

Chapter 2

A New Type College in Operation

IOWA'S LAND-GRANT COLLEGE was launched more auspiciously than those of most states, but for all — in an era of readjustment and transition from the wrecks of civil strife to the new industrializing and consolidating nation — the going, to the turn of the century, was rough and turbulent. In the resulting deflation, depression, and consolidation the “industrial classes” — farmers and laborers — were the main victims. Desperately and for a long time ineffectively, they sought parity position by organization and governmental aid. Iowa was a center of the agrarian crusade of the Grange, the Alliances, and the People's Party. Naturally they turned to the “Farmers' College” for direct guidance in production and management and for authoritative support for their action programs.

Unhappily the new colleges had little to contribute in verified information on production, distribution, or finance. In the “educational renaissance” from the 1870's to the World War I era the land-grant colleges were to be an in-

spiring and a generative influence, but for their first quarter century they were seeking to secure and maintain their place in the academic orbit.

The traditional division between the liberal and practical ("broad and narrow gauge") schools was to be an intermittent divisive influence through the first decade and a half of the twentieth century. The resulting disunity gave opportunity and excuse for producer and political groups to influence the selection of boards, presidents, and key professors. This was before the establishment of experiment stations. In the technical subjects, especially agriculture, there was a lack of usable applications of the sciences, with appropriate methodology. The supply of technically trained professors was entirely inadequate before the stronger institutions gradually met the demand. Meanwhile many learned "in service" at the expense of their students and the constituency. Neither the states nor the federal government provided any but nominal supervision, and before the late 1880's the colleges lacked organization for exchange of experiences and the influencing of standards.

With all the limitations of the early agricultural college in program, equipment, and staff, the shortcomings of the students in preparation and vocational purpose were still more pronounced. Many were unable to meet the elementary entrance requirements, and most were sadly in need of review or refresher courses. The preparatory department long remained a necessary adjunct.

The credulous assumption that farmers and mechanics generally were eager that their willing offspring should gain competence in one of the industrial pursuits was destined to great disillusion. In not a few cases the new higher education was sought as an escape from the family vocation.

For the Iowa Agricultural College it was fortunate indeed that in the critical formative years it was headed by a president who combined liberal scholarship with understanding and practical experience in business and politics. Welch thus was able to appreciate the claims and interests of the rival groups in land-grant education and, to a marked degree and for a relatively long period, to effect reasoned reconciliation. In taking the view that the technical training should be on a liberal basis in relation to appropriate general studies and that training in leadership should be an ultimate goal, he was expounding the true purpose of the organic act. It was no less fortunate in these years that Welch had the support of board members with the enlightenment and integrity of Gue, Melendy, Richardson, Kirkwood, Charles E. Whiting, and others of this type.

It was a time when special interests and self seeking rather than broad liberal policies were to the fore. The legislature — jealous of its functions — had a hampering influence. The large board developed factions, in line with economic and social divisions. The staff was restless and dissentious; all were overburdened and some were clearly misfits. Welch sought in vain to pacify and conciliate the discontented within the College as he did those outside.

► CHARGE "WAVERING FROM COURSE"

The opposition in the state came from the belligerent Grangers and Greenbackers whose major indictment was the highly generalized assertion that the College was "drifting away from the original intent." This meant, according to their restricted view, that it was not a practical farm school. The attack was spearheaded by the chronic agitator, William Duane Wilson in the *Iowa Homestead*. Foremost of local alarmists was the picturesque Colonel Lucius

Quintus Hoggatt, who was elected to the legislature in 1873 on the Greenback ticket and whose farm on the east bank of the Squaw Branch enabled him to keep a critical eye on the Agricultural College and Farm.

Although divided, the board had a majority favorable to Welch and his policies, as they understood them. In a curious and ineffective scheme to restore harmony, the resignations of the president and staff were called for at the November, 1873, board meeting. This was immediately followed by the reelection of all but the three disturbing members — A. E. Foote, James Mathews and George W. Jones — who failed by one vote. The cause of the deposed professors was supported by the opposition as a case of autocratic suppression of freedom of teaching, and the disturbance was increased rather than moderated.

► AUTHORIZE SURVEY

The culminating count in the bill of grievances against the College was the discovery in January, 1874, of a large and deeply involved defalcation of the state and college treasurer to whom had been intrusted the funds of the College, with a careless confidence that had overlooked the negotiating of a bond. Official action of a drastic sort was clearly demanded, and a joint legislative committee was authorized to subject the College at Ames to a complete and thorough investigation. The legislative resolution contained these main charges: financial mismanagement and defalcation, neglect of the true aim of educating farmers and mechanics in the interest of business and the professions, and an unjust treatment of students. A general, roving survey of the course of study and methods of teaching was authorized.

From the acquisition of the farm, regular visiting and

special committees had observed and reported on activities, but this was the first full-dress investigation to which the College was to be subjected. As such it was, in every respect, a travesty and perversion of that legislative power. The committee, disdaining counsel, followed a procedure and an evaluation of evidence that were wholly original. The open hearings extended over a month and filled a volume of nearly eight hundred pages. Heresay, gossip, personal abuse, and irrational tirades were admitted along with documentary exhibits. Legislators, trustees, staff members, students, townspeople — all were given their say, however irrelevant and inconsequential. The hearing was a field day for the disgruntled and opinionated.

The findings were, in general, a vindication of the administration. The charge of departure from the true program of the College was not proven and no valid evidence of the oppression of students had been presented. No opinion was expressed on the dismissal of the staff members, as the committee — like the public — was divided in the matter. The criticism was largely of the board for its lax financial policies and unawareness of what was going on. This was a retrospective judgment as the large board had been replaced the previous year by one of five members.

With his detractors discredited and the dissentient staff members removed, Welch found himself in a position to develop his own program and to make his influence felt in the state and in national collegiate circles. Opposing influences continued but they were balanced by true and able supporters. Had Welch kept his physical vigor he no doubt could have remained in his position until voluntary retirement. But a physique never too robust was beginning to crack under the strain of teaching, supervision, and public

relations. In 1882 he welcomed the invitation of the federal commissioner of agriculture to inspect the agricultural schools of Europe.

Permission for this appropriate service was secured with considerable difficulty from the trustees. But it gave his opponents in the state, largely agricultural leaders and unfriendly members of the board, the opportunity that they had been seeking. One member was particularly hostile and was able to secure the support of two associates.

