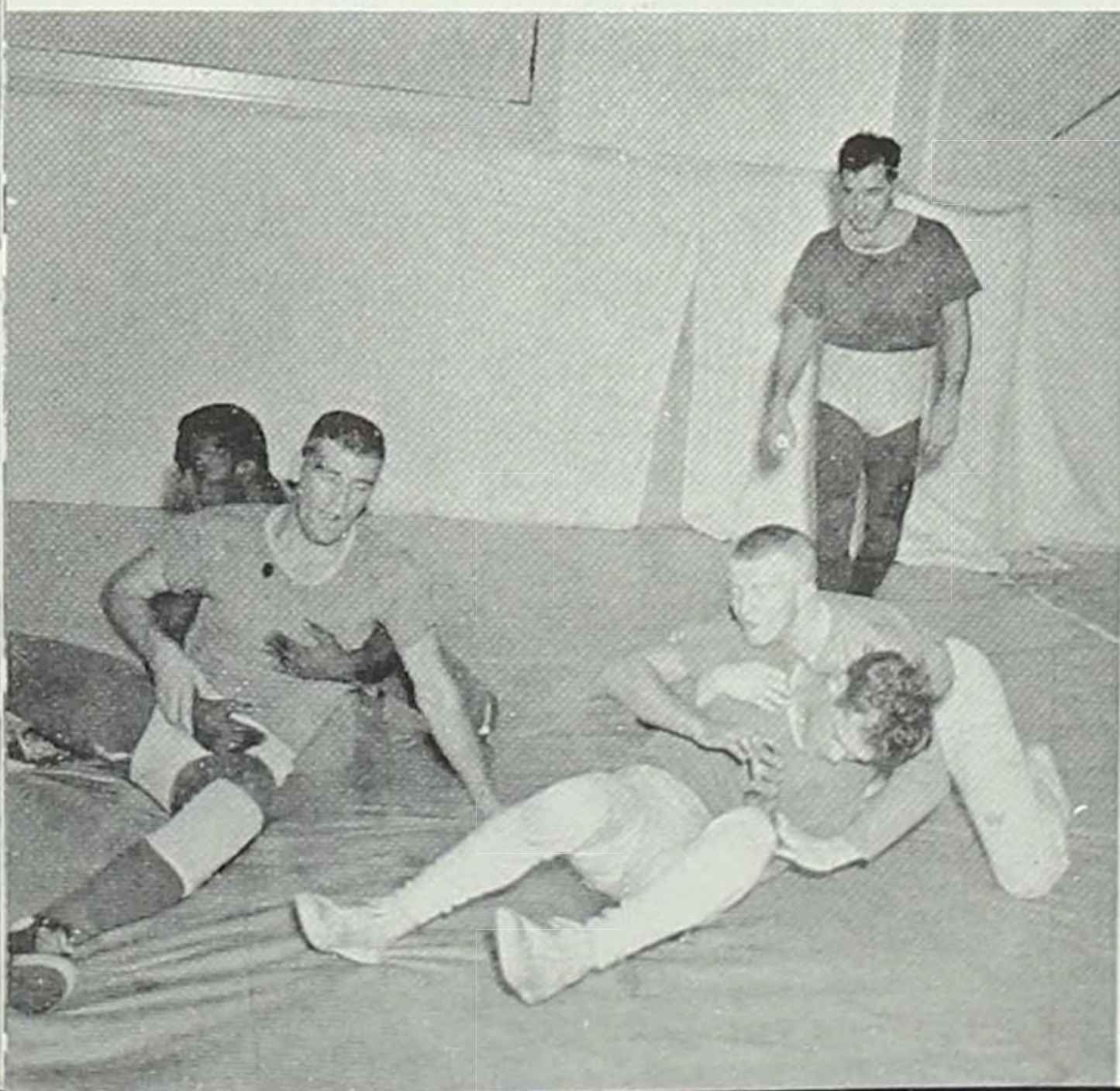


Cy, the campus mascot, and the cheerleaders help create enthusiasm at Homecoming as well as at all home games.

The Scrapheap Scramble and fraternity house decorations add color to the Homecoming celebration.



A wrestling workout.



An intramural softball game.

The
ers
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Life

Today . . .

The Memorial Union is the hub of the campus — inside, students relax in the Browsing Library.



Barchje is a production which features modern dance.



Fraternity and sorority exchanges are part of college life.



These College Players are enjoying their production of Othello.



Stars of the Past



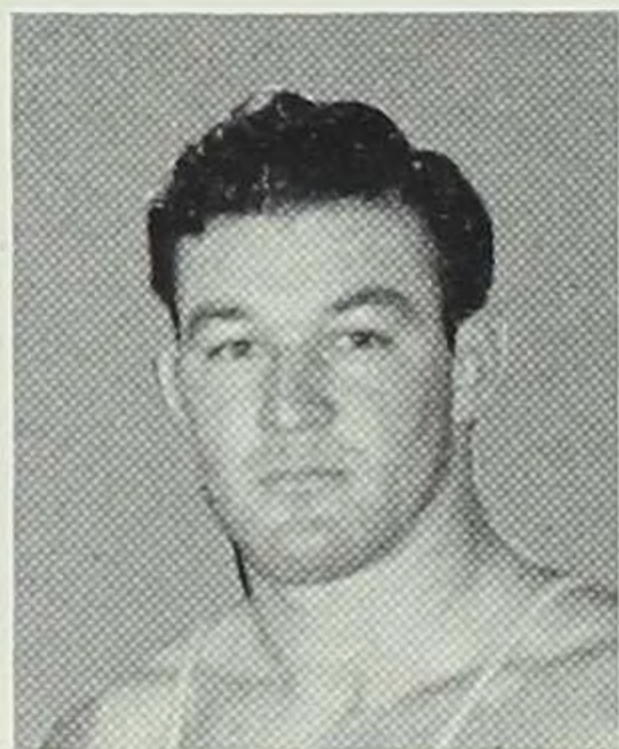
L. A. WALLACE
"Polly," Football
All-American, 1920



