

A History of
IOWA STATE COLLEGE

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A HISTORY OF IOWA STATE COLLEGE

By EARLE DUDLEY ROSS

Page

106, last line: for "xplained" read "explained"

181, 196, 442: for John D. Grant" read James B. Grant"

253, line 8: for "1908" read "1905"

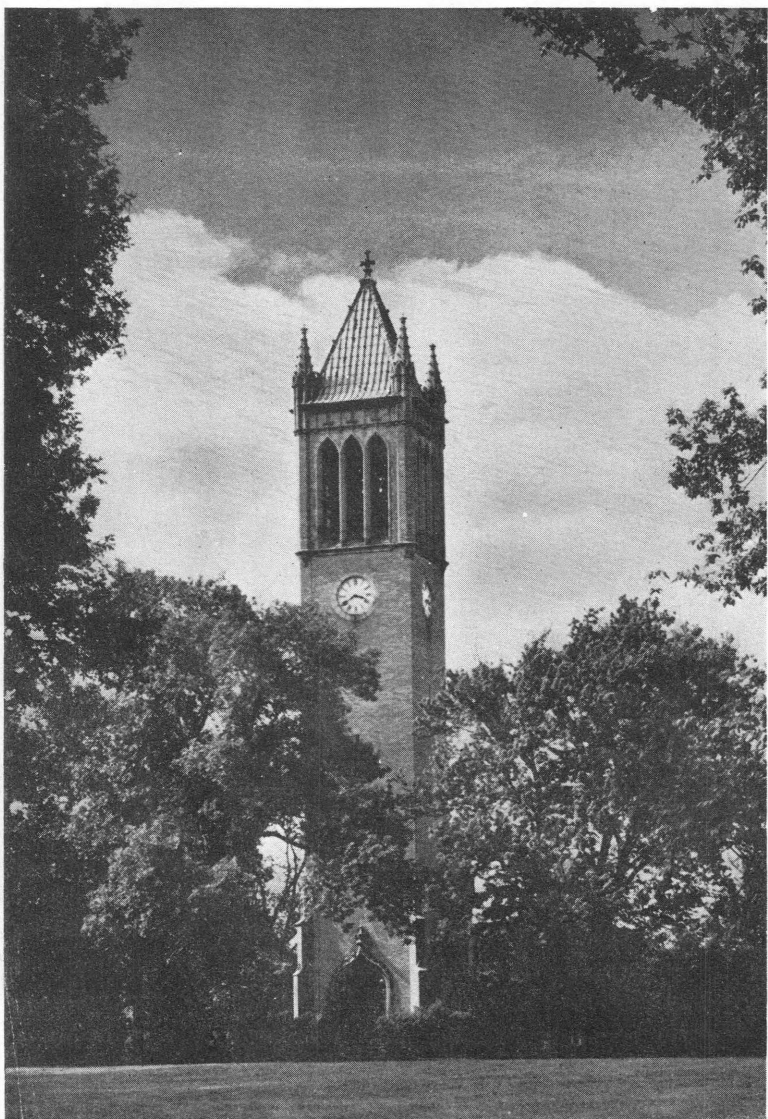
282, line 3: for "soil bacteriology" read "agronomy" and add to the sentence "and Frank A. Hays in genetics."

329, last paragraph, line 2: for "1929" read "1924"

330, line 1: for "1922" read "1919"

346, first paragraph, line 14: for "returin" read "returning"

352, last paragraph, line 3: for "1920" read "1925"

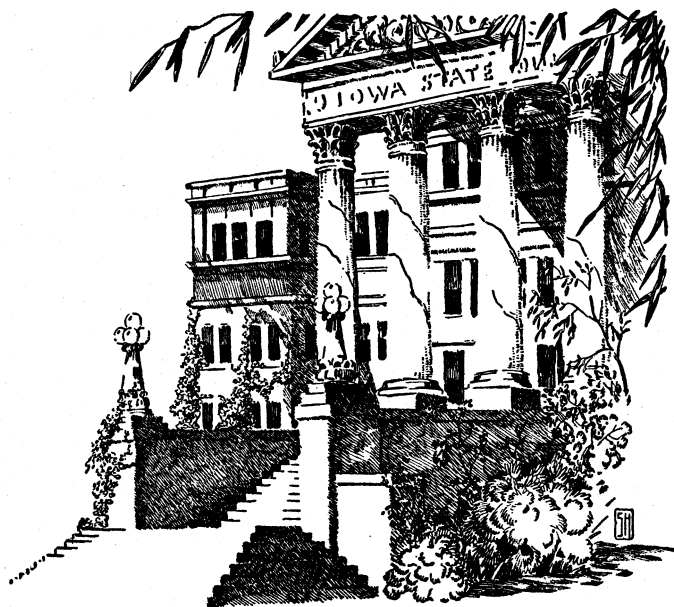


True and Valiant Like the Bells of Iowa State

A History of
**THE IOWA STATE COLLEGE
OF AGRICULTURE AND MECHANIC ARTS**

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By EARLE D. ROSS, CHAIRMAN OF THE COMMITTEE
ON HISTORY OF THE COLLEGE



1942

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FOREWORD

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On July 2, 1862, in the midst of one of the darkest periods in our national history, Abraham Lincoln turned aside from the overwhelming problems confronting him to sign a bill which was fraught with incalculable potentialities and opportunities for good in the nation's intellectual, social, and industrial life. This bill is known in educational history as the Land Grant Act of 1862. Its author and untiring champion through five years of debate and struggle in Congress was Senator Justin S. Morrill of Vermont. The Land Grant Act of 1862 brought into being the great system of Land Grant Colleges and Universities, developed on a cooperative basis between the Federal government and the several states; it also brought into existence a new philosophy of education, national in scope, progressive in outlook, and peculiarly applicable to the important new trends in American civilization which were taking form and substance by the middle of the nineteenth century.

Senator Morrill was not a college graduate. However, he recognized the limitations in scope and outlook of the prevailing classical college, and he was convinced that it did not meet the nation's educational needs. He foresaw that the warfare of the future would be fundamentally industrial and commercial and that the nation which would secure and maintain supremacy in this competition must be adequately trained for the work.

No clearer or more convincing statement of the philosophy of this new education and its place in our educational system

[v]

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can be found than in Senator Morrill's addresses in Congress during his fight for the passage of the Land Grant Act, and in his later utterances. He did not desire that the classical college be superseded or in any sense retarded. His interest was centered on a progressive, reasonable, and practical extension of the educational facilities of the nation.

Speaking at the Massachusetts Agricultural College in 1875, Morrill said:

"These Colleges were founded on the idea that a higher and broader education should be placed in every State within the reach of those who may choose industrial vocations where the wealth of nations is produced. The design was to open the door to a liberal education for this large class, and to offer not only sound literary instruction but something more applicable to the productive employments of life. The colleges were established on a sure foundation, accessible to every one, where all the sciences needful for the practical vocations of life may be taught, and where agriculture, the basis of present and future prosperity, may find troops of loyal and earnest friends studying its familiar and recondite economies and at last elevating it to the highest standards of intellectual attainment."

In harmony with the philosophy and clear intent of the Land Grant Act under which it was established, the Iowa State College has for seventy-five years dedicated herself to the thesis that the education of young men and women in the pure and applied sciences and in the humanities is the most effective means whereby modern science may become the constructive instrument of man. Specifically, the College has devoted her thought, talents, and energies to the advancement of the agricultural, industrial, social, and spiritual resources of the Commonwealth of Iowa; holding steadily to her distinctive role and refusing to allow that role to become ill-defined.

Doctor Ross has portrayed in vivid and scholarly lines the growth and progress of the Iowa State College, its origin, its

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early struggles, its place in the State and in the intellectual world. The book is much more than the history of a single institution of higher learning. It is in essence the fascinating story of one of the most significant and far-reaching educational movements of modern times.

CHARLES E. FRILEY

PRESIDENT OF THE IOWA STATE COLLEGE

AMES, IOWA

OCTOBER 1, 1942

ACKNOWLEDGMENTS



The first definite move to prepare a history of the Iowa State College was made in connection with the semi-centennial celebration in 1920 by a committee headed by Dean E. W. Stanton. The correspondence preliminary to the committee's work was one of the last of the Dean's life-long services for his college, and the strain that the project involved for him is indicated in his letter to Herbert Osborn, February 17, 1920, "It will take time, energy and pull heavily on the nerves but love for the dear old college may lighten the burden somewhat." Following the Dean's physical breakdown shortly afterward, Professor L. B. Schmidt became acting chairman of the committee which prepared a brief historical sketch for the occasion. This committee was the forerunner of the standing committee on the History of the College which under the devoted efforts of Professors Pammel, Knapp, Noble, and Schmidt brought together from widely scattered sources the "College History Collection."

In 1935 Mr. John Boyd Hungerford, '77, for fifteen years a member of the board of trustees, undertook the preparation of a series of intimate "Sketches of Iowa State College," one of which is printed in the appendix. Mrs. Olive Stevens Damon, '97, has contributed valuable information which she has collected in preparation for a story of the early graduates. Dr. Alvin B. Shaw, '76, has furnished letters and reminiscences bearing on the administration of President Welch. Theses by Mrs. Johanna Fedson Kirkman on educational land grants and by Weldon J. Brown on military training in land-grant colleges have been of direct service.

ACKNOWLEDGMENTS

Monographs on the development of certain divisions and departments have been written. Among these are the late Dean C. H. Stange's *History of Veterinary Medicine in Iowa State College*, Dr. Barton Morgan's *History of the Extension Service of Iowa State College*, and Dr. J. F. Edwards' "History of the Health Service of Iowa State College."

In the preparation of the book, the reference resources of the College Library, facilities for research, and the clerical assistance of N.Y.A. workers were provided by Librarian Charles Harvey Brown and Assistant Librarians Robert W. Orr and Eugene H. Wilson. Mr. Orr prepared a preliminary check-list of the serial publications of the College. Files of local newspapers were consulted in the Ames City Library.

Business Manager H. C. Gregg, Treasurer C. B. Murray, Accountant J. F. Hall, Registrar J. R. Sage, Dean M. D. Helser, of the Junior College, and Mr. M. J. Ross, secretary of the Department of Physical Education for Men facilitated the examination of records in their respective offices.

The Alumni Office through its director, Mr. Wallace E. Barron, and his assistant, Miss Elizabeth Tiernan, has aided in locating records about the campus and has continued to serve as an agency for the receipt of college publications, personal documents, and pictures from the alumni.

The complete and carefully arranged files of the State Board of Education were examined with the courteous assistance of Secretary M. R. Pierson. The information there secured was supplemented and interpreted by interviews with Mr. W. R. Boyd, who has served continuously as a member of the Finance Committee, Mr. Roger Leavitt, a member of the original Board, and Mr. W. H. Gemmill, '94, the former efficient secretary of the Board and now the Superintendent of Documents at the College.

Mr. Gemmill's contribution to the enterprise, in fact, has been that of a direct and effective collaborator. He prepared classified and analytical lists of the publications of the Experi-

ACKNOWLEDGMENTS

ment Stations and Extension Services and gave many hours in interviews on educational movements and leaders in the College and the state.

The resources of the State Department of History and Archives have been opened freely for the research. Mr. Kenneth E. Colton, head of the division of manuscripts and publications, was especially helpful in securing rare photographs.

The State Historical Society at Iowa City has been equally generous with reference materials and with the helpful advice of the staff, especially that of the editor, Dr. John Ely Briggs.

Essential information and interpretative suggestions have been secured from numerous members of the staff, alumni, and local residents. Special mention should be made of the aid given by Deans R. E. Buchanan, C. F. Curtiss, and Anson Marston; and by Professors W. F. Coover, J. C. Cunningham, A. T. Erwin, Annie Fleming, W. I. Griffith, Ada Hayden, L. B. Schmidt, L. B. Spinney, and W. H. Stevenson. Among the numerous alumni consulted, in some cases many times, by interview or letter have been C. R. Ball, H. F. Brown, Esther Crawford, B. H. Hibbard, E. S. Guthrie, C. E. Miller, M. L. Mosher, the late J. H. Shepperd, H. C. Taylor, J. G. Tilden, and L. C. Tilden.

Mr. John C. Prall has given first-hand information on the beginnings of organized Y.M.C.A. work and intercollegiate athletics.

Colonel Harold E. Pride, director of the Memorial Union, has checked many points and raised many questions on men and measures in the annals of the College.

In the preliminary work of classifying and organizing materials and of preparing the first draft of the manuscript, Miss Lucile M. Neff, '42, was a patient, accurate, and understanding assistant.

The manuscript was read critically and helpfully by the late Professor Guy S. Greene of the Department of English

ACKNOWLEDGMENTS

and Speech and by Mrs. Florence Willey Nichols, '15. Professor Charles E. Rogers of the Department of Technical Journalism, chairman of the publication committee, and Mr. Harold E. Ingle, manager of the College Press, have provided the technical editorial supervision and been responsible for the format. Professor Richard W. Beckman of Technical Journalism has advised on the illustrations.

Finally, the continued interest, support, and encouragement of President Charles E. Friley and Dean Harold V. Gaskill have made possible the carrying through of the project as planned.

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CHAPTER ONE

THE VISION OF A NEW EDUCATION

The Industrial Movement Comes to Iowa



The Iowa State College, in its inception, was not "just another college" to promote local aspirations, to satisfy sectarian zeal, or to provide personal gratification. The open prairie site was located only by survey boundaries, the sponsorship and control were wholly public, and the establishment, aside from certain initial local gifts, was financed by state appropriation. There was no benefactor to provide endowment, name, and advice. Motive and purpose were to be found rather in the vision—which Hawkeye reformers shared with those of other states—of a new education for a new age. This vision, though at times blurred, was a true one. Simple and primitive as was the initial organization, undeveloped and halting as was the program, mistaken as were certain of the immediate objectives, here was the pioneer state's response to the most influential movement in modern higher education. For this "Industrial Movement" was an effort to keep education in line with the trend of a democratizing and industrializing nation, by providing a technological training that was popularly available. The ultimate solution was the modern land-grant college of which that of Iowa was to be typical.

A NEW EDUCATION FOR A NEW SOCIETY

Educational extension had been one of the major democratic reforms of the twenties and thirties. Attainments varied as greatly as the forms of organization, but there had come to be a general agreement on underlying principles. The free

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school, the free academy, and the state university were definitely on the way to realization. To complete the system, the chief remaining need was a technological content and method. This emphasis, too, in a tentative way, had its precedents.

From early days the homelier needs and their vocations had not been overlooked. Scientific effort was applied to existence, security, or comfort; there was no time for the luxury of the pure and abstract. Franklin's researches were all directed to such pragmatic ends; his plans of education, and those of his sympathizers like Dr. Rush, included them. Throughout the agitation for free schools earning efficiently was stressed, if not always logically. The Fellenberg manual labor schools joined to their other aims that of agricultural and mechanical skill, and certain of the lyceums were even more directly vocational. The pioneer Rensselaer Institute, kept from being merely another of these visionary ventures by the ability and foresight of its leadership, became a permanent center of technical training, though with its program greatly restricted from the original, over-ambitious design. All of these preliminary efforts but prepared the way for the American phase of the Industrial Movement, which came with the new economic order.

In the two decades before the Civil War, in response to the changing economic scene—the increasing mechanization of farm and factory, the extension of transportation and communication, the growing mercantile and financial complexities, and the rise of a permanent labor problem—there arose a demand for a corresponding change of emphasis in education. Why not, it was demanded, have special training for the farmer and mechanic as well as for white-collared or high-stocked professions and the military establishment? The agitation, scattered at first, developed into a more or less concerted effort corresponding to the parallel European movement. The representatives were nationwide. Agricultural society leaders and journals, North, South, and West, joined agri-

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cultural education to the demand for state and federal boards. Labor mutuals, becoming increasingly class-conscious, gave trade education a leading place on their agenda. Crusaders for women's rights sought to have their cause included though they were usually regarded as embarrassing allies. Some agitators had the breadth of social vision to include all these causes in their schemes of popular education, as Horace Greeley did in his proposed people's colleges and Jonathan B. Turner of Illinois in his industrial university plan.

This great opportunity found the existing collegiate system wholly unprepared. The basic sciences were coming in slowly and on unequal terms, with inadequate equipment and, too often, incompetent instruction. Concessions made here and there to the new trend by chairs of applied chemistry, agriculture, and civil engineering generally alienated the old interests without winning the new. President Francis Wayland's report to the trustees of Brown University in 1850 gave classic statement of the plight of a system that had served the past but was failing to meet the needs of the present and hence was being rejected, as declining enrollments testified.

An enduring but not an immediately felt influence came from a group of American scientists who had studied at European universities. These native research leaders with immigrant recruits laid the foundations in the forties of the Sheffield school at Yale, the Lawrence foundation at Harvard, and of less notable beginnings in certain other institutions. But these early centers of research and advanced study had little contact with the occupational masses, and their leaders were generally not in sympathy with the practical reformers. There was need for reformers, educators, and scientists to unite on a program that, while scientifically sound, would arouse popular interest and thus win public support. So slow and difficult was such a task that of all the state agricultural colleges projected, only one—Michigan—had been actually established when the Iowa legislature passed its founding act.

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FORMATIVE EDUCATIONAL INFLUENCES IN IOWA

Iowa's provision for an agricultural college was one of the modernizing policies that followed the great migration of the middle fifties. Strategy of location on the direct line of westward movement and availability of natural resources had brought statehood to this trans-Mississippi territory before the last fruits of the Northwest Ordinance had been garnered (by the admission of Wisconsin); and these same natural advantages insured cross-state transportation even without hastening subsidies. But the earlier comers were largely pioneer river and timber dwellers—patch-clearers rather than settled farmers. Permanent homemakers and institution builders came with the spectacular rush of settlers in the fifties which was to treble the population by the end of the decade. This migration, mainly from New England, New York, Pennsylvania, and the Old Northwest, with certain special foreign-group settlements, mainly Scandinavian, German, and Dutch, was to bring political and social transformation as well as economic expansion. In the election of 1854 the old Jacksonian control passed to the free-soil interests, who were committed to an extended program of governmental activity. The new constitution followed in 1857 authorizing a banking system and providing permanent location of the capital and of the state university.

Economic life was moving from the extractive and subsistence stages. Improved cattle were being imported. Nursery stock was being adapted and acclimated. Settlements were leaving the forest fringes and moving out boldly to the open prairies. In 1854 the first locomotive was ferried across the river at Davenport, and two years later rail connection had been made with the temporary capital at Iowa City and another line projected between the rivers which was shortly to rescue the college farm from prairie isolation. Local agricultural societies were started in the forties, and in 1853 the

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state society was founded by a group of progressive farmers of the southeastern counties. The first state fair held the following year ranks among the outstanding events in the making of modern Iowa. Another sign of growing agricultural stability was the establishment of the state's first agricultural paper—*The Iowa Farmer and Horticulturist*—at Burlington in 1853. James W. Grimes, who added to his other interests agricultural and horticultural improvement, was a founder of this paper and served as editor until his election as governor. Mark Miller's *Northwestern Farmer* followed at Dubuque three years later.

Other agencies of information and improvement were not lacking. Newspapers multiplied. Of state imprints for 1858 half were educational and fraternal and the rest about equally divided between religion and regional promotion. Hiram Alvin Reid's "Harp of the West; a poem in five parts" showed literary aspiration at least. Historical consciousness at this early stage was indicated by the existence of a Hawk-Eye Pioneer Association, a Pioneer Settlers' Association, and a Plymouth Society. In the "cultural period" of the lyceum, 1855-60, the nation's best talent came to the state. In addition to Emerson, the intellectual sage, and Greeley, the political oracle, there appeared scholars like George P. Marsh, Edwin P. Whipple, and Professor Haddock of Dartmouth, who was heard, no doubt with great profit, on "The Province of History"; reformers like Parke Godwin and Wendell Phillips; and, in lighter vein, readers like Park Benjamin and John G. Saxe.

Home missionary devotion and competitive zeal, which insured the extension and diversification of religious sects, led to an inordinate multiplication of colleges and seminaries. Probably at least a score of these uncertainly classified foundations had reached some stage of existence during the decade, and about a dozen had survived the depression of the late fifties. But however great the initial contribution of the sec-

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tarian groups, the main responsibility for education was early recognized as a public one. The free-school system was on the way to establishment. The Horace Mann-Amos Dean report of 1856 had pointed the way, and the new constitution had given the powers. The State University was opened in 1856 with a federal land grant as an endowment, the promise of the Old Stone Capitol as a home, and a relatively broad curriculum on an elective basis as an intellectual inducement. Even such a liberal program was not sufficiently extended to meet Hawkeye desires. With the prevalent ideas and the special opportunities and interests of the state, industrial education was bound to be urged.

EARLY INTEREST IN TECHNICAL EDUCATION

Schemes for technical education paralleled the history of the territory and the pioneer state. At the session of the Wisconsin territorial legislature held at Burlington in January, 1838, an act of incorporation was passed for the "Davenport Manual Labor College." The design of this institution left nothing to be desired in training for vocation, citizenship, and social adjustment; it aimed to promote "the general interest of education and to qualify young men to engage in the several employments and professions of society, and to discharge honorably and usefully the various duties of life." Lack both of funds and of available students prevented the trial of an enterprise that—even for a manual labor establishment—was most ambitious.

Other projects of the period had the same general aim. In 1842 the Mechanics' Mutual Aid Association of Iowa City organized an academy and erected "the finest school building in all the Territory." The "male department" was in charge of two brothers from Kenyon College, and the "female" was directed by a graduate of Emma Willard's celebrated Seminary at Troy, New York. In addition to the elementary and "cultural" studies the Academy advertised courses in natural

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philosophy and astronomy, natural science, chemistry, surveying, civil engineering, geography of the heavens, and civil and political economy. Although the association assured the public that their institution would be made "one of the best Literary Institutions in the Valley of the Mississippi," the promoters soon lost interest, and the enterprise was abandoned. Similar institutes and instructional "lyceums" were tried throughout the older settled area during this decade. In 1854 the *Dubuque Reporter* referred to a "people's college"—meaning, in accord with current usage, a manual labor institute—as the "highest worldly pride" of a thriving western village. The following year the famous Wittenberg Manual Labor College was started. Western College, a sectarian enterprise, was founded in 1856 with a view to agricultural instruction and student labor. A professor was chosen "to take charge of the college farm, to furnish work to students, and conduct the whole upon scientific principles."

PROPOSALS FOR PUBLIC AID

The idea of public aid for technical training was held from the beginning of statehood. Ten years before the founding of the Agricultural College, January 24, 1848, in the extra session of the First General Assembly a memorial was sent to Congress seeking "the donation of the site and buildings at Fort Atkinson, in this state, together with two sections of land, including the same, which shall form a branch of our state university." The reasons urged provide an admirable statement, for this early period, of the aims and plans of agricultural education. "Agriculture being the leading interest in this state, we desire to elevate the conditions of those who engage in it, to cause it to be regarded as a progressive science; and for this purpose to furnish our young men with the means of combining sound theory with useful observation and experiment. To effect this object we contemplate the early establishment of our agricultural school upon the manual labor plan. . ." The

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location was held to be "one of the finest agricultural portions of the state" and one that would "soon be surrounded with a dense population." The buildings were well adapted to this purpose and would house and provide recitation rooms for from one hundred to two hundred students; with the disbandment of the garrison they would be of little service for any other use.

In the early fifties there was much sentiment for using the university fund for a polytechnic institute that would give special emphasis to agricultural instruction. The *Farmer and Horticulturist* favored such an establishment and in March, 1854, published an elaborate and well-reasoned article, "State University—Scientific and Agricultural School." The writer, George F. Magoun, a graduate of Bowdoin College, was a pioneer religious leader and reformer who was to become the first president of Iowa College at Grinnell. At this time he was both a pastor and a practicing lawyer. The need for scientific training for the farmer, he held, was no longer in dispute—the "good sense of the age" had settled the question. He proposed to submit certain reasons why the university fund should be devoted to this purpose. In the first place, the possible uses of the fund were either a school of applied science or another old-line college. With the latter type the state was adequately supplied by private initiative. "Local and denominational zeal will be likely to supply us with all the Colleges we shall want for fifty years to come. It is a superfluous and needless effort to build another on the basis of the State University Fund."

By reason of this multiplication of local and sectarian foundations he was convinced that a state university could not secure the requisite general patronage from all sections of the state, for, as he quaintly put it, "local or denomination zeal is stronger than State zeal, the latter is a more enlarged and disinterested feeling; and when once the former has the field the latter has small chance." Whatever was to be the ultimate

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organization of the state's higher education, there was the limiting condition that the existing fund, according to the most generous estimate, was inadequate for a "university" of the usual sort but would probably provide adequately for a science school which would be a start toward a true university. With the medical school at Keokuk as the first unit, one of "Sciences and Arts" should now be added. "A Polytechnic School, like that of Paris, would certainly answer better the idea of 'a Universal School' than a mere college." If at first the fund was sufficient for but one chair, he suggested it be that of chemistry applied to the arts, and urged "how much such a professor might do for the State, for the whole State, for our industrial classes—Mechanics, Manufacturers, Machinists, Farmers!" With other states making provision for industrial education, should "Iowa alone be destitute?"

With complacent optimism Magoun was sure that "for a School of the Arts we could obtain men of the very first rank—advanced scholars, lecturers, and demonstrators. The highest minds of the age are enlisted in such enterprises. They could develop the magnificent resources of the State, now sleeping in the soil, and in the minds of our young artisans and agriculturists." The "active or industrial classes" were in the overwhelming majority in Iowa, yet no provision had been made for their special training and uplift. Their opportunity was now at hand: "If they speak, especially if THE FARMERS speak, the thing can be done, and our University Fund saved from being squandered, or from being devoted to ends for which it is inadequate or is not needed." Motivated as it was, in considerable part, by a desire to prevent competition of state with sectarian higher education, the plea was both plausible and realistic.

After such agitation in his paper it was natural that Grimes as governor should support the plan. In his first inaugural address in 1854, he made the recommendation with characteristically logical appeal:

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"I do not believe it to be sound policy to establish a literary institution that shall come into rivalry with the various denominational colleges now struggling into existence. These institutions should be encouraged, and not depressed. They can and will educate the young men who wish to enter the professions of law, physic and divinity. But the State has a greater want, than of lawyers and doctors. She wants educated farmers and mechanics, engineers, architects, chemists, metallurgists and geologists. She needs men engaged in the practical duties of life, who have conquered their professions, and who are able to impart their knowledge to others. She wants farmers who shall be familiar with the principles of chemistry, as applied to agriculture; architects and mechanics, who will adorn her with edifices worthy of so fair a land; and engineers and geologists who will develop her resources, and thus augment the wealth and happiness of her citizens. This want can only be supplied by the establishment of a school of applied sciences. I have no hesitation, therefore, in recommending that the University fund be appropriated to establish a practical scientific or polytechnic school."

In vetoing a bill for an appropriation for the medical college at Keokuk, January 23, 1857, he asserted that the people of the state had the right to expect that the University should "furnish the ground-work of education that is important to the successful prosecution of every trade and profession in life." It has been charged that Grimes as "an eastern man" lacked an appreciation for the western state university type of higher education, but with his rare insight into western ways and problems it may well be that he sensed truly the type of education most needed by the new state. Had funds been available it is very likely that the University would have been organized at this time in accord with the recommendation. Such an early emphasis would not have precluded later development along broader liberal and professional lines as, for instance, the history of the "Illinois Industrial University" has shown. Schemes for an industrial emphasis in the University continued throughout the founding years. Among the bills to establish branches of the University, presented in the Sixth General Assembly, 1856-57, was one for an agricultural school at Delhi in Delaware County, and a member of the

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constitutional convention assumed the offering of agricultural instruction at the University in urging as one of the advantages of locating it within the five-section grant in Jasper County that there would be room for a model farm.

AGITATION FOR AN AGRICULTURAL COLLEGE

In any case, the more ardent industrialists in Iowa, as elsewhere, strongly favored a separate "agricultural college." Suel Foster, the pioneer Muscatine horticulturist, was the earliest and the most persistent champion of industrial education in the state. Foster was a native of New Hampshire and had settled in Iowa a decade before statehood was attained. He belonged to the chronic agitators of the Middle Period and supported many causes, to the good of the community but often to the detriment of his nursery business. He gained a worthy supporter in his educational crusade in 1855 when William Duane Wilson became editor of the *Iowa Farmer*. This veteran journalist—who had curiously acquired his title of "General" from service as general superintendent of light-houses on the Great Lakes and who was the eldest uncle of Woodrow Wilson—was another who never lacked his causes, and the main one for the next few years was agricultural education. These congenial co-workers, in articles in farm papers and addresses before agricultural and educational gatherings, now and throughout their lives, advocated "practical" agricultural colleges, with farms for demonstration and experimentation and with manual labor required of all students. With the single-mindedness of the devotee they rationalized their scheme to meet all pedagogical and research requirements and to bring solution to all known problems of the country—economic, social, physical, and moral.