► REMOVE WELCH

The first move was to reduce salaries and consolidate or abolish positions, under the familiar guise of economy. The next year, 1883, the blow fell with the removal of Welch by a vote of three to two. The alleged justification was that he was becoming senile and no longer able to perform the duties of his office. The charge was heatedly denied by Welch's supporters—led by Kirkwood, then a minority member of the board. On his return Welch accepted the fortunes of academic politics philosophically and was allowed to continue his professorship of psychology and the history of civilization until his death in 1889.

In the stressful days of launching this new-type college, Welch had provided a sure and sound leadership. In a pioneer state in a period of hard times and agrarian pressures, he had kept a true vision of the mission of land-grant education. As an administrator he had advanced ideas of staff and student participation and of appropriate service to the state. While not a specialist in the modern sense, as a teacher he pioneered in such fields as landscape architecture, genetics, the philosophy of science, and the history of civilization. As a pioneer his ideas and policies were often

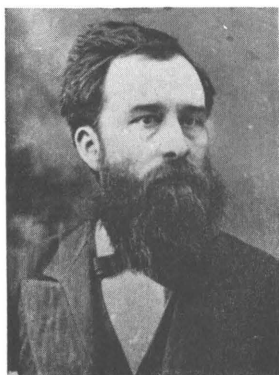
premature, but his contribution to the College and to American education was real. He ranks among the leading founders of land-grant education.

Though the victim of low demagogery and unscrupulous misrepresentation, Welch's educational principles were to receive official endorsement three months following his dismissal. In the act of March 20, 1884, the scope and functions of the College were redefined in accord with the broad statement of the Morrill Act. The corrective bill was introduced and conclusively supported by state Senator Preston M. Sutton of Marshalltown, who had been a prominent schoolman before studying law. In an elaborate analysis which provides one of the best reasoned interpretations of the land-grant act, Sutton contended that the continuation of the narrow program of the original Agricultural College had been in violation of the intent of the federal act which specified a broad training in which literature and the several sciences, including the social, should have distinct recognition. A telegram from Senator Morrill, which with characteristic ambiguity supported the contention, added official weight. By positive phraseology, the Iowa law gave a stronger recognition of general education than had the organic act itself. Following the provision for the "leading branches" of agriculture and mechanic arts there is added, "and which shall also embrace such other branches of learning as will most practically and liberally educate the agricultural and industrial classes in the several pursuits and professions of life...."

At the same session — with the doubtful assumption that a larger, more geographically representative board would be wiser and less open to manipulation — a return was made to a board of eleven elected from congressional districts.

The membership was further increased, in 1898, by making the governor and superintendent of public instruction ex-officio members.

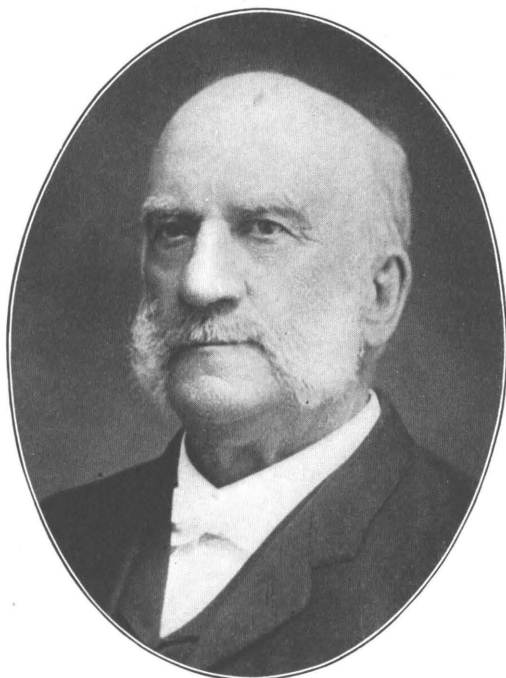
These measures were regarded by their supporters as both reforms and positive advances that would mark a new day for the College. If they could have had the support of public opinion and intelligent and impartial administration,



Acting President Charles E. Bessey served from September 1, 1882, to November 24, 1882, while President Welch was in Europe inspecting agricultural schools for the Commissioner of Agriculture.

the changes would have gone far to realize the great idea of popular higher education. But in years of continuing hard times and with the prevailing governmental standards and practices, the outlook could not be too promising. A sketch of the history of the College, written in 1920, refers to the period from 1883 to 1891, with marked understatement, as one of "administrative instability."

When Welch left for Europe, Charles E. Bessey as vice-president was left in charge. But with the reorganization in the fall of 1882, Seaman Knapp, the professor of agriculture, was made vice-president and acting head. Upon the removal of Welch, Knapp was given the thankless appointment of president for one year only. He had been a loyal supporter of Welch and was thus made the unwilling



When acting President Bessey resigned, acting President Seaman A. Knapp served from November 24, 1882, to March 1, 1883, to serve out the leave which was granted to President Welch. On December 1, 1883, Seaman A. Knapp became president when President Welch was removed. He was appointed for one year until December 5, 1884. At the time he was elected he said he would not retain the position permanently and he did not approve of the removal of President Welch.

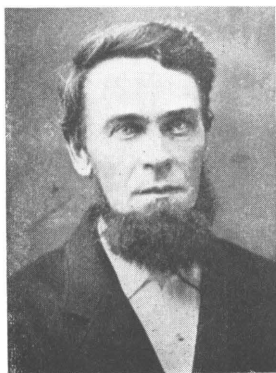
tool of the president's opponents. He carried on as best he could under the limited appointment and started his efforts for a system of federally supported experiment stations.

The new board promptly removed the restriction on tenure and sought an executive from the outside who could bring stability and assured leadership. The favored candidate, W. I. Chamberlain, secretary of the Ohio board of agriculture, could not be attracted at this time. The choice

was made of a man as unfitted and incompetent — by training and temperament — for a college president as could well have been imagined. Leigh S. J. Hunt had qualities of true genius but none of them was academic. His background was most obscure and he did nothing to clarify it. His formal education at most was sketchy. A native of Indiana, he had headed the school systems in several Iowa cities and was superintendent of the West Des Moines district when called to the new dignity. He had attracted attention in public school circles by addressing teachers' institutes and from devising a system of pupils' savings banks.