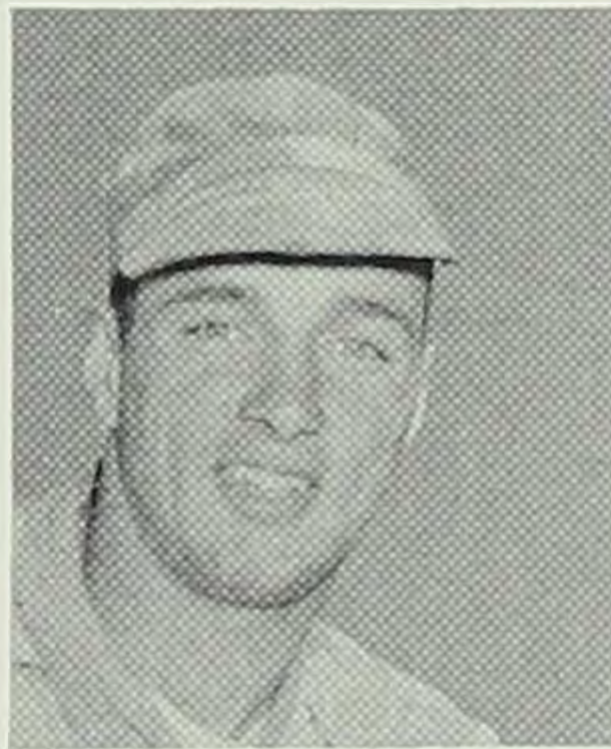
RAY CONGER
Track, All-American,
1928



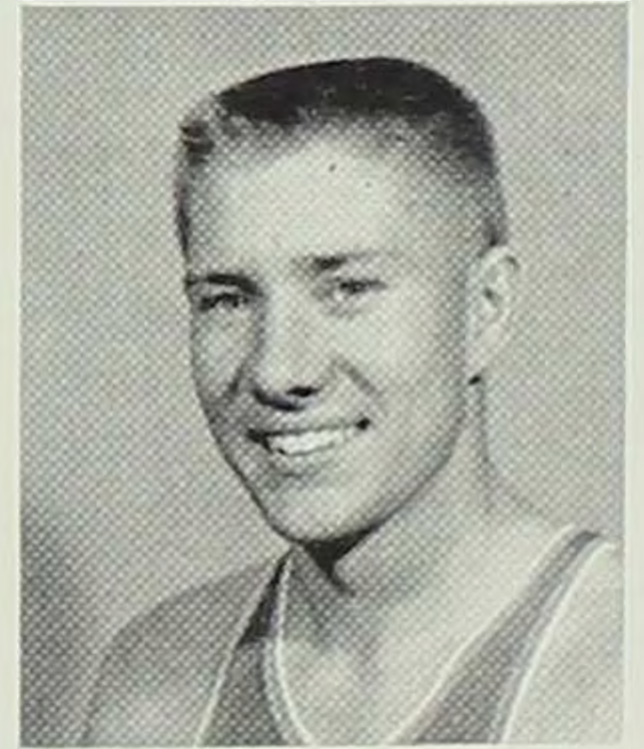
ED BOCK
Football All-American,
1938



GLEN BRAND
Olympic Wrestling
Champion, 1948



JAMES DORAN
Football All-American,
1950



GARY THOMPSON
Basketball All-
American, 1957



1957 Baseball Big Seven Champions and 3rd in National Collegiate baseball world series.

Holden later joined the College staff in agronomy. His knack for holding the attention of farmers, coupled with his evangelistic zeal and untiring devotion to agricultural education, gave him a prominent place in early extension work.

The two-week short courses around 1900 brought farmers to Ames from the far corners of the state. Two from Montgomery County, Uncle Henry Ebert and a man named Milner, told about one young neighbor who had been doing just about the poorest job of farming in the whole community. Milner paid the young farmer's way to Ames on condition that the money be returned from the next harvest if the courses were worth while. The young fellow promptly produced an excellent corn crop. When a surprised neighbor asked Milner how this happened, Milner credited the College short course. "If a short course in Ames did our neighbor that much good," the man replied, "why don't we have one down here for the benefit of this community?"

Ebert and Milner promptly approached Storms and Curtiss, each of whom turned him down. Without telling of their failures, they then went to Holden, who was delighted and predicted the idea would spread all over the state. Holden warned that the College had no money for such ventures, and local people would have to provide a large room for corn judging, a warmed room for night meetings, a room with raised seats for stock

judging, and an exhibit room. He ended by saying he wondered if they had enough gumption around Red Oak to do all this.

Apparently they did, for when the short course opened three hundred people had paid \$2.50 each for a ticket. At the end of the show the local sponsors sold the exhibit corn to raise the rest of the money. The idea quickly spread all over the state. A large short course usually required about \$1,000 in addition to plenty of volunteer help from both town and country.

Another "first" for Holden was at the Sioux County Farmers' Institute at Hull in 1903. B. F. Hawkins, the program chairman, referred to Holden the question of whether crop experiments at the College were equally valid in Sioux County. Holden replied that demonstrations close to the people would be of great value, especially with someone in the county to direct them, consult with farmers on their problems, and also work with farm boys and girls. He promised educational and technical help from the College.

Acting upon the suggestion, the Institute requested the Sioux County Board of Supervisors to provide land, labor, storage, and a cash fund. The board met these requests and in addition appointed a committee to work with farmers in conducting the demonstration farm. Here, for the first time, was educational work begun at the request of a group of farmers, with support from the

county government, and with the backing of state and federal governments through the College. This is the fundamental organization under which county cooperative extension work is now conducted throughout the United States.

Holden evolved another effective teaching plan at the Sioux County Farm. In those days farmers generally picked their seed corn from ordinary corn cribs. Holden took samples from the planter boxes of about seventy farmers and secured twenty additional samples from commercial sources. Each sample was planted in several places in the field to reduce errors due to differences in soil. The plots were numbered so that each farmer could find the one grown from his seed. Careful records were kept of growth and yield, and farmers were invited to view the plots which showed striking differences. When high-yielding corn was discovered, more of the same corn would be procured from the grower and tried another year. In this way, the highest yielding varieties of corn were located, publicized, and distributed. Later, oat variety tests were made, alfalfa was tested, and demonstrations in the elimination of noxious weeds conducted.

With railroad cooperation, Holden started his famed "Seed Corn Gospel Trains" in 1904. The trains usually contained three cars, two devoted to equipment for demonstrations and lectures and the other providing a place to eat and sleep.

Schools in the small towns where the trains stopped were often dismissed, and the entire population assembled to hear the message.