Their most specific "Plan of an Agricultural School" was given by Wilson in the *Farmer and Horticulturist* for June, 1856. There were three essential features. A model farm well stocked and equipped would demonstrate the most approved up-to-

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date methods and organization. An experimental farm was essential to test and extend knowledge in the main branches of the occupation. Instruction was to be provided in all the sciences concerned with cultivation and husbandry, namely, in the editor's enumeration, chemistry, meteorology, mineralogy, zoology, animal and vegetable physiology, and veterinary medicine and surgery. Surveying might be added as desirable for a "liberal agricultural education." For all three purposes a museum of agricultural products, a collection of agricultural implements, and a veterinary hospital were necessary. A college thus equipped and with adequate staff, Wilson concluded, would give the most thorough test and the widest dissemination of the information that the Iowa farmer needed. To secure the fullest and most immediate benefit to the occupation, Wilson and his fellow agitators advocated an agricultural bureau to supplement and cooperate with the college.

PRELIMINARY LEGISLATIVE EFFORTS

Such appeals met little direct opposition, but the lack of means, and indifference and prejudice occasioned discouraging delays. Times became so hard that the smallest appropriation seemed a burden. But whether times were good or bad, there was a traditional suspicion of any sort of positive governmental activity. Such an attitude was glaringly reflected in a legislative reaction of this period.

In the first annual report in 1854 the State Agricultural Society appealed to the Fifth General Assembly for a modest yearly support fund of a thousand dollars and for the establishment of a bureau at the capital with a provision for geologists and chemists to investigate, make observations, and consult with farmers on special problems. The resulting achievements in applied science, the petitioners were convinced, would "ultimately lead to the institution of agricultural schools, upon experimental or pattern farms, where the whole circle of the natural sciences will be taught and practically

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applied, without which it is quite safe to say that the highest capabilities of land culture, horticulture, and stock raising can never be elicited." The appropriation was granted, and the Senate passed the bill to establish a bureau, but the action in the House indicated the contempt with which such a function was regarded as well as the lack of belief in public economic aid and supervision of any sort. A member, with as curious as mistaken a sense of humor, moved an amendment that "The Secretary of said Bureau shall at his own expense procure one pair of every kind of animals, and for their accommodation he shall cause to be erected in the forks of the Raccoon and Desmoines, a building similar to Noah's Ark; that he shall also procure one pair of every kind of fowl which shall be permitted to run at large in the State House yard and roost on the trees; *provided* always, the drawer of said Agricultural Bureau shall always be kept a little open for Shanghais to lay in, which eggs shall be preserved and distributed equally amongst the members of the next General Assembly." On the formal roll call the burlesque motion was lost by only nine votes whereupon the bill was laid upon the table. Fortunately, this contemptuous disposal of the measure did not reflect the prevailing sentiment toward policies of agricultural improvement, as the next session was to indicate.

Following endorsement by the State Society at its annual fair in 1856, a measure was introduced in 1857 for "the establishment of a State Agricultural College." The bill passed the House by a vote of thirty-nine to twenty-two, but the Senate amendments of which the House disapproved arrived too late for adjustment at this session. The supporters had the assurance of Governor Grimes that, although he thought such a separate establishment was somewhat premature, he would approve the bill. Legislative victory was now clearly in sight.

CHAPTER TWO

COLLEGE, FARM, & BUREAU

"The Entire Agricultural Interests of the State"



The Seventh General Assembly, which convened on January 11, 1858, was the first to meet at the new capital and the first to act under the new state constitution. Its composition and achievements were worthy of the occasion. B. F. Gue, who wrote from long and intimate experience, characterized the Seventh as "The most important legislative body that ever convened in Iowa," and the no less experienced Edward H. Stiles concurred in this opinion. The roll in both houses contained names which were to become famous in both state and national leadership. Among the senators were Josiah B. Grinnell, Samuel J. Kirkwood, William Loughridge, William H. M. Pusey, Nicholas J. Rusch, Alvin Saunders, William G. Thompson, Henry H. Trimble, and David S. Wilson. The House membership included William W. Belknap, Cyrus C. Carpenter, Lincoln Clark, Benjamin F. Gue, George W. McCrary, Dennis A. Mahoney, Stephen B. Shelleday, William H. Seevers, James F. Wilson, and Ed Wright. The situation of the state called for the combined efforts of all available talent. The new constitution was to be established under the most critical conditions. The national depression had swept away all but a few strongly established business concerns, destroyed credit both public and private, and reduced living conditions to a subsistence basis.

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Even that primitive security was to be threatened by a crop shortage resulting from a year of unprecedented rainfall. In

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reviewing this year of social and natural calamities in his Thanksgiving proclamation Governor Lowe found the chief of their mercies the realization of "the strange evanescence of riches that have wings—the folly of attempting to fare sumptuously every day, by vain schemes of speculation, instead of hardening the hand, and moistening the brow with honest toil." Climatic derangement could not by any sort of moralizing be accepted as a "mercy," and after a winter "of special trial and destitution to many of our people" the chief executive recommended that Friday, April 22, 1859, "be observed by all the people of this State as a day of Fasting, Humiliation and Prayer, that thereby we may propitiate a kindlier providence and be fed once more with the heritage of Jacob."

The legislature, overcoming narrow partisanship, except on the sectional issue, enacted a program that enabled the state to emerge from primitive disorder to modern stability. A banking system was founded, taxation was reorganized, the school laws were revised, and provision was made for utilization of the railroad land grants. And not the least of the achievements of this historic session was the creation of an agricultural college. The interest in technical education at a time when life had been reduced to the elementals of existence is evidence of the effectiveness of the appeal of the agricultural reformers.

LOWE'S RECOMMENDATIONS

Governor Lowe reflected the growing popular interest in his inaugural address. He repeated almost verbatim the proposals of the State Agricultural Society. After the rather superfluous reminder that "agriculture from the character of our soil and the nature of our geographical position, must be the great leading avocation of our people, and therefore the first interest to be considered and improved," he made recommendations to that end. The first step, after suitable encouragement to county and state societies, was the establishment

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of an agricultural bureau that "should hold the same relation to the people of the State, that a similar department in the Patent Office at Washington City does to the whole country." In cooperation with the federal bureau and "all the Agricultural Societies in the land, its great office would be to introduce new and valuable seeds, both of the cereals and vegetables; direct their culture; gather up agricultural statistics and information from the best farmers everywhere, and disseminate the same largely among the generation of free laborers who now or may hereafter occupy our plains." But in addition there was needed an application of science to the occupation, and this necessitated "at a proper time" the establishment of "Agricultural Schools, in connection with experimental farms, where the natural agencies bearing upon her domain may be taught and applied; such as geology—organic chemistry—botany—physiology—zoology—atmospheric properties and influences, etc." The Governor wisely refrained from further specifications. "To elaborate the connection between these sciences and the object of Agriculture, which has its outgoings in the infinite," was, he was convinced, "neither expected nor demanded in this communication." If rather indefinite, this was nevertheless a friendly gesture and no doubt went as far as the Governor felt he could commit himself in the hard times in which his term fell.

FRAMING AND INTRODUCTION OF THE COLLEGE BILL

The college agitators, after having their measure so long ignored, were convinced that this session was the "proper time." They were supported by petitions from the directors of the State Agricultural Society and from citizens of various counties. The leading spirits were three young reformers—pioneer farmers living in log cabins—Benjamin F. Gue of Scott, Robert A. Richardson of Fayette, and Ed Wright of Cedar. They had come to the state in 1852, Richardson and

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Gue from New York and Wright from Ohio. They were ardent reformers—abolitionists, prohibitionists, religious liberals, as well as champions of industrial education. They were to render long and useful public service: Richardson as a leading farmer of his section and a member of the college board; Wright, after service in the Civil War that brought a brevet brigadier generalship, as a state employee in various capacities to his death; and Gue as a state senator, college board member, lieutenant governor, journalist, and the first important historian of the state. At this time they were over-conscious of their lack of educational opportunities and determined that the coming generation of country children should not be under this disability. In the legislature, according to Gue, they “sorely felt the meager equipments which poverty had entailed upon them as they attempted to meet in debate the educated professional gentlemen, lawyers skilled by long practice in public speaking, with all the advantages of a college education; and it raised the inquiry, why should land grants and money endowment be given to enable the wealthy who choose the so-called learned professions to get all the inestimable benefits of a university education while the sons and daughters of the mechanics, farmers and all grades of workers were deprived by virtue of scanty incomes from participation in the benefits of a higher education?” The extent of collegiate training among the legislators, even of that unusually talented session, was doubtless greatly over-rated, but the feeling of disparity between the pioneer farmers and the professions was real.

Gue has left a vivid narrative of the framing of the college bill. On the evening of February 4, 1858, in a rooming house on the east bank of the Des Moines River in the pioneer capital city amid a howling blizzard, the three young reformers prepared a revision of the bill introduced in the last session. The following day Richardson presented their draft under the cumbersome and double-purposed title, “A bill for an act to

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provide for the establishment of a State Agricultural College, with a State Board of Agriculture, which shall be connected with the entire Agricultural interests of the State of Iowa." The board proposal was evidently found to be a handicap; a month later, March 5, Richardson substituted "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." The new bill emphasized the type of educational institution that would appeal to the farmer constituency and sought at the same time to include the essential functions of a board of agriculture. An initial appropriation of \$20,000 was to be provided. Richardson sought reference to the agricultural committee, but James F. Wilson, the aggressive young chairman of ways and means, insisted on the prior claim of his committee.

COMMITTEE ACTION

Meanwhile there was an effort to establish an agricultural professorship at the State University. In the Senate, February 17, J. B. Grinnell reported from the committee on schools and state university a bill making appropriations for the University with the following amendment: "And the further sum of two thousand dollars to be expended in establishing an Agricultural Professorship in connection with said University, whose duties shall be defined by the Board of Trustees of said University; which board shall consult with the President of the State Agricultural Society, in the establishment of said Professorship, and in determining the duties thereof." The amendment was adopted, but on March 2, on recommendation of the committee on ways and means, this provision was dropped.

The action of the corresponding committee in the House proved no more favorable to the proposal for a separate agricultural college. On March 10 Wilson reported the bill with

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recommendation that further consideration be indefinitely postponed. The innocuous as well as ineffective recommendation was added, no doubt as a gesture to the rural voters, that the committee on agriculture be instructed to prepare and report a bill for the establishment of an agricultural bureau "in connection with one of the State offices at the Capital of the State." The explanation for rejecting the college proposal was that the state had no money to squander on such a visionary experiment. The bill's supporters, anticipating the opposition, had laid their plans for the legislative struggle. The three sponsors were joined by William Lundy of Muscatine, the chairman of the agricultural committee. General guidance was left to Wright, who was an unusually skillful parliamentarian. W. H. Seevers, the chairman of the judiciary committee, and John Edwards, the head of the committee on expenditures, united with Wilson in arguing against the expediency of such a use of state funds at this time.

DEBATE AND ENACTMENT

In presenting and defending the bill Gue delivered his maiden speech and, after overcoming a temporary embarrassment, made a telling plea and sounded a defiant challenge. To the objection that the proposed institution was far in advance of the time and that all the present status and needs of the occupation warranted was an agricultural bureau to distribute seeds, he replied shortly that the supporters of the measure, who were all practical farmers, knew best what was needed and demanded by their great constituency. That need and demand was nothing less than an opportunity for agricultural education equal to the training for the other professions. The lack of such opportunity was causing ambitious country boys to seek other occupations and rural leadership was fast being depleted. They proposed to train leaders in business and public affairs as well as expert technicians. "We want the young men so trained and educated, that it will not

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be necessary for them to forsake their chosen avocation, to become qualified to occupy any station, or hold any office in the country. We want them to be able to stand on this floor, and in our national councils on terms of equality with the best legal men of the times and there be able with equal talent, education, ability and eloquence, to urge there our claims, advocate our principles, and defend our interests."

The bill as now presented was the result of long and careful consideration of all proposed plans and of consultation with representative farmers by the committees of both houses. The "legal gentlemen" he recognized might not be ready for such a forward step but he served notice that the "Working, producing classes," which included "not the farmers alone . . . but all the laboring classes, the mechanic, the day laborer, the inventor and the manufacturer," were all ready and urgent.

The issue, the young reformer concluded, would be clearly drawn in the recorded vote between the supporters of higher education for the privileged few and the advocates of educational opportunity for all. If this measure were defeated the great constituency would understand where the responsibility rested, and the popular will would not be thwarted for long.

Such a threat brought action. Beginning with Cyrus Carpenter of Webster the opposition capitulated. The opposing chairmen disclaimed any hostility to the aims of the bill and hastened to express full agreement with the claim that all classes should receive equal privileges from the legislature. But, they explained, the proposition was a new one; they were "not aware that a similar college had been established in any state." For the present they proposed a compromise on the appropriation, and Lundy's amendment cutting the amount in half brought ready acceptance. After some delay in selecting the trustees, the bill was passed in the House, March 17, by a vote of forty-nine to five. In the Senate the following day,

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after three substitutions had been made in the membership of the board and the action reconsidered, the bill passed twenty-four to five. Charles Foster of Washington was the leading supporter in the upper house. The act was approved by Governor Lowe on March 22—which thus became the true founding day of the College.

ANALYSIS OF THE ACT

The organic law was an extreme example of the social crusaders' distrust of administrative discretion and their confidence in their own ability to provide complete and minute specification in subject matter and method as well as in organization. Consequently the act furnishes a prospectus of the standard agricultural college as sought by the ardent champions of industrial education. The blanket enacting clause providing for a "State Agricultural College and Model Farm, to be connected with the entire Agricultural Interests of the State" was sufficiently inclusive and elastic to make possible the type and functions of agricultural education and organization desired.

The governing body was a board of eleven trustees chosen by the legislature from nominations made by county agricultural societies and apportioned by judicial districts. The governor and the president of the state agricultural society were given *ex officio* membership, and the president of the College was to be the chairman. The board was authorized to purchase at least a quarter section of land, after considering rival proposals and weighing their advantages. The proceeds of the five sections granted for capital buildings were, with the consent of Congress, to be added to the college fund. Strict requirements were made for keeping financial accounts and farm records, even to a "register of the weather," by a competent bookkeeper chosen from the faculty or from the advanced students.

Tuition was to be "forever free to pupils from this State

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over fourteen years of age and who have been resident of the State six months previous to their admission." Popular appeal was sought in the reduction of the entrance requirements to the rudiments of learning and a flexibility of standard that left much to the examiner's discretion: applicants "must be of good moral character, able to read and write the English language with ease and correctness, and also to pass a satisfactory examination in the fundamental rules of arithmetic."

To insure a sound industrial program the required studies were specified. The list marked a considerable extension of Governor Lowe's suggestions and indicated, according to existing classifications, the emphasis desired: "Natural Philosophy, Chemistry, Botany, Horticulture, Fruit Growing, Forestry, Animal and Vegetable Anatomy, Geology, Mineralogy, Meteorology, Entymology [sic], Zoology, the Veterinary Art, plain Mensuration, Levelling, Surveying, Bookkeeping, and such mechanic arts as are directly connected with Agriculture." After these requirements were provided for, there might be added "such other studies as the trustees may from time to time prescribe, not inconsistent with the purposes of this act." Evidently instruction in mathematics and English was assumed. The failure to mention agronomy, animal husbandry, and dairying indicated the undeveloped state of agricultural science. Even such confident legislators hesitated to make a faculty assignment of these subjects and left to the board the creation of "such Professorships as they may deem best to carry into effect the provisions of this act."

The bureau function was embodied in the office of the secretary. That official was to be selected by the board from its own membership. He was to maintain an office in the capitol for the performance of a great variety of duties: to be the recorder, correspondent, and custodian of the board; to encourage the organization of agricultural societies; to collect and distribute for trial new seeds, plants, and trees; to encourage the importation of improved breeds, the invention of

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agricultural machinery, and the establishment of domestic manufactures; to publish agricultural information in newspapers; to collect and file the agricultural statistics of each county; and to report annually to the legislature or governor on his activities, and the receipts and expenditures of his office and of those of the College and farm. He was given a salary of \$1,000 and allowed an equal amount for the purchase and distribution of seeds and for the expense of his office. The dignity and responsibility of the office were emphasized by the fixing of the bond at \$30,000.

The trustees' only compensation was mileage at the same rate as members of the General Assembly for attendance upon not more than three meetings annually, but the office was regarded from the first as one of dignity and honor. The initial selection of trustees named in the act, although subject to the inevitable regional and political expediency, was highly creditable. The members and their counties as given in the law were: M. W. Robinson, Des Moines; Timothy Day, Van Buren; John D. Wright, Union; G. W. F. Sherwin, Woodbury; Wm. Duane Wilson, Polk; Richard Gaines, Jefferson; Suel Foster, Muscatine; J. W. Henderson, Linn; Clement Coffin, Delaware; E. H. Williams, Clayton; and E. G. Day, Story. Williams and Coffin declined to serve, and John Pattee of Bremer, then auditor of state, and Peter Melendy of Black Hawk, were chosen to fill the vacancies. The membership included some of the outstanding leaders in agricultural improvement in the state. Foster and Wilson have already been noted; Timothy Day was the state's first importer of Short-horns; and Peter Melendy, who was to render the College a unique service, was a leading stock raiser. Most of the others were prominent in the state and local agricultural societies.

ORGANIZATION OF THE BOARD

The Board held its first meeting January 10, 1859, and was organized by the election of Wilson as secretary and Richard

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Gaines as treasurer. Since the president of the College was to be the presiding officer of the board, the selection of that official was considered. A letter was read from Hugh D. Downey, a prominent lawyer and banker of Iowa City, to Governor Lowe strongly recommending Dr. Jesse Bowen, the retiring president of the State Agricultural Society, as "an intelligent, practical, talented, and experienced western leader whose appointment to the Presidency of the College would give very general satisfaction." The selection was postponed until the June meeting. Meanwhile Messrs. Sherwin, Foster, and Wilson were named as a committee to correspond with and report on candidates for the presidency and faculty. So few propositions for location were presented that the Board voted to extend the time for making offers to May 1.

If at this preliminary meeting little was achieved in the way of organization, the spirit and aim of the proposed institution was not left in doubt. Upon motion of John Pattee it was resolved "that although the legal name of this Institution is fixed by Statute, we deem it expedient to designate a shorter name: Therefore, we would recommend that in general use (but not in legal instruments) the 'Iowa Farmers' College' be the designation." The members further pledged themselves to make known to the people of their districts in every possible way "the objects of the Farmers' College." The agricultural papers readily adopted the popular name.

At the June meeting, presided over by Governor Lowe, appreciable progress was made both in organization and in location. Suel Foster, John Pattee, and E. G. Day were constituted an executive committee, and Foster was elected "president pro tem of the Board, with power to take charge of the Farm." In this position Foster was legally the acting president of the College, and he was so designated by the press of the state. He was annually re-elected during the next five years. In 1865 William H. Holmes of Polk became his successor, and at the organization of a new board the next

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year Benjamin F. Gue, then of Webster, was chosen to head the corporation and was continued until the selection of the first regular president of the College in 1868.

At the same meeting, upon recommendation of the organizing committee, four professorships with specified subjects were agreed upon—physics: natural philosophy, chemistry, geology, mineralogy, meteorology; mathematics: arithmetic, algebra, geometry, trigonometry, conic sections, astronomy, surveying, civil engineering, bookkeeping; zoology: entomology, ornithology, ichthyology, animal anatomy, veterinary art; botany: fruit growing, horticulture, forestry, vegetable anatomy, and botany. Sherwin, Foster, and Wilson were continued as a committee to receive and investigate applications for these positions as well as for that of the presidency. Obviously, before a faculty was secured and its work organized, the College must be located and developed through the formative stage. In response to the prospectus asking for bids for the sale of land for a college farm, offers were made by the counties of Hardin, Jefferson, Marshall, Polk, Story, and Tama—all but one near the center of the state. A committee of three, Sherwin, Pattee, and Gaines, was instructed to examine the different proposed sites and report at an adjourned meeting.

SELECTION OF A COLLEGE SITE

Story—just entering its fifth year of organized existence, sparsely settled, and reputed to be unusually swampy—had shown a marked interest in the inchoate college. During and following the bill's consideration the legislature had been petitioned to make the location there. E. G. Day of that county as a member of the first Board sought to arouse local interest. In September, 1858, he published in the *Nevada Advocate* a request for county products—grains, seeds, minerals, building stone—as an exhibit of the region's resources with which to impress his fellow board members. On Christ-

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mas Day a mass meeting was held at the court house in Nevada to consider means of securing the prize. The meeting had been announced in the local paper two weeks previously with an exhortation for everybody "to rouse up and turn out." George M. Maxwell was chairman, and a committee on resolutions from each township was formed. Colonel John Scott proposed the calling of a special election by the county judge to consider the appropriation of 12,000 acres of the county's swamp lands, but after heated discussion a \$10,000 bond issue was substituted. In anticipation of popular approval of the aid, a committee headed by W. G. Allen, a pioneer surveyor, was chosen to represent the county's interest before the Board. After further meetings the election, on February 7, 1859, endorsed the issue by the overwhelming vote of 402 to 48. In addition to this county aid, individual notes totaling about \$5,500 and nearly 1,000 acres of land in Story and Boone counties were offered. The total value of the Story-Boone offer was estimated at \$21,355.

With the prevailing hard times, ruinously low agricultural prices, and inaccessibility to markets involving a subsistence or barter economy, the subscriptions involved heroic devotion to the cause. Many confessed later that they made their pledges without knowing how they could be met. Land for those who possessed it beyond their immediate needs was often easier to give than a comparatively small subscription. Henry McCarthy, from whom the largest purchase was made for the original farm, reduced the price one dollar per acre as his contribution. Such sacrifices were not in vain; the combined inducement was to prove decisive in the location.

On June 21, 1859, after considerable balloting, the Story County site was selected. In the securing of this decision the efforts of pioneer settlers of the county, exerted in various ways, were most influential if not determining. Most prominent among these supporters were John L. Dana, the county's first representative in the General Assembly, Colonel John Scott,

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George M. Maxwell, T. C. McCall, E. G. Day of the first Board, and W. J. Graham, his successor. The county's first historian comments on the triumph with restraint: "Take it all in all, when it is remembered that Story was then almost a frontier county; that her territory was contemptuously styled a frogpond; that her people were poor and the times were those of great depression, and that the Board was strongly disposed to be influenced by the amount of donations promised, the securing of the location was a great triumph. Had the subsequent action of Congress been anticipated it would doubtless have gone to a more wealthy county."

However that may be, the people of Story County, as well as their supporters in Boone, felt no sense of inferiority and were highly elated at their triumph. They gave expression to their feelings in a characteristic pioneer celebration—a Fourth of July picnic on the college farm in a grove north of the present college armory. The main addresses were delivered by John A. Hull of Boone and Colonel John Scott of Story, and were followed by the reading of the Declaration by a young Nevada attorney. The dinner was worthy of the event and appropriate to the aspirations of an agricultural college—the recorded menu included turkey, chicken, roast pig, ham, mutton, fish, cheese, vegetables, fruits, honey, and pies. The usual toasts to the day, the flag, the Revolution and Washington, President Buchanan, the army and navy, and our mothers and sisters were interspersed by those to the farmers of Iowa, to the new college, the locating commissioners, and as a climax one by a professor of Boonsboro to "The Rising Generation, the Hope of the World and a Mighty Sure Crop in the Hawkeye State."

THE PRAIRIE PRIMEVAL

The site of these triumphant if premature festivities was a farm of 648 acres in the western portion of the county secured from five different owners at a cost of \$5,379.12. In the choice

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of location the sectional divisions that had previously determined county politics were ignored. The Nevada interests were led to support the trans-Skunk location by considerations of soil and topography, the insistence of the Boone supporters upon proximity to their county, and the confidence that no effective rival to the county seat would develop to the west. The only settlement in the region was the little hamlet of New Philadelphia, now the southern part of Ontario. With the only direct line of travel the stage road from Nevada to Boonesboro, the situation was one of extreme isolation. Ten years later at the inauguration ceremony, B. F. Gue graphically described the primeval wildness of the future campus:

"During these dark days, when the future of our projected Institution seemed shrouded in gloom, when the most sanguine of its friends could see little hope of success, when we had realized the full magnitude of the undertaking, utterly destitute of resources necessary to carry out our plans, with nothing but a great prairie farm, wild, but beautiful in its wildness, remote from railroad, river, cities or towns, it seemed far better adapted for the quiet retreat of some pioneer farmer and backwoods hunter, than for a site upon which to erect a College for the children of the farmers and mechanics of a great State. I remember well my first visit to this spot, years ago, long before the North Western Railroad was projected. Striking out north from Des Moines, on to the great sea of prairie that then stretched, in almost unbroken wildness, to the Minnesota line, the great monotonous plain of waving grass only broken here and there by scattered groves, and meandering through it the sluggish river of fragrant name, that, skirted with timber, seemed like a long line of straggling sentinels, guarding the great plain from the approaching civilization that had just begun to encroach upon its boundless domain. 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 only see 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 then to solve. But we

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had got the idea, the land, and an endorsement of the Legislature, and we must work it out."

The "land," all things considered, was well adapted as a site for working out the great idea. The editor of the *Boone County News* after participating in the Fourth of July festivities, reported that everyone who had seen it "pronounced the site of the Agricultural College and Farm an admirable one." The joint legislative committee, of which Gue was a member, appointed to report on the farm in January, 1864, after giving a detailed description of location, topography, and resources, expressed the opinion "that it would have been difficult for the trustees to have made a selection more fully complying with the requirements of the law, than the one purchased. It has upon it at least six different varieties of soil, representing the prevailing kinds in the State; it has more than 50 varieties of timber, bushes, and shrubs, and running water, spring and well water in abundance; a plenty of gravel, sand stone, and material for brick; high dry land, level dry land, rolling clay, second bottom, sloughs, flat wet bottom, and timber bottom, besides the genuine prairie land." The committee was convinced that the farm fulfilled the intent of the law "as completely as any selection that could have been made." In view of the unfavorable judgments made on the quality and adaptability of the college farm in the early days this conclusion by the accredited investigators of the General Assembly was highly significant. It remained to transform the open prairie into a "model" farmstead.

MAKING THE FARM

During the first year seventy acres of prairie were broken, 640 rods of fence were constructed, and contracts were let for the excavation and materials for the farm buildings. A considerable proportion of the subscriptions was paid in labor and materials. The Board was optimistic regarding donations for the equipment of the farm. Manufacturers from all sections

HISTORY OF IOWA STATE COLLEGE

of the country were offering their implements to be tried; breeders east and west would supply foundation stock, and a Polk County nurseryman had already promised fruit trees to the value of a hundred dollars. "Numerous will be the donations," the report concluded, "embracing the above named classes of husbandry, as well as all the others . . . whenever we are prepared to receive them, by parties in and out of our borders, who feel a lively interest in the prosperity of an Institution which is destined, at no distant period to wield an immense influence for good in developing our Agricultural resources, and without which we would lose them." The sites for the first buildings for college and farm were selected with care, and tentative estimates of their costs were made; but a building program awaited the further aid of the General Assembly, and before that could be secured there impended a desperate legislative battle for existence as well as the uncertain issues of national civil strife. At the fair of the Cedar Valley Agricultural and Mechanical Association in September, 1859, J. B. Grinnell urged that the Farmers' College should be kept "without the arena of political strife" and provided adequate initial support. "It is your own, which in infancy asks the fostering care of generous parents, whose neglect will be as the embrace of death." The admonition was timely, as the infant was in imminent danger of perishing from exposure and neglect.

STRUGGLE FOR LEGAL EXISTENCE

In view of other pressing demands upon the taxpayers, the members of the executive committee in their first report refrained from urging an appropriation at this session. They hoped with the means at their disposal to be able to erect the necessary farm buildings and to put at least a part of the farm in good working condition. They were confident that by the meeting of the next session the members would know more fully the desires of the people regarding the institution.

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Though they expected no appropriation, they hastened to add that they esteemed "our Institution one demanded by the imperative necessities of agriculture in the State, and one which is heartily endorsed by those who bear the burden of taxation." Meanwhile they asked the legislature, in addition to filling the vacancies on the Board, to provide for granting deeds of the donated land when sold and for legalizing the Story County bonds whose regularity had been called in question.