The selection of this most uncollegiate young man — not yet turned thirty — to lead a group of mature teaching and research scholars and to direct and counsel a diverse student body was due directly to the maneuvers of the journalistic politician, J. S. Clarkson — who represented his district on the board and who a few years later would gain notoriety as the super-spoilsman in the Post Office Department. That a personal political and business relationship should have been allowed to determine the head of a state college was a distressing reflection on the faithful awareness of a "representative board."

Acting President J. L. Budd served from December 5, 1884, to February 1, 1885. He was appointed to serve until the election of a permanent president.



Hunt's brief venture in higher education might have been regarded as a humorous interlude but for the demoralizing cost to the College and state in an unsettled period. So boyish in appearance that at least on one occasion he was mistaken for a freshman, the youthful executive was over-conscious of his dignity and authority. An aloofness of manner and "aristocratic airs" — flaunted in riding to town in a trap drawn by a high stepping cob and attended by a footman on the back seat — were realistic demonstration of the caricatures of agricultural colleges by contemptuous critics. His lack of familiarity with college customs and procedures and especially of professorial sensibilities were all too evident. A resulting major casualty was the resignation of the popular Professor William H. Wynn, who was contemptuous of the chief's academic gaucheries and his pretensions in public address, especially in the professor's particular domain of the daily chapel. That there was not more concerted protest was but another evidence of the customary conformity of college (new type or old) faculties.

Without such restraint from faculty or board, there ensued a regime of academic dictatorship. From his limited training and experience he brought to college administrations the methods of an old-time "well disciplined" country school (or as some observers remarked, "of a soap factory"). He obtained from compliant trustees a mandate for "executive government" which signified a despotism.

The most spectacular test of personal rule was not with faculty or trustees, but with the senior class itself. Following the expulsion of two members for an infraction of rules which to student opinion seemed not that serious, the class went on strike, setting up their headquarters in the town opera house. When the president of the board came down



President Leigh S. J. Hunt served from February 1, 1885, to July 20, 1886.

from Hampton to offer his friendly mediation, he was informed curtly that the accredited head would handle the situation in his own way or retire. After a week's "urbanization" the class accepted the expulsion as a lost cause and were allowed to return without prejudice to round out their course for graduation.

The board in reviewing the episode approved fully the "treatment and suppression of the troubles in the College during the summer of 1885, by the President, as having been correct, firm, and suitable to the emergencies of the occasion." Certain members of the faculty were known to sympathize with the class, but in the minutes of their meeting, devoted mainly to course of study revision, there is no

reference to "the troubles." However, cumulating dissatisfaction on and off the campus could not be ignored even by the most self-confident executive and the following spring Hunt resigned, as J. B. Hungerford observes in his reminiscences, "on the pretext of ill health."

Hunt's spectacular business career as journalist and banker in the Pacific Northwest, gold miner in Korea, cotton grower in the Sudan, and, in his last years, promoter of irrigation homesteads in Nevada, has suggested to some that if he had been given more time he might have made a comparably big name in educational administration. But his academic probation was far too demoralizing to risk its continuance. Leigh Hunt's career is another refutation of the fanciful popular notion, too often held by college boards, that a notably successful business executive should be an effective college president — especially in times of financial distress.

In spite of the unsettled conditions at the College, there was as usual an abundance of applicants for the post from Iowa and adjoining states. The unanimous selection was the preferred candidate at the previous election, Chamberlain of Ohio. He had the commendation of the leading men of his state — political, educational, and clerical. As an evidence of the lack of a definite pattern and standards in the position, the new executive at every point was a marked contrast to Hunt.

William Isaac Chamberlain, like Welch, was born in Connecticut, in 1837. But as the family removed to Western Reserve in Ohio during his infancy, he could be regarded as a native Buckeye. He was a farm boy of scholarly interests and habits. After graduating from Western Reserve University he taught the classics in academies and small colleges



President William I. Chamberlain served from July 20, 1886, to November 13, 1890.

until failing health caused him to move to the country. As a farmer he was notably successful; he contributed frequently to the agricultural press and was in demand as a lecturer in farmers' institutes. In 1880 he was elected secretary of the state board of agriculture and greatly extended its activities and services. He thus gained standing as an efficient agricultural administrator. At the same time he maintained his scholarly interests, remaining a student of the classics and of philosophy throughout his life. During his presidency both Ohio State University and Rutgers conferred an LL.D. Personally he was a man of strict integrity, kindly nature, and deep religious convictions.

As against these strong qualities, Chamberlain had cer-

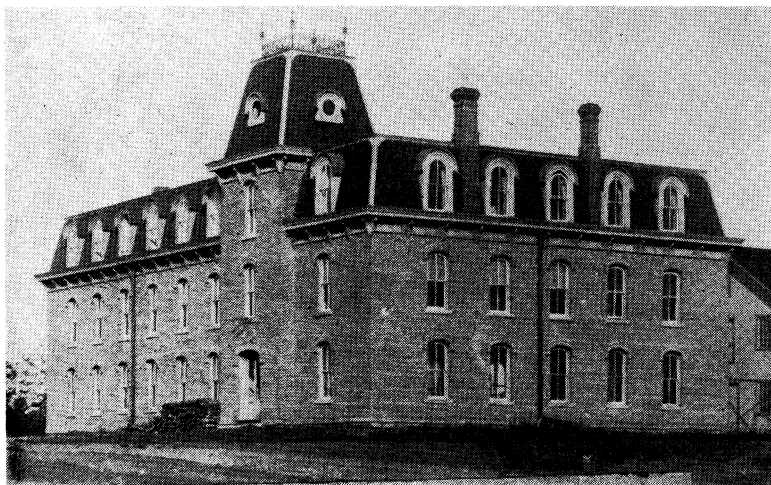
tain weaknesses and limitations that kept him from being the outstanding leader in land-grant education that he might otherwise have been. He was over-conscientious in details, and supervision of minor operations of college and farm took his attention from the basic problems of administration. Qualities that were helpful in his previous occupations thus became hindrances in this more responsible one. In contrast to his predecessor, he often was lacking in self-confidence and hesitant in making decisions on vital policies. In spite of good and charitable intentions, he was at times tactless in his dealings and conduct, and narrow in his social outlook.