A good speaker, Holden understood crowd psychology. While people laughed with him they took in what he had to say about corn. He worked day and night. In the evening, when the gospel train lay over, a public meeting was held, usually in the courthouse, school, or opera house. In his first annual report Holden told of 96 counties and 670 towns visited in 10,000 miles of travel. More than 30,000 bulletins were distributed and 1,085 talks given to 127,000 people.

The Iowa Extension Act was suggested by "Uncle Henry" Wallace on one of these trains returning from Mason City to Des Moines. "Uncle Henry" asked Holden: "Now, what is the future of it all? Does this end it, or is there something we can do in the future to make it more valuable?" Holden outlined his idea of a force of people from the College helping to stimulate the study of agriculture and suggested a state appropriation to finance it. Wallace asked Holden to draft a bill, and this bill, considerably trimmed down, finally became law on April 10, 1906.

The first director of the Extension Service was Perry G. Holden. On his early staff were R. K. Bliss, Murl McDonald, Paul C. Taff and Neale S. Knowles, all destined to play key roles in Iowa Extension. When Holden left to run for gover-

nor, Bliss, after serving as head of animal husbandry at the University of Nebraska, returned to become director from 1912 until 1946.

Each of these persons had something of Holden's zeal and fervor. They and fellow workers spread out from Ames every Sunday by rail to begin work in the field early Monday. Seldom returning before late Friday or Saturday, they spent busy week-ends on campus preparing for the same thing next week. Mary Rausch, first full-time home economist, in 11 months gave 90 lectures, 41 demonstrations, and conducted 17 judging contests. Besides a two-week short course at Ames, she offered others at Red Oak, Mount Pleasant, Lenox, Spencer, and Dows. She also wrote a pamphlet — "Healthy Homes." Another lecturer, Miss Knowles, arrived in Ames for her job at 2:00 a.m. in a blinding snowstorm. The next morning she was sent off for a demonstration in Coon Rapids without preparation. The audience, she reported, "most fortunately was made up of the kindest people with whom one can possibly meet."

After "Seed Corn Gospel Trains," special trains were used to promote all sorts of agricultural education — in potatoes, oats, pork, home economics, and other areas. Later the specialists were met at the depot by farmers. Using automobiles, they would fan out to give lectures and demonstrations, then return to the train and go on.

One night in Orient, Holden remained out so late that the train crew reached the end of its legal time for work and quit. The schedule was tight. When Holden returned, a railroad official offered to handle the throttle if one of the extension specialists would fire. Henry Eichling drew the task and scooped coal all of the way into the Creston yards, but the schedule was maintained!

C. E. Miller, superintendent of schools in Keokuk County in 1904, had the first countywide rural youth organizations in the nation — a club for boys and one for girls. Superintendent O. H. Benson of Wright County is credited with developing the 4-H emblem in 1909. Later he went on to organize 4-H work on a national scale. The 4-H work of Jessie Fields in Page County attracted nationwide attention.

By 1913 seven full-time county extension agents were at work, and the Iowa General Assembly passed a law whereby counties, under certain provisions, could appropriate up to \$5,000 for such work. The following year Congress passed the Smith-Lever Act that required cooperation between the Land-Grant colleges and the United States Department of Agriculture. It also provided funds for their programs. The first home demonstration agent was employed in Black Hawk County in 1916.

World War I and its slogan of "Food Will Win the War" channeled extension activities to-

ward drastically increased food production, conservation of foodstuffs, and elimination of waste. Twenty-five additional home economists were used in 1917 in a program of food canning and preservation. More were added the next year. As a war emergency, all Iowa counties were brought into the county extension program by 1918.

Reduced funds cut personnel after World War I, but the movement continued to grow. It dealt not only with emergencies such as the drouth and depression and the new food demands of World War II, but contributed to the long-range well-being of nearly every Iowa farm family.

The Farm Bureau was the sponsoring organization of extension work in the counties through more than thirty years of cooperation with the College. A separation of Farm Bureau and Extension was accomplished smoothly and with the good will of both parties in 1950. Today an elected council handles county extension administration, but it is still a grass-roots proposition, with programs planned by local people and supported in part by them.

The success of the Extension Service in Agriculture and Home Economics brought demands for similar service in other areas. By 1913 the Iowa Manufacturers Association, supported by organized labor, asked the General Assembly to provide for "trade and engineering" by establish-

ing Engineering Extension at Iowa State College. The scope of Engineering Extension has been constantly widened. For example, about 5,000 Iowa firemen now receive direct instruction through extension service.

Because Engineering Extension does not enjoy federal and county funds, along with state appropriations, its program has been smaller. It is concentrated more in industrial groups, industrial plants, craftsmen, technicians, and engineers. With the growth of Iowa industry, however, services have been extended not only to private business, but to municipalities, counties, and the state government.

An experiment begun in Electrical Engineering in 1914 grew to be an important arm of the extension services and to be perhaps the outstanding single public service function of the College. Under Professor F. A. Fish the department had a highly efficient amateur radio station, 9YI, even prior to 1914. It evolved into a broadcasting station which went on the air November 21, 1921, with Harmon B. Deane as engineer of the project and Andy Woolfries, an engineering student, as his assistant. In 1922 the call letters WOI were assigned, and the station began featuring education, news, good music, and public service, in addition to extension information. An FM transmitter was added in 1949, and television in 1950.

NED DISQUE

Glimpses of Student Life

Residents of Ames, being closely allied in many cases with growing things, are likely to welcome a spring shower as a providential aid to the new crops, gardens, and lawns, but during two or three days of May each year the prayers of students, faculty, and townspeople include a plea for fair and mild weather. For mid-May is Veishea time, a spring-time festival and open house that is typically Iowa State, and like nothing else to be found on any campus. It is Iowa State on display.

Starting with a single parade by engineering students to celebrate St. Patrick's Day, the occasion first became known as Veishea when it became an all-college affair. Its odd name was coined by Frank D. Paine '09, a former mayor of Ames, and former head of the department of general engineering, from parts of the titles of the five divisions of the College — Veterinary Medicine, *Engineering*, *Industrial Science* (as the present Division of Science was called in those days), *Home Economics* and *Agriculture*.