In his outgoing message in 1860, Governor Lowe merely reported what had been done in locating the farm and in preliminary organization. Governor Kirkwood, who a few weeks later signed the first report as a member of the executive committee, in his inaugural address gave a very general endorsement and suggestion of legislative action: "Agriculture will be for many years to come, as it has been in times past, that interest which underlies and supports all other interests in our State; and any aid that can legitimately be given to it, should be given generously and not grudgingly. I have not sufficient information touching this institution, to enable me to make any specific suggestions in regard to it, and can only recommend the whole matter to your careful and friendly consideration."

The consideration, whether careful or not, was anything but friendly from a majority in the House who felt that a state-supported college at this time was an unnecessary burden. The active opponents sought to capitalize this sentiment for the repeal of the founding act. A resolution was adopted directing the committee on agriculture to inquire into the expediency of such action. The committee made rival reports. The two minority members advocated repeal and offered a bill for that purpose. They made four allegations in support of their proposal: (1) the institution had not been and was not then demanded by a majority of the tax-payers; (2) the cost would be entirely disproportionate to the benefit to be derived

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from the institution; (3) admitting that the College would be of practical value to the agricultural interests, they believed it unwise to undertake so costly an enterprise at a time of such general financial distress; (4) the state was young, one-half of her territory was unsettled, and it was consequently unjust to impose such an unnecessary burden upon the pioneer taxpayers.

Gue argued for the five majority members that repeal would be inexpedient and unjust as the institution, established after long agitation, had not had a chance to show its value, and there was no evidence that any considerable group desired such summary action. During the financial stringency the supporters would ask no further appropriations but instead would "solicit such subscriptions from friendly sources as may enable them, when times are more propitious with some assistance from the State, to erect such buildings as the wants of the Institution may require; thus relieving the people from any apprehensions that this Institution should add to their already heavy burthen of taxation." Gue stressed as the tangible evidence of the law's benefits the activities of the "Agricultural Bureau," particularly in the distribution of seeds. "Through this department of the College, we are already reaping the benefit of the law to some extent, while the Board is engaged in making preparations for carrying its provisions fully into effect, as fast as the means at their disposal will justify." In conclusion Gue made an impassioned appeal to the farmer-worker interest. Such a backward step would "be evidence to our citizens and to the world, that after having once determined to educate our working men, to elevate labor and make it honorable and enobling; that after having decided to provide an Institution in which the sons of our farmers and mechanics may be educated for their chosen profession, we have repented of our noble purpose, and have concluded that ignorance is preferable to knowledge, and have chosen darkness rather than light."

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In spite of the peril of falling to this benighted condition, it was evident that a majority of the members were committed to the economy move and that the only hope for preserving the aspiring enterprise was in securing delay. Gue accordingly moved that the bill be laid on the table for the present, as the opposition was not prepared to act upon it, and the concession was made—fatal to the hostile design, for a two-thirds vote could not at any time in the future be secured to call up the bill. Meanwhile the measures regarding lands and bonds were enacted, and the supporters were glad to let the matter rest until more favorable times. "For one," wrote Governor Kirkwood, to Suel Foster, "I will not consent to have standing on the farm a pile of unfinished buildings as a monument of my folly and business capacity."

In the report for the year Secretary Wilson made a strong class-conscious appeal for the adequate support of their College designed "*to educate the youth of the State in enlightened practical Agriculture.*" The friends of the "Farmers' College" should present to the legislature the evidence of the popular desire and at the same time make known to the farmers themselves the opportunity for effective training at a minimum cost. Representative leaders of the Industrial Movement in different sections were quoted on the national benefits of an educated rural population.

THE COLLEGE SECRETARY AND HIS BUREAU

Wilson's own work as secretary of the Board, and as such the head of the "bureau," was the most effective result of the college act in the preliminary years. In the opinion of the editor of the *Northwestern Farmer*, this was a "very important office, and should be filled by the right kind of a man; capable, industrious, systematic in all his arrangements and one who possesses public confidence in the highest degree. He possesses the power to limit or extend the influence and usefulness of the Institution to a greater degree than any other member of the

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Board. . . . General Wilson met all these requirements admirably."

Upon assuming the office he had severed his connection with his agricultural paper to devote his entire attention to the work. He at once invited correspondence with farmers and mechanics, and during his term from 1859 to 1864, when the office was abolished, rendered a service far in advance of the time and one that anticipated a later state department. The reports from the second to the fifth inclusive contained general surveys of the state's agriculture, discussions of the cereals, sorghum, flax, sheep, cattle, and hog production, and the progress of domestic industries. There were carefully selected statistics and reports of the distribution of seeds and plants—secured by purchase and from gifts of the Patent Office—and of the experiments with them. *The State Register* found his final report "a valuable collection of facts for general circulation, prepared with great labor and care," and was confident that "if it could be put into the hands of the industrial classes of the Eastern States it would be a valuable stimulus to immigration to the cheap yet fertile lands of Iowa." There was the logical suggestion in some quarters that this position be joined with that of the secretary of the State Agricultural Society, and it was unfortunate that such a combination was not made. Following the termination of his service with the college Board, Wilson secured employment for the next five years with the new federal Department, which was established as a companion measure to the act providing aid to state agricultural colleges. It was to this latter act that the embryo Iowa institution now turned in its desperate struggle for perpetuation.

CHAPTER THREE

THE NATIONAL SUBSIDY

Iowa & the Land-Grant Movement



HOPE OF FEDERAL AID

Iowa legislators authorized the establishment of an agricultural college with the definite expectation of federal aid for their project, either through general grants to the states such as that proposed in the first Morrill bill then pending or by a special subsidy. The latter was definitely sought two weeks before the passage of the Iowa agricultural college bill. On March 3, 1858, the legislature approved a memorial to Congress asking "a donation of 50,000 acres of land, to be taken from public lands in this State, for the purpose of establishing scientific agricultural schools." The memorial urged that "the *farmers* of the State of Iowa are exceedingly desirous to establish a scientific agricultural college and schools for the purpose of giving freely to all a profound knowledge of the great truths and fundamental principles of nature, whereby all may become fully acquainted with the properties of the earth, the vegetable kingdom, and the peculiar adaptation of plants to certain soils, and likewise to obtain a complete knowledge of animals, that their stock may be brought to the highest perfection." Such assistance to the "*respectable* portion" of the community, it was urged, would help all branches of industry. In justification of this type of aid, the national legislators were reminded that though they had adopted the practice of making "munificent grants of land for the endowment of schools and universities . . . in all cases the interests of that class of

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the community which is generally termed the backbone of trade and commerce has been entirely overlooked." The memorial was received on March 17, the very day that the college bill passed the Iowa House, and referred to the committee on public lands.

IOWA AND THE MORRILL BILLS

A month later the first Morrill bill was being considered in the House of Representatives. In this debate the main controversy centered on the southern state rights defense against the free-soil interest, with the East and West rivalry involving a subordinate controversy. On the issue thus presented Iowa sentiment was strongly for the bill. Even the redoubtable individualist, Le Grand Byington, of Iowa City, was reported as one of the lobbyists in attendance at the capital. Correspondents from different parts of the state assured Morrill of their sympathy. N. S. Young of Batavia wrote on February 1 that though the measure should be supported by the masses of farmers and mechanics, he feared that it might not be understood, and he was circulating a petition for it. James Thorington, who as the state's first free-soil representative in Congress (1855-57) had gained notoriety by his zeal for the railroad grant, promised on May 17 to refer to Morrill's speech in the fall campaign and offered to distribute copies of it in his district. O. C. Hale, a Keokuk banker, wrote rather belatedly on October 16 that Governor Lowe desired a copy of the "great speech."

The Board of the Agricultural College strongly favored a federal grant but its members felt that the one proposed was inadequate, and on January 11, 1859, they petitioned the state's delegation "to obtain for the state of Iowa an amount commensurate with her *area and present population*, instead of the proportion contemplated in the conditions of the bill" provided such an effort would not "materially affect the success of the bill."

THE NATIONAL SUBSIDY

In the Senate James Harlan, Iowa's first superintendent of public instruction, an ex-college president, and at all times an ardent free-soiler, was among the leading supporters of the measure. He argued for the constitutionality of the bill on the ground that acceptance by a state was a voluntary matter. The complaint of Senator Mason of Virginia that the bill would open the way for Congress to substitute the New England school system for that of the South aroused Harlan's indignation as an educator. He charged that the southern leaders were opposed to the uplift and advancement of the masses through education and twitted Virginia in particular about having the largest percentage of illiteracy of any state—a distinction his state did not covet. His colleague, George W. Jones, was a state rights Democrat who, like others of his convictions, West and South, had supported grants for railroads on the ground of regional interest but drew the line there. So on the final vote Iowa's senators were divided. In the House both representatives, Samuel R. Curtis, Republican of Keokuk, and Timothy Davis, American of Dubuque, voted for the bill.

In the debate on the bill of 1862, with southern opposition removed, the division involved a direct contest between the older and the newer state interests and provided the most clear-cut northern sectional alignment of any portion of the free-soil program. In this controversy Iowa interests were divided. With public lands subject in part to outside scrip location, the state had a defensive attitude toward the proposed grant, but the value and strategic location of her lands had led to such rapid pre-emption and sweeping grants that the bulk was already on the way to disposal. Positively the educational sentiment in the state was unusually strong with two chartered institutions desirous of aid.

The legislature instructed the senators and advised the representatives to support the bill, and such action undoubtedly was favored by the great majority of Iowans at all

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interested in the measure. Harlan again was prominent in support, though less enthusiastically. He held that, as a landed state, Iowa had little to gain, but he felt that the predictions of injury to western states generally was greatly exaggerated, and that in any case the grant was justified as a partial measure of compensation to the old states for the liberal grants to the new. It was on this plea, much emphasized by Morrill, that he mainly based his support. Suel Foster wrote two years later that the trustees of the College had been in constant correspondence with Harlan about the bill.

Senator Grimes by reason of his agricultural and educational interests was favorable to the project and, with his Whig background, regarded the grant as a proper use of the public domain. Furthermore, he maintained confidently that the progress of the western states would be hastened rather than retarded by the location of the scrip within their borders, as the lands could then be taxed until the holders were forced to dispose of them to settlers. The charge by Senator Lane of Kansas that Grimes himself when governor had been a speculative holder of large tracts in western Iowa and had thus contributed to the region's economic and social backwardness was apparently regarded as undeserving of notice. The states, Grimes felt, could protect themselves against landholders, resident or absentee, but he was fearful for the territories. The limitation of the amount to be located in any state to one million acres and the defeat by eastern senators of his amendment to include the territories in the restriction opened the way, he maintained, for large land companies—one of which was already formed—to carry on speculative colonization projects that would postpone for years the admission to the union of new free-soil states. For this reason, in spite of the instruction of the General Assembly, he voted against the final bill.

In the House Iowa's two representatives gave no aid to the cause. James F. Wilson, who had led the early opposition to the agricultural college bill in the legislature though later

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supporting it, joined with other western free-soil leaders in the opposition. The other member, Colonel William Van-dever, had vacated his seat by active service with his regiment.

THE LAND-GRANT ACT

The far-famed Land-Grant or Morrill Act of July 2, 1862—the organic law of the land-grant colleges—provided a grant of public lands or land scrip to each state in the amount of 30,000 acres for each senator and representative that the state had under the apportionment of 1860. The proceeds from the sale of the land or scrip invested in United States or other safe stocks yielding at least 5 per cent was 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.”

The main condition—to be accepted by special legislative acts—was that the states maintain the capital fund undiminished except that not more than 10 per cent might be used for the purchase of a site or of an experimental farm. No portion of the fund nor of the income from it could be used for the “purchase, erection, preservation, or repair of any building or buildings.” Acceptance was required within two years and the establishment of a college within five years. The only check of the colleges’ work was an annual report to be sent to the other colleges and to the Secretary of the Interior.

ACCEPTANCE OF THE GRANT

The calling of a special session of the General Assembly on September 3, 1862, to consider pressing war concerns, offered

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an opportunity for early action on the congressional grant. Governor Kirkwood in his message recommended immediate action, as delay until the next session might enable other states to select Iowa lands "and manage and dispose of them in a manner very undesirable to us." In response to this warning, House File No. 1, which provided that the lands "are hereby accepted by the State of Iowa, upon the terms, conditions and restrictions contained in said Act of Congress" and providing for the selection and location of the lands granted under the act, passed that chamber without opposition. The Senate's amendments respecting the appointment of a commissioner to select the lands led to a disagreement which was adjusted by a conference, and the bill was approved on September 11. Iowa thus became the first state to signify official acceptance of the grant.

RIVALRY FOR THE GRANT

Acceptance of the grant did not mean that it would go automatically to the Agricultural College. In consideration of a portion of the grant, the University was willing to launch another school at a time when none of its fields of effort was fully established. At the next session of the legislature, January, 1864, the representative from Floyd, Azro B. F. Hildreth, a journalist who had served as a member of the state Board of Education and who as a native of Vermont had been an intimate friend of Morrill, introduced a bill to provide for the teaching of agriculture and mechanic arts at the State University and for dividing the federal grant between the University and the Agricultural College. Hildreth's argument in support of his bill was that the federal grant was not to any particular institution but to the state for performing a certain service, and the question was how that could best be performed. To develop a new agricultural college with instructional and housing facilities within the time set by the act would necessitate a larger expenditure than the state was

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prepared to make. If the grant were saved by the organization of the required work at the University, the new College would be afforded time in which to develop adequately. The present income of the University was wholly inadequate, but by a division of the new grant both institutions would have sufficient means. There would be no strife, he assured, between the two institutions if they were developed in the public interest. Just what the program of the Agricultural College would have been after its main subjects were taught at the University was not specified.

That consideration was wholly secondary to Nathan Brainerd of the Iowa City *Republican* in his modest proposal for disposing of the national grant: "Let, then, this grant be divided between the State University and the College Farm giving each one-half; let the department in connection with the University be put in immediate operation, and let the College Farm institution be coming along as fast as may be, without too great expense. In this way the State University will be permanently endowed, the College grant will be secured without great outlay of money, and two institutions will be provided, as the wants of the State demand, and, in our judgment, the best possible use will be made of the noble grant from the General Government."

In newspaper letters the Rev. Oliver M. Spencer, president of the University, argued to the same effect concerning the intent of the act and made the illogical plea that if his institution did not receive increased support disaster would soon follow. He cited as precedents for sharing the fund with a literary university the cases of Rhode Island, Connecticut, and New York, where the People's College was held, not very accurately, to be a literary institution. Meanwhile, Judge Francis Springer, a trustee of the University, had submitted a memorial to the legislature "relative to attaching the Agricultural College to the State University."

In heated defense of the agricultural cause Suel Foster

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wrote that the understanding had been all along that the grant was for institutions like the Agricultural College which, indeed, in cooperation with similar institutions of other states, had been influential in its enactment. The issue was that of the right of the masses to higher education: "We appeal in most earnest terms to the friends of agricultural education to decide at this session of the legislature whether or not the great interest of our state, the men engaged therein, are worthy of a higher education than the 'common schools.' "

In the midst of the discussion, the joint committee appointed to visit the college farm, headed by Gue, who was now in the Senate, in concluding their report of observations and recommendations expressed vigorous dissent to the proposal of the University supporters, which they regarded "as manifestly unjust and dangerous." The two institutions were not only distinct but contrasting in their basic aims and programs, and hence their activities could not be interchanged or intermingled. The University was "intended to be a higher grade school than any other in the State, in which students from the various seminaries, academies and colleges may enter, and complete an education in the highest branches taught, affording facilities and advantages that no other educational institution in the State possesses. The object is a noble one, worthy of our great State, and we trust that the purpose will be fully carried out, without endangering its success by 'any entangling alliances.' " As it was, both the state and national government had dealt generously with this institution of highest learning, and it found itself relatively well supplied in buildings and endowment. The Agricultural College, in direct contrast, was projected with a wholly different aim to be realized by its own peculiar plan. A working class college for practical training "in the industrial pursuits they desire to follow . . . must be entirely independent of ordinary colleges and universities where theories are taught, without prac-

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tical illustrations." The manual labor requirement written into the founding act was basic to the system, socially and pedagogically. Such aims and requirements made evident the ridiculous futility of a connection with an urban university: "Does any reflecting person believe that these most important provisions of the system of agricultural education can be connected with the State University, located in the heart of a populous city, where no experimental farm can be connected with it, with no suitable boarding house where young boys can be under the care and control of a suitable person who would look to their welfare? They would be turned loose after school hours, to all the enticements, vices, and corrupting influences of a city. They must find boarding places among the inhabitants of the town, where their labor cannot be employed to defray expenses; a department thus conducted can derive none of the benefits contemplated by the friends of the Agricultural College, in providing an industrial school in accordance with the act of our own Legislature, and the law of Congress making the munificent land grant, to enable the plans of the College to be faithfully and honestly carried out." The committee was "satisfied that any such attempt at consolidation would result in endless strife, quarrels, jealousy, and confusion, and would go far towards destroying the usefulness of both. We believe it to be the duty of the Legislature to encourage and sustain both of these valuable institutions by judicious and liberal assistance, while both are left free to stand or fall on their own merits."

The public interest in this rivalry was so keen that during the session several evenings were devoted to a discussion of the question in the hall of the House of Representatives. Kirkwood, recently retired from the governorship to a residence in Iowa City, led for the University forces, while the college cause was supported by Senator Gue and Representatives George M. Maxwell of Story, John Russell of Jones, and

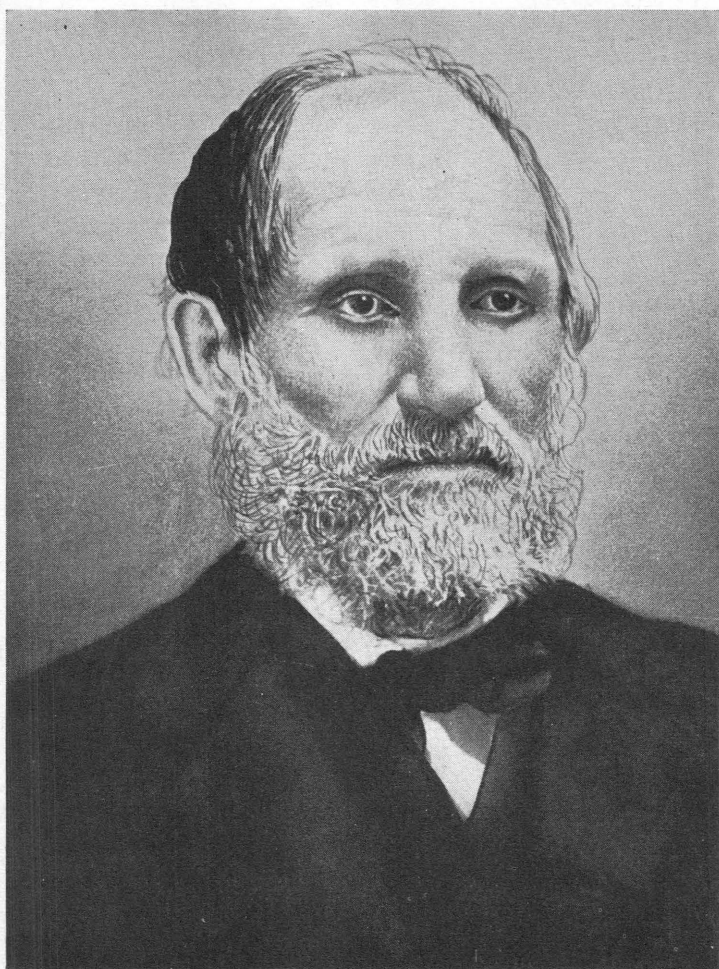
HISTORY OF IOWA STATE COLLEGE

Hugh M. Thomson of Scott, later to become the farm superintendent.

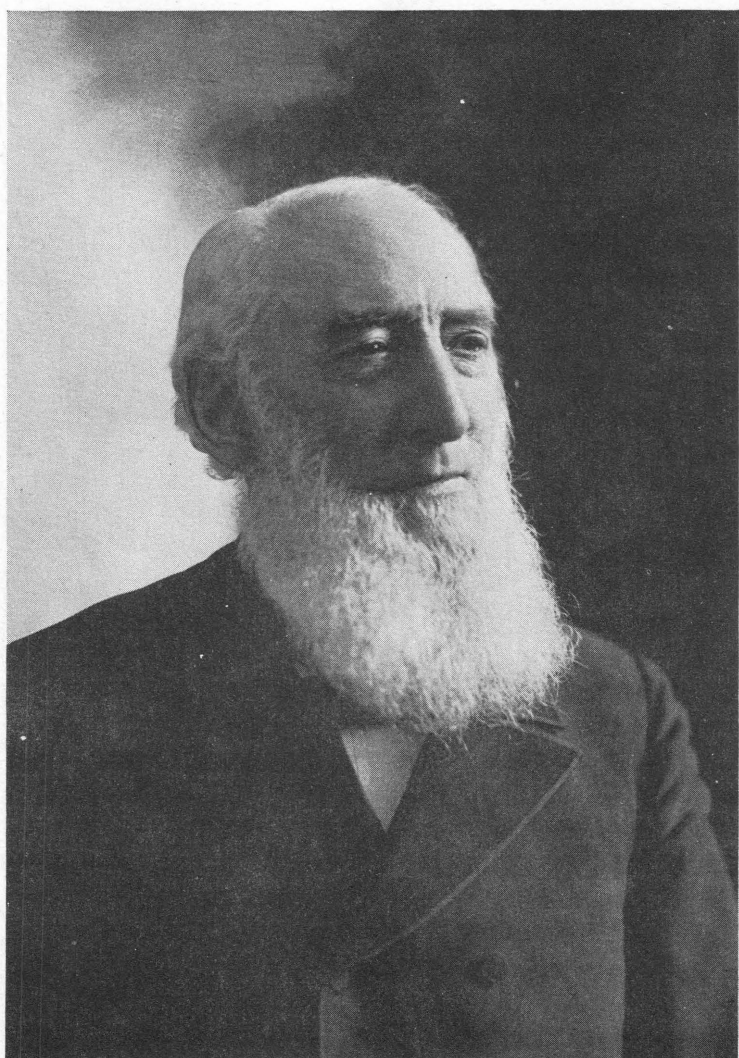
AGRICULTURAL COLLEGE BECOMES A LAND-GRANT COLLEGE

In spite of the distinguished and influential championship, with the state's definite provisions for a separate agricultural college the University plan was evidently not regarded as expedient. A bill approved March 29, 1864, granting to the state's Agricultural College the lands received for supporting such an institution and authorizing the trustees to sell or lease the lands for the College's endowment, was opposed by only three votes in the Senate and by none in the House, though more than a score of members were reported absent or not voting. It was highly significant for the future program that this act was confined wholly to the matter of the disposal of the lands and the investment of the proceeds and made no alteration in the organization and policies of the College as provided in the founding act of 1858. Any broadening of that act in accord with the provisions of the Morrill Act was to be implied in the acceptance of the grant and not in legal specification. Which policy would be the more determining upon the College's organization and program remained to be seen.

The state was thus committed to a supposedly distinct division of its higher education. The University, thanks to an early start, to inheritance of the Old Capitol, and to some devoted leadership, was getting its program under way. The land-grant college remained to be housed and organized.



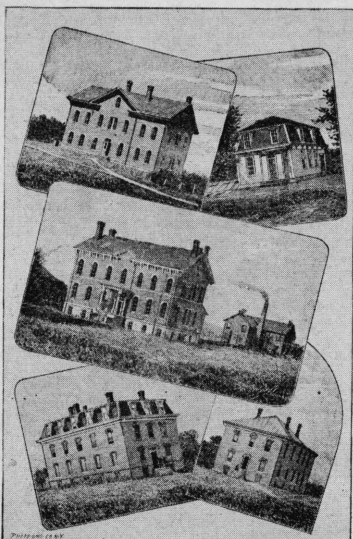
SUEL FOSTER



PETER MELENDY



WILLIAM DUANE WILSON



1, Chemical and Physical Hall, with work-shop in the back-ground; 2, North Hall; 3, Horticultural Hall; 4-5, Boarding Halls.

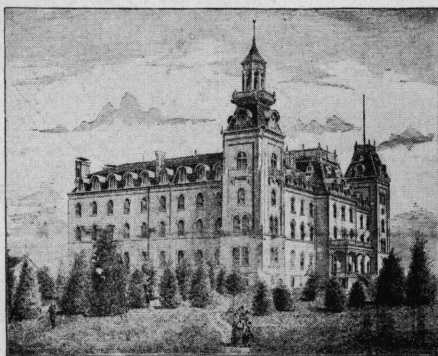
STUDENTS AND GRADUATES.

The College is open to both young men and young women.

Candidates for admission must be at least sixteen years of age.

The average attendance is about two hundred and fifty, of which about one-fourth are young women.

Twelve classes have graduated, and the whole number of graduates is now, (1884,) two hundred and fifty-five.



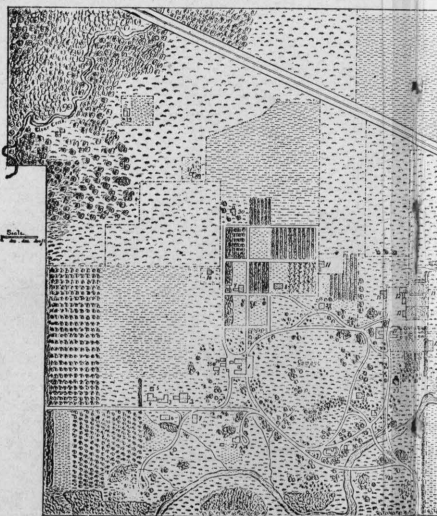
Main College Building.--South-east View

IOVA AGRICULTURAL AMES,



Main College Building.

Founded by the State, 1858: Endowed by the State.



1. Main College Building. 2. Chemical and Physical Hall. 3. Engine Building. 4. Horticultural Hall. 10. Veterinary Hospital. 11, 12, 13 & 14. Barns. 15. Feed Barn. 16. Pigsty. 17. Water Works. 18. Stable. 19. Blacksmith Shop. 20. Figgyery. 21. Feed Barn. 22. Water Works. 23 to 32. Dwellings.

THE COLLEGE

The FARM, consisting of a great variety of soil and aspect, and including the woodlands and meadows of Montgomery and Char creek bottoms, and the adjacent high, rolling, gravelly and loamy prairie lands.

The EXPERIMENTAL PLANTS OF GRAINS AND GRASSES.

The BARNYARD for Horses, cattle and sheep, also pigsty with ample yards attached.

The STABLE, consisting of improved breeds of horses, cattle, sheep and swine.

The EXPERIMENTAL SORGHUM-WORKS.

The CUPBOARD.

The TOOLS AND IMPLEMENTS OF THE FARM.

The AGRICULTURAL CABINET OF SEEDS AND GRASSES.

MEANS 213.

The HARBOR and OUCH.

The EXPERIMENTAL NUTRIMENT.

The COLLECTOR'S ROOM.

The PROPAGATION OF WOODS.

The COLLECTIONS OF PLANTS.

The INSTRUMENTS OF AGRICULTURE.

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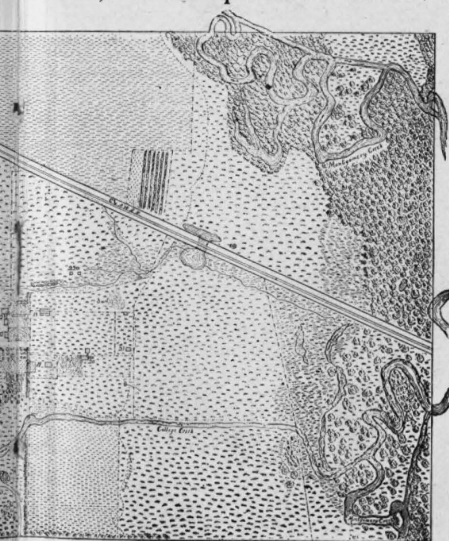
AL COLLEGE

IOWA.



Building, north-east View.

the Nation, 1862: Opened for Students, 1869.



COLLEGE DOMAIN.
 1. Engineering Hall. 4. Shops. 5. Gas Works. 6 & 7. Boarding Halls. 8. North Hall,
 10 & 16. Experimental Buildings. 17. Creamery. 18. Farm House. 19. Sheep
 2. Dwelling Houses. 33. Gymnasium. 34. Coal and Ice Houses. 35. Water Tank.

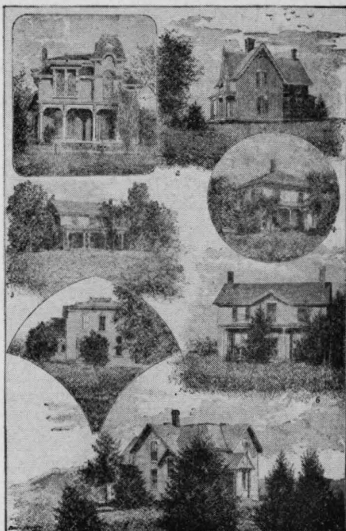
OF ILLUSTRATION.