In any case the new administration started auspiciously. Welch for the faculty gave cordial and felicitous welcome. With acceptable zeal, Chamberlain in the inaugural address on July 20, 1886, contrasted the narrow, outmoded old education with the liberal, progressive new brands of higher education. He sought to harmonize and stabilize internal relations by a substitution of "faculty" for "executive" government, and by a policy of fixity of tenure so long as service was reasonably satisfactory. To attain such a felicitous practice he gave the most careful attention to new selections. From his institute experience he could address farmers' audiences with ease and understanding. Early student impressions, before serious disciplinary cases had arisen, were generally favorable. Altogether the well-meaning executive could report, in July, 1887, "a year of uninterrupted good feeling between and among all the professors and students."

In an academic sphere at any time — and especially at a stage of such intra-mural uncertainty and extra-mural perturbation — such blessed relationships could not endure. Staff members were maladjusted and contentious; discipline

was felt in turn to be too severe or too lax; trustees were not always understanding; and funds for equipment and salaries were chronically inadequate. But the main complaint arose from dissatisfaction with the development of the "main branch" in a period of agricultural distress. Other achievements were of no avail if this one was not fully served. Despite all difficulties, such had been the faithful effort to this time, according to the best lights of those in authority, but opinions differed greatly as to what constituted real service.

Unlike some of the land-grant colleges, in Iowa the full program called for in the federal act with the most appropriate methods available had been provided from the begin-



This was a new building in 1883 — christened at that time Engineering Hall and so known until 1903. The sequence of name changes then went this way: Engineering Laboratory 1903-09; Structural and Hydraulics Laboratory 1909-18; Civil Engineering Laboratory 1918-33; Mechanics Laboratory 1934-48; Theoretical and Applied Mechanics Laboratory 1948-. Superimpose trees and shrubbery in the foreground and you have the building exterior as it continues in use at the Centennial.

Seriously, while the *Tree Mode* "knowing..." from the topic 8.Y rates gave us a very interesting and all-ombraded speech. In his opinion, especially should stamp itself up on the actions of every true thinker and in the attainment of true scholarship, the student should subject all things to a close and scrupulous course of reasoning, which should not only develop the powers of the mind, but draw in true perspective the theories of men in their interrelations. Too many give the investigations of science a superficial glance and then hastily accept or reject its conclusions as the people will be

The most pretentious enterprise of the literary students in the early days of the College was publication of the first issue of the **Aurora** in June, 1873. Under a board of student editors headed by Millikan Stalker, the paper had a small amount of college news but was mainly literary. Some of the articles were by members of the faculty.

ning. However elemental and incomplete the subject matter and deficient the instruction, the distinctive objectives were recognized and striven for. In the pioneer years there was much of trial and error in making curricula and adapting methods. The initial subjects were embraced in two curricula, agriculture and mechanic arts — which included civil and mechanical engineering. The subjects were identical during the first year and a half. In addition to the basic sciences and mathematics, rhetoric, English literature, some social science or history, and philosophy were required, and Latin or a modern language was an elective. The second year a ladies' course in normal instruction — soon changed to a course in general science for ladies — was provided. It is evident that before the technical divisions were developed in their main branches, the new education drew very largely from the old.

During the first two decades there was confusing designation of courses and heads. Curricula were at first termed "departments." In a general revision, in 1877, the main courses of study were grouped into "special faculties" with a chairman over each. From 1879 to 1886 the term "school" was substituted for department, and the heads were listed in the course description as "deans," apparently informally as the dignity was not conferred in appointment or in the listing of the staff. In 1877 the various curricula were sciences related to agriculture, civil and mechanical engineering, the ladies' course in science, course for juniors and seniors in special industrial sciences, post graduate study, and the preparatory course. Veterinary science was added in 1879 as a separate curriculum and school. A blanket curriculum in "sciences related to the industries" during the period 1880-1888 sought to meet the needs — general and special — outside the technical groups.

As in all early "agricultural colleges," the title role subject was the most retarded in subject matter, staff, and equipment. Townshend was called back to Ohio before he could organize his department and thus the I. A. C. started without an agricultural teacher of any grade. The Honorable Hugh Thompson, after continual feuding with board and steward, resigned as farm superintendent in 1870 and a trustee from Jefferson County secured a young neighboring farmer, Isaac P. Roberts, to take the place. Roberts, a native of western New York, after a thorough basic education in an academy, had engaged successfully in school teaching, carpentry, and farming. Noting the young man's skill in operating and managing the farm, Welch drafted him to lecture in general agriculture. In a situation where he had to develop his own methods and materials and draw largely upon his own practical experiences, Roberts made a more appealing teacher of country boys than a doctor from Giessen, Edinburgh, or the Sheffield School probably would.

But his service was brief. Following the rift of '73 he welcomed the opportunity to rescue and promote the agricultural work at Cornell. An able and versatile 32-year-old graduate, Millikan Stalker, '73, took over the management of the farm and gave instruction for a time, but his main interest proved to be in the veterinary branch with which his life career was to be associated.

For one year, 1876, George E. Morrow, an able farmer and agricultural scientist who had been trained as a lawyer, gave the department a temporary revival. But at the end of the fall term the Illinois Industrial University offered superior financial and living inducements. From 1876 to 1879 the work offered was termed more accurately "sciences related to agriculture."

In an attempt to meet the mounting criticism, a man of



An early structure was the Veterinary Clinic built in 1885. After the Veterinary Quadrangle was built in 1912, this structure served as storage for the department of buildings and grounds. It was torn down in 1927 when the Memorial Union was built.

scholarly training with practical experience in farming and agricultural journalism was secured in 1879. Seaman A. Knapp, a native of northern New York, had graduated with high honors at Union College. He then conducted female seminaries in the East until failing health caused his removal to Benton County, Iowa, where he had gained public notice as a stock raiser, speaker, and writer on practical farm topics. At the College he reorganized the course in "practical agriculture," and extended it to include dairying. His son, Herman Knapp, '83, gave the dairy instruction —



This was the view looking southeast from Main Building in 1888 — the approximate vantage point a visitor at the Centennial might also assume looking southeast from Beardshear Hall. The tree in lower left center foreground is the one in the mid-1950's being used annually for the Christmas tree lighting ceremony. Buildings at the right are the Veterinary Clinic Building and the Sanitary Hall on the approximate site of Memorial Union. The building in the center is South Hall and the house on the left is Osborn Cottage, at the Centennial being occupied by the business manager. The Campanile would be located slightly beyond the cluster of students shown in the picture.

the beginning of his lifetime service to the College. The more distinctive B.S.A. was awarded. Upon the resignation of the elder Knapp in 1886 to enter upon his spectacular career in southern agricultural improvement, the son continued the work of the department for a short time. However, his main interest was in the business side of the College, to which he soon gave full attention.