Although the first official celebration was not held until 1922, present day students claim that the real origin was 1910 when the "Ags" and the "Engineers" were having a discussion as to

whether St. Patrick was an "Ag" or an "Engineer." When it was decided that St. Patrick was an engineer, the engineers began celebrating the day — first with a parade, later with a ball and an open house. It was not long before both "Ags" and "Engineers" had their own festival, and the girls were producing a May Fete, too. When all of these joined together in the Veishea of 1922 Dean Curtiss led the two-mile parade astride a white horse. A musical extravaganza was added in 1923. Since then, Veishea has never missed a year, and undergraduate ingenuity is taxed regularly to produce new and sometimes startling innovations.

The real purpose of Veishea, as it ultimately evolved, became to portray the educational program of the College, and to provide entertainment typical of college life and campus activities. Undergraduates proudly billed it as "the largest student-managed festival of the nation" and built an organization that was able to put on a three-day exposition worthy of a professional group.

While collegiate rodeos, donkey baseball games, trick and fancy riding, dog shows, and other features had their vogue and faded, the solid core of Veishea remained the displays put on by students of each department of the campus, and witnessed by throngs of high school students and adults.

Other events which stood the test of time were canoe races on tiny Lake LaVerne on the campus,

the "tapping" of outstanding students for the honorary groups of Mortar Board and Cardinal Key, the crowning of the Veishea Queen, a horse show, vaudeville consisting of skits by undergraduates, a musical production termed "Stars Over Veishea," and an all-college dance. To these was added a program of spring intercollegiate athletic events, and special programs by such groups as the Players, the forestry students, debaters, and others.

But the real thrill for most spectators is still the Veishea parade which has grown through the years to include approximately eighty floats, representing untold hours of careful thought plus equally astronomical hours of labor.

It may seem strange that such a celebration should evolve from a College which in its beginning was much less given to extra-curricular activities than even the normal college of its day. Its early student body was largely from families of modest circumstances who operated farms or labored in workshops. Nothing in its philosophy tended toward anything but earnest work.

Life, as described by those who attended Iowa Agricultural College in the first two decades, was ascetic by present standards, but the old grads swear the student body never was more closely knit. The whole College dined together three times each day in the basement of Main Building. The first floor was largely devoted to classes, the

second floor to coeds, the third floor to upperclassmen, and the fourth floor was "freshman Heaven." A brief "social hour" followed the evening meal, during which boys and girls mingled together, but between the hours of 7 p.m. and 10 p.m. study was strictly enforced by a proctor.

Professor W. H. Wynn, head of the department of English literature, was a favorite of the students, and literary societies were the first organized student activities. On Friday nights everyone attended his meeting as a social and intellectual feast. Other societies gradually grew up around departmental interests, particularly the agricultural areas.

On Saturday afternoons the boys were allowed to enter Main Building by the front door instead of the back or side entrance. It was the time, also, for "campus lab" which was again the opportunity to mix discreetly with members of the opposite sex — perhaps to play croquet or tennis. One year the senior pastime was wheeling junior ladies about in wheelbarrows.

The first college paper, the *Aurora*, appeared in 1873, and was published monthly, on a rather lofty literary plane, by the four literary societies of the time. Shakespearean plays were given at Commencement, the parts being assigned by the teacher of elocution.

An early "extra-curricular" activity for coeds was the Ladies Military Company — voluntary

drill units similar to those formed at other colleges. Attired in natty flat caps, brass buttons, white belts, flowing dark skirts, and swords, they were first organized in 1878, with Carrie Chapman Catt '80 as one of the organizers. Known as companies G (for girls) and L (for ladies) they became adept at marching maneuvers. One of the long-remembered events of the 1890's was a trip made by special train to the World's Columbian Exposition in Chicago where companies L and G, along with the male military units, performed for Exposition visitors. The ladies' military companies were disbanded in 1897.

With the coming of President Beardshear in 1891 "college spirit" foamed high, encouraged by that likeable gentleman, and aided by new student enterprises. One of Beardshear's early duties was to settle a long-standing feud between fraternity and non-fraternity members. The first fraternity, Delta Tau Delta, was founded as Omega chapter in 1875. Two years later Pi Beta Phi sorority established its Iowa Gamma chapter on the campus. Friction arose, which included a raid on a fraternity banquet by "barbs" in 1888, and petitions were circulated for the abolition of all secret societies on campus. Members of fraternities ultimately were expelled from literary societies. In turn, fraternity and sorority recruits formed a new literary society which met strong opposition from the existing societies.

The matter finally was put in the lap of the president. Feeling that the solidarity of the College was threatened, Beardshear called a special chapel meeting and met the issue squarely by forbidding students henceforth to join fraternities. It was not until 1904, when the housing problem was made acute by the abandonment of the old dormitory system, that fraternities and sororities were re-established on the recommendation of President Storms. Since that time both have played a prominent and highly commendable part in College affairs.

Even dancing was not looked upon with favor in the beginning, and for the first decades the big social event was the junior "walk around" or "trot" which a contemporary reporter described as follows in 1891:

One Friday evening, the gentlemen of the junior class, resplendent in knee breeches, low shoes, black hats with yellow bands, yellow ties, elaborate shirt fronts, black and yellow sashes and canes tied with yellow ribbon, marched out in force to take their annual trot. After displaying their colors and arousing the envy and admiration of the other boys, they returned to the bachelors' rooms for the junior ladies, who wore black skirts, tan colored blouses, black ties, hats same as the gentlemen, and carried fans ornamented with black and yellow ribbon. They marched across the campus to President Beardshear's house, where falling into line three hearty cheers were given for him. They then sang "Don't you wish you were a tadpole?" and gave the college yell. President Beardshear, in a short speech, told them that he appreciated and was

pleased with the class enthusiasm exhibited. Upon returning, they adjourned to the senior and freshman rooms, where, after having a short social time, cake, coffee, and fruit were served. The junior gentlemen received many compliments upon the success of their trot.

The yellow and black motif possibly was an expression of the new College colors of silver, gold and black, which were adopted in 1891 but proved a bit bewildering in number and hue. The present cardinal and gold were adopted in 1899 and worn by the athletic teams which first came into being a decade before.

In 1889 the College sent six representatives to a state field day, and in 1891 a track association was formed. During the next two years baseball, football and tennis appeared on an organized basis. A student-controlled Union Athletic Association was formed in 1894 to unify these groups, and it served until the Athletic Council came into being.

It was a heady beginning for intercollegiate athletics. The Iowa Inter-Collegiate Base Ball Association was formed in 1892, composed of Drake University, Iowa College at Grinnell, the Iowa Agricultural College, and the State University of Iowa, with Cornell College added the following year. In the initial season Iowa Agricultural College was champion.