ENTRANCE GARDENS, including many rare Trees
 imported from Europe and Asia.
PLANTATION.
 1. Vine, including many green-house plants.
 2. WOOD SPECIMENS.
 3. WAX FRUIT-MODELS.
 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.

RESIDENTS OF IOWA.

address, the President of the College.

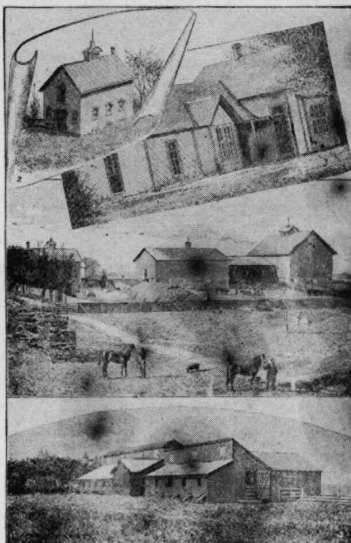
in Cedar Rapids, Ia.



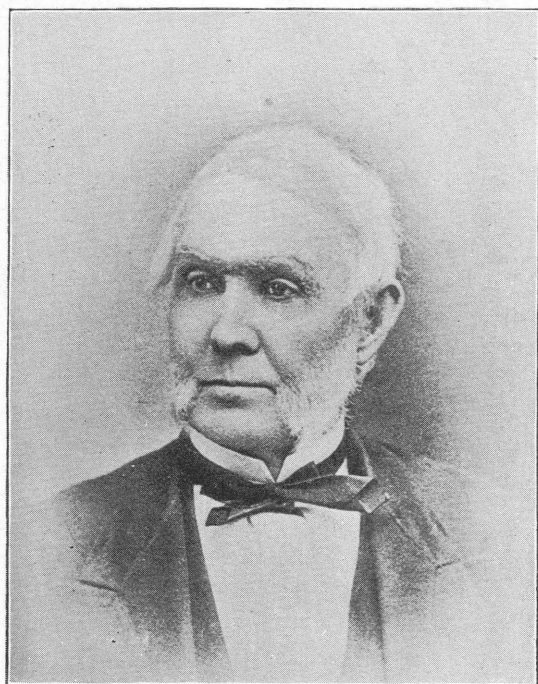
Dwelling houses occupied by Teachers.

COURSES OF STUDY.

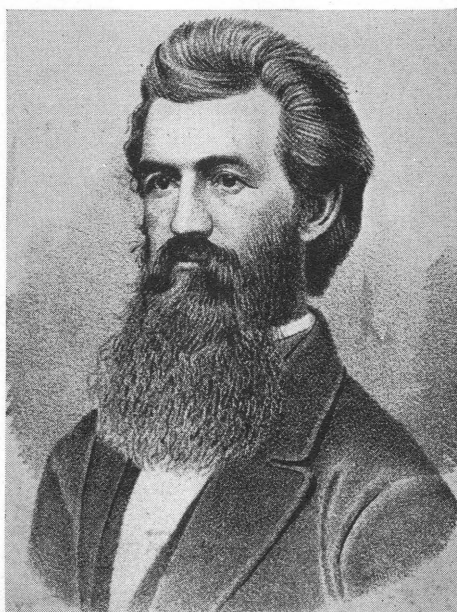
1. Course in General Science.
2. Course in Agricultural Science.
3. Course in Mechanical Engineering.
4. Course in Civil Engineering.
5. Course in Veterinary Science.



1. General view of Barns and Yards from the South-east.
 2. Horse-barn; 3. Creamery; 4. Piggery.



RALPH P. LOWE



BENJAMIN F. GUE



COKER F. CLARKSON

CHAPTER FOUR

THE COLLEGE ON THE OPEN PRAIRIE

A New Departure in Higher Education



EARLY FARM MANAGEMENT

In asserting its collegiate status against unfriendly or rival interests in the preliminary years, the institution was handicapped by the lack of an instructional plant. In the early years the "State Agricultural College and Farm" was all farm, and that in itself was a major undertaking. In the years before the College opened, the prairie was transformed into a going farmstead which in spite of captious or jealous neighbors was undoubtedly better equipped and managed than the average of that time. With the limitations of resources and the primitive conditions, the degree of progress made indicated the reliability and resourcefulness of the various superintendents. The improvements of the first years were supervised by the executive committee, of which M. W. Robinson was chairman. For 1860 a trustee, Richard Gaines, was appointed farm agent. By that time the completion of a house and barns, the acquisition of essential stock and equipment, and the breaking and fencing of an appreciable area of land made possible a more systematic cultivation.

W. H. Fitzpatrick of New Philadelphia became the first occupant of the Farm House and was in charge of the farming work from 1861 to 1865. For the first two years he rented the farm for \$200 payable in part in labor, fencing, and breaking. Peter Melendy, of Cedar Falls, secretary of the Board, was persuaded to act as non-resident superintendent in 1865, after which his fellow townsman, A. J. Graves, took over the work

HISTORY OF IOWA STATE COLLEGE

for a year. The service of the Hon. Hugh M. Thomson as farm superintendent, beginning in January, 1867, was to extend into the college period and afford him, along with the perplexities of adjusting his farming operations to the requirements of student labor, the demands of the steward, and the varied theories of the professors, the dignity of inclusion with the faculty. But without instructional complications the early superintendents were sufficiently distracted in their farm operations by the building activities.

BUILDING PLANS AND TRIALS

The first report in 1859 presented a well-considered plan for a college building, but it was long in realization. It was reported that the chairman of the executive committee, M. W. Robinson, had given much time and thought to the planning of this structure. He had corresponded with the Michigan and New York agricultural colleges regarding their building experiences and visited the Farmers' College and the Female College at Cincinnati (which Horace Mann had recommended as the best-arranged college building he had seen), and the Farmers' High School of Pennsylvania. The Board had employed as expert adviser Mr. Milens Burt of Muscatine, "architect and builder, a prudent, judicious, and excellent mechanic, and a man of much care and prudence in all things." Simplicity and economy with the maximum of utility were emphasized by the committee with an obvious fling at the ornateness of the University's inherited state house: "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 a solid stone foundation, a plain brick superstructure of four stories, with pilasters, dental brick cornice, projecting roof with brackets, with portico over the doors at each end: all of good respectable appearance,

THE COLLEGE ON THE OPEN PRAIRIE

about good enough for the farmers of our state, *and good enough for any body else.*"

But there was still much that they were uncertain about, and no doubt the conscientious committee leaned heavily upon the suggestions of their "man of much care and prudence." They were undecided for a time whether to construct a single building or three separate buildings "far enough apart to be safe from each other"—an ominous reflection on fire hazards. After much deliberation they had tentatively decided on four rather than three stories as much more convenient. The estimated cost of a building which would house 100 students, the president and family, and two or three professors, provide classrooms and library, as well as commissary, dining hall, and kitchen in the basement to accommodate 120 boarders, was \$30,000. One can readily agree that it had "required much time and effort and skill to arrange all this in one convenient building." It was suggested that if the legislature felt disposed to proceed with the large policy this session, which was not anticipated, \$40,000 would be sufficient to construct and equip the building "without an appropriation of another cent to complete it throughout"—an over-optimistic estimate, as later experience was to show.

Funds on hand from the balance of the original appropriation and subscriptions in money, materials, and labor were felt to be adequate for the necessary farm equipment—house, barns, and shops estimated to cost \$8,500. Two years later the completed exhibit was a basement barn forty-two by sixty and a substantial brick farm house, the main portions with inside work unfinished. The cost of these improvements had been met wholly from subscriptions. At the legislative session of this year, 1862, Governor Kirkwood could offer nothing but his blessing: "I would gladly recommend liberal appropriations for the erection of the necessary college and other buildings, if the condition of our finances would allow, but

HISTORY OF IOWA STATE COLLEGE

I cannot now do so. The farm and buildings are in such condition that a failure to make appropriations will not necessarily work any injury to them. The only unfavorable result will be delay and to that we must submit until our national difficulties are removed. I heartily approve of the policy adopted by the Trustees of reserving the lands donated by the State and by individuals, and the bonds of Story County to endow the institution, trusting to the liberality of the State and of individuals in more prosperous times for the erection of the necessary buildings."

With the failure of the plan of Kirkwood and others to trade the use of the university plant for a considerable part of the national grant it was necessary to provide a "college" as well as a farm at the Story County site. Accordingly, after assigning the lands to the College the legislature appropriated \$20,000 as an installment on a building the total cost of which could not exceed \$50,000. The structure was to be enclosed by October 1, 1865.

The legislature proposed, but building troubles—natural and human—imposed repeated delays. In April, 1864, the building committee—J. A. Bronson, Suel Foster, and Peter Melendy—offered a prize of \$350 for a suitable building plan, and in June the award was made to a Des Moines architect who was engaged to supervise the construction. Then the troubles began. The first bricks made on the farm were well burned but contained pebbles which caused them to split and made them unsuitable for facing; the next lot were of good material but not as well burned. A new kiln had to be made. The architect proved negligent and inefficient. He was discharged in September, and another was secured in December to report on the work and supervise future activities.

The new architect's roughly phrased report was a combination of technical recommendation and sarcastic comment on his predecessor. The original plans, he stated, provided for a building that would be deficient in appearance, utility, and

THE COLLEGE ON THE OPEN PRAIRIE

construction. The lecture room as designed provided "no place to put the speaker's stand, so that what he was talking about could be heard understandingly half way across the room, and it could not be seated so as to accommodate one-fourth of the number of scholars, with a full attendance." The laboratory designs were revised by substituting two large for four small ones. With true foresight the new architect made more ample provision for chemistry, which as "one of the most important subjects to be taught in the institution . . . should have as large a room as could be made for it. . . ." With equal vision the library room was enlarged. The towers planned by his predecessor were architecturally unsound and wholly lacking in utility or beauty. All other features of the planning from chimney-pot to groundsel met his professional condemnation. Methods of construction called forth even more disgusted denunciation. The foundation upon examination was found to be unmathematically proportioned and of poor material, and hence its replacement was the first step in the revised construction.

As a result of such delays the best accounting that could be made to the legislature in 1866 of its appropriation was a sound foundation and the bulk materials for the structure. Governor Stone in his message to that session warned of the necessity of immediate provision for completing the building and opening the College, for the loss of "this magnificent donation by our own neglect or parsimony, after having accepted it, would not only reflect lasting disgrace upon the State, but would be an irretrievable injury to the advancement of our agricultural interests." The estimates secured had convinced the Board and the Governor himself that the building could be completed within the limits set by the act of 1864, and the work was entered upon in good faith, "but the estimates of expenses being based upon prices prevailing at the time of our calculations were, to a great extent frustrated in consequence of the unexpected and exorbitant advance in the prices of

HISTORY OF IOWA STATE COLLEGE

materials and mechanical labor." In any case the building "must be completed at all hazards" and he trusted to the legislature to provide the funds to fulfill the conditions of the grant on time. As a consolation for the added cost the Governor gave the assurance that "next to the Insane Asylum at Mt. Pleasant" the College would be housed in "the finest edifice in the State," and it would be "erected for a much smaller sum than the other States have expended upon their colleges under the same Grant." The joint legislative visiting committee subsequently estimated that \$91,000 would be required to complete the building and meet all outstanding obligations, and that sum was appropriated.

The building troubles, however, were by no means ended. The new architect with all his critical assurance proved to have his own limitations. The new wall had to be repaired at considerable expense before construction of the building got under way. When the contract was completed in the fall of 1868 the building proved far from usable, for in the very restrained statement of the first report of President Welch, "with a singular lack of foresight the architect had completed the structure without making any provision for lighting, heating, supplying with water, or for adequate drainage." Consequently these necessary facilities had to be added with great inconvenience and at increased cost. The Ruttan system of hot air heating, recommended as simpler and more economical than steam, proved unsatisfactory even after overhauls, and in less than a decade it was abandoned for steam. Lighting was provided inadequately by gas generated in a small plant. Water was successfully supplied from a well by a windmill. The sewerage system remained a continuing problem until fully modernized.

THE INITIAL COLLEGE PLANT

In 1870 the original building was completed. The addition of wings and various alterations and repairs brought the total

THE COLLEGE ON THE OPEN PRAIRIE

expenditure to the time of its destruction at the beginning of the new century to about \$230,000—an astounding multiplication of the legislative estimate of 1864. In the history of the Iowa State College “Old Main” has a unique place. In the early years it provided most of the instructional and housing needs, and throughout the first three decades “the College” was identified largely with this all-purpose structure. The building was not only relatively commodious and adaptable; in appearance it conformed to prevailing standards of collegiate architecture. As late as 1896 a writer in the *Midland Monthly* termed the much used and abused old hall “one of the few examples of the Mansard period of modern architecture which pleases the eye at any point from which it may be viewed.”

The location of the College necessitated housing of a part of the faculty, at least, as well as the students. An appropriation was made in 1868 for three houses for professors. One was built with an experimental concrete block which was more nearly a grout in which the mixture was too parsimoniously thin; the walls collapsed. The first manual labor assignment of the preparatory group in the fall of 1868 was to haul away the wreck for building a walk, for which the materials proved well suited. The other two professorial dwellings were well constructed of brick. One became in succession the president's residence, the first domestic science hall, and the music hall until its destruction by fire in 1912. The other, starting as the residence of Vice-President Jones became eventually the present Hall of Music.

ORGANIZING COMMITTEE'S TRAVELS

With all these trials in preparing the physical plant for the reception of the first staff and students, there was an equally arduous undertaking in organizing the College itself and in selecting a president and faculty to initiate the program. This was even more of a pioneering adventure than that with

HISTORY OF IOWA STATE COLLEGE

bricks, concrete, and mechanical appliances. Old-time colleges with small staff and narrowly prescribed course existed on every hand, but the "new type" industrial college was in a highly experimental stage. There were not many going experiments, and their successes and failures were matters of dispute.

Fortunately, the Board recognized the need for especial care and deliberateness in providing for initial organization and staff. At their January meeting in 1867 a committee of three was elected by ballot "to examine into, and, if necessary, visit Agricultural Colleges in other states, in order to procure all information necessary for the successful organization of our College." The selection of Governor Stone, Lieutenant Governor Gue, and Peter Melendy, then president of the State Agricultural Society, indicated the importance attached to this mission. The Governor was unable to act, and Gue and Melendy carried on the investigation and submitted their report and recommendations. These two enthusiasts for industrial education entered upon their task in the most thorough manner. Finding correspondence unsatisfactory, they conducted an extended and systematic visitation of typical colleges, scientific foundations, and governmental bureaus with the aim of determining the following essential matters: plan and relative effectiveness of the organization; causes of success or failure of the several institutions; "the course of instruction—how conducted and illustrated"; a determination of number and professional grade of faculty needed for their own college and "finding and securing competent men for President and Faculty"; a thorough investigation of the manual labor system, noting its successes and failures; determining the best equipment for the College.

In seeking answer and solution to this variety of questions and special problems they extended their observations and searchings to twelve states and the district of Columbia, visited sixteen colleges and schools, as well as the Smithsonian

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Institution, the federal departments of agriculture and education, and the editorial offices of the leading agricultural journals. The list of leaders with whom they consulted reads like a scientific and educational directory of the period. Certainly all shades of opinion on applied science and research were reached in these interviews. One conference of great historic significance was not mentioned by Gue in his editorial letters to his paper, the *Iowa North West*, or in the committee's official report. In November, 1867, members of the faculty of the Sheffield Scientific School entertained Senator Morrill and secured probably the frankest expression of his aims for and interpretation of the land-grant act of which there is any record. In his memoranda of the conference Professor William H. Brewer noted that Gue was one of the participants. Undoubtedly Morrill's views were given confidentially and hence no mention was made either of the conference or of the Senator's views.

THE COMMITTEE'S REPORT

Naturally, chief attention was given to the institutions that in organization and program were most similar to that planned for Iowa. Of these the Michigan exhibit was found to be the agricultural college *par excellence*—in aim, organization, course of study, and apparent results. A large portion of the report was devoted to this institution. The description of the studies with their specified textbooks was printed in full, as were the eighteen rules with subdivisions; the manual labor system was minutely described, and equipment, income, student costs, and personnel were not overlooked. Massachusetts was found to be following closely the Michigan model, and the unique Cornell plan was commended. The Pennsylvania institution having abandoned the qualifying labor system was not, in spite of its name, any longer an agricultural college, and the Sheffield School with all of its scientific resources did not pretend to be. The westerners' astonishment

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at Yale's wealth of scientific equipment was somewhat moderated by their observation of the simplicity of its housing in "very plain brick buildings, none of them comparing with the Iowa Agricultural College in size, architectural beauty or imposing appearance."

But these true-visioned educational administrators were more concerned with men than with buildings and equipment. "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." From their observations they were convinced that the failures in industrial colleges had been due more "to the employment of incompetent men as members of the Faculty, than from all other causes combined." To avoid this fatal blunder they had "determined to rigidly scrutinize without fear or favor the qualifications of every candidate for a place, and employ none but men of tried and proven ability. Older and ordinary colleges may do with second rate men, but ours can only succeed with the best men."

But while "self-nominated candidates" were abundant, professors of the caliber required—especially in technical fields—were hard to identify and often harder to secure. As the best solution of this problem of supply and demand they had reached the conclusion that professional administrators have many times since endorsed, that young men competently trained in applied science, ambitious and industrious, with their professional reputations still to make, would provide the most available working staff. They realized that they could

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not hope to attract the Agassizs, Danas, Johnsons, Dwights, Chandlers, and Guizots, "but by employing the most promising among the younger men, who are willing to work in building up an Institution that bids fair to take its place, in due time, among the great seats of learning in the West, we secure enthusiasm, energy, ambition, talent and all the elements of success." There was need, to be sure, for a "few thoroughly tried and experienced men . . . to direct and control, and give to the Institution the benefit of their experience, but for the hard work required to build up and sustain such an enterprise" they "must have a strong element of young Western men."

Even more difficult was the selection of a president to lead and guide the destinies of the whole enterprise in its formative stage—one who could combine the requirements of a strong administrator with those of a great educator. The qualifications that they demanded approached perfection—"a man clearly comprehending the plan and objects of an agricultural college, who is in full sympathy with its friends, and a firm believer in the idea. He must be thoroughly educated, that he may inspire respect among other members of the faculty and the students; of untiring energy, for his mission is to build up an institution that will endure for ages and rank among the first in the West." Hesitant or unsound leadership would doom the enterprise from the start: "An incompetent man at the head of such an institution in its infancy, will inflict a blow upon its prosperity that will require years to recover from. It will dishearten the friends of industrial education, give the College a bad name, keep away the most desirable class of students, and, in short, prove as fatal to success, as is an incompetent commander in time of battle." To acquire such a paragon of leadership would have been sufficiently difficult in any period, but it was especially so at just this time when other states "were searching diligently for the very men we want." For the past year Wisconsin, Illinois, Minne-

HISTORY OF IOWA STATE COLLEGE

sota, Vermont, New York, Ohio, Indiana, and Massachusetts had been seeking heads for their colleges. While the committee had in mind several persons who they felt could fill the professorships creditably without further investigation, they were not yet satisfied with any of the candidates recommended for the presidency. No wonder Gue was led to declare in later years that it was harder to find a well-qualified head of an industrial college than a chief executive of the nation.

SUGGESTIONS FOR THE FIRST STAFF

By publication of their names in the official report the candidates both for the presidency and for the faculty were given more publicity than academic propriety of later times would sanction. The presidential recommendations in order mentioned were A. S. Welch, formerly of the Michigan State Normal; Dr. C. M. Witherill, of Lehigh; Dr. Wm. Clift, of Amherst; Dr. Paul Chadbourne, former president of the Massachusetts Agricultural College; Professor Whitman, formerly of Pennsylvania Agricultural College; Dr. George Law Olmstead, and J. B. Grinnell, of Iowa; and Dr. Amos Brown, president of the People's College of New York. There were three suggestions for the chair of chemistry: Professor Root, of the New York School of Mines, Professor S. G. Wright, of the Ohio Medical College, and Dr. S. H. Kridelbaugh, of Page County. The grouping "Botany, Natural History, Geology, Mathematics, etc." called out an imposing amount of talent of which a goodly proportion was from the state—Professors Baker, of Indianola; Piper, of Manchester; and Brainerd, of Dubuque; Dr. Parry, of Davenport; Dr. Shaffer, of Fairfield; and O. H. St. John, of Waterloo, assistant state geologist. In addition, without designated chair, there were presented the names of Professors Dupins, of Queens University; G. W. Jones, of Franklin, N. Y.; Wright, of Williston Seminary; Wright, of Yale; and Long, of Western Union, Ohio. There were "many others whose qualifications had not

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been looked into." Gue said later that for the presidency there were twelve applicants within the state and seventeen without.

Aside from the two who were elected and accepted it is impossible to determine how many on the lists were active candidates or even receptive to an appointment. But from the statement by the committee that letters had been written in their behalf and in a number of cases personal conferences had been held, it is likely that the greater number were willing to join the pioneer educational institution.

THE COMMITTEE'S RECOMMENDATIONS

From their investigations, observations, experiences, and cogitations, the committee presented eight definite recommendations to guide in the organization of the College and the selection of a staff: (1) the staff to consist at the start of a president, four full professors, and two assistants; (2) the studies to be those specified in the act of 1858 with the addition of practical agriculture and landscape gardening and such other studies as might be added by the faculty and trustees (there was no distinct mention of mechanic arts); (3) a system of universal, compulsory, instructive, and remunerated manual labor to be instituted; (4) the boarding department to be under the complete management of a steward; (5) admission to be distributed over the state on the basis of representation in the popular branch of the legislature, with entrance requirements to be determined by faculty and Board; (6) "Politics and sectarianism of every description to be carefully excluded, and never to be permitted to control the selection of students or members of the Faculty, and under no circumstances to be taught in any department of the College"; (7) the best apparatus and equipment to be secured and appropriations made at once for laboratory, library, and cabinets; (8) provision to be made for three or four non-resident professors—"men of eminence and great attainments in particular sciences, such

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as Geology, Natural History, Chemistry, Horticulture, and Fruit-growing"—to deliver a series of lectures to the students and the public each year, "that the College may have the benefit in this way of the best talent in the country."

The committee was aware that it would "require several years to fully develop and properly arrange all the departments of our College" and that there was much yet to be learned regarding its needs. But they closed with a tone of assurance: "It is gratifying to note the increasing interest that is yearly being manifested in the subject of industrial schools. The doubtful problem of a few years ago is today a fixed fact, tried and proved. Agricultural Colleges are now among the necessary institutions of growing civilization, destined to supply the great want so often felt by the sons of toil, that will enable the most lowly and obscure of farmers' sons to secure a thorough education suited to their wants and avocations."

PRELIMINARY ORGANIZATION AND STAFF

The legislature visiting committee in 1868 added the additional recommendation for the prohibition of intoxicating liquors within two miles of the College. This action was sought in petitions to the committee and to the legislature by "citizens of Ames station and vicinity." The legislature complied in the act of April 7, 1868, "to Provide certain Police Regulations for the Protection of the Iowa State Agricultural College and Farm and of the Students therein." The petition to the legislature had included billiard halls as well as saloons, but the legislators doubtless felt that the college authorities could provide a portion of the protection for themselves in their own code. The trustees hastened to inaugurate such a code at the May meeting when the use of tobacco and all intoxicating drinks was prohibited.

Having provided such moral safeguards, the Board, at the same meeting, took the positive action of establishing co-education. In 1864 Suel Foster had announed in an address

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to the State Agricultural Society that the College would provide agricultural training for the boys and horticultural instruction for the girls, and at its annual meeting in January, 1868, the State Horticultural Society had asked the Board "to make ample provision in this College for the thorough and practical education of the youth of the state of both sexes, on equal terms." The organizing committee was impressed with the success of such systems where they had observed them and urged that girls should be educated for farmers' wives as well as boys for farmers. This proved to be the overwhelming opinion of the Board. On "the proposition to admit females to the privileges of the College on the same conditions as males" the vote was nine to three. The opposing votes came from the members of the first three judicial districts in the southeast, where, perhaps, sentiment was a bit more conservative than in the rest of the state.

With the building nearing completion and the preliminary organization effected, the Board proceeded at last to name a president and the nucleus of a faculty. The selections were made upon the recommendation of the organizing committee. President T. C. Abbot, of the Michigan Agricultural College, had told the committee that if it could get A. S. Welch he would be "the best man in America" to organize the college. Endorsements by the presidents of the universities of Michigan and Kansas, the Michigan superintendent of public instruction, the president of Antioch College, and others all pointed to Welch's special qualification and adaptability. He had, in fact, shown an outstanding leadership in the new education.

Adonijah Strong Welch was born on a farm near East Hampton, Connecticut, in 1821. As the eldest child of a widowed mother, he developed a resourcefulness and industry that, added to an observing and inquiring mind, were to be his leading characteristics. Attracted by the reputed opportunities of its new university he went out to Michigan in 1839, and after preliminary training at an academy entered

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the University of Michigan and received a bachelor of arts degree in the second class, in 1846. He was an honor student, and during his senior year taught in the preparatory department. The A.M. was awarded him in 1852 and the LL.D. in 1878. Following graduation he studied law, but soon turned to teaching. He organized the first graded school in the state and was principal for two years. His career was then picturesquely varied by a year in California gold fields, where he made invaluable observations for a psychologist and social scientist along with a modest return for his labor. In 1852 he was elected principal of the new state normal school at Ypsilanti—a foundation that was to be classed as a representative product of the industrial movement. He served general education by the promotion of teachers' institutes and of a state teachers' association and aided technical training by service on the board of the agricultural college.

In 1865, failing health caused him to seek a milder climate; and he went to Florida, where he engaged in lumbering and fruit growing near Jacksonville in partnership with his brother-in-law. The following year the deaths of his wife and his partner unsettled his plans, but by the spring of 1868, when the Iowa committee sought his service, a new career seemed opening to him. His leadership in reconstruction politics had been felt among the northern residents of Florida, and he was offered one of the senatorships of the restored state government. No doubt, too, his ambition was heightened by his marriage to the widow of a former colleague at Ypsilanti, Mary Beaumont Dudley, a woman of strong personality and wide culture.

In April Gue wrote Welch inquiring if he would accept the presidency of the College. The reply, delayed for a month, was favorable; he would accept if elected unanimously for a relatively long term at a salary of \$3,000 and house, and, in order to assume the duties as promptly as possible, he would take the short rather than the full term in the Senate. On

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these conditions Welch was promptly selected by a unanimous vote with the understanding that he might complete his senatorial term. On June 17 he was chosen by the Florida legislature for the short senatorial term ending March 3, 1869, took his seat on July 2, and served the remaining twenty-five days of the long session before assuming his academic duties in Iowa.

At about the same time selections were made for the first faculty. George W. Jones, a young Yale graduate who had been principal of a school at Franklin, New York, was elected to the chair of mathematics—to which other subjects and manifold extra duties were to be added. For the chair of "Practical Agriculture" a man of varied talents and experiences was chosen. Norton S. Townshend, English born, had taken a medical degree, been an army surgeon, served in the Ohio legislature and a term in Congress, but his main interest was in scientific applications in agriculture. His efforts to establish state supported lectureships in Ohio had made him a pioneer in organization as well as in research. He combined, according to Gue's editorial comment, "the necessary qualifications of a thoroughly practical farmer with great scientific attainments, a fine scholar, and an accomplished lecturer and instructor." Albert E. Foote, another doctor of medicine, a recent graduate of the University of Michigan, only twenty-four years of age, was selected as assistant professor of chemistry. These, with a matron, teachers of the sideline subjects of music and French and German, and the ex officio farm superintendent, constituted the original faculty. O. H. St. John was elected assistant professor of geology, but though his name appeared with the original staff, he never reported for duty.

PREPARATORY TERM

The President and his family arrived on an unfinished scene at the beginning of October and were conveyed from the

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station in a farmer's lumber wagon drawn by a mule team—the only available transportation at the time. The students, sixty-six men and nine women, proved as unprepared as the plant, and both underwent a finishing process in the preliminary fall term that extended from October 21 to January 7. The learned scientists gave their efforts to elementary subjects, arithmetic, geography, and English grammar. Mrs. Welch, "an experienced and very accomplished teacher," taught the President's classes during his absence in Washington.