Chamberlain, with his considerable reputation, was asked by the board to join agricultural instruction to the presidency but declined frankly as not competent for the task. He consented, however, to add lectures on practical

agriculture to his professorship in philosophy. He sought to give standing to the main branch of instruction and win favor with the farmers by securing Edward M. Shelton, who had made a high reputation with Kansas farmers. But his financial inducements were not adequate. Instead he secured a young man from New York, Loren P. Smith, under whom the work was merged in the hybrid, "science and agriculture."

The earliest agricultural subject to be organized in a separate department was horticulture. Following Mathews' academically unfruitful beginnings and a three year trial of another practical fruit grower, the subject was brought to professional status in 1877 with the coming of the competent and energetic Joseph L. Budd. A native of eastern New York where he had been associated with the noted Charles Downing, he studied at a state normal school and Union College. After a period of academy teaching he became a proprietor of nurseries and orchards in Benton County. He was a founder and for many years the secretary of the Iowa State Horticultural Society. His two decades of service were to bring the department to national recognition.

As a leading stock raising state, Iowa appropriately pioneered in veterinary science. For the fall term of 1872 the German veterinarian, Henry J. Ditmers, gave lectures to the senior class in anatomy, physiology, and pathology. The course influenced Millikan Stalker to enter the profession. After securing a V. S. by a year's study at the Toronto and New York Veterinary colleges, he gave a survey course in the "study and practice of veterinary science." In 1879 a two-year degree course was authorized — the first in a state institution. Until 1883 the B.V.M. was conferred as a first

•

degree with a D.V.M. for students with a B.S. From that time the single D.V.M. was given. In 1887 the course was extended to three years. With the establishment of a separate school Dr. David S. Fairchild, the college physician, shared the lectures with Stalker until the early nineties.

► LOSE MEN TO OUTSIDE

Mechanic arts, the second main division of land-grant education, came earlier to standardization and specialization including all existing branches of engineering. Factories, mines, and railroads were creating demands for experts which the technical institutes were seeking to supply. The unusual and steadily growing opportunities made it especially difficult to attract and keep qualified teachers. During the first two decades the College had a succession of able young men but could not long hold them from the inducements of larger institutions, government service, and especially industrial employment. George W. Jones had civil engineering and architecture added to his professorship of mathematics. He was followed by Albert H. Porter, a graduate of the Thayer School of Dartmouth who had served in the U.S. coast survey. On his retirement two years later the civil engineering was separated from mathematics under Forest E. L. Beal, a product of Massachusetts Institute of Technology who came from teaching at the Naval Academy. His main interests were in zoology and he transferred to that department in 1880. Charles F. Mount, '78, aged twenty-two, carried on the next decade.

When William A. Anthony retired from physics and mechanics in 1872, he was succeeded by Alexander Thomson, a graduate of the University of Michigan, until 1884 when he turned to industrial work. His successor was Nor-

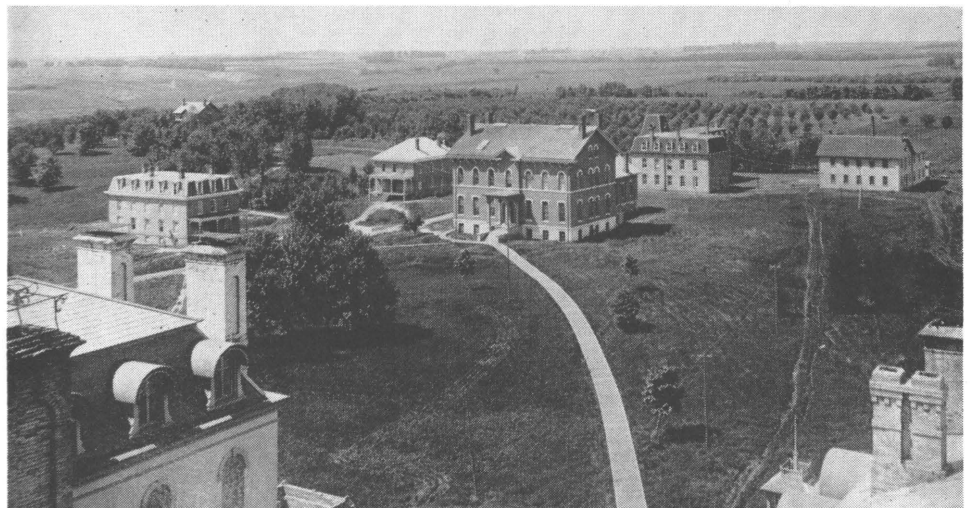
man C. Bassett, of the Worcester Polytechnic Institute. After a couple of years in the classroom, he gladly exchanged the campus for the factory. An able and sprightly young man, C. W. Scribner, of the publishing family and an honor man at Princeton and Stevens Institute, served out the decade.

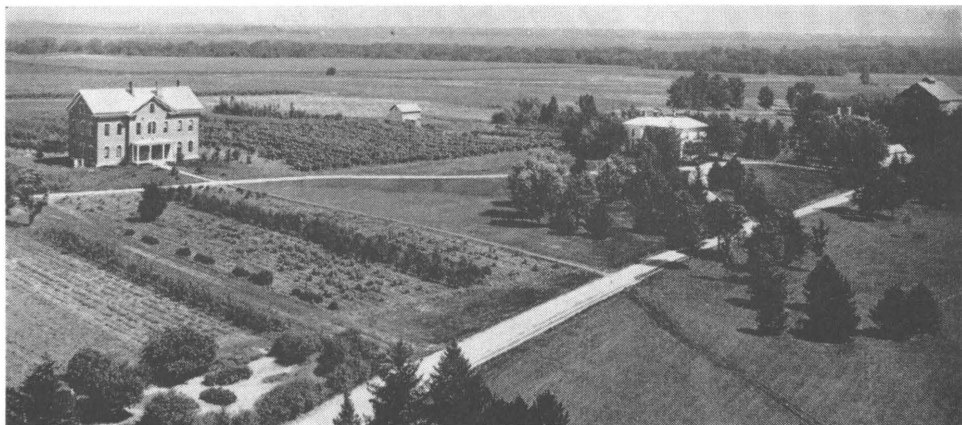
Courses in mining engineering and in architecture were offered as variants in the senior year of the mechanical program.