Ira Brownlee, an undergraduate athlete of distinction, captained the first football team, which

he also helped organize and coach in 1892. In 1895 Glenn S. "Pop" Warner, recently captain at Cornell University and just beginning a long and illustrious coaching career, arrived to take over coaching duties which he continued for a month or so every fall for five years before going on to his regular jobs at Georgia and later Cornell.

Pop was good, and the Iowa Agricultural College gridgers went out to gain a reputation by playing some of the leading Midwestern teams. They won national recognition when they whipped Northwestern University 36-0 on their own field on September 28, 1895. The next day the *Chicago Tribune* declared:

Northwestern might as well have tried to play football with an Iowa cyclone as with the Iowa team it met yesterday. At the end of fifty minutes' play the big husky farmers from Iowa's Agricultural College had rolled up 36 points, while the 15 yard line was the nearest Northwestern got to Iowa's goal.

Ever since, Iowa State College athletic teams have been known as "The Cyclones."

When "Pop" Warner went to Carlisle in 1900 his connection with Iowa State ceased, and, under temporary coaches, football fortunes vanished, a fact which students and alumni found distasteful after their earlier moments of glory. An attempt was made to secure Warner as full-time coach, and he even indicated he would come — at some financial sacrifice — beginning with the season of

1902, since he had "always liked Ames and the boys there" and was confident that he could bring the College "to the front in athletics." The College apparently was unable to raise what must have been a fairly modest sum that Warner asked, and he went on to find his fame elsewhere.

Iowa State continued to consider from time to time the merits of a "big time" athletic program, and to experience some of the thrills and headaches that came as intercollegiate athletics assumed their present stature during the period between 1900 and 1925. In the latter year Iowa State College joined with five regional state institutions — Missouri, Nebraska, Kansas, Oklahoma and Kansas State College — in the formation of the new Missouri Valley Intercollegiate Athletic Association, which became known as the Big Six. Colorado University joined the group in 1948, and the conference became the Big Seven. In 1957 Oklahoma State University was added, to complete the present Big Eight.

Iowa State's fortunes varied within the conference, but were generally good with the exception of football. Outside of the intercollegiate field the College built a program of intramural sports that has served as a model for other institutions.

The chief center of present student social life is the Memorial Union. Much of the informal educational program of the College also focuses there, and it is the headquarters for most outside groups

meeting on campus. The Union was launched as a memorial to the Iowa State men and women who served in the Armed Forces during World War I. Since World War II, the purpose has been changed to memorialize all Iowa State men and women who have given life or service in the Armed Forces. It is organized as a private club, financed by students, alumni staff and friends of the College.

The first units of the Memorial Union were erected in 1927 and 1928, and in spite of financial difficulties caused in part by the depression of the 1930's, the corporation has never failed to make good on its obligations. Meanwhile, five additions have been made to it to meet new demands of the student body, the faculty, and other users of the building. The most recent addition, completed in 1958, brought the total value of the building to about four million dollars.

NED DISQUE

Some Incidents in Research

In the big brick Chemistry Building on the Iowa State campus F. H. Spedding was pursuing his regular duties in teaching and research on December 6, 1941. For years he had been interested in a strange family of chemical elements known as "the rare earths." Actually, they were not earths at all — but metals.

The telephone rang, and Dr. Arthur H. Compton, at the other end of the wire, urgently requested the Iowa State College professor to come to Chicago on a matter of the utmost importance to national security. By the time Spedding reached that city, the bombs at Pearl Harbor already had plunged the nation into World War II, and he was briefed on the highly secret Manhattan Project which eventually led to the production of the atomic bomb.

Compton had reached for Spedding because he knew the Iowa State College scientist, in his rare earths research, had knowledge that would be invaluable in obtaining pure uranium, thorium and plutonium, materials without which it would be impossible to reach the goals set for the project.

At first it was thought that Spedding would spend most of his time at the University of Chi-

cago, but he soon moved major operations to the Iowa State College Chemistry Building and to a decrepit structure known as Annex No. 1. Inside its patchwork of wooden-framed rooms was kept one of the deepest military secrets of the war, and from it flowed much of the pure uranium metal which Compton and his colleagues required.

At the start of the war metallic uranium metal was a laboratory curiosity, costing about a thousand dollars a pound. New methods developed under Spedding's direction drastically reduced the cost of casting ingots of the pure metal. Two new processes of making uranium metal were so promising that the College was awarded a substantial sum to carry them through the pilot stage and to produce some tons of metal to start the nuclear reactor which was being built beneath the University of Chicago athletic stands.

Under the supervision of Spedding and Dr. Harley Wilhelm, thousands of dollars worth of expensive equipment was installed. The working force consisted of some ten undergraduate chemistry students and chemical engineering students at Iowa State, who served as foremen, plus about ninety other workers recruited from the Ames area. They were barbers, bricklayers, carpenters, salesmen, florists — but none knew where their secret job fitted into the total war plan of the Allies.

Residents of Ames dubbed Annex No. 1 "Little

Ankeny" in reference to the Ankeny Ordnance Plant which was operating full tilt south of Ames. Some thought "Little Ankeny" was manufacturing a new type of poison gas or a new kind of hard metal for tanks. A few suspected the whole operation was just another government boondoggle. That idea received additional emphasis when it was noted that the product of "Little Ankeny" was shipped out in express cars that seemed practically empty. No one bothered to tell these people that the product was uranium, which is so heavy that a covering of a few inches over the floor of the car was a maximum load! Meanwhile, "Little Ankeny" met its quota of uranium production each month, and each month that quota was promptly doubled. Dr. Spedding says:

I certainly don't recommend our way of doing things in those days as the proper way to carry on research, development or production. But there was a tremendous urgency, and we resorted to any method to get the job done.

One of the big hazards was molten metal breaking out of the furnaces in which it was being heated. It was a spectacular sight to see it leaping across the floor, and since the nearest place of safety was the washroom it was customary to dive in there, then observe through a crack in the door.

Fires were almost an everyday occurrence — sometimes there were as many as six per day — but the Ames fire department was not cleared to enter the building so the working force was al-

ways ready with buckets of lime and graphite to smother any flames that broke out. Explosions were not uncommon; one blew a wall out about eighteen inches.