The opening day was enlivened by a visit from the Boone County teachers who, assembled in their institute at the neighboring village of Montana, decided that an inspection of the new enterprise in higher education would be profitable and came in a body on the morning train, sixty strong. The train stopped at the farm, and the delegation was cordially welcomed by Dr. and Mrs. Welch and Dr. Townshend. After inspecting the building and its equipment they enjoyed a basket picnic. In the afternoon President Welch addressed the gathering on Florida. "Having been a resident of that state for the past three years and at present representing it in the United States Senate," in the reporter's judgment, "he was well qualified to speak of the moral, social and political condition of the unfortunate sister state." Dr. Townshend then "handled the subject of Animal Organization with ability and was listened to with great attention and interest."

According to the reporter, the teachers departed "firm in the belief that at no very distant day the Iowa State Agricultural College will stand foremost among the educational institutions in the Western States." They recorded their appreciation in resolutions, one of which involved a matter of especial concern to such a group: "That the course of study as laid down for the students and left open for ladies as well as gentlemen, thus fitting them for the practical duties of life is in striking contrast with the more aristocratic system of

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ladies' boarding schools which teach only etiquette and the necessary requirements for fashionable society, but neglect the more practical duties of housewifery."

Following the board meeting early in December an inspirational convocation was held at which Messrs. Gue, Melendy, and Cusey for the Board expressed gratification at the successful launching of the enterprise, and President Welch gave admonitions on diligence in the labor service and in strict observance of study hours that suggest that some of the problems of the undertaking had already arisen. But the President expressed full confidence in the institutional program in an interview with the *Chicago Journal* on his way to Washington to complete his senatorial term.

SENATOR WELCH

In his brief congressional service, while, as became a southern carpetbagger, Senator Welch was regular in the support of his party's reconstruction program, he found occasion to assert some of his dominant convictions with characteristically logical and assured tone. In supporting the fifteenth amendment he made a strong plea for political equality and decried all racial discrimination. As an ardent champion of women's rights he urged equal pay for female employees in government service. Most appropriately his final speech was in defense of the Bureau of Education against unsympathetic critics who held that its functions were non-essential or undesirable and proposed to withdraw its small appropriation. In reply to Senator Grimes' declaration that his state did not desire any federal educational help or recognize any dependence upon the national government for such aid, the college president-elect reminded him that Iowa had accepted 240,000 acres of land from which it realized an income of \$30,000 and asserted significantly and courageously, in view of the position that he was to occupy in a fortnight, the national responsibility to secure compliance with its avowed aims. "It seems

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to me that it would be well for this Government to see that the vast amount of land it has donated for the progress of agricultural and industrial science is so appropriated as to secure the great objects for which it is made; and that is one great purpose for which this Department is established."

THE INAUGURATION

With the President's congressional duty performed, a faculty selected, a student body "prepared," and a building for their living and labors nearing completion, the time had arrived for the formal inauguration. The academic gathering of March 17, 1869, in spite of transportation limitations was representative of the young state and its interests. The attendance was estimated at over 1,200—three times the number expected—and included the state's most notable political and educational leaders and nine representatives of the press. The members of the board of the State Agricultural Society had been especially forehanded in planning for their attendance by instructing their secretary at the annual meeting in January "to address the several railroad companies, and solicit passes to enable the members of the Board to accept the invitation of the Trustees of the Agricultural College to attend the formal opening of the Agricultural College and Farm."

Whether pass-holders or not, the audience was reported as "mainly from the farmers." A group of them met in the evening following the exercises with Col. John Scott as chairman and Dr. George Sprague, an editor of the *Homestead*, as secretary. A committee consisting of John Cleghorn, of Pottawattamie, Judge C. E. Whiting, of Monona, and Col. L. Q. Hoggatt, of Story presented resolutions which in addition to praising the efforts at preliminary organization, thanking the speakers of the day, and requesting that their addresses be printed, recommended that the Board petition the legislature to appropriate the payment from the nation for the expenses incurred by the state in the war "for the purpose of enlarging

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the capacity of this the most useful institution of learning in the State." The adoption of these resolutions was at least a gesture of good will and was in full accord with the spirit of the gathering.

The surroundings were still far from attractive. Gue said of the setting, twenty years later, "Looming upon the bleak prairie farm, windswept and desolate in all its surroundings, no more unpromising College enterprise was ever launched into existence—even in the 'wild west.' " Western wildness was offset by western enthusiasm for a local enterprise and by that of the devotees for the great cause which the institution represented. Already the prairie College was beginning to attract new settlers to the county, and the neighboring village of Ames, not quite four years of age, boasted some 650 souls and industrial, mercantile, and professional establishments that included four general stores, three "family groceries," a hardware store, two drug stores, three milliners, two dealers in grain and agricultural implements, two lumber yards, two blacksmith shops, a wagon shop, a paint shop, two cooper shops, two furniture manufacturers and dealers, two jewelers, three shoe shops, two harness shops, a livery stable, two hotels, two land agencies, two attorneys, five physicians. Over 100 houses had been built the previous year. But the rising "college town" was still subordinated to the more mature county seat, and it seemed appropriate that the welcoming address should be given by a representative citizen and leading state official of that city.

Lieutenant Governor Scott, an early and continuing friend of the College, in a few "appropriate extemporaneous words of welcome" predicted a great future for agricultural education but urged that adequate time be allowed for the full development of the program. He advised the students to abide by the rules and in their study of crops to "leave out the sowing of wild oats." To complete the morning exercises "Mr. and Mrs. Button and Mrs. Sanders . . . enlivened and rendered

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doubly pleasant the occasion with soul stirring instrumental and vocal music." Dinner for all followed "so far as the capacity of the dining room and amount of eatables would hold out."

At the formal afternoon program B. F. Gue, as president of the Board, spoke at length nominally for that body, though mainly for himself and his educational ideas. Governor Merrill presented the charter and seal, and John Russell of the building committee the keys to the building. The President gave his inaugural address, to which Townshend responded briefly for the faculty; and in closing, a visiting representative, Professor H. W. Parker, of Iowa College, Grinnell, read a poem for the occasion.

Two main ideas were iterated throughout the program—the great and essential mission of industrial education as it was here interpreted, and the equality of opportunity for the sexes. Their "People's College," for which they had struggled so long and earnestly, was open, Gue assured, to "all of God's people" of both sexes, but they were dedicating it especially to the "*education of the working people of Iowa.*" Governor Merrill felt that the prosperity of a state with lands of undeveloped fertility and with people of pioneer stock depended upon the general diffusion of scientific training. "Here, then," he exhorted, "let utility of scientific labor be demonstrated. From this institution let there go forth, in annual procession, a line of educated, intelligent husbandmen, trained in the secrets of nature which underlie their profession, and filled with an earnest, devoted enthusiasm for their work."

President Welch expounded the keynote theme with characteristic formality and elaborateness of argument. The College was committed "to the promotion of two great and salutary educational reforms . . . the withdrawal of the ancient classics from the place of honor which they have largely held in our college curricula, and the liberal substitution of those branches of natural science which underlie the industries of

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this beautiful State . . . [and] the free admission of young women, on equal terms with young men, to all the privileges and honors which the institution can bestow."

In the Doctor's exposition of the disciplinary and cultural values of the sciences, a critical hearer might have detected a marked divergence from the utilitarian viewpoint of his board, and foreseen in this difference of attitude the basis for future dissension. But the audience was not inclined to be critical, and the speaker turned rather quickly to the second reform, to which he devoted more than two-thirds of his address. To a lifelong women's rights champion this theme was most congenial. At great length and with logical exactitude he demonstrated that the higher education of women—heretofore generally denied—was justified and demanded on grounds of natural right, social expediency, and the "advancement of general morality and virtue."

Dr. Townshend for the faculty endorsed the program and its aims with added commendation for "the broad and unsectarian character" of the institution; for while the faculty would aid their students in attaining to the standards of Christian gentlemen, they could not fail to express their gratification that the feet of their pupils were "not to be tortured or dwarfed by the Chinese shoe of sectarian limitations." Such frank expressions of elemental morals were to bring censure upon the good Doctor during his brief tenure.

Even the poet of the day in his portrayal of "The Ideal Farmer and His Wife," as if by unified plan, tuned his muse to the prevailing theme—the scientific farmer in contrast to rule-of-thumb ne'er-do-well neighbor and the scientifically educated farmer's wife. Not content to stop with the general contrast of enlightenment with ignorance and superstition, the versifier sought to contribute his bit to the exaltation of the broad-minded West over the narrower-visioned East. With overstrained poetic license, Wells College was pictured as an academic convent and Cornell University as a monastic

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institution in contrast to the coeducational liberality of the West—and thus his climax was reached:

“Well done, O East, but not the best!
Here in the fresh and fearless West,
We smile to think of monks and nuns.
We dare to trust our noble sons;
We dare to trust creation’s Lord;—
His chorals give no ill accord;
The manly and the maiden mind
Together grow more bright, refined.
That place is holy ground and sweet,
Where earth and heaven together meet.”

Unfortunately for his devotion to the West, the writer—a professor of natural science, not of literature—later went to the Massachusetts Agricultural College, from which the Iowa Agricultural College could not attract him after formal election.

For the audience assembled, the reiteration of these appeals in impassioned exhortation, logical argument, or passably rhymed verse had much the superfluity of Irving’s English parson who endeavored to prove in his Christmas sermon that people should be joyous on that day. But if the faithful did not need confirming at this time, the sentiments were an affirmation and a challenge to the classical camp and to the unconvinced or indifferent public. And in the degree and distinctness of emphasis upon its cardinal tenets the Iowa Agricultural College stood out in the industrial crusade. The aims were declared forcefully and confidently; but measurably to realize them, the staff and board needed in full measure the divine aid which the President invoked in his address to the faculty:

“God give us faithfulness and devotion;—God give us mutual confidence—mutual esteem, and mutual helpfulness. Thus shall we be able to gather and concentrate all the elements of strength we possess—and thus,

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with the Great Father's blessing, will the rolling years bring their full harvest of fruits."

THE FIRST YEAR

The practical application of these high resolves and aspirations came all too soon. Upon the inspiration of oration, song, and poem the five-thirty rising bell next morning must have sounded with discordant clang. But such was the reality of industrial education. A people's college could not woo the muses in classic shades or loaf and invite the soul; the call was to be up and doing.

Entrance examinations were held on the two succeeding days in subjects that followed the specifications of the original act—local geography, arithmetic, grammar, reading, and spelling. Those regarded as "proficient" were admitted to the college class; those whose deficiency could probably be made up in a year were classified in the preparatory department; and a "few who had never studied English grammar and had made little advancement in geography and arithmetic were rejected." Within the standards set for freshmen and preparatory students there was no problem of securing full quotas. In less than a month every available room was filled and there were in addition 15 "day scholars." Eight vacancies occurring during the first term were promptly filled, and 22 applicants were refused for lack of room. For the first term the enrollment in the freshman class was 93: 77 men and 16 women; in the preparatory department 80: 59 men and 21 women. In the second term the College classification dropped to 78, the enrollment of men showing a loss of 14 but the women only 1. The preparatory group increased to 90 by additions of 4 men and 6 women. In this enrollment of women at the start the Iowa Agricultural College was the first of the land-grant colleges to be coeducational in fact from the beginning.

According to the Board's apportionment each legislative district was entitled to one student for every representative in

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the lower house. Applications were to be made to the county superintendents, who according to an uncertain statement of procedure would "examine each candidate and decide by lot" the successful applicant. The uneven distribution of students over the state made this provision of little significance. In the total enrollment for the first year of 192 students, 58 counties were represented. Next to Story's 29 and Boone's 16, the leaders were Wapello, 15, Benton, 11, and Harrison, 7. Clinton, Dubuque, and Jones each had 5. Polk had but 4, a number equalled by Black Hawk, Dallas, Johnson, and Scott. The good showing of certain counties was due to the influence of a board member or of other agricultural leaders in those districts.

Probably a considerable number of these first students were attracted more by the low costs and opportunities for support than by the special program. Some, it is known, were concerned with being freed from the classical college requirements rather than by the special appeal of the subjects offered. Whatever the limitations as to regional distribution, scholastic preparation, and occupational interest, there were more applicants available than could be provided for with existing facilities. From the beginning there was the characteristic problem of state institutions of congestion and inadequate equipment.

As the full college courses were provided for the first class, there was the necessity of securing a certain number of additions to the faculty if not to provide the full quota of chairs planned at the beginning. In his first biennial report, 1868-69, President Welch listed fifteen additional professorships to be filled "under the organization contemplated": human physiology, hygiene, and physical culture; English language and literature; political economy and constitutional law; logic and psychology; botany and horticulture; zoology and entomology; chemistry, general and analytical; geology and mineralogy; physics and mechanics; descriptive geometry and architecture;

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civil engineering; science and art of teaching; military engineering; French and German languages; vocal and instrumental music; supplemented by an instructor in drawing; and a preceptress and instructor in domestic economy. His contemplation showed a broad and liberal view of the scope of an industrial college but in a number of subjects anticipated interest and emphasis by many years. By the second year there had actually been added four professors and an instructor. Captain James Mathews of Knoxville, whose varied career included unusual success as a pioneer fruit grower, was placed in charge of horticultural work with the title "professor of pomology." The Captain was a native of Ohio where he had practiced law, served in both houses of the legislature and for two terms in Congress. After removal to Iowa in 1855 his public career continued. He served as prosecuting attorney of Marion County, was provost marshal of his district throughout the Civil War, and postmaster of Knoxville when called to his professorship. His selection was due mainly to his leadership in the State Horticultural Society. "The Captain," the *State Register* commented, "is probably the most thoroughly experienced horticulturist in the State. He will fill the chair to which he has been called with practical good sense and the most general satisfaction."

William A. Anthony, a Yale graduate, was brought from Antioch College to teach physics and mechanics. General James L. Geddes, with distinguished record in both the British and Union armies, came from the School for the Blind at Vinton to become "professor of military tactics and engineering." William Hillis Wynn, a classical scholar with a decade of service in the ministry and teaching, was secured from the state department of education as professor of English literature. A more modest appointment was to have profound significance in establishing the College's program. Charles E. Bessey, an enthusiastic young graduate of the Michigan Agricultural College, was taken a year on trial as instructor

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in botany and horticulture. Meanwhile the agricultural chair had become vacant by the return of Dr. Townshend to Ohio, and the geology professorship was still unfilled. Thus it was found that even more difficult for the firm establishment of the pioneer technological institution than the problems of buildings and equipment were those of competent, adaptable, and fairly permanent personnel. Both necessitated an adequate and assured income.

CHAPTER FIVE

THE PURSE & ITS CONTROL

Getting & Managing Endowment & Appropriations

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THE FINANCIAL PROBLEM

"As the success and usefulness of the Institution, in a large measure, must depend upon its financial affairs, considerable attention ought to be directed to what will be its permanent fund," the college treasurer as conclusively as obviously observed in his report for 1867. Compared with modern times "financial affairs" then were simple in the extreme. In those days of small equipment and modest salaries, vast endowments to maintain expanding budgets were unthought of. At a time when all but one of the nation's colleges had budgets well below \$100,000, only two had over 50,000 volumes in their libraries, laboratories were restricted to a limited demonstrational equipment, and the traditions all affirmed as simple living as supposedly high thinking for the professors, financial demands were most restrained. For the new land-grant institutions particularly, extreme economy was felt to be both appropriate and feasible. There was an especial sentiment for making minimum demands upon the state—if possible nothing beyond the modest building program that the federal act made mandatory. Gue and Melendy in reporting on the Michigan Agricultural College in 1867 observed that it had realized nothing thus far from its land grant, but had "relied for support upon appropriations of the Legislature, a very uncertain and unpleasant method of procuring an endowment." Iowa's college was to remain independent of state

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support longer than most, but only by careful management of its grant.

Up to the opening of the College the income from the various sources—state appropriations, receipts from the five-section (Jasper County) grant, interest on the Story County bonds, and donations—had been expended in buildings and farm maintenance. For regular support the College was dependent upon the return from its land endowment.

SELECTION OF COLLEGE LANDS

The act of acceptance of 1862 provided for the appointment of an agent to select the lands, and Governor Kirkwood promptly designated Peter Melendy for this task, which was to prove the most important contribution of his long service for the College. His preliminary report to the Board was made in January, 1863. After receiving his commission on October 3, 1862, he spent some time in preparing maps and plots and began his field work the first of November. He traveled over a thousand miles in twenty-eight counties and made selections in twenty-three. The agent sought so far as time permitted to make observations of the physiography and resources of the various counties in which lands were chosen. He considered not only quality of soil and availability of fuel and building materials but also accessibility to markets. He was handicapped in the work by restriction to one assistant, and his selections were limited by the federal requirement that not less than 160 acres should be selected in any tract, the state prohibition on selections from uncertified swamplands, the tendency of pre-emptors to lay claim to available timber lands, and his desire to leave in every township lands equal in quality to those selected, for the inducement of settlement under the various land disposal acts.

The extent and variety of the various claims complicated and delayed the certification of college lands. Owing to conflicts over other grants, and to preemption claims, Me-

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lenny's original selections were extensively revised in 1863 to meet the requirements of the federal Land Office. The lands sought within the limits of railroad grants were reduced by more than one-third. The total acreage finally certified to the State in December, 1864, for its A. and M. college, making allowance for the double minimum value of the railroad lands, was 204,309.30. The totals for the various districts stated in round numbers were: Fort Dodge, 138,400; Sioux City, 59,000; Fort Des Moines, 6,800 (in Greene, Winnebago, and Worth counties). Three adjoining counties, Kossuth in the Fort Dodge district and Palo Alto and Emmet divided between the Fort Dodge and Sioux City districts accounted for 63 per cent of the total; in Kossuth alone over 84,000 acres were selected. Woodbury, Clay, Ida, Buena Vista, Dickinson, and Plymouth in the Sioux City district, and Wright, Pocatonton, Webster, Calhoun, and Humboldt in the Fort Dodge area provided the bulk of the remaining acreage. The Board approved Melendy's selections and as an evidence of their appreciation of his faithful service "at no small pecuniary sacrifice" requested the Governor to continue him as agent to present the lists to the Department of the Interior and to complete the settlement; and he subsequently conducted the negotiations to the end. Inevitably there was adverse criticism, especially in later years, of some of the selections, but under the circumstances the work seems to have been well performed.

LEASING SYSTEM

Whatever the ultimate value of the lands, the immediate problem was to secure an income from them to enable the College to function. They were for the most part inaccessible to transportation, in a timberless region, and surrounded by government lands subject to homesteading. It seemed unlikely that they could be sold for as much as \$1.00 per acre. To hold for future rise in value and secure a return from this

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potential asset, a system of long-time leases was devised by the ever alert Gue, Governor Kirkwood, and Senator Coker F. Clarkson.

The act of 1864, which assigned the grant to the Agricultural College, provided that not more than 10 per cent of the land should be sold before April, 1866, and for not less than \$1.00 per acre. The trustees were authorized to lease the lands for an annual payment of 6 per cent of the appraised valuation, which could not be less than \$1.25. The lessee had the privilege of purchase at the appraised value. Failure to pay the interest within six months after it became due involved forfeiture of the lease with the improvements made. The leasing system was modified and made more definite by the next legislature in an act of March 29, 1866. The sale and lease price of the lands was advanced 50 per cent above the 1865 valuation, and the interest rate was increased from 6 to 8 per cent. The amount to be leased to any one individual was restricted to 160 acres—a provision circumvented at times by entries of different members of a family. In any case so favorable were these terms to the settler that a historian of Kossuth County, writing in 1913, was led to assert with understandable hyperbole that "if there were any spot on earth today where such fertile lands could be procured on such extraordinary terms as they were here in that period, the whole country would become almost depopulated on account of the citizens' rushing out to avail themselves of the privilege."

In 1865 a land agency was established at Fort Dodge, the largest city in the vicinity of the main holdings, and an agreement was entered into with an attorney, George W. Bassett, to serve as land agent. The agent was compensated from fees, and there was no expense to the College. Bassett, who had had a distinguished war service and had been a state senator for two terms (1864-67), served continuously and faithfully until 1887, when he resigned to move to California. He was succeeded by the college treasurer, Herman Knapp, who han-

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dled the loans until all lands were patented during the first decade of the new century.

INVESTMENT OF THE ENDOWMENT

By 1868 the accumulated interest was in excess of the immediate needs of the College and an investment was made in the land scrip of other states. Over 15,000 acres were secured at about \$1.05 per acre. The scrip was located in the name of a board member, J. C. Cusey, who deeded the lands to the state. The lands were subsequently appraised at from \$2.00 to \$2.50 per acre, and this made a substantial addition to the College investment. There was also a gain of about \$100,000 on increased valuation of forfeited lands. By the close of 1869 all of the lands except 150 acres—where the title was in conflict with swampland selection—had been leased at an average valuation of \$2.39 per acre. The leasing of lands was hastened by the post-war movement of settlers and encouraged by the ruling of the attorney general that the holdings were not subject to taxation while in the possession of the state. This policy was changed by a law of 1874 providing that land in future leases should be taxable.

The legislature in 1866 had given the trustees power to invest the interest from leases that accumulated in excess of current needs, but the legal restrictions on such investments constituted a serious limitation. The federal act required the investment of the permanent endowment to be in government or other safe stocks. With the accumulation of a considerable capital fund, this restriction proved hampering, as the most available investments were in farm mortgages; and in 1882 the General Assembly petitioned Congress to allow the fund to be loaned upon real estate security, and the concession was made by special act. By act of April 14, 1884, the legislature gave the trustees charge of the endowment fund, which might be invested either in stocks approved by the executive council or in real estate mortgages upon improved lands up to 40 per

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cent of the value for terms not to exceed ten years and at rates from 6 to 10 per cent. The law further authorized the appointment of a financial agent to negotiate the loans for the trustees. D. S. Sigler of Corning served in this position from 1884 to 1891, and W. A. Helsell of Odebolt from that time until the creation of the finance committee under the Board of Education. So profitable were the returns from the investments and reinvestments that from 1869 to 1890 the College received an average annual income of about \$39,000. The eventual total endowment of some \$850,000 was far in excess of early estimates. In 1863 the *State Register* predicted that "if skillfully managed the lands would bring \$200,000, a noble endowment."

INSTRUCTIONAL EXPENDITURES

In accord with prevailing standards of public and private colleges this income was fairly satisfactory, but demands for reasonable expenditures increased still more rapidly and necessitated economies that were at times restrictive. Salaries started on a relatively liberal schedule. The president received \$3,000 and the full professors \$2,000. Houses, so far as available, were provided in addition. When campus living quarters were not to be had, an allowance of \$200 was usually made for the staff members of professorial rank. In 1872 the plea was made that owing to the isolated situation of the College, the president was forced to provide an unusual amount of entertainment and, against the protests of a minority of the Board, his salary was increased to \$3,500 with a residence. For the staff the seventies marked the inauguration of a lower range of salaries—\$1,800 became the maximum for full professors, and the average was about \$1,600. Allowance of from \$150 to \$400 was made for administrative work and the conduct of chapel. This schedule was to continue until the nineties. Executive salaries fluctuated in the period. In 1878, after a five-year agitation by members of the Board with

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zeal for economy, President Welch's compensation was reduced to \$3,100, and in 1882 to \$2,800. Knapp, in the combined position of president and professor of agriculture, received \$2,500 and his home. Hunt's salary was fixed at \$3,000, with \$200 additional in lieu of a residence. Chamberlain had the same base salary but with house allowance increased to \$350.

In accord with the democratic practices of the College, the earlier custom was for staff members, including those of junior grade, to petition the Board directly for increases in compensation. As a protection against such multiplying importunities the Board resolved in November, 1886, "That the practice of the Junior Professors and other employees of annually petitioning for an increase of their salaries in their reports has a tendency to hamper this Board in recognizing merit and doing justice to those who do superior work; therefore, the President of the College be requested as ask them to discontinue it so that the Board may augment their compensation on evidence of their worthiness derived from disinterested persons."

Whatever the compensation, the early staff members were subject to call at any time during the year for such services as might be assigned to them. A rule of the Board adopted in March, 1873, provided "That all Professors and annual employees of this Institution be required to perform all duties without extra pay, that the exigencies of the case may require, whether the same be in term time or vacation, unless by special contract in writing, the contrary be agreed upon." A misunderstanding over this matter of vacation employment contributed to the resignation of Professor William A. Anthony of physics, one of the ablest of the early professors. In 1878 the professor of chemistry asked for a leave of six weeks during the winter vacation to deliver lectures at Griswold College, Davenport, upon the condition that his compensation above expenses was to be used for laboratory equipment for food

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analyses. After favorable report from the executive committee the request was granted. Faculty members were in some cases elected to teach certain specified subjects and perform "such other duties" as might be assigned to them. The scope of such extra service was, theoretically at least, limited by a regulation in 1885, by which the president "was instructed to employ the services of any professor whose time may be found after full consultation to be not fully occupied, provided that the additional work shall be such as the professor assigned is qualified to perform or that shall be germane to the duties to which he has been elected by the Board." All absences had to be approved, and a pro rata reduction in salary was made unless a special leave had been granted, as for attendance at scientific meetings.

Administrative salaries aside from the president's were kept to the minimum. The librarianship was joined to other positions throughout the formative period. Students were in charge at the prevailing hourly rate of pay (from seven to nine cents) until 1876, when J. C. Arthur, '72, demonstrator in botany and zoology, was appointed librarian at a salary of \$200. During 1879-84 Professor J. K. Macomber was professor of physics and librarian. From this time the position was added to that of women teachers in mathematics, modern language, or elocution. Appropriations for books and laboratory equipment were correspondingly modest. Until the last years of the period, when special provision was made for cataloging, the total library budget was kept within a thousand dollars.

BUILDING APPROPRIATIONS

However adequate for immediate needs the income from the endowment might be, the state was obligated to provide and maintain the plant, and the enrollment of the College was limited by available accommodation. In successive reports the presidents as well as the governors pointed to the

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neglected opportunity in failing to provide for all who might qualify. There were equally frantic appeals for the professors who had to seek shelter, often very unsatisfactorily, two long miles of snow or mud-bound roads distant, and thus were deprived of all social contact with the college life. With the development of the program the demands of farm and laboratory for specialized buildings were constantly increasing.

Although there were no new major building projects entered upon between 1870 and 1890, a total of \$290,305.14 was appropriated for new construction, repairs, and improvements. In comparison with the traditional liberal arts college, the varied demands of a technical institution must have seemed insatiable to the legislators. The growing needs of the main building, which was designed for too varied and inclusive functions were a great and continuing drain—for completion of the wings, heating, lighting, supplying water, sanitation, and repairs. Relatively small farm and horticultural structures absorbed considerable sums in the aggregate.

The largest single appropriation of the period was \$50,000 in 1870 for completing the wings of the main building. Twenty-five thousand were provided for a general laboratory building in 1872, and the same amount two years later for a physical laboratory. In addition half a dozen houses for professors were built or purchased, and numerous appropriations were made for rooming and boarding cottages, small barns and shops, and, inadequately, for equipment and repairs. An act of 1880 provided \$1,000 annually for repairs—a sum small in amount but dependable. For the next biennium there was a significant forecast in the provision of \$1,500 each year for experimentation in agriculture and horticulture.

FINANCIAL MISMANAGEMENT

In contrast to the success in investing the endowment and in general in utilizing the building and improvement appro-

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priations was the showing in the relatively simple task of keeping the funds. Where the trustees were guided by specific act and delegated authority to competent agents, the public interest was well served, but where the administration was left to their direct acts the performance was at times, in the early years, most negligent. For five years (1868-72) the treasurership was held by Major Samuel E. Rankin, who was at the same time serving his three terms as state treasurer by successive election. For the years 1869 and 1871 he had served without bond, the trustees, as they later alleged, being so confident of his probity that they had not given special thought to the formality. In the latter year it developed that through involvement in manufacturing and land speculations he had appropriated for his pressing creditors some \$38,000 of the college funds, covering the default by drafts upon the state treasury. With the hope that the Major's friends would rally to his support if his credit were maintained he was re-elected for another year. The aid did not come, and in December, 1872, the Board made a settlement by which the former treasurer turned over all his assets except his household furniture.

Rankin asked the legislature for an investigation of his acts, and at the special session in the winter of 1873 a joint committee held hearings and made its report. The committee, in view of the ex-treasurer's refusal to testify, questioned his good faith in seeking the investigation and concluded that "an abnormal desire on his part to grow rich by speculation" had led to his betrayal of a public trust. Hardly less condemnation was put upon the Board, and especially upon Secretary Thomson, Governor Merrill, and President Welch as ex-officio members, who were held to have been negligently indifferent. The committee recommended to the General Assembly "a complete revision of the law organizing and controlling the institution and its property."