To 1878 the B.S. was awarded in the engineering departments, after which the more distinctive B.C.E. and B.M.E. were introduced and made retroactive for earlier graduates if desired. C.E. and M.E. were granted as higher professional degrees.

Military tactics, the remaining specified requirement, was organized and conducted by the soldierly General Geddes according to the full spirit of the law in a department of "military tactics and engineering." Following the political

View of the west campus, taken from the roof of the Main Building in 1888. The sidewalk leads to Chemical and Physical Hall. In the rear stands old Engineering Hall (at the Centennial still being used as Theoretical and Applied Mechanics Laboratory), and beside it the old shops building. To the south of Chemical Hall are the Boarding Cottages. East Cottage was used as training quarters for the football team from 1901 until 1907 when it was torn down. West Cottage was later used by the college hospital and torn down in 1934. In the trees the Marston house is visible. At the Centennial it was almost engulfed by Friley and Helser Halls.





North Hall — the first agricultural hall — was built in 1880. When Margaret Hall was built, North Hall was joined to it and became an annex. It stood approximately on the site of the wing of Home Economics Hall on which construction was begun in 1957. North Hall was torn down in 1926 when the Home Economics Building of that time was enlarged. Plainly visible in the photograph are grapevines to the east of North Hall which also were plainly visible and a temptation to students — a temptation which wasn't always resisted!

The dwelling on the right belonged to Professor Budd in Horticulture and is the site of Botany Hall. The building almost completely hidden in the trees was Experiment Station Building. At the Centennial it was still standing, as Isabel Bevier House west of the Genetics Building.

removal of Geddes in 1883, General James Rush Lincoln began a notable career that continued through World War I. The elaborate succession of courses extended throughout the four years. In this phase of co-education, women were trained in voluntary companies.

The distinctive course for women was in domestic economy. Before the arrival at professional status, this had the highly useful function of training for the practical duties of the household. Such training was regarded as an essential objective of the new education. The Mt. Holyoke system of student work — rotating the tasks of kitchen, dining room, and laundry — was adopted at the beginning. Some informal instruction by the housekeeper and talks by Mrs.

Welch were given. From 1877 the latter taught regular classes in domestic economy to the junior women. The courses included cooking, sewing, household management, and child care. Mrs. Welch was a graduate of the pioneer seminary at Elmira, New York, and in special preparation for this work attended schools of cookery in the East and the London school for the training of maids. Her avowed aims were to improve dietary standards and living conditions in the state by training alert homemakers.

Following Mrs. Welch's retirement in 1884, Mrs. Emma P. Ewing, a rather noted public lecturer and author, conducted an ambitious program for the next four years. A separate school with a two year course was organized. Her aspirations then led her to raise the work to graduate level, but following the graduating of two advanced students, the promotive professor responded to a call from Purdue.

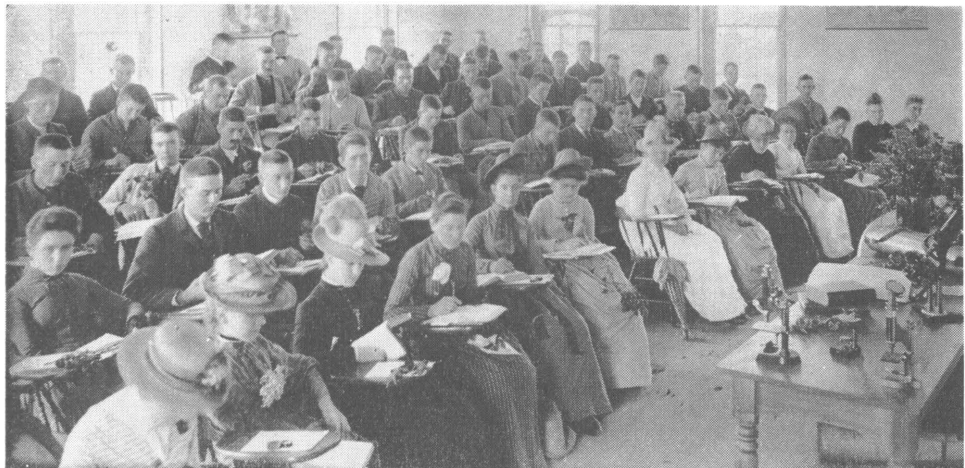
The work returned to more modest status in the general science course for women. It was taught during the following transitional years by Mrs. Eliza Owens, a graduate of Ripley College in Vermont who had prepared to teach music and literature but proved highly adaptable in the new applied subject.

The best organized and most skillfully taught subjects and those upon which the technical were formulated were the general sciences. Mathematics became a separate department in 1876 in charge of Edgar W. Stanton, who had been on the staff since his graduation in 1872. His lifelong service to the College as teacher and administrator was matched only by that of Herman Knapp, whose teaching experience was brief. Stanton was born in Wayne County, Pennsylvania, in a farming and lumbering community. His preliminary education was in the academy headed by Profes-

two young alumni, both of whom, curiously, were to become successful lawyers — John K. Macomber, '72, to 1883, and Julius C. Hainer, '78, to 1891.

The youthful but resourceful Bessey laid firm foundations for the natural sciences. Through the seventies zoology and entomology were added to his main botanical interest. For the years 1880–1883, Beal was in charge of zoology, with the entomology assigned to a recent graduate who was to become one of the College's greatest scientists, Herbert Osborn, '79. With the forced retirement of Beal in 1883, zoology was again combined with botany but with Osborn in charge. Two years later when Bessey was called to the University of Nebraska, Osborn was put in charge of a department of zoology, entomology, and geology. Until 1889, botany was taught by the able teacher and scientist Byron D. Halsted, a graduate of Michigan A. C. and an Sc. D. (in course) of Harvard. He left to seek wider research opportunities at Rutgers.