In spite of the urgency which dominated those early days, "Little Ankeny" failed to record a serious accident, and the crew kept hard at work in crowded conditions, smoke, and flame, without the benefit of the fans and ventilators which were unobtainable. Midway in the war the need for uranium became so acute that a salvage operation was undertaken in the College dump where refuse from "Little Ankeny" had been taken. Even dirt outside the door of the building was dug up and shipped to Chicago for reclamation of the uranium.

As other plants came into operation in 1944, the production of uranium was cut back, then shifted to thorium until the end of the war. But "Little Ankeny" had produced more than two million pounds of uranium at a time when every pound was of the utmost importance, and processes developed by the Iowa State College group had saved hundreds of millions of dollars by bringing the processing cost of the metal down to about thirty cents per pound. "Little Ankeny" itself, possibly the most historic building on the campus, came under the wrecker's hammer in 1953.

In its place, the Atomic Energy Commission, following the war, leased campus land to erect

approximately six million dollars worth of new laboratories. A special administrative division of the College, The Institute for Atomic Research, operates the Ames Laboratory of the United States Atomic Energy Commission whose 550 employees occupy the new buildings. Spedding is director of the Institute, and some of his wartime team of scientists are still with him delving into basic problems in the field of nuclear research, mainly directed at the peacetime uses of the atom.

Spectacular results of this nature are not the rule at Iowa State, but almost from the day the College Farm was first put in order much time has been spent in seeking new facts and new knowledge for the benefit of the state and of the nation. This is a part of the Land-Grant idea.

I. P. Roberts, first superintendent of the College Farm, made tests of cereals, feeds, and fertilizers. J. L. Budd made a special trip to Russia in 1882 in an attempt to find trees and shrubs useful to Iowa. Other faculty men were equally diligent in botany, entomology, horticulture and animal husbandry. In 1879 the College claimed the first experimental creamery. Results were published regularly in College reports and periodicals and in bulletins of the United States Department of Agriculture.

Seaman Knapp, especially, was interested in research and its development. In 1882 he and C. E. Bessey drafted a bill for federal endowment

of experiment stations, and though it was lost in committee in Congress, Knapp continued to agitate for the idea until the Hatch Act of 1887 granted the federal aid. On March 2, 1888, the General Assembly passed the act which established the Iowa Agricultural Experiment Station. Farmers became accustomed to saying — "Down at the College they say . . ." or "At Ames they're recommending . . ." when they talked about ways and means of farming.

John Evvard is credited with one of the first major research contributions to the livestock industry of the state. Coming to Iowa State in 1910 after graduation from the University of Illinois, he not only made important discoveries but he had the capacity for explaining them to farmers. Thousands gathered for the feeders' days Evvard held on the flats west of Squaw Creek and near the campus. The biggest single advance in the history of livestock feeding may have resulted from his advocacy of the self-feeder. He exploded the idea that some of the early commercial feeds had any magical qualities, and started the feed industry into the immensely profitable development of research-proven feeds.

Important as were some of these early investigations, they dwindle when compared to the advances of the last twenty years. When hybrid corn increased yields thirty per cent in the 1930's, Iowa State began work on inbred lines which are

now used almost exclusively in Iowa hybrids. Oat breeders at Iowa State developed one new variety after another to keep ahead of new disease threats, to boost yields, and to produce stiffer straw. Soybeans became a major crop before the 1940's, and most Iowa farmers plant varieties developed and proved at Iowa State.

Ten years ago five tons of feed produced about 1,050 pounds of beef, live weight, under good feeding conditions. Then came stilbestrol, an Iowa State discovery, which added one hundred pounds to the increase. Back in 1915 it took 512 pounds of feed to put one hundred pounds of gain on a hog. It takes three hundred pounds of feed to do the same thing today. The hogs grow faster ($1\frac{1}{2}$ pounds daily gain compared with 1 pound in 1915) and the litters are larger and the death loss smaller, too. This abundance, in which Iowa State researchers had a major hand, has proved almost embarrassing at times. Within recent years there has been less emphasis on production, and more emphasis on quality and efficiency.

In 1957 the College announced the formation of a Center for Agricultural Adjustment. In addition to sociological and economic adjustment problems, it is investigating marketing, processing, and consumption of farm products.

In 1944 Iowa State College led the way in incorporating home economics research into the Agricultural Experiment Station.

Some years ago researchers found the results obtained in Ames were not always valid in other parts of the state where soil and even climate were different. With the help of farmers and businessmen, a system of outlying experimental farms was established. Local people bought the farms, on which taxes are paid, and leased them to the College for research purposes. The bulk of the research still goes on at Ames, however, and at nearby Ankeny where 1,623 acres from the Ordnance Plant were turned over to Iowa State at the close of World War II.

It was vigorous Dean Anson Marston who prodded the General Assembly into establishing the Iowa Engineering Experiment Station in 1904 — an act which enabled the state to share with Illinois the distinction of putting its engineering investigations on an organized basis — research into sewage disposal systems, water supply systems, drainage systems, conduits, and highway materials and construction. With support from the Iowa Highway Commission, the highway projects have remained numerous and important. In addition, the Experiment Station has looked into utilization of agricultural by-products, manufacture of fertilizers, extraction of vegetable oils, soil mechanics, analysis of structures, analysis of problems of electrical transmission, and creativeness in machine design among other projects.

In 1913 a cholera epidemic was sweeping over

the nation; Iowa that year lost nearly 25 per cent of its hogs worth \$30,000,000. Iowa State's Division of Veterinary Medicine was asked to help combat the scourge. It was hoped that a veterinary research organization might be started to give courses to veterinarians in connection with anti-hog cholera serum. The General Assembly appropriated \$10,000 for research, \$5,000 for practitioners' courses, and \$35,000 for a State Bacteriological Laboratory. The laboratory produced and distributed the necessary serum, special veterinarians were put into the field, and the work of the College was credited with abating the epidemic. The Research Department was organized from the \$10,000 voted for this purpose during the emergency.

In 1920 a farm was acquired for research and for the manufacture of serum, and this proved to be the forerunner of today's Veterinary Medical Research Institute, the main laboratory and barns of which were completed in 1927. Because the basic sciences underlie almost all work at Iowa State College, research in these areas took on added impetus in the Twentieth Century. One of the big problems was to convince those from whom the necessary funds were sought that such investigations did not necessarily have to pay off in immediate results. Investigators pleaded for more time and more money to make the fundamental investigations necessary to keep replenish-

ing the pool of basic knowledge from which new scientific advances are made.