The committee estimated from the information in their possession that not over 50 per cent of the defalcation could

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be realized on the property turned over to the College, and unless collection could be made on the bond of 1870 the remaining amount would be lost. (The property was later transferred to the state as a condition of an appropriation and realized, it was claimed, an amount considerably in excess of the shortage.) As further evidence of irregularity, the committee found that the interest fund had in a number of cases been used for the purchase of land and for buildings and improvements "*without authority of any existing legislative enactment.*" Alleged understandings by trustees with members of the legislature were held to involve no legal sanction. In contrast the committee was convinced that the endowment had been "*wisely, judiciously, and honestly managed*, so far as any evidence accessible shows, and that the *leasing* of the lands was the best policy that could have been pursued, and make them available and remunerative to the College." There was no evidence to show that any college officer had ever "speculated in or appropriated to his own use, any of the funds of the college, or acted in bad faith in the management of the same."

FINANCIAL INVESTIGATION OF 1874 AND AFTERMATH

This much publicized financial irregularity became one of the major counts of the indictment against the administration of the college in the legislative investigation of 1874, which but confirmed the conclusion that the Board's business was loosely and at times irregularly conducted. The scandal was thus particularly unfortunate for the college administration at a time when its opponents were concentrating their attacks, but there was the salutary effect of demonstrating the essential soundness and honesty of purpose, in spite of negligence in details. The lesson was not lost. Men of integrity were put in charge of the funds with General J. L. Geddes as the deputy and later full treasurer, to be succeeded at his death by the ever-dependable Herman Knapp. The founding

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act of 1858 had provided that a bookkeeper and cashier should be appointed from the faculty, and Professor George Jones held this position during his connection with the College and was succeeded by General Geddes. A book store was conducted in connection with the department. Students were employed as assistants, and one of the earliest was a student who was to be honored by being handed the first diploma at the initial commencement—Edgar W. Stanton, who thus began his lifelong service with the institution. Stanton was born in 1850 on a farm in Wayne County, Pennsylvania, and had obtained his early education in a local academy, the Delaware Literary Institute at Franklin, New York, and the Eastman Business College at Poughkeepsie where he secured a diploma in the "Course of Practical Telegraphing." He had earned his way by farm labor, janitorial service, and country school teaching. At the suggestion of Professor Jones, his teacher of mathematics at Franklin, he had come to Ames and entered the sophomore class in 1870. Stanton lived with the Jones family at "the Maples" which was soon to become his permanent residence. Following his graduation with the first class in 1872, he was elected to an instructorship and soon after entered upon his continuous administrative duties. In the position of secretary of the Board, which he held from 1874 to 1909—with intermissions as acting president—he kept a careful record and close check on all the financial dealings. No other was in as strategic a position and as well qualified to advise the governing authorities. His daughter in her memorial sketch reports that he took deeply to heart the lessons of the financial negligence brought out in the investigation of 1874 and that ever after he insisted on the most careful distinctions regarding the different funds and their legal status. Stanton and Knapp, it has been well said, made a perfect team in their keeping of records and management of funds.

CHAPTER SIX

POLITICS IN ADMINISTRATION

Selection & Tenure of Governing Board, Presidents, & Staff



The college program which the endowment and physical plant were developed to realize depended mainly upon the competence and breadth of view of the governing body, president, and staff and the freedom which they would have to carry out their ideas and plans. As in every other public institution there was the ever-present danger that having freed itself from sectarian control, the College would be dominated by political influences.

ADMINISTRATIVE STANDARDS

All state administration, it should be remembered, was in the dark, benighted days before centralized control and systematic organization and intelligent standards and practices. The spoils tradition and practice were still at their height, and no public official was free from the influence of the baneful system—a chaplain as well as a customs collector and a college president—and if worth the effort a professor, no less than a postmaster. Educational standardizing bodies and professional organizations had not yet developed to create professional consciousness and to influence public thinking.

With the unfavorable influences for public education in general there were special difficulties that hampered the land-grant colleges. Lack of agreement as to aim, organization, and emphasis in the early years prevented the unity that would have freed the colleges from internal strife and brought acceptance sooner in the state at large. Attacks from the

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extreme sectarian camp made on all state institutions were especially concentrated on the A. and M. group, as with their scientific emphasis—even to the Darwinian arch-heresy—they were regarded as of all secularized organizations of higher education the most godless. Finally the very zeal of the constituencies that had contributed so largely to the founding of the agricultural college brought a desire to control it in particular ways—often more popular than professional. A “people’s college,” it was felt, should be directly responsive to popular desires and minister to the people’s difficulties in a practical way and on call. This attitude was intensified by the agitators of discontent in the early stages of the “agrarian crusade.” Considering these influences, general and specific, instability of organization and errancy of program, though unfortunate and costly, are readily understandable. And in noting these unhappy developments it should be said for the Iowa Agricultural College that factional, partisan, and personal divisive and disruptive influences, sufficiently pronounced in all conscience, were still not nearly so prominent and determining as in many other states.

INSTABILITY OF GOVERNING BOARDS

The board of trustees was subject to periodical alteration of composition and even more of tenure. The original board of thirteen, eleven representing judicial districts, and the governor and president of the State Agricultural Society serving ex officio, was named in the act, and future elections were to be made by the legislature for four-year terms. The plan of nominations by county agricultural societies never functioned actively and soon became of no effect. With the addition of a new district in 1866 another board member was added, and by 1873 the number had become fifteen, thirteen district members and the two ex-officio.

As always in the case of a representative lay board, stand-

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ards of competence, delimitation of functions, and traditions of impartial public service were necessary for stability and efficiency. Iowa's experience in this regard followed that of other states. The system of selection, while an improvement over that of states making a mistaken effort at popular control by election on party tickets, was inferior to appointment. Selections too often were made for political expediency, especially with the appearance of pressure groups in the farmers' movements. Terms of service were too short and re-elections were too infrequent. By the time that a member began to gain familiarity with organization and policies he was displaced by a new member who had to learn about collegiate problems with the handicap of his prejudicial notions about them. The more competent found other duties too pressing or were dropped for more compliant appointees. Some members, under the system, were certain to be incompetent and neglectful and a few dominated in the formulation of policies.

With the natural desire for improvement in the efficiency of the governing body there was the erroneous notion that a smaller body would be more effective. Such a change was proposed by the visiting committee of 1868, and with the financial entanglement that developed early in the seventies the demand for reorganization of system and personnel became insistent. The joint committee to investigate the College's finances in the special session of 1873, after setting forth at length the delinquencies of the existing board—that "each were sworn officers, each had a duty to perform besides that of receiving regularly their mileage, and each one should be held accountable for an ignorant or wilful neglect of duty,"—made frank and definite recommendation for changing the basis and policy of selection. "The position of a trustee of the agricultural college is designed and intended to be honorary in its character, and the committee is of the opinion that the 'office should seek the man, and not the man the office.' Men should be chosen for that position who have a peculiar fitness for the

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place, and not to satisfy local pride or political predilections. Hence, we recommend that the law providing that one trustee be elected from each judicial district be repealed, and that hereafter they be selected from those best fitted, wherever found within the state. The State has now invested in the institution the sum of *two hundred and sixty-nine thousand and five hundred dollars*, besides the two hundred and forty thousand acres of land donated to the state, and by it held in trust for the promotion and dissemination of agricultural education, and cognate branches of learning. This land is worth, at a low estimate, *one million of dollars*. All of this vast sum of more than a *million and a quarter* of dollars is entrusted to the management of a board of trustees, who have generally been chosen on account of locality, and by reason of some local political influence or importance. They come together two or three times a year, spend a day or two, ratify the acts of the executive committee or president, draw their mileage and go home, without really knowing, or caring to know, much of the inner workings of the concern."

In accord with this recommendation, the code of 1873 provided for a board of five members selected from the state at large, no two from the same congressional district, by joint ballot of the General Assembly. Compensation of \$5.00 per day of actual service and 5 cents per mile actually traveled in line of duty was now provided with the limitation that no member should receive such compensation for more than thirty days service. This modest honorarium was reduced in 1878 for the boards of all state institutions to \$4.00 with the same limitation on period of service. The term was still to be four years starting with two- and four-year classes. The first members were to be chosen by the General Assembly in 1874, and the new board was to take office on May 1, 1874. The revelations of the neglect and ineptitude of the governing body in the legislative investigation of that spring, as well as the bitter divisions in the state over issues of personalities and

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policies, made the continuance of any of the old board unthinkable, and the revised body was thus new in personnel as well as size. Ex-Governor Kirkwood was the most distinguished member of the new Board and was made its first chairman.

The expectation that a small board would make for stability, continuity of policy, and harmony was rudely shaken by the open and well-nigh scandalous factional division and political bargaining involved in the abrupt change of administration in 1883. There followed a reversion of public opinion to the feeling that a small board involved an undesirable concentration of power which had been grossly abused by the majority, and after barely a decade a return was made to the larger, supposedly more representative and popularly responsive governing body. The McCall act of March 28, 1884, provided for legislative selection by congressional districts for six-year terms, beginning with a three-class grouping in May, 1884. With the addition to the membership of the governor and superintendent of public instruction in 1898, the governing body as thus constituted continued until the establishment of the centralized board in 1909.

The whole experience with separate governing bodies—no worse than that of other institutions of the state and much better on the whole than the record of many other states—was typical of the working of governmental processes in following changing public sentiment and prejudice and of the prevailing confusion between broad policy determination and expert administrative functions. The beginnings of this distinction were indicated before the end of the pioneer period. The long and continuous service of officers of the board—most notably E. W. Stanton as secretary and J. L. Geddes and Herman Knapp as treasurer—gave a considerable degree of continuity and security in the midst of fluctuation in organization and personnel.

The lack of firm and consistent governing policies was

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largely a cause, though to some extent a result, of the lack of security in the College's administrative head. By reason of the influences in establishment, the basis of support, and the uncertainty of organization and program the internal affairs of the separate land-grant or "agricultural" colleges were unusually liable to political interference from the legislature, state officials, and other party leaders, especially influential journalists. The rise of the farmers' movement, most notably the grange organization, developed pressure groups which sought to exercise censorship of curriculum and personnel. The effectiveness of this influence was limited by indefiniteness of demands and lack of unity in their ranks, but the disturbing possibilities were great. These interest groups were most menacing in their combination with factious elements within the institutions. This was more likely in a technical institution, where applied and general subjects were brought together, where traditions were unformed, where a considerable proportion of the staff had backgrounds of practical men of affairs and kept a connection with such groups and interests outside the institution, than in the traditional, like-minded college.

WELCH AS ADMINISTRATOR

When Dr. Welch stipulated to the organizing committee a relatively long tenure for himself as a condition of exchanging the hazards of a senatorship for those of a state college presidency he was seeking a more difficult stipulation than either side, under the enthusiasm of the new educational departure, realized. That with all the influences of opposition and instability he was able to maintain his leadership for such a relatively long period—far beyond the average of initial land-grant administrations—was an evidence of unusually effective administrative and educational leadership. His training was thorough, and his cultural interests were real and broad.

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His educational experience, which had extended to all levels and to different types of institutions, had enabled him to balance and to a considerable degree to reconcile the claims of the old and the new, of the classical and the technical. He was a rare teacher who understood and appreciated that attainment in others. He picked his staff with care and supported them against misunderstanding critics on and off the campus. Combined with his educational outlook was an intimate knowledge of the world of affairs secured by observant travel and active participation in business and politics. A gentleman of the old school in the truest sense, he had a natural dignity, precision, and formality. He brought to the pioneer college an urbanity too often ignored or despised in the early trials of industrial education. Boys fresh from rural surroundings and ways might feel that their president was over-punctilious and exacting in social usages, but they came to recognize the essential part that his humanizing had had in their training. While never departing from his dignity to make a popular appeal he was by no means lacking in adaptability. Despite prejudicial and demagogical opposition extending at times to vituperative abuse, his appeal to the college community and to the state was real and lasting. Tempering his reserve and sense of dignity was a Yankee wit and a true sense of humor that relieved many tense situations. He could joke, however grimly, with a colleague on the arctic condition of sleeping quarters when on an institute circuit. While recognizing that discipline and professional dignity must be maintained, he betrayed an amused tolerance for the deference demanded by youthful proctors. When to an overflow meeting of delinquents he questioned what the institution was coming to and a brash young freshman suggested that most of it seemed to be coming to the president's office, he saw the joke and marked the future industrialist and philanthropist as a lad of parts. To inquiries from readers of the college agri-

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cultural paper as to his practical knowledge of farming, he gave frank and good-natured account of his experiences from boyhood days as farm laborer and proprietor.

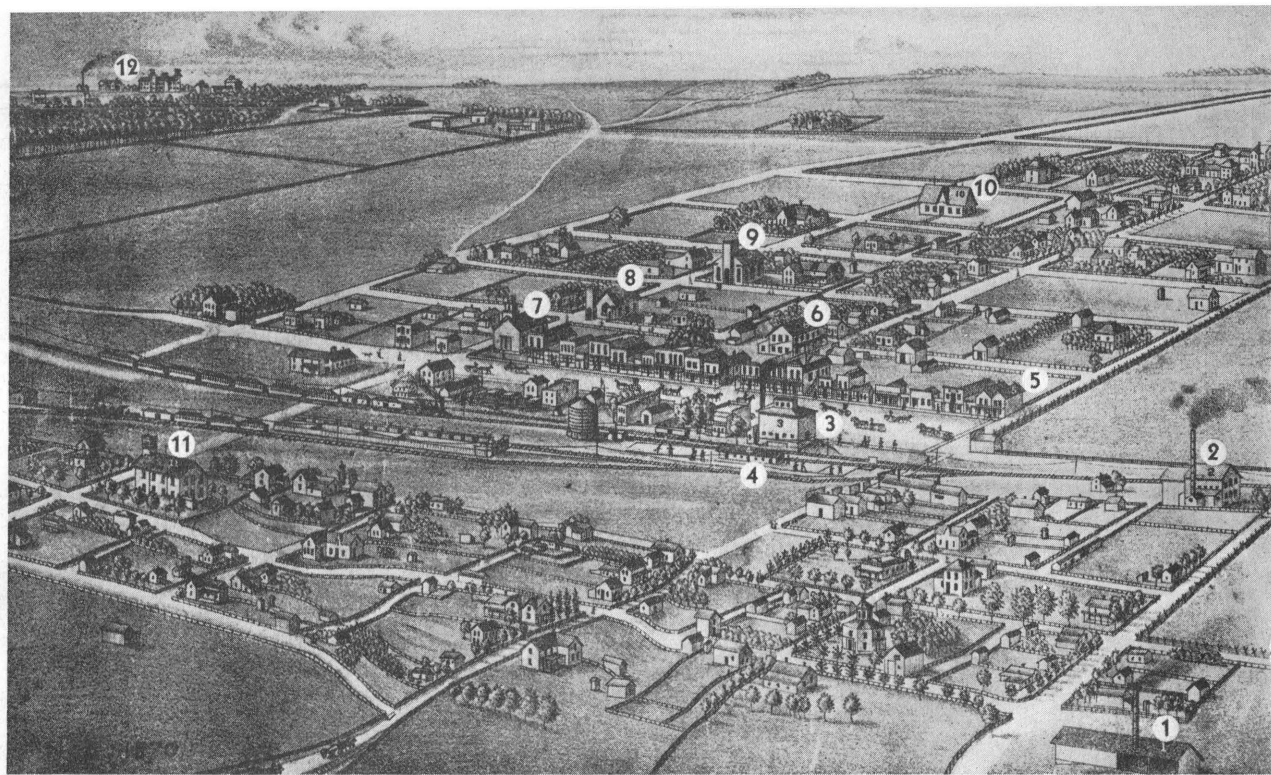
However conciliatory—up to a point—Welch was of the type of the strong executive, every inch a president within and without the institution. He was engaged in a great work and knew it and did not propose to have it interrupted by dissentient or distracting counsels and projects. The frail little man could be a relentless driver, of himself and others.

Unfortunately his physical resources were inadequate for the exacting labors to which he had dedicated his mature years. Never robust, his health was impaired when he came to the position and he was poorly equipped physically to carry on a pioneer enterprise under elemental conditions of living and travel. Subject to periodical breakdowns which necessitated seasons of recuperation, his achievements in administration, teaching, writing, and the conduct of his personal affairs are all the more remarkable.

Certain admirers have suggested that if Dr. Welch's lot had been cast with a large established university rather than with a struggling, pioneer college he might have been identified with the more noted "educational statesmen" of the "educational renaissance" of the seventies. But one may question whether his ultimate contribution to the cause was any less in guiding and directing a typical land-grant college through the stormy and uncertain founding years. He provided the needful guidance and direction and gave the initial impetus to the College's career.

INTERNAL DISSENSIONS

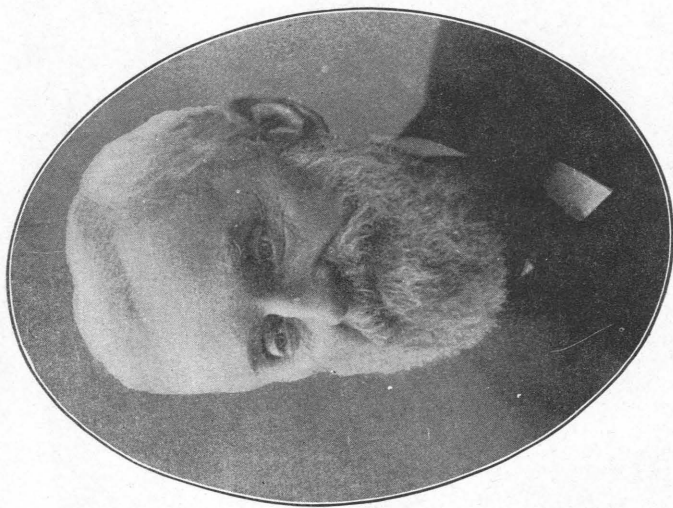
The testing of his leadership was not long delayed; opposition within and without soon appeared. The independent and irascible superintendent in managing the farm, supervising student labor, supplying the steward, and purchasing supplies had so many misunderstandings with the Board and adminis-



BIRD'S EYE VIEW OF AMES, STORY COUNTY, IOWA, IN 1870—(1) Steam saw mill, (2) Steam flour mill, (3) M. & W. Evans elevator, (4) Depot, (5) New York house, (6) West hotel, (7) M. E. Church, (8) Baptist church, (9) Congregational church, (10) North public school, (11) South public school, (12) Iowa State Agricultural College.



SEAMAN A. KNAPP



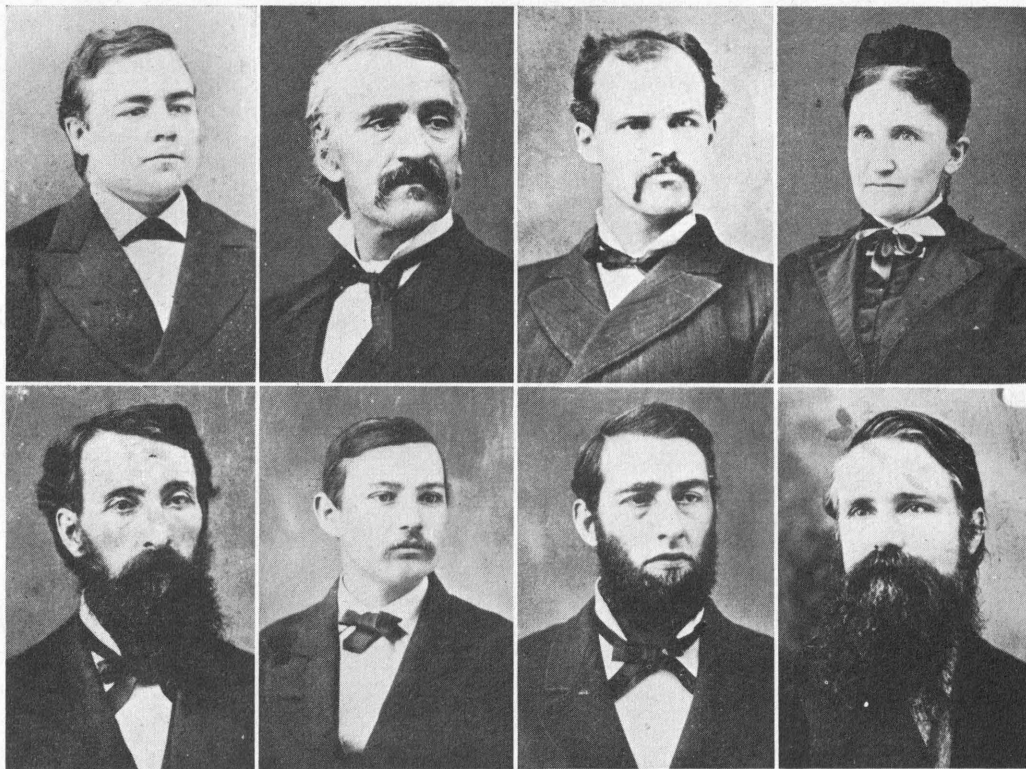
ADONIJAH S. WELCH

LEIGH S. J. HUNT



WILLIAM I. CHAMBERLAIN





EARLY FACULTY MEMBERS. *Left to right: Above*—E. W. Stanton, Gen. James L. Geddes, J. K. Macomber, and Mrs. Mary B. Welch. *Below*—M. Stalker, T. E. Pope, H. D. Harlow, and W. H. Wynn.

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tration that his periodic resignation was finally accepted in the summer of 1870. Upon the strong recommendation of a board member an alert young farmer of Jefferson County, Isaac P. Roberts, was chosen for this large and responsible position. The responsibilities and functions were greatly increased and extended the following year. At the urgent request of the President instruction in practical agriculture was added to the supervisory duties. During the faculty reorganization in 1873 Roberts, distrustful of board policies and dissatisfied with living conditions at the farm house, accepted a call to the New York Agricultural College at Cornell, where he was destined to have a long and influential career as a teacher and administrator. This opportunity came largely through the influence of his former colleague in the physics department, William A. Anthony, who had resigned the previous year and preceded him at Cornell. Anthony had become involved in a disagreement with the Board over compensation for summer employment in installing laboratory equipment and a misunderstanding regarding opportunity for personal research. Both claims seemed unreasonable to the governing powers, and the young scientist no doubt was over-ambitious for his professional status in a pioneer agricultural college, but the unfortunate consequence was the loss of a physicist of energy and creative mind.

These differences were the preliminaries of a real administrative crisis which culminated in the legislative investigation of 1874—a combination of tragedy and comedy. Throughout 1873 the College was under attack from the rising Granger interest. The leading organizer of the order in the state, William Duane Wilson, an editor of the *Homestead* and the first secretary of the College, was strongly opposed to the trend of the farmers' school that he had helped to found and was openly committed to the overthrow of the existing administration. Local opponents combined personalities with policies. An early farmer-labor agitator brought out a journal

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of brief existence at Ames, *Brain and Brawn*, which made the College a leading object of attack. The most picturesque and voluble local opponent was Colonel Lucian Quintus Hoggatt, a veteran of the Mexican War from Indiana, where he had also served in the legislature. He became a pioneer settler on the "Squaw Branch" in the future residence district of Ames and was active in local politics, serving as sheriff throughout the Civil War. He was also a trustee of the College in 1864. Hoggatt had been affronted by the failure of the President to leave a class to greet him on a visit to the College, and the two men, of such contrasting attitudes and temperaments, had clashed openly at public gatherings. In 1873 the Colonel was elected to the legislature on an independent greenback ticket and in the succeeding session exerted his ingenious powers to discredit the college administration by presenting petitions seeking reorganization of the curriculum, the removal of Welch, and a general investigation.

Internal faction added to outside assault. Professor George W. Jones, who had served as acting president at the beginning and held the important position of cashier in addition to heading the mathematics work and teaching civil engineering, more and more clashed with administrative policies, while Jones' own brusque ways were offensive to some of his colleagues. The young professor of chemistry, Dr. Foote, had an irascible temper which ill fitted him for the duties of dormitory proctor as well as for the close restraints of the college routine, and he had been saved from removal only by the President's support. The venerable professor of pomology, Captain James Mathews, in spite of public and professional distinction, proved an academic misfit. He had been recommended by the Iowa Horticultural Society as a successful fruit grower who would promote that industry at the College, but when he failed to develop the college work in any effective way the society turned against him. These disaffected staff members gradually drew together and allied with the farmer opposition in the

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state. Newspaper letters in some cases were inspired or written directly by the dissenters. Disgruntled former students added further to the complication. Altogether by the end of the year the situation had become intolerable.

At a board meeting in November Dr. Welch offered his resignation. It had been persistently rumored that he was considering another position. In July he spoke at the University of Arkansas, and the state press reported that he had been offered up to \$6,000 to head that new land-grant enterprise. Before acting on the resignation the Board declared all positions vacant. They then proceeded in the afternoon session to re-elect all of the staff with the exception of Jones, Foote, and Mathews. Jones and Foote were defeated for re-election by a vote of five to six. In tendering re-election to Welch the Board presented him with a petition from citizens of Ames asking his retention. The deposed professors and their supporters charged that they were victims of an underhand plot, and that the President's resignation had not been made in good faith but was a part of a deliberate scheme to oust opposing members without a fair hearing.

LEGISLATIVE INVESTIGATION OF THE COLLEGE

The culminating element in a readily exploitable college scandal was the Rankin defalcation, and the cumulation of all the counts made an indictment that the legislature could not ignore. At the beginning of the Fifteenth General Assembly, in January, 1874, a joint committee of eight, five from the Senate and three from the House, was authorized to make a general investigation of the College but with special attention to the charges of misapplication of funds; the defalcation of the treasurer; that "*the college is drifting away from its original intent as a school of agriculture and the mechanic arts, and that it is not now fulfilling the purpose for which it was founded, and particularly that its course of instruction and practice does not tend to make farmers and mechanics, but rather to turn*

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them towards other professions"; and "that the students of said college, for whose benefit the college has been established and munificently endowed by the State and national governments, are arbitrarily, capriciously, and often unjustly treated by the officers of said college, and that no adequate redress or aggrievance [sic] is accorded them . . ." More generally the committee was to investigate the course of study and methods of instruction, and to pass upon the much-mooted issue as to whether the farm was "in any true sense, a model farm" as contemplated by the original act. The investigation was to extend back to the beginnings and to be inclusive in time as well as in scope.

Public hearings were held for over a month, and testimony and documents were accumulated to fill an 800-page volume. The committee rejected a proposal to secure a counsel and conducted the proceedings in their own original manner. President Welch asked for the privilege of cross examining witnesses, but instead interested parties were allowed to submit questions in writing which, if proper to the investigation, the committee would ask. Their own examinations proved to be awkward, repetitious, and rambling in the extreme. The proceedings were not only crudely informal but took a latitude that was inclusive of all that proponents cared to present, either in the way of evidence or innuendo. Heresay, rumor, gossip were admitted along with documentary exhibits.

The forty-three witnesses included present and former board members, representatives of both factions of the staff, specially interested legislators, former college employees, prominent residents in the vicinity of the College, and former students. Nothing could have been better calculated to air grievances and to exploit prejudicial attitudes. The people's college was subjected to wide-open public inspection. Funds and their handling were traced to the smallest transactions. Intellectual competence, teaching methods, social attitudes, and moral habits of staff members were appraised by fellow

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colleagues and students. But the investigation centered in the administration. The President was given especial scrutiny, to determine whether his financial and educational policies and personal qualities had contributed to misappropriations, unsound program, and dissension. Injudicious financial arrangements, such as the trading of Congressional documents for house repairs, and carelessness regarding supplies taken from the farm were given distorted emphasis. Failure of the President to meet callers promptly at all times was represented as a rebuff to the popular constituency, as exclusion of janitor and fireman from the presidential dining table was held to be an evidence of aristocratic snobbishness wholly opposed to the spirit of a labor college. The opposition, especially the deposed staff members, charged discriminatory treatment of students, but only a few cases could be cited and the facts of these remained in dispute. On the "drifting away" charge the main allegations were that practical agriculture was not systematically taught and that the farm was far from a model; the latter contention was largely discounted by the lack of agreement as to what was meant by this term and as to the physical capacity and adaptability of the college acres.

In reply witnesses favorable to the President alleged that the opposition was from a small clique of radical agitators, discharged employees, and disgruntled students and that the great majority of townspeople of Ames and vicinity were back of the administration. Various efforts were made by committee members to discredit the deposed staff members by suggestions of incompetency, contumacy, and disloyalty.

The report, condemning, as had been noted, a looseness of financial practices and supervision, gave little aid and comfort to the opposition. The charge of drifting away from original intent was "not sustained." From the evidence presented, the students were not being subjected to arbitrary, capricious, or unjust treatment. Regarding the personal matter of removals, though the legality was fully admitted, on "the man-

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ner, necessity and propriety," the committee, like the general public, was divided and hence passed no judgment. The investigation, if not the complete triumph for college policies that the student paper claimed, and if leaving the way open for irreconcilables to allege on certain counts a Scotch verdict, was nevertheless an immediate triumph for President Welch and established his position securely for the time being. The dissentient staff members were not reinstated, and his authority in developing his program was undisputed.