To carry on the work in botany in line with the high standards Halsted had set, Osborn with unerring judgment persuaded Chamberlain to take a young, untried student who was still in the midst of his graduate study. Louis Herman Pammel, the lone graduate in agriculture in his class of '85 at Wisconsin, became increasingly interested in the plant area of his course. After study with Farlow at Harvard and with Trelease at the Shaw School in St. Louis, he came to his new responsibilities and opportunities with all the illusive expectations of an enthusiastic research neophyte. In spite of the disillusionments of teaching poorly prepared undergraduates, the limitations in time and equipment for research, and the seemingly unsympathetic attitude of the administration, he held to a belief in the importance



This Botany class from the last decade of the nineteenth century shows approximately 80 students on hand for a discussion on second floor of North Hall. By the Centennial, classes "ideally" were being restricted to smaller numbers — with more sections — and were averaging 40 students per section in botany.

of his work for the state. Not only did he promote the development of his department in its main areas but he gave the initial impetus to another department by pioneer lectures in bacteriology.

While the "other scientific and classical studies" not directly related to agriculture and mechanic arts were not excluded, their place in the formative years was strictly subordinated as fillers or supplementers to the main program. Training for citizenship, in theory at least, was generally recognized as a legitimate objective, but neither the end nor means was sufficiently definite to justify a "school" or even a minor professorship.

All of the presidents to the present century, except Hunt, had regular professorships to which were added stray subjects which could not be elsewhere assigned. Their subjects, as traditionally in private colleges, were philosophy and psychology and various of the social sciences. Stanton

had economic science attached to his mathematics department. History was generally joined to chairs of English literature and Latin or modern languages. The ablest and by far the most inspiring of such professors were Wynn and Arthur C. Barrows, whom Chamberlain, in his most felicitous appointment, had secured from Oberlin. Such subjects as modern language, elocution, and music were usually assigned to the preceptress or to other part-time positions.

Compulsory manual labor, as in other early land-grant colleges, was a regular feature of the program. This had been a fixed tenet with the practical industrialists and full compliance with the system was regarded as a test of the true agricultural college. In spite of the early failure of the system in private colleges and academies, the practice was decreed in the Iowa founding act. Scientists, more concerned with training superior students than with attracting large numbers whose skill and business competence might be more or less improved, were always skeptical. In any case the system was given a serious trial and in the early days, when campus and farm as well as methods of instruction, were in the rudimentary stage and before athletic activities had evolved, it operated fairly well. But as elemental conditions in plant, program, and living gave way to the more stabilized and sophisticated, this feature of land-grant education proved to be inappropriate and too demanding upon time and energy. In the early eighties the requirement was confined to the freshman year, and in the reinterpretation of functions by the act of 1884 it was abandoned.

One of the constructive influences in discontinuing the usually unskilled labor was the growth of "instructive labor" on the farm, and in the shops and laboratories. In this distinctive and essential characteristic of the new education,

the College had been in the vanguard. Roberts' pioneer ventures in the study of plants and animals as related in his *Autobiography*, involved largely the direct study of "materials at hand" and comparative observations of methods and management. Then as later, in his famous club work, Knapp was a zealous exponent of demonstration by direct participation. The college creamery, for example, served for both instructional and experimental purposes. Transit, chain, forge, and lathe occupied much of the engineer's time. General science instruction centered in the laboratory. In spite of limited apparatus the early chemical professors established laboratory methods that gained professional recognition. Bessey founded the first undergraduate botanical laboratory in the country. Mrs. Welch, not to be outdone by the established subjects, developed "the first experimental kitchen ever opened in any college."

The humanities were not backward in subject emphasis and method. Welch anticipated current trends by courses in the history of civilization and the history and philosophy of science. Wynn sought to engage his students in philological controversy as well as in literary criticism. Barrows organized an advanced history class into a seminar. Both Welch and Barrows used syllabi. Long before publisher competition and production economies had stimulated such ventures, a number of the staff provided manuals of their subjects. In line with a pedagogical vogue of the eighties, Welch sought to interest the faculty in the superior teaching effectiveness of the "topical method" — apparently with little success among such varied subject interests.

The emphasis upon good teaching which has persisted was started in the early years. In spite of burdensome schedules, wearisome routine duties, and inadequate equip-

ment, there were even some superior masters of the art along with prevailing competent teaching. By all opinions of admirers and opponents, Stanton was a skillful and impressive teacher. One of his most distinguished pupils, the philosopher William E. Hocking, paid this rare tribute in a discussion of a rural life philosophy in the *Yearbook of Agriculture* for 1940: "He was a great teacher of his subjects; but he was an even greater teacher of the morals of the day's work." As demonstrated in their early promise at the College and by matured achievement elsewhere, Bessey, Osborn, Knapp, Pope, and Barrows clearly belonged in the *magna* group. Welch, whatever the subject — and his interests were too diffused for concentration, made a clear organization and logical presentation.

With a rare few, as always, a commendable degree of original research was carried on with a full load of teaching. Aside from textbooks and popular articles, Bessey, Osborn, and Pammel made preliminary approaches to their life-time research. Early experimentation by Roberts, Knapp, Halsted and others antedated the establishment of the Iowa Agricultural Experiment Station in 1888 under the directorship of Robert P. Speer, a farmer and later member of the board.

However, service to the state had been rendered from earliest days. With the aid of other staff members, Welch and Roberts conducted farmers institutes in 1870. When the work was established more permanently, in 1887, Chamberlain was a leading organizer. Staff members were active participants in the state agricultural and horticultural societies and in state and local fairs. They were no less prominent in the programs of the Iowa Academy of Science.