An increasing dependence upon mathematics for the solution of problems in science led Iowa State to develop new mathematical and statistical methods. More than twenty-five years ago it pioneered in applied mathematics by introducing punched-card techniques into computing methods used in its activities. In 1933 a Statistical Laboratory was established under the direction of George W. Snedecor as an independent research institute to promote and foster the appropriate and efficient use of statistical methods and theory in research at the College, and to provide fundamental scientific facts and principles which underlie the development and successful solution of agricultural and industrial problems in Iowa. Members of the laboratory received assignments in foreign lands, as well as on federal and military contracts. In 1956 the College began developing a high speed computing center to extend the scope and usefulness of its scientific research in all areas through use of modern high speed computers.

NED DISQUE

The Centennial in Retrospect

The Centennial Year at Iowa State College was a time for summing up accomplishments, for making comparisons between old and new, and also for taking a long look ahead at new responsibilities and opportunities. In the beginning there was instruction in sciences relating particularly to agriculture and industry, plus a farm where research could extend knowledge and where demonstrations could be held. Identical components are found in the program of the College now — teaching, research and extension services.

The differences are in the way the College has grown and adapted itself to the changing needs of the state and of the nation. A farmhouse, a few outbuildings and a single College hall have become a physical plant valued at approximately fifty million dollars. The original College Farm of 648 acres has become a campus of 460 acres, plus more than 6,000 acres of research and demonstration areas at Ames and throughout the state. A handful of professors, a matron and a farm superintendent have become a faculty of approximately one thousand with hundreds of clerical, technical and maintenance helpers.

The five well-defined divisions — Agriculture,

Home Economics, Engineering, Science, and Veterinary Medicine — which emerged early in the twentieth century, have each grown and flourished. A sixth academic division, the Graduate College, is present throughout the work of all the others, and in recent years has risen rapidly in importance. The demands of science and technology have required persons with training well beyond the baccalaureate level, and Iowa State ranks high among technical institutions in the awarding of advanced degrees. At the century mark, it was awarding approximately 125 doctoral degrees, and more than 200 master of science degrees each year.

In fulfilling its second major function, that of research and the finding of new knowledge, the College has organized its efforts into the Iowa Agricultural and Home Economics Experiment Station, the Iowa Engineering Experiment Station, the Industrial Science Research Institute, the Veterinary Medical Research Institute, the Institute for Atomic Research, and the Statistical Laboratory.

The effectiveness of the Extension Service in Agriculture and Home Economics can be suggested by a few statistics. More than 50,000 boys and girls are enrolled in 4-H work under the College direction in 1958. About 1,000 printed and mimeographed publications are produced in a year, and more than 3,350,000 copies distributed.

County extension workers visited nearly 100,000 farms and homes annually.

Approximately 20,000 people come to the campus each year for conferences and short courses which deal not only with agricultural matters, but with home economics, engineering sciences, veterinary medicine and technology, sponsored officially by the College. Untold thousands more use the campus as headquarters for meetings, or come individually or in small groups. Additional thousands attend field days and meetings held under College auspices in every county in the state.

So thoroughly has the small Agricultural College become a great *University*, that on numerous occasions it has been suggested the name be changed to reflect this fact. Alumni and faculty members, a sentimental and modest group, generally did not favor these suggestions. So while a number of other states have officially designated their colleges of agriculture and mechanic arts by the term "University," the institution at Ames has clung to its College designation.

The Centennial Year itself was observed with quiet dignity by a three-phase celebration. Founders' Day, March 22, was marked by a convocation in the College Armory, at which President James L. Morrill of the University of Minnesota gave the main address, and by a luncheon in Memorial Union for representatives from academic circles, government, the student body, alumni and friends

of the College. This was followed, during the next three days, by a series of academic symposia, conducted in the areas in which the College has paramount interests, and at which leaders in these fields were speakers. The second part of the celebration was later in the spring, and was largely undergraduate in nature. Veishea was keyed to the Centennial theme.

A final phase was the Centennial Commencement when the College honored especially its alumni, staff members and friends whose service to the College had been outstanding, or whose work had reflected honor upon the College.

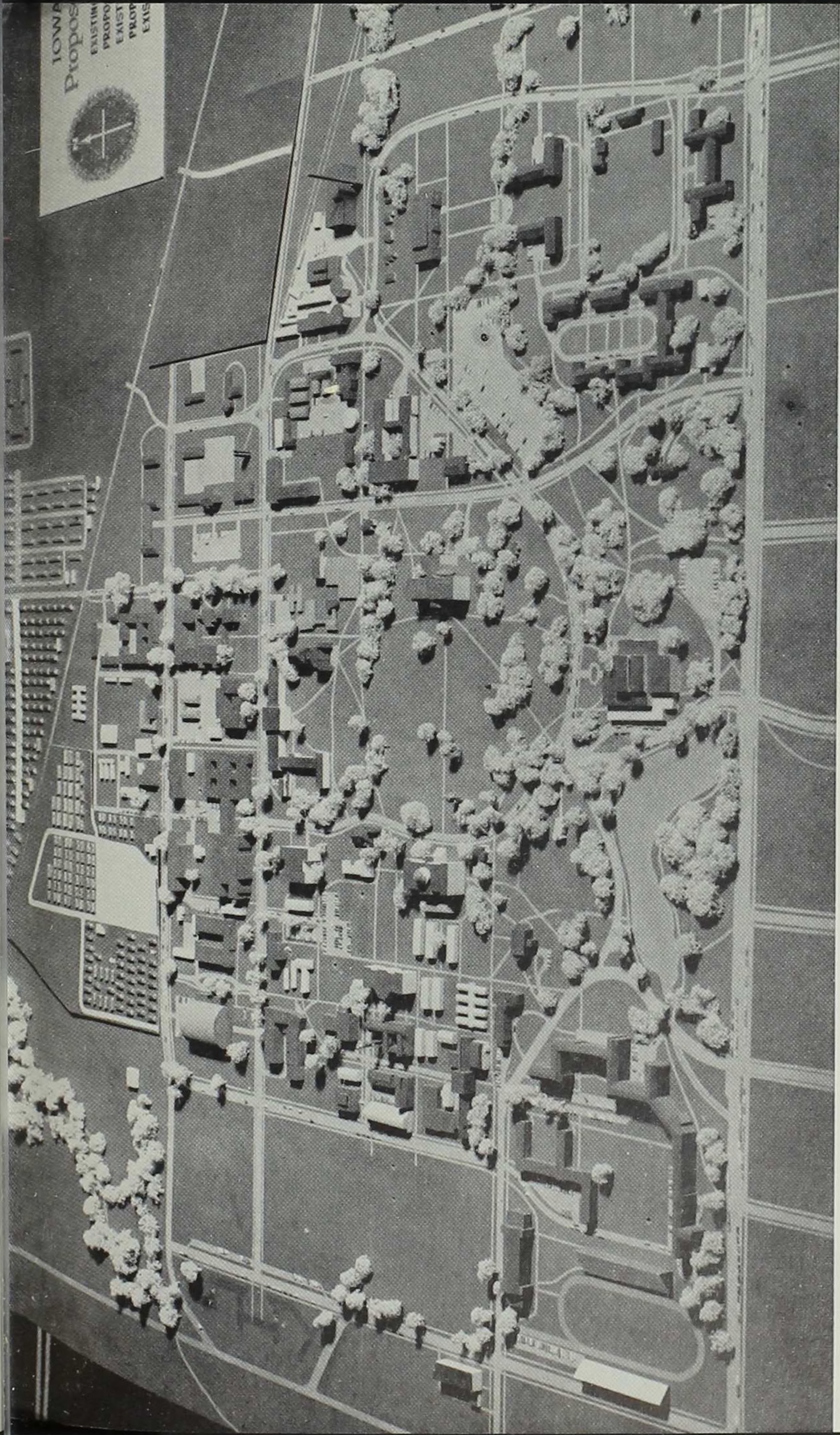
Said President Hilton at Centennial time:

The record of distinguished service to Iowa and to the world which Iowa State College has made during its first century is but a prologue to what lies ahead of this great institution. Certainly the next 100 years will bring many new responsibilities and many new opportunities.

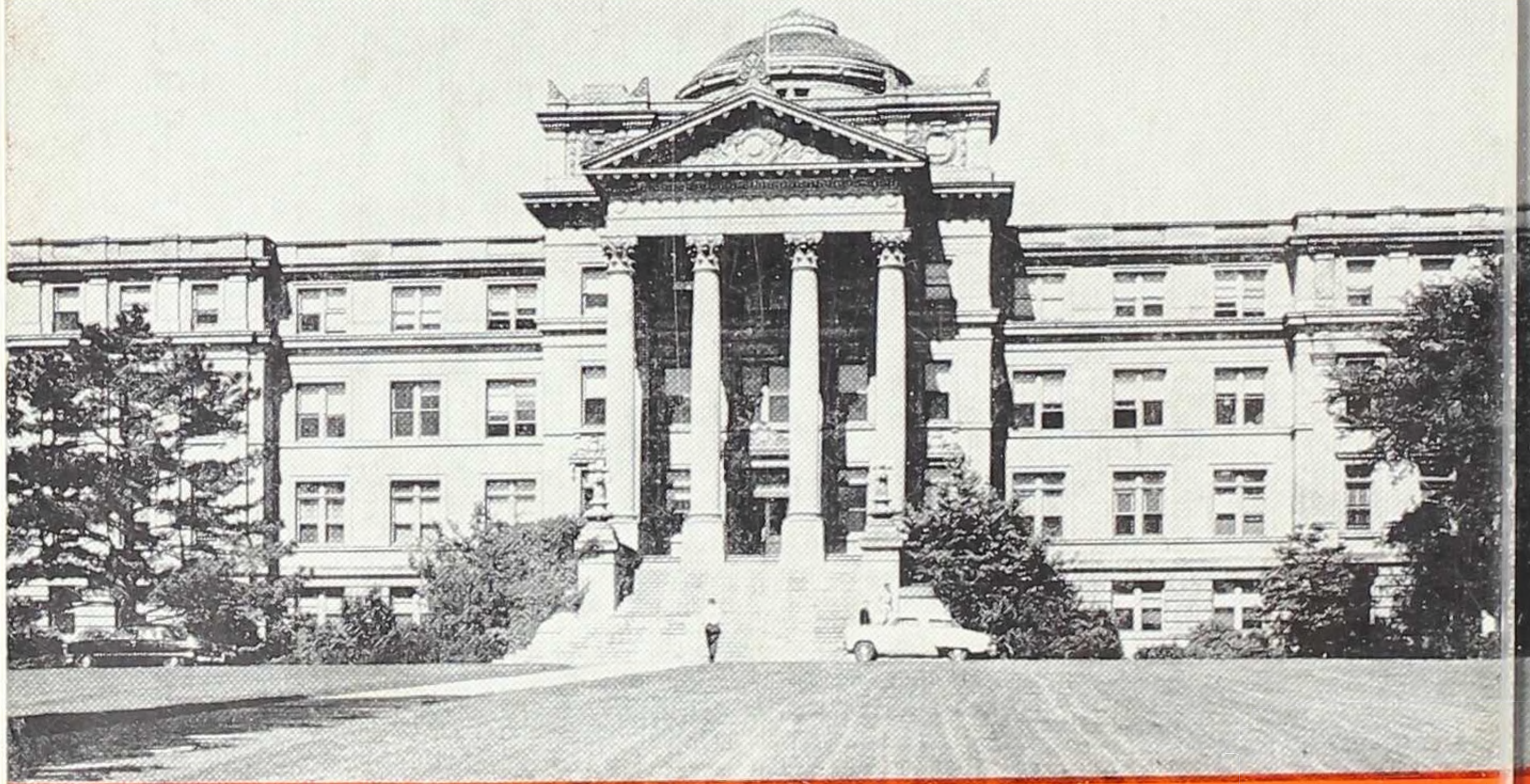
While the teaching of science and technology is a first responsibility of Iowa State, the faculty recognizes the need of a broad general education. Scientists, engineers, farmers and homemakers are first of all citizens who must be prepared for leadership and living in a complex world.

Iowa State proposes to assume its responsibilities in the next century as it has in the past. In meeting this challenge, I am certain that the College will have the active support of the citizens of Iowa, who traditionally have believed in the benefits to be derived from institutions of higher learning and have willingly made the necessary sacrifices to support them.

NED DISQUE



Iowa State College — Present and Proposed Campus



Beardshear Hall, which stands on the approximate site of Main Building, houses administrative offices and some classrooms.