There remained, however, the basic division between the practical farm interest and the broader scientific emphasis which time and skillful contacts alone could reconcile. The selection of S. A. Knapp, a successful stock raiser and popular writer and lecturer, to the chair of agriculture in 1879 was a reassuring move that seemed to pacify the opposition.

WELCH'S REMOVAL

For a few years the President was apparent master of the situation within the institution and in the state, but physical decline both depleted his energy and gave excuse to opponents for his displacement. In 1877 he had a breakdown that necessitated a rest in the midst of the year; and when in 1883 the Commissioner of Agriculture invited him to inspect the agricultural schools of Europe, the change seemed an advisable one. The faculty unanimously petitioned the trustees that he be granted leave from September, 1882, to March, 1883. The Board, after first denying the request, made the adjustment by designating General Geddes as acting president and Professor Bessey as vice-president. This seemed a satisfactory arrangement, and Welch apparently felt that his position was secure. But his absence gave his opponents the opportunity they sought. The revised small board had a majority favoring the opposition and there was a faculty element desirous of more emphasis upon vocational training. Again, as in 1873, farmers' organizations were involved.

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The first move was made at the annual board meeting in November, 1882. The salaries of the President and of Mrs. Welch as lecturer on domestic economy were cut three hundred dollars each. General Geddes' services were discontinued and Colonel John Scott was elected professor of military tactics. Professor Beal was changed from civil engineering and zoology to geology and the stewardship. Bessey resigned the vice-presidency and Knapp was elected to that position, serving as acting president until Welch's return.

The action was but the beginning; a year later the full blow was struck. Welch was summarily removed; Knapp was elected as his successor; and the appointments to the administrative offices—president, vice-president, secretary, treasurer, and steward—were declared to be for one-year terms. Mrs. Welch had resigned at the preceding meeting. Professor Beal's resignation, understood to be forced, was accepted. Captain James Rush Lincoln, an officer in the national guard who as a loyal young Marylander had seen active service as a Confederate soldier, was made steward and at the beginning of the new college year professor of military tactics.

The Board was divided on the presidency, the vote standing three to two for Welch's removal. Ex-Governor Kirkwood and S. R. Willard cast the minority votes. The entire faculty—including Knapp, who was reported as stating that the position had been forced upon him and that he did not intend to retain it permanently—protested against the removal. They alleged that the College was prosperous, efficient, and harmonious and that these conditions were proof of the effectiveness of Welch's administration, which for the good of the institution should be continued. A petition signed by 150 residents of Ames called attention to Welch's highly successful leadership and predicted disastrous opposition to the College throughout the state if he were forced to retire at this time. The *State Register* announced the Board's action in its regular accident column, headed "State Wrecks." Kirkwood for the

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minority urged, in a press interview, that the College had grown steadily under Welch's direction and that he was still physically and mentally capable and had the support of alumni, students, and faculty.

The main reasons alleged for Welch's displacement by the *Homestead*, the organ of the malcontents, was that he had reached the stage of physical and mental decline and that the agricultural interest required more vigorous and alert leadership. His supporters in the rival *Register*, under the direction of "Father" Clarkson, urged in reply that he could have served effectively for at least five years while a worthy successor was being sought with seemly deliberation.

Personalities entered largely into the discussion. It was alleged that some of the new appointments were the result of political bargains involving among other considerations a United States marshalship. Gue charged in an extended newspaper letter that there was a deliberate conspiracy on the part of the three members of the Board to determine all college policies according to their narrow and prejudiced views.

Sectarian bias on the part of certain board members was charged. The G.A.R. was incensed at General Geddes' removal, more especially for the appointment of an ex-Confederate soldier. Charges of misappropriation of funds allegedly inspired by the anti-Welch faction at the College led to a legislative investigation that completely exonerated the outgoing administration. Welch wrote to the *Register* from Europe in January, 1884, protesting vigorously against the misrepresentations and underhand tactics of the majority of the Board.

In reply H. G. Grattan, the leader of the anti-Welch trustees, presented a no less vigorous and acrimonious defense in the *Waukon Democrat* which was issued as a broadside and sent to members of the legislature. Alumni of various classes were quoted anonymously in approval of Welch's removal, largely on the ground that he was not a true champion of

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industrial education. After alleging that the whole case for the administration had been built up by a small clique of Welch's academic, journalistic, and business associates, Grat-tan charged specifically that the ex-President was "never a scholar," that he was ineffective alike as teacher, executive, and business manager, and that in his personal qualities he was a poor example for youth. Rather than having been done an injustice, the ineffective and incapacitated executive, the blunt phillipic concluded, had long been a burden on the College. Underlying the whole controversy was the old line of division between the scientists and the vocationalists. The legislative abolition of the offending board failed to settle the question and bring institutional stability. The situation was most unfortunate for the new president, who came to the position with a distinguished career in educational and agricultural leadership.

KNAPP A VICTIM OF FACTIONALISM

Seaman Asahel Knapp was a native of northern New York, descended on both sides from old and distinguished families. He secured a classical education at Union College, where he was an honor student, being elected to Phi Beta Kappa. After a brief career in the ministry, with the aid of his wife he conducted female seminaries in New York and Vermont with marked success. A crippling accident and a general breakdown from overwork caused him to remove to Iowa in 1866 for change of scene and outdoor life. He settled on a farm near Big Grove, Benton County. His strength proving unequal to this undertaking, he became pastor of a church at Vinton for the next two years. He then served for five years as superintendent of the Iowa School for the Blind and during that period regained his health sufficiently to be able to return to the farm. With characteristic energy and initiative he entered upon the improvement of livestock, especially of Poland China hogs, with such success that he gained a state-wide reputation.

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He was an organizer and the first president of the Iowa Improved Stock Breeders' Association. For three years (Sept., 1876—Aug., 1879) he was editor of the *Western Stock Journal and Farmer* at Cedar Rapids. In this position he became intimate with agricultural leaders like James Wilson and Henry Wallace. He had contributed to the College's *Progressive Farmer*, and President Welch had referred to him as the outstanding breeder of hogs in the state and as a leader in improved farm methods. His election as "professor of practical and experimental agriculture" upon nomination of Welch was a recognition both of the standing that he had come to have as a stockman and writer and a concession to those who were demanding full and direct training for the farmer. At the time of his election it was reported that he had been offered the presidency both of the Kansas Agricultural College and of Purdue University.

Knapp's brief experience as teacher and investigator at the College had been markedly effective. He had found the farm in a run-down state and had sought to make it a creditable enterprise if not a "model" one. His leadership was recognized in national gatherings as well as in the state. Conditions without and within the College, however, gave no adequate opportunity for his unusual administrative capacity. Farm organizations and press were cordial, and the student papers and apparently the student body were friendly. But the opposition press, including the Ames *Intelligencer*, and the supporters of Welch generally were aggressively hostile. Declining enrollments and continuing faculty divisions were emphasized to discredit the new administration. Under the circumstances, Dr. Knapp probably welcomed the rule that automatically limited his appointment to one year.

The new enlarged Board frankly recognized the necessity of reconciling and conciliating the two factions. At their meeting in December, 1884, Knapp was dropped from the presidency but continued as the head of the agricultural

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work. Professor Joseph L. Budd was placed in temporary charge. Welch was elected professor of psychology and sociology. The delicate military situation was adjusted by a vote of confidence in Captain Lincoln, warm praise of General Geddes, and the more substantial relief in his election to the college treasurership. The relations of the two military men were reported to be most cordial.

In general policy the Board took a step toward more stabilized tenure by repealing the rule that the election of president and vice-president should be made annually and by a resolution declaring it to be "the policy of this Board that the President, all members of the Faculty, and assistant professors of the College shall hold their positions during satisfactory service." Such a statement at this time was at least a reassuring gesture. The *Register's* correspondent thought the "treaty of Ames" a good week's work which had brought greater harmony to the College than it had known for years and created a confidence in its future. The local *Intelligencer* reported that "the faculty are united and harmonious; and from occupying a position of 'armed neutrality,' as some unwise parties intimate, the fight of the factions has closed and we know of no one connected with the institution who is so short-sighted as to hazard his own position by refusing hearty obedience and support to the new order of things."

Both Welch and Knapp accepted the solution in the best of spirit and pledged their full cooperation. The two men in different ways had made lasting contributions, but their services to the College were nearing an end. The next year Knapp secured a leave of absence to establish a rice plantation in Louisiana, and in that section in his mature years he was to make a contribution in the development of demonstrational club work that would place his name among the nation's greatest educational leaders.

Welch remained in his congenial teaching and lecturing work until failing health caused a recuperative trip to Cali-

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fornia, where he died in 1889. In the funeral tributes recognition was given to his foresight, patience, and devotion in developing the program of a pioneer technical college and to his artistic vision in campus planning.

LEIGH HUNT'S PERSONAL RULE

With the passing of the two principals of the rival groups the expected harmony was not secured. The College was slow in finding a leader who could win the confidence of the state. W. I. Chamberlain of Ohio was the preferred choice, but he could not be persuaded at this time to come to Iowa. Instead, largely through the influence of J. S. ("Ret") Clarkson, a member of the new Board, an ambitious young educator was chosen to carry on at the beginning of 1885. Leigh Smith John Hunt was born in Indiana in 1855 and was thus less than forty when selected for this difficult position. His unsystematic training was largely self-acquired and he had the confidence and assertiveness of the "self-made" individual. Hunt thus far had been notably successful as a public school administrator. He had been particularly effective in conducting teachers' institutes and had developed an early system of pupils' savings. In Iowa he had taught at Cedar Falls and Mount Pleasant and at the time of his election was superintendent of the East Des Moines district.

With qualities that were to take him far in the business world, he had neither the training nor the tact for a college president. The young executive seemed over-conscious of his dignity and brought social innovations new to the community. The sight of the head of a farmers' college riding out in a trap drawn by a high-stepping cob with a colored footman on the rear seat attracted unfavorable notoriety. His unfamiliarity with college customs and procedures and especially with faculty sensibilities was all too evident. He brought to the College the dictatorial methods of the "well governed" high school according to the standards of the time. Failing

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to secure the support of the faculty for his policies, he obtained a ruling from the Board that the College should be subject to an "executive government," which he proceeded to exercise in his relations with students, faculty, and the Board itself. He clashed openly with the veteran professor of English, Dr. Wynn, who was contemptuous of the executive's academic deficiencies and his limitations in public address, particularly in the conduct of chapel. In extreme protest the popular professor submitted his resignation in November, 1885, to take effect at the end of the following year.

The most spectacular test of "executive government" was in a contest with the senior class. Two members were expelled for infraction of rules and the whole class went on strike, setting up headquarters in the opera house down town. When the president of the Board appeared to offer mediation he was informed curtly that the head of the College would conduct its government in his own way or retire. The member returned home without addressing the students and the class soon after surrendered. Throughout the exciting struggle the faculty kept to its academic wood-sawing, that is, revision of the course of study; and there is no mention of the episode in the minutes. "Executive Government" was unrestrained. It was a victory for President Hunt, but this and similar decisions proved too costly to his standing with the College and the public, and on the plea of failing health he resigned the following spring. The only relief in this tense and hectic term was the President's marriage with a popular former student of the College. Leigh Hunt's long and truly spectacular career in the Pacific Northwest, Asia, and Africa as journalist, international financier, and mining promoter was still before him. His only later recorded educational activity was in a reported political deal for the location of the Washington State College. In a newspaper interview while on a visit to Iowa in 1915 he expressed the opinion that "We are over-educated. Our institutions of learning are for the few." At that time his main in-

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terest was in a scheme to establish subsistence homesteads for young men.

CHAMBERLAIN'S ELECTION

After this trying experience the Board sought to be safe and deliberate in their selection. Its committee, J. S. Clarkson and Joseph Dysart, reported at the May meeting in 1896 an imposing list of the candidates with impressive supporters. A number of men considered by the committee, including General John Eaton, of Marietta College; President T. C. Chamberlain and Professor W. A. Henry, of the University of Wisconsin; and Dean I. P. Roberts, of Cornell, proved not to be open to call. In Iowa, State Superintendent Akers was reported to have wide support, and newspaper discussion added the names of James Harlan, C. C. Carpenter, and Jesse Macy of Iowa College. Perhaps to the embarrassment of their faithful secretary, the committee reported that the president of the alumni association and others had "suggested and urged the name of E. W. Stanton." There were candidates well recommended from Illinois, Indiana, and even New England.

But the choice returned to the favored candidate of the previous year, W. I. Chamberlain, whose training, experience, and endorsement seemed to set him apart. The leading public men of his state—Hayes, Sherman, Foraker, Dr. Washington Gladden, the president and the professor of agriculture of the University of Ohio, along with other agricultural leaders of the Middle West and the outstanding agricultural journalists gave him hearty recommendations. By every test that could be applied, the committee was confident, Chamberlain met the qualifications sought better than any other available candidate. They had hoped that he would accept the chair of agriculture along with the presidency, but he declined—as he explained that he had the offer of two other similar pro-

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fessorships—by reason of his lack of training in the basic sciences. He consented, however, to give lectures on practical agriculture. The title consequently recommended was that of "President of the College, Professor of Moral Science and Lecturer on Practical Agriculture." The report was unanimously adopted, and Chamberlain, conveniently on hand, accepted in a brief speech the position which he assumed in July.

PROMISING LEADERSHIP

William Isaac Chamberlain was born in Litchfield, Connecticut, in 1837, but as his family removed to a farm in northern Ohio the next year, he was almost a native Buckeye. He entered Western Reserve in 1855 and for ten years after graduation taught academy and college classes in the classics at his alma mater. Failing health led him to return to the family farm, where he was highly successful. His experiences were the basis of numerous contributions to agricultural papers which caused him to be well known among agricultural leaders. In 1880 he was elected secretary of the Ohio State Board of Agriculture and soon expanded its functions to include crop reports, fertilizer control, and the development of farmers' institutes. His work in the latter field was especially noteworthy. His attainments and influence were recognized by Rutgers in 1887 and by the Ohio State University in 1890 in awards of the LL. D. degree.

Chamberlain's selection was well received in college, state, and agricultural circles generally, and his administration started most auspiciously. A faculty reception in his honor in July attended by state officials, representatives of other colleges, and alumni was termed by the *Aurora* "one of the most brilliant affairs in the history of the College." Welch extended cordial welcome and predicted "a long and distinguished career as the honored President" of the College. Chamber-

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lain's response expressed a somewhat over-conscious sense of his inadequacy for so great a responsibility, but was regarded at the time as the becoming modesty of a strong leader.

His inaugural address in November, in which he declared for a distinct separation of the land-grant program and emphasis from that of the old type college and expressed his aims in moral and religious tone, was well suited to the supporters of the College, and his thrusts at the old-line colleges were tempered with the conciliatory assurance to visiting delegates that none of their institutions had kept to such benighted ways.

That the new President, according to his lights and temperament, made an earnest effort to unify and harmonize the various groups, there can be no question. For a time he seemed to be having commendable success. He sought deliberately to secure harmonious and cordial relations with the faculty and the student body. At the November, 1886 meeting of the Board he advised a more cooperative and democratic system of college government: "By vote of this Board, Nov. 13, 1885, the government of this College was made Executive. I prefer faculty government, subject to the general laws and advice of the Trustees. Thus far the Trustees and Faculty have been a unit in supporting my views, or rather our views have coincided. Whenever I cannot carry Faculty and Trustees I shall deem it my duty to carry out their views cordially and earnestly or resign the Presidency." The Board ordered that the former rule be rescinded as recommended and that "the government hereafter shall be that which is known as Faculty government."

In making recommendation of a successor to Professor Wynn he was at great pains to explain to the Board, and to the staff and the student body, in the *Students' Farm Journal* that he had had no part in the withdrawal of the beloved professor and had the kindest feelings toward him. In the selection of Wynn's successor Chamberlain exerted his personal influence more than in any other appointment. He

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recommended that a professor with ministerial training and experience who could take charge of the chapel services be secured. There were nine applicants that had been especially considered by the committee (the President and two board members)—from Iowa, Illinois, Indiana, Ohio, and New York. Four of the candidates had preaching qualifications. Of the available candidates Chamberlain was convinced that one was outstanding, Arthur C. Barrows, a graduate of Phillips Andover and Western Reserve who, after teaching at the latter institution, had served in the ministry and as the head of an important church board. Chamberlain and Barrows had been fellow students and life-long friends, and the President's endorsement was in the strongest terms. He stressed particularly the fact that Barrows, although a classical scholar, was greatly interested in agriculture and in industrial education and that he had addressed farmers' institutes on horticultural subjects. After presenting an elaborate exhibit of records and recommendations, he concluded with an appeal to the Board which made the decision a test of his own influence: "My own acquaintance with college men is large, but I must say that I know of no other person anywhere nearly so well fitted for the place as Mr. Barrows is." The final decision was narrowed to the President's candidate and an Iowa man, and by a vote of five to four the former was elected. The selection proved a fortunate one both for the College and the President. Barrows was not only a most effective teacher but was able to aid and support the administration in various ways.

Unfortunately in the key technical positions Chamberlain failed to make as satisfactory appointments. His engineering professors showed a stronger professional than collegiate interest and point of view. For the agricultural professorship, after failing to secure a recognized leader upon whom he was counting to maintain and extend the work of the department, he was led reluctantly—as will appear in connection with the

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development of the course of study—to accept a board candidate ill-adapted for the organization and leadership demanded. No small part of the discredit of Chamberlain's administration was due to the lack of a Marston and a Meeker to train leaders and technical experts for the state's industries and a Knapp, a Wilson, or a Curtiss to win the confidence of Iowa farmers.

Both for his own peace of mind and the good of the College the conscientious executive tried earnestly to uphold the Board's avowed policy of permanence of tenure. In carrying on a coeducational system under the conditions of cohousing Chamberlain was much concerned for the competence and continuity of the highly responsible but ill-appreciated position of preceptress. The difficulties of securing and retaining a proper person for this position were pointed out in his recommendation to the Board in 1887. "The problem of securing a permanent preceptress is the one that most seriously confronts us. There has been no less than four different ladies acting in that capacity within about two years. None of whom were willing to serve for more than one or two terms. Such frequent changes are a most serious damage to the college. The place is an anxious, unpleasant and laborious one under our present complications with the dormitory and boarding system with co-education under a single roof. The problem will in my opinion never be fully solved until we get a new Ladies' Hall and Domestic Economy building. Until then I frankly confess I think we must combine the Preceptress with the French and German and pay a salary of \$1,200, to secure permanence."

In reporting to the Board in 1886 charges of teaching ineffectiveness against a professor of mechanical engineering and an instructor in modern language he recommended that they be given another year to demonstrate their capacity. He recommended in the case of the engineer that additional equipment be provided for his laboratory and shops, and

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pledged himself "to sustain him heartily in his work to the end that he may live down these criticisms if they are unjust." He was very desirous that "the idea of permanence of Professorships during good work should prevail . . ." He gave a great deal of care to selecting new faculty members, and though at least one young appointee felt that he lacked understanding appreciation, he seems to have acted conscientiously, according to his views, toward his entire staff.

He could report complacently in the student paper in July, 1887, a "year of uninterrupted good feeling between and among all the professors and students." From his Ohio experiences he was enabled to address farm audiences with effectiveness. His reports set forth the needs of the College and the state responsibility with considerable vigor, and though he maintained later that the Board restrained him from making major appeals to the legislature, provision was made for a general-purpose building—the Morrill Hall—before the end of his service. In federal relations he was a strong supporter of the experiment station act and personally represented the College in urging the second Morrill grant in 1890.

TROUBLES, INSIDE AND OUTSIDE

But by that time his troubles were cumulating. An over-meticulous administrator, he gave undue attention to minutiae and thus dissipated his energies. His religious views were thought unduly narrow and an affront to free-thinking scientists in a state-supported institution. His scruples as a strict sabbatarian led to embarrassing complications. His social outlook seemed narrow and illiberal. In the spring of 1887, when Belva Ann Lockwood came to Ames for a lecture on Washington life and personalities, the President denounced in advance her dangerous ideas and undignified activities and posted an order forbidding the students to attend the lecture. About fifty, including some of the most prominent upper-

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classmen, openly defied the executive order. A spy from headquarters duly recorded the names, and after the offenders had signed a conventional statement of regret and penitence, the faculty resolved that "all students who attended Mrs. Lockwood's lecture be given final warning in chapel and their parents be notified of the same." It is doubtful that the action was taken with enthusiasm by the more open-minded members of the staff. In general, Chamberlain failed to secure the enthusiastic support of the faculty. In the background there remained the opposing agricultural factions, and Chamberlain himself later claimed that he had been the victim of this division for, he held, with all his emphasis upon the practical in his writings and addresses he was really more in sympathy with the liberal Welch faction than with the opposing group. The broad course in "science and agriculture" neither the President nor his eastern-trained agricultural professor was able to rationalize and justify effectively to the farmer constituency. Even in his institute talks, in which he was accounted especially proficient, Iowa farmers were said to be affronted by his constant references to his experiences on his Ohio farm.

CHAMBERLAIN RETIRES

Student disturbance was probably the final discrediting influence. The fraternity activity of a small group was bitterly resented by the great majority, and the President was felt to favor the movement by reason of the membership of his son. A small riot that occurred in breaking up a fraternity banquet occasioned a scandal which brought only inconclusive faculty action with the consequent dissatisfaction of all concerned. At the commencement in 1890 the graduates absented themselves from the baccalaureate service, and it was evident that the President had lost control of the situation. His resignation in November of that year was promptly accepted to take effect immediately. In facilitating so readily

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this adjustment of an increasingly unhappy situation, Chamberlain had the confident expectation of becoming the head of the Ohio State University. In this ambition he was counting on the unqualified support of ex-President Hayes, as he told certain members of the I. A. C faculty. The uncertainty of that highly conscientious board member was indicated in the entry in his diary for December 10, 1890. After mentioning that certain members wanted Chamberlain for president of the University he commented, "It will strengthen us with the farmers; make it, in fact, a mechanics' and farmers' college, and gain thus in the Legislature the needed votes for its liberal support." Hayes had agreed to consider the case impartially but he had made no promises—"Believe in making the college a people's college, a college for farmers and mechanics in the best sense—something different from the common old-fashioned classical college. The truth is, I fear Chamberlain is not large enough in head and character for the place. But—?" The question was not answered affirmatively, and Chamberlain returned to his old position at the head of the state board, in which he was influential in directing the policies of the University, including the selection of presidents. He devoted the last years of his long and useful career to farming and agricultural journalism. On his visit to the campus in 1913 surviving friendships were renewed and old enmities forgotten. The best final estimate of his service as head of the College in the unsettled years at the end of the pioneer period was given by himself in a letter to Professor Stanton a few months before the death of both of the former colleagues in 1920: "You knew the work I did or tried to do, and you know that I was sincere, honest and industrious, but I think I was not exactly adapted."

At the same meeting at which Chamberlain announced his retirement, Professor Smith submitted his resignation from the agricultural department, as he had learned of opposition to him "on the part of some members of the Board," an

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C. F. Mount withdrew from civil engineering with the sincere hope that the work of the department might "still progress in the direction of still further usefulness to the many young men now doing work in the department." These vacancies, with a somewhat more than average change in minor positions, led to the comment of the *Aurora*, "There must have been a 'land-slide' somewhere along the line, for the next term we will have eight new instructors and a new president."

That student disquietude over appointments may have been influenced or inspired by faculty discussion is indicated by the protest and recommendation of the Board committee on faculty and course of study that "We deplore the general lack of discretion on the part of members of the Faculty with reference to their intercourse with students and others and the freedom with which actions of the Faculty and important measures considered by it are discussed and bandied about among hired help, students and Faculty and we demand that a rule be adopted by the Faculty that all such proceedings be considered confidential and that the proper place to announce the decisions and conclusions of the Faculty is the rostrum of the Chapel." The rule was enacted but it did not insure acquiescence within or without with the policies of the Board and the administration.

STANTON TO THE RESCUE

The college government, indeed, had now reached a critical stage. Three presidencies within a six-year period indicated an unusual instability, even in those unsettled times. But more than this there was a rising opposition from the agricultural interests, who were demanding a reorganization in content and emphasis. Whatever excuses might be alleged, the Board was clearly on the spot. As a temporary adjustment they turned to their dependable secretary, Professor E. W. Stanton, for the first of the four interim terms that he was to serve as college head. Following his selection, the acting

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president was requested to present to the Board "his opinion in detail on the question of the relation of the Executive of this Institution to the other departments and such reforms and changes in detail of Executive management as would in his opinion aid more completely to the good order and success of the Institution." In his report the Acting-President disposed of these matters tersely. "There is no better guide in the administration of its affairs than the law itself and no argument howsoever ingeniously constructed can do away with the plain language of the statute." In its score of years, he asserted, the College had done a great work and now stood in the first rank among land-grant institutions. The true policy now was to build up and not tear down. The exhortation was prophetic of the new day. The readjustments that followed marked the end of the pioneer period of instability. Never thereafter were there to be such uncertain, fluctuating policy and such disturbing interference with the college organization.

CHAPTER SEVEN

TRIAL & ERROR

Adventures in Curriculum Making



CONFLICTING AIMS

All these weaknesses of the pioneer stage—hesitancy and inadequacy in state aid, incompetence and impermanence of the governing board, instability of the administration, and insecurity of the faculty—were due mainly to lack of definite determination and agreement as to just what the College was and for what and for whom it existed. Like those of other land-grant institutions, Iowa A. and M. officials and constituency were divided into the narrow-gauge practical agricultural school supporters and the broad-gauge technologists. The former group had the advantage of the precedent and tradition of the act of 1858, which had not been specifically altered by the act of 1862 accepting the federal grant, whereas the more liberal elements could maintain that the letter and spirit of the grant act required their type of institution. President Welch endeavored to mediate between the two extremes, but by his training and experience he found himself eventually more closely identified with the liberal group.

“The friction between manual and mental labor is constantly diminishing, and the whole enterprise is gradually but surely gaining in efficiency and completeness,” was his hopeful report in 1873. But the friction increased rather than diminished, and the administration was conscious of a continuing need for defense. In an address before the State Horticultural Society on January 20, 1875, he explained at length that the College was maintaining a program in full

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harmony with the law. Agriculture and mechanic arts developed in co-ordinate position were given the major emphasis, and seven-eighths of the studies "related to" these vocations. The classics were not taught, and the general subjects were those which were essential to every well-trained person. That the institution was ministering to the element for whom the grant was designed was proved by the fact that thus far three-fourths of the students had come from farm homes, and four-fifths could be identified with the industrial classes.

In a rather elaborate paper on "The True Work of the National Industrial School" read at the National Agricultural Congress of the Centennial Exposition in September, 1876, and presented again in November at Chicago before the convention of Presidents of the State Universities and Agricultural Colleges in the West, he frankly stated his belief that the training of specialists in particular branches of agriculture was of much greater service to a state than the educating of young men for the practical conduct of farms.

Finally in an address before the State Horticultural Society in 1881 on "Science with Practice in Education" he set forth his "own educational creed," which was "simple, straightforward, and well defined." With ultra-modern emphasis he would educate for vocational competence and social participation. He would adjust a student's curriculum "by an inventory, if possible, of the things he will do hereafter, both in a chosen vocation and under his inevitable obligations as a citizen and a man." He would go to the length of opposing any study "whose practical application to the purposes of life cannot be definitely and clearly stated. . . . Learning and culture, however deep and wide, are valueless except as they become active, and contribute directly or indirectly to supply the wants of the world." The agricultural college, "while admitting sparingly those studies which fit the man for his influence and the citizen for his duties," should organize in "judicious proportion those branches which are adapted to

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make the adept and the master workman, or if I may publicly allude to workers who are still young, to make men such as [William K.] Robbins ['78], in agricultural chemistry; [Fre-mont] Turner ['79], in mechanics; Professor [Charles F.] Mount ['78], in civil engineering; Dr. [Millikan] Stalker ['73], in veterinary science; as Herbert Osborn ['79], in ento-mology; or the two Beards [Edward L., '73, Lewis W., '76], in general farming." In short, while trained artisans existed in adequate numbers, the great need of the age, as he saw it, was for applied scientists.

So socially enlightened an aim and program did not satisfy the old-line industrialists who, regardless of reality, sought the training of practical farmers whether or not they would return to the paternal acres or could secure new farms. Farmers' organizations generally advocated such a class-conscious insti-tution, and the agricultural press led or followed the senti-ment. The board and faculty were divided on the issue which contributed directly to Dr. Welch's removal in 1883.

PURPOSE REDEFINED

This extreme partisan action brought a counter stroke from the liberal camp. On March 20, 1884, during the same session at which the board had been reorganized, the code provision for the course of study was repealed and a substitute adopted by unanimous vote in the Senate and with only four opponents in the House, providing that there should be "adopted and taught at the state agricultural college a broad, liberal and practical course of study in which the leading branches of learning shall relate to agriculture and the mechanic arts, 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 including military tactics." The act, which in effect meant the replacement of the continuing statement of the act of 1858 by the more liberal provision of the Morrill Act, was

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the work of Senator Preston M. Sutton of Marshalltown, a graduate of the Illinois Normal University, who had had an extensive teaching career in Iowa schools and colleges before reading law. In defense of the change Sutton made an extended and impassioned plea in which he argued that the intent of the federal law had been defeated by the continuation of the narrow program of the Agricultural College which had inherited the grant, and that the true purpose and intent of the national agreement could only be met by a provision for broad, liberal training in which literature and the several sciences, including the social, had a prominent place.

In support of his contention Sutton through a telegram to Senator Allison received a statement from Morrill which, with characteristic qualifications and reservations, bore out essentially his claims. The law of 1862, Morrill explained, "was intended to apply to states where the colleges would have large funds as well as those having very small sums, and it was intended also that a considerable prominence should be given to the practical sciences, such as are related to agriculture, chemistry, botany, etc., but it was not intended to limit the amount of education in any way so as to prevent a college from having the means and the efficiency of even a university as to languages and mathematics." The state press gave much prominence to the debate and the act, and the college paper printed Sutton's speech in full. "This speech of Mr. Sutton's," the *Ames Intelligencer* asserted, "is the most noted plea for colleges of this class that has ever been put forward in any of the states; and Mr. Sutton himself has secured by it an abiding place in the hearts of all the students, alumni and friends of the Iowa State College henceforth and forever."

ENTRANCE REQUIREMENTS

With this liberalizing statute there remained in practice the conditioning limitations to the forming and functioning of a well-balanced curriculum. To begin with, there was the

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inadequate preparation of the available students. In Iowa, as in other parts of the West under pressure of sectarian, social, and reform zeal, College enrollment outran provision for secondary schools. The land-grant colleges as popular state institutions were compelled to adjust their entrance requirements in number of subjects, and too often in subject mastery, to the program and standards of the public schools. The college curriculum had to be built upon this very elemental and often unsubstantial foundation. The first class, as noted, was examined in elementary subjects. The following year algebra through simple equations was added to the subjects of examination, and during the eighties history and human physiology were included. Specimen questions were printed in the yearly statements and catalogues for many years—"only specimens" to show "*average* character." The questions reflected interests and emphasis in teaching. The catch words of spelling contests (all but phthisis, daguerreotype, and phlox, which were perhaps too notorious to afford ample test) were offered. Grammatical rules and forms rather than ease and clarity of expression were emphasized. Literary selections were chosen for parsing and analyzing rather than for identification and interpretation. Geography stressed relative statistics and locations, routes of voyages, and such provocative suggestions as "the geographical advantages of St. Louis for a great city." Arithmetic combined partial payments with proportion and square and cube roots. To 1876 deficient students were listed optimistically as "not fully accepted as freshmen." In that year for "the purpose of securing a better preparation for College classes" the Board provided a preparatory department in which a limited number were to be instructed by the regular staff in elocution, English grammar, analysis, physical geography, elementary drawing, higher arithmetic, elementary algebra, and elementary geometry. The "sub-freshmen" work was abandoned in 1887 for the negative reasons, as reported by President Chamberlain, of lack of dormitory space, recita-

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tion rooms, and teaching force and in the hopeful "belief that the graded schools in many villages of considerable size can do this preparatory work nearer home though perhaps not so well." This hope, even with its qualification, proved premature, and the following year a half-year's preparatory course was re-established on petition of the staff alleging "that such preparatory work would more closely unite the College to the country schools from which it draws the great bulk of its students; that it would enable the faculty to be more strict in enforcing the requirements for admission to the freshmen class and thus raise the standard of the college work; and that such preparatory course could be conducted without great additional expense to the College." In 1879 provision had been made for admission on certificate of examination from county superintendents and high school principals, subject to possible re-examination in certain subjects. In 1889 the first list of accredited schools from which graduates might be admitted on certificate was printed in the catalogue. The list, no doubt very liberal, included eighty-five high schools and eleven academies, seminaries, and institutes.

Curriculum making, always a sufficiently difficult task, was made increasingly so by this inadequacy of student preparation and the lack of established precedent and tried experience. The organizing committee had made certain suggestions, largely on the basis of the course of the Michigan Agricultural College, but an adaptable program remained to be worked out by the first staff. One of the deposed professors in 1874 charged that the President had regarded the making of the course of study as his particular prerogative, but later certainly he was glad to share this task and responsibility with a committee and the faculty as a whole.

INITIAL CURRICULUM

The first "course of study" was a rather desperate attempt to meet legal requirements on a collegiate level with the

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facilities available. The work was divided into two "departments" (curricula), agriculture and mechanic arts, the work of which was identical during the first one and one-half years. The selection of subjects indicates the prevailing state of application of the general sciences and the lack of development of the leading technical branches. "Mechanic arts" was made to cover the supposed essentials in both the mechanical and civil fields. Certain courses in social science and philosophy were required; and the optional offerings included the cultural studies that the grant act allowed.

The next two decades were marked by constant experimenting in curriculum making, both in subject emphasis and in organization. In 1877 there was a general revision by which the main courses were organized under special faculties with a chairman in charge of each course. From 1879 to 1886 the term "school" was substituted for department, and the heads of the special faculties were termed deans in the course descriptions though they were given no such title in their appointments or in official catalogue listing.

AGRICULTURE SEEKS PROFESSIONAL STATUS

As in all the land-grant colleges, the agricultural work which had been the primary motive in the founding of the College was the slowest to become established. Dr. Townshend in his single year of service taught geography, botany, and physiology. For one year as farm superintendent and two as professor of agriculture, I. P. Roberts gave practical courses in livestock and farm crops. Upon Roberts' retirement in the year of changes, 1873, one of his students, a graduate of the class of 1873, of maturity and unusual promise, Millikan Stalker, was elected his successor as farm superintendent and assistant professor of agriculture. Stalker's interest developed in the new field of veterinary science. He took courses at the New York and Toronto veterinary schools and secured the V.S. degree from the latter in 1877.

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For the spring term of that year a man of wider agricultural interest was secured for the chair of "practical agriculture." George E. Morrow of Illinois, after law training at the University of Michigan and active war service, had gained recognition as a successful farmer and an influential agricultural editor and lecturer. His ability and adaptability offered assurance that the man had been found for the key professorship. The official *Progressive Farmer* reported that Morrow had been recommended with "singular unanimity" and felt that no one "ever embarked in a difficult enterprise with so universal a confidence on the part of the public that he would achieve success." This feeling was justified by his later career elsewhere, but his service in Iowa was of the briefest. In November he accepted an invitation to the Illinois Industrial University with the explanation that he was more familiar with Illinois agriculture and felt that he could work there more effectively. The social and material considerations were probably no less determining: "The University is so situated that I can receive better school facilities for my little children and more convenient and desirable arrangements for a home. It would be a foolish affectation to pretend that an increase of salary had not also some influence."

For the next three years Stalker served as professor of agriculture and veterinary science, and there was a lessened emphasis upon the technical agricultural work. From 1877 to 1880 the general course of "sciences related to agriculture" superseded the more practical curriculum. This course, which emphasized the general sciences more than their applications, aimed "to make scientists in the branches which underlie agriculture" and "to prepare students who desire it, for scientific farming." To 1880 the bachelor of science degree was conferred on agricultural graduates.

With the coming of S. A. Knapp in 1880 a full agricultural course including instruction in dairying was provided, leading to the degree of bachelor of scientific agriculture (B.S.A.).

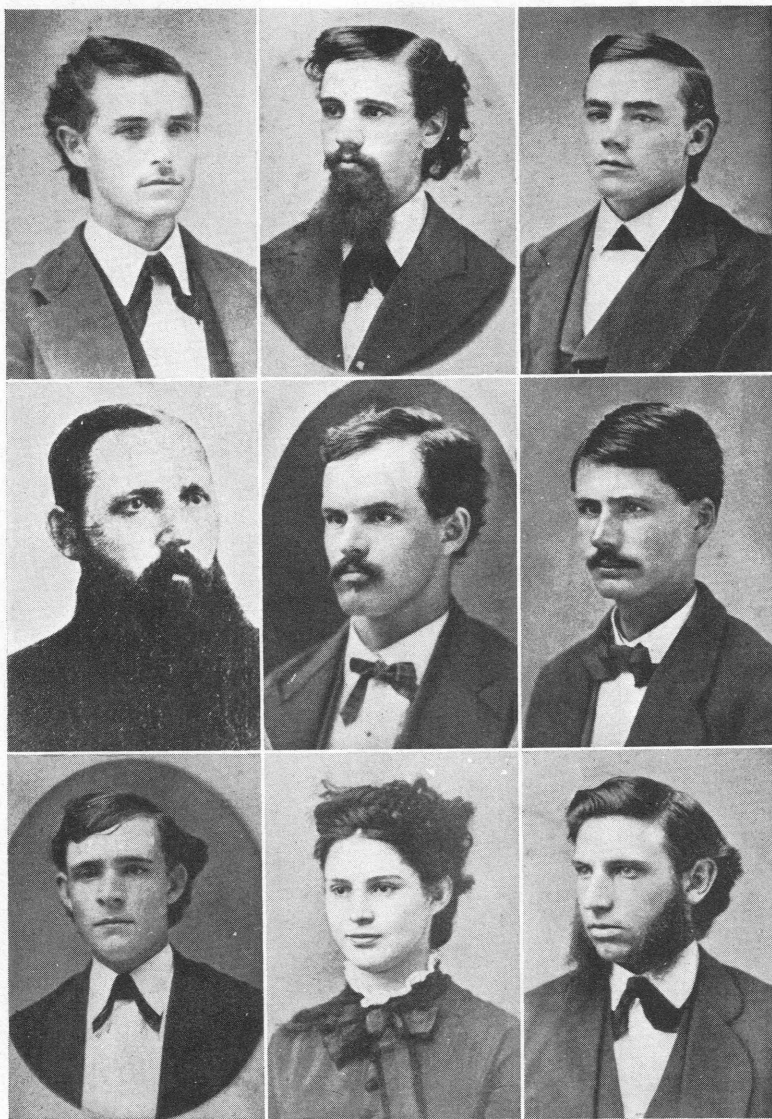
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Three candidates received this degree in 1883—George W. Curtis, who served for the next ten years as professor of agriculture at the Texas Agricultural College; Charles H. Kegley, who turned to law and real estate; and Herman Knapp, whose service to the College was to continue until his death half a century later. Upon S. A. Knapp's resignation in 1886, Herman Knapp was placed in charge. He had been elected treasurer and land agent in 1887 and carried on the teaching work merely on a temporary basis. President Chamberlain gave lectures in practical agriculture and supervised the farm until the selection of a regular head in 1889.

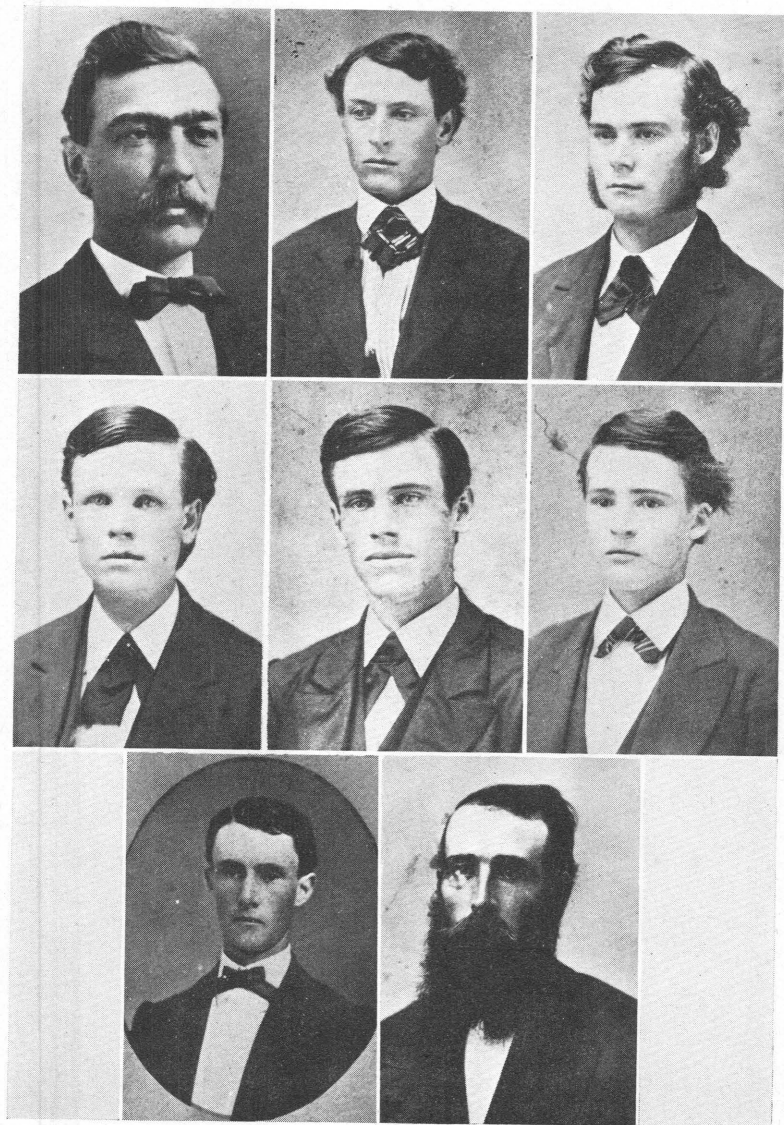
The selection of a permanent successor to the elder Knapp who would maintain and promote a real agricultural course proved a problem beyond immediate solution. At the May, 1887 meeting of the Board, Captain R. P. Speer reported for the committee that they had corresponded with Bessey of Nebraska, Sturtevant of the New York Experiment Station, Henry of Wisconsin, and Johnson of Connecticut, none of whom could suggest a suitable candidate. Professor E. M. Shelton of Kansas had declined an offer. Speer, who was to be the first director of the experiment station, had come to the conclusion that too much was expected of one professor—to supervise experiments and superintend the farm in addition to his teaching. He believed that two professors should be employed, one a specialist in farm crops and the other in animal husbandry. He had secured from Professor Roberts of Cornell the names of two graduates of that institution qualified for these positions and he recommended their election as associate professors. Such appointments, Speer suggested, would enable the College to dispense with the services of the existing professor of zoology and entomology. Just how it would do so was not made clear. President Chamberlain dissented vigorously from the recommendation and held that it went beyond the committee's jurisdiction. After interviewing the two candidates in question he had found one of them



FIRST CLASS. *Left to right: At top*—Charles N. Dietz, F. L. Harvey, and Harry Fuller. *At middle*—Laverne W. Noyes, T. L. Thompson, and E. M. Hungerford. *At bottom*—C. P. Wellman, J. C. Arthur, and Fannie (Richards) Stanley.



FIRST CLASS (Continued). Left to right: At top—S. H. Dickey, J. L. Stevens, and Edgar W. Stanton. At middle—G. W. Ramsey, J. K. Macomber, and C. H. Tillotson. At bottom—C. A. Smith, Mattie (Locke) Macomber, and S. A. Churchill.



FIRST CLASS (Continued). Left to right: At top—C. L. Suksdorf, Henry L. Page, and Orange Howard Cessna. At middle—Luther Foster, John M. Wells, and I. W. Smith. At bottom—H. C. Spencer and P. S. Brown.



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THE LAST OF THE TRIBUNES.

An Oratorio Delivered by a Member of
the Junior Class.

In the history of every nation, in every age, there appear great leaders of mind that are in the intellectual and political world, what the sun, moon and stars are to the physical—though known no more as living characters, yet their names still glimmer in the heavenly, glowing sun, directing nations.

Two centuries ago there rolled about the city of the Cæsar an orb, whose transcendent brilliancy illumined Europe, and made her to imitate Italy, was all Europe. In those days, when the Italian cities, Florence, Venice and Milan, were rapidly advancing beyond the other States of Europe in art and civilization, those rather needed—no art, no law, no government, none of the features that ever grace an intelligent, free, powerful and happy people; however, her sons gathered frequently manifesting a desire for liberty, and with enthusiastic demonstrations and desperate conflicts, sought to maintain the title their city had been given generations before, "The Metropolis of the world." The name of Tribunes was known, but the office was filled by men appointed by the Pope, or elected by the nobles, never conceived to meet one less he were of royal birth. Thus usurped were the powers of the common people and they fired discontented, driven hither and thither by will which they had no voice in selecting.

Rome in their ferocious, surrounded by robbers, hirelings of the great company, who only waited for the trumpet's signal blast to slaughter their souls in plebeian blood. They constituted the mighty governing arm that formed the race, and oppressed the poor.

Rome's commerce had been killed to sleep by the waters of a troubled sea; her mercantile houses closed; no business in her streets save the milk, the milk, and the slaughter of armies; and as she stood in her approaching destruction, rebled in the murmur of departed grandeur, she presented an inspiring, yet mournful scene to a determined nation.

Such was Rome, when Ricciard spoke the blood of a brother fellow, by which's recent spout, from his body, and upon eternal vengeance upon the institution of the active city, her bones, and all her crowned heads. Now, in the history of mankind did other aspirations and nobler purposes fill the soul of men, and they were, in solemn conference with this study full, lovers, and urged with a real and

quence which "flow like a bound, a change in the affairs of state, or when he dared to mount the rostrum in the capitol, and plead for a reform, restoration and reformation, then boldly hurled the gates of defiance into the teeth of those who would not be taught. He it was, who, without regard to the force of an Orestes or Oedipus, and in the midst of robbers, traitors, tyrants and death, fringed a model resolution for the world.

"The task day from the morning shall witness the restoration of Rome!"—an emotion expressed, an outpouring of undiminished courage, as men will pure patriotism and strict fidelity to the interests of a people be shown cause he united body and soul. Up on the eve of the death day, there streamed lights from the windows of a noble, who as walls had been deserted for more than fifty years; thence were sent out from many mansions till dawn of morn, taking the oath and sealing it with blood that dripped from his own right arm. Each of the one hundred warriors came forth, established a fealty with the laws of the compact, and met his vow according to the custom.

The clouds of night were fast gliding from the heavens, a few lingering stars still glimmered in the western sky, as through the streets of Rome there rode a solitary heroism, finding his hope. Quickly, as if Gabriel had sounded the trumpet, those sprang from the haunts of the seven hills, twenty thousand Romans prepared to battle for the restoration of law, liberty, and Rome, and as many more, with equal quickness, as sent from the stronghold of nobles with arrows of steel, burning banners, and fiery steeds, and gathered with the speed of the wind to the city limits, to hear down as they pray their freedom, bring fire. The day passed by, hour upon hour the sunset was lower; moved to sword, and hand to hand; but ere the last beams of the sinking sun had glided the waters of the Tiber, Rome was restored—her people free.

A frantic populace assembled round the capitol building, rekindling their torches, and their battle-cries, "Rise, rise, and the people." Thus, born in a day and carried upon the shoulders of plebeians to the Tribune seat, and possessed of the scepter, he surveyed it with a will and with wisdom. Once more could true Romans fan the fast smouldering embers of their fathers with strong hopes of returning to Rome the liberty and the glory of her institutions new fallen.

For months these prevailed such harmony as Rome had not known for years, and had her people been willing to submit to a slight taxation, all would have continued as "happy as a marriage bell" and instead of standing where she stood today, among the nations of the earth, she might have stood queen of cities and powers of governments.

Ricciard, born in a day—like the bird that blooms in a single day, with the succeeding sun to fade away—he was: power and state; but for a season, for a day, an evening Providence that had first ordained the "Marriage of his state" should be the "Marriage of his defeat." Down, down he went, only to rise again.

After suffering the horrors of the Ghetto for weeks, and the roofs of the world for years, he was removed to Senator of Rome. Again he rode triumphantly in his golden chariot. Again were still the clash of ten thousand spears and the clang of ten thousand swords. Again did the censor of ten thousand voices the very east. One prolonged strain of harmony and unity, that rendered and higher still, each of the seven hills gave back an echo of welcome to Ricciard, restorer of Rome. The banquet hall was spread, and pens were sent to his home from many mansions till dawn of morn, taking the oath and sealing it with blood that dripped from his own right arm. Each of the one hundred warriors came forth, established a fealty with the laws of the compact, and met his vow according to the custom.

Time rolled on. The light of the first day broke from the chambers of the East, no sound was within the streets, no martial array or warlike tread was sent or heard; unusual stillness brooded o'er, but only an instant; for there gleamed a host of gleaming, sword and gleaming helmets borne by traitors to the Senator, traitors who, like hands upon the thief's track, were bent upon blood. His friends cried "hold!" but that determination of mind which had previously led to the restoration of Rome would not yield, for well did he imagine that with his fight, or his death, Rome would go Rome, Italy, Italy, justice, and civilization into the depths from which he had rescued them. Not conquest, or money, could stay the fury of the sun. "Down with the traitor to the people" was the cry, and the full led to the heart by the dagger of an early filed and a later foe. Thus, he wound his way through battle, and through battle smoke, to his own funeral pyre, and the laurel crown of Basil that had kept constant guard over the seven-hilled citadel of Italy for centuries, and snatched at the flames of Rome, as he first entered the house of justice, now released at the desired Rome's last Tribune; for with this champion of freedom, all that was noble, and much that was ignoble, found a grave. The golden bowl was broken, the laurel crown was broken, but a soul flashed like a comet into the heavens to shine on, and on, until that grand constellation of men, the fathers of liberty and law, shall be lost, to all nations, through the mist of ages, forever and forever.

The Harvard Freeman class number 101.

JUNIOR EXHIBITION.

Synopsis of Exercises.

Friday evening, the 16th and 22nd ult., being so fortunate as to be present at the exhibition of the Junior class of our College, we present our friends and readers a brief synopsis of the interesting proceedings.

The class, numbering twenty-six, dressed in wide-awake stoles, it divided into three divisions, so that each portion could on for stage exercises every three weeks, and has the material to collect, arrange and commit their thoughts upon subjects as diversified as the ingenious brain of Young America can invent.

SECTION FIRST.
The exercises were opened by an address from the college choir; after which C. D. Boardman delivered an oration, Subject: "A New Era." Boardman proceeded in quite an entertaining way, to prove that the new method of reformation, as it is considered by young people as the present day, and that experience, from this night, was often purchased at a very dear rate in after years. Ninety-seven per cent of our business failures, were attributed in his estimation, to the lack of scientific instruction in this particular. All could not become rich, but the masses might greatly better, their condition and place themselves in higher positions of usefulness.

Lesson from the Bible. H. O. Dungan told us how these might be made of great service, in stimulating us to high motives for noble action. Starting facts were often revealed, and the loftiest enthusiasm awakened by the contemplation of the things of others. As a very natural, Mr. D. paid glowing tribute to the heroic struggles, and self-sacrifices of Washington, the father of our country; to Franklin as being the great philosopher of modern times; and to Daniel Webster, the eminent statesman and constitutional expounder. He graphically portrayed, the contrasts existing between progress, Christianity and humiliated and superstitious France. Thought our nation might well glory the virtues of the past and show the virtues of the present.

Scientifically, the True Mode of "Brooming." From the topic R. Y. Yates gave us a very interesting and well-considered speech. In his estimation, religiously should among first appear in the actions of every true thinker, and in the attainment of true scholarship, i.e. students should reflect all things to a close and carefully considering, which should be a daily duty, value the powers of the mind, but there is in this perspective the theories of modern investigations of science, a superficial glance and then hastily accept or reject his conclusion as the popular will say.

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wholly unacceptable. In any case he felt that it would be a mistake to divide the professorship.

Shelton of Kansas was the President's choice, and he had assurance that the professor could be induced to accept. He therefore recommended a salary of \$1,800 as professor, \$500 as superintendent, and a house. The election was made on that basis. In the *Students Farm Journal* for July Chamberlain wrote that when Shelton visited the College that month they expected to persuade him that for the remainder of his professional life he could do more good in Iowa than in Kansas. "Practically and scientifically," in his judgment, this professor stood "about at the head of a most honorable list of professors of agriculture." The hope of such leadership for the basic department proved vain; neither material inducements nor professional opportunities could attract the promising candidate, as a Kansas City paper derisively reported: "Prof. E. M. Shelton has been unanimously elected to the professorship of agriculture in the Iowa Agricultural College at a salary of \$2,300 a year, with a big house, Jersey cow, a saddle-mule, yellow bull dog and latest devised corn-crusher thrown in as inducements for him to come there. Kansas cannot spare such men as Shelton yet awhile and he will continue to be a citizen of the Jayhawk State." Instead of the President's avowed choice the more acceptable of the committee's nominees, Loren P. Smith of New York, was chosen.

Under the new leadership there was a return to a general course under the title "science and agriculture" with the B.Sc. degree. In justification of a general science approach and emphasis for professional training, certain propositions, some of which were highly provocative, were laid down in the catalogue statement: "(1) That it is native ability that makes the successful man in any line of work, regardless of education. (2) That any education is a *help* to a farmer. (3) That a man may be perfectly successful on the farm after a thorough training in any line, classical, scientific, or technical. (4) That,

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from a lack of business ability, a man may fail as a farmer after the best college training in Agriculture; education makes more effective, but cannot *change* the powers of mind which nature has given. (5) That the best years of life for College work are also the best years for acquiring a business knowledge and training; and, on that account, the college graduate is at a disadvantage, when first entering active life, unless he has associated his college work with his later occupation. With these facts in view, the purpose of the Course in Agriculture is to furnish, to those who wish to be farmers in the best sense, an opportunity to acquaint themselves with some of the many scientific questions which their daily work brings forcibly before them; to enlist their efforts in working out problems yet unsolved; and, by a study of the applications of scientific truth in daily practice, to deepen and make enduring that intelligent interest in their work which makes the difference between delight and drudgery in the performance of any labor." Such a seemingly cavalier disregard of practical occupational training, reflecting the attitude of the general science rather than the technical student, was to contribute directly to the revolt of farmer organizations against the Chamberlain administration.

HORTICULTURAL FOUNDATIONS

Because of its importance for the new state and the early formation of an energetic society, horticulture, including pomology and elementary forestry, was recognized from the beginning as a study separate from but closely allied to general agriculture. Specialists in this field who combined scientific training, practical experience, and teaching ability were even harder to find than professors of "practical agriculture." Captain Mathews' work was restricted to pomology; the horticulture was joined to botany under Bessey. For three years, 1874-1876, Henry H. McAfee, a practical fruit grower with extended experience in Illinois and Iowa, had a professorship

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of "horticulture and forestry." During these first eight years the work was on an essentially artisan basis—dealing with the technique of production, grafting, budding, pruning, and other practical matters, but in 1877 the department was put on a scientific and professional basis.

The selection in that year of the secretary of the State Horticultural Society, Joseph Lancaster Budd, as professor of horticulture brought to the service of the College one of the great pioneer horticulturists of the nation and one of the most dependable members of the early staff. Budd was born at Peekskill, New York, and received his education at the state normal school and, for two years, at Union College. After teaching in the academy at Rockford, Illinois, he came to Shellsburg, Benton County, where he established orchards and nurseries. He was a founder, and for seventeen years secretary, of the Iowa Horticultural Society. His twenty-two years of service at the College, 1877–1898, saw his department and the institution in general well through the pioneer period.

VETERINARY SCIENCE BECOMES A DEGREE COURSE

In a state in which stock raising had so prominent a place, veterinary science early developed as a distinct curriculum. During the fall term of 1872 the German veterinarian, Dr. Henry J. Detmers, came from the University of Illinois as professor of veterinary science and gave well-organized and able lectures to the senior class in pathology, anatomy, and physiology. For some reason not indicated, however, his appointment was "recalled" at the December meeting, and his brief tenure was thus terminated. Detmers had pronounced and unyielding opinions, personal and professional, which led later to the unhappy termination of his service at the Kansas Agricultural College and the State University of Ohio. The next instruction was given in 1877, when Professor Stalker, after a year's study at the New York College of Veterinary Surgeons and the Toronto Veterinary College, offered

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throughout the senior year of the combined agricultural and veterinary course a five-hour survey of the "study and practice of veterinary science"—anatomy, physiology, materia medica, pathology, surgery, sanitation, and practice.

In May, 1879, the Board authorized a two-year course leading to a diploma. Since in that year the practice was started of renaming the leading departments "schools," a school of veterinary science was started. This was the first state curriculum in