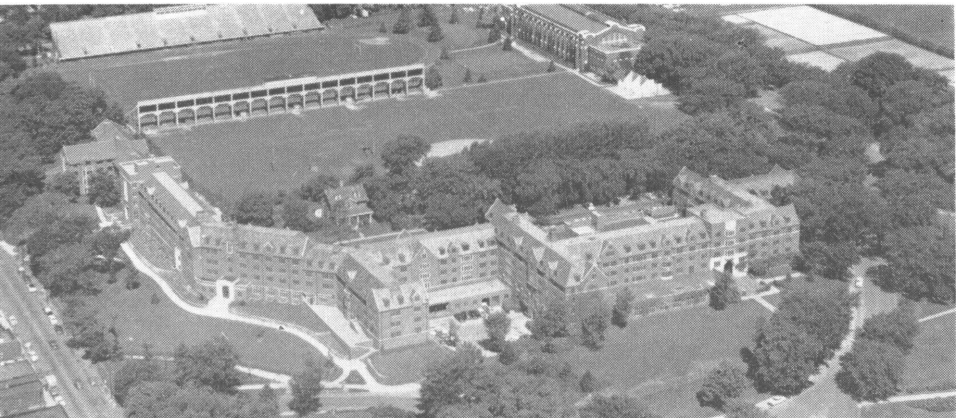
During Welch's administration — as a means of bringing



The Creamery was built in 1892 on the site of Agricultural Annex. It was torn down when the Dairy Building, later called Agricultural Annex, was built in 1906. The second story was used as a men's dormitory and accommodated 50 students.

information to the rural constituency and giving an understanding of the program and aims of the College — journals dealing with farm and household problems were published. The *Progressive Farmer* of Cedar Rapids was purchased by Welch who conducted it largely as an organ of the College (January, 1875–August, 1876). The following November the *Producer* was founded to report the findings of the College on all matters of general interest. It suspended after ten issues, with the sale of the subscription list to a farm paper to which the editorial staff became contributors. The *College Quarterly* had a somewhat longer run (May, 1878–November, 1880).

State contacts were curtailed by transportation limitations. Especially during the winter and early spring they made the campus quite isolated. A limited hack service was the only means of conveyance from city to college. The few campus houses were always in great demand. This condition of insulation had a determining effect upon early student life and ways.



At the Centennial, dormitory accommodations under a single roof were being afforded to 1,420 students in Friley-Hughes Hall alone. It has two dining rooms and feeds 2,400 students from four cafeteria lines.

Student living during the first two decades was characterized by simplicity and democracy. Going to college brought little change except as outlook was broadened and aspirations stimulated by intimate contact with intellectually trained and more or less wordly wise professors. Expenditures were kept to the minimum. A considerable portion could be earned by the required labor and the rest made up by employment in the long winter vacation, usually in teaching country schools. Housing and food were plain but satisfactory, according to the prevailing standards of the time.

Moral standards and religious practices were much the same as in other colleges. Certain advanced innovations were due largely to the far-sightedness of Welch. A system of student government was instituted by which offenders, apprehended by student proctors, were tried by student courts. Decisions were subject to review by the faculty, with final appeal to a judicial committee. Penalties were

a series of demerits which on reaching fifteen brought suspension. Another enlightened innovation in force during the 1880's was a contract between entering students and the faculty — represented by the president — providing a mutual recognition of responsibilities and obligations. Opinions at the time and later by alumni have conflicted greatly as to the justice and effectiveness of the system — termed everything from a means of substantial justice to unfair espionage and favoritism. The main difficulty was that of all such systems — the unwillingness of the majority of students to assume full responsibility for the enforcement of the regulations.

Activities in these years were largely of an intellectual nature. Literary societies were organized from the beginning, with participation in writing, oratory, debating, and parliamentary procedure. Such practice gave training for required public exercises such as the junior exhibition and commencement.

The most permanent enterprise of the societies was the publication of a monthly student paper, the *Aurora*, in June, 1873. The publication was more in the nature of a magazine than a newspaper. While there were limited news items, the periodical was filled largely with the better productions of the societies and exhibitions, along with occasional contributions by faculty members. The students of the main departments had their organizations. The most subject-consciousness was that of agricultural and horticultural students who issued their own paper, the *Students' Farm Journal*, from 1884 to 1887. Of general interest were lecture courses, glee clubs, and a college band. Athletics before the nineties were most informal and local. As previously noted, manual labor in addition to the military drill left little time or energy for organized sports.

Organized social activities were also in the embryo stage. The major event, the sedate "junior trot," was a long cry from the glamorous prom. A small group essayed Greek letter societies and one fraternity and two sororities were organized. Welch and Chamberlain were in sympathy with such organizations but the prevailing student sentiment was strongly opposed to exclusive minority groups. Chamberlain's failure to take more positive action in the resulting conflicts led to concerted student disaffection which contributed directly to his resignation.

As in all educational institutions, the ultimate test of achievement at any stage was in the careers of its students. By 1878 alumni consciousness brought organization, due in large part to the efforts of Stanton. He remained a guiding spirit throughout his life. With the growth in numbers and prominence of its members, the organization as a group and by its individuals came to have an increasing influence upon college policies.

A survey of the graduates of the first twenty classes, so far as available, indicates a wide geographical distribution and a varied range of occupations. Business of all sorts led with 73, followed by law, 66; engineering and architecture, 60; college professors and research scientists, 44; veterinarians, 44; public school teachers and administrators, 41; farmers, of all branches, 36; physicians, 33; journalists and publishers, 18; clergymen, 6; missionaries, 2; nurses, 2; dentists, 1. Nongraduates sampled followed the same general proportions. The classification is based upon the main, longest-continuing occupation. A considerable number taught for a time before entering upon their chosen field, and teachers and others often retired to farms later in life. Law and business were frequently joined and both were more often than not concerned with land holding.

However integrated the occupations, it is evident that in this College the industrial classes had spread over most of the "several pursuits and professions of life." Throughout the early plans and discussions of industrial education it was assumed that those desiring training in the learned professions, more especially law, would not be interested in this type of education; that in fact it had little for them. But that profession ranked near the top of the early graduates. The founders had been building better and broader than they realized.

In the matter of public leadership the showing of early years exceeded the expectations of the most confident champions. In his address at the opening ceremonies, Gue — in his zeal for the occasion — had ventured the prediction, "We may not live to see the day, but the time will surely come in which the graduates of the Iowa Agricultural College will be found among the most eminent men and women that our State or the country will produce." Already the College's students had numbered future governors of three states, at least two members of Congress, and many others who would hold prominent positions in state and federal service. No less or even more eminent were to be leaders in science, industry, and education.

Whatever certain individuals and interests might think of their Agricultural College and Farm, the evidence was positive that it was training experts and leaders and steadily inaugurating direct services for the agriculture and industry of the state and nation. If the program was not moving fast enough to suit some or if the president and his staff did not have the answers ready at hand for a most troublous time, that was something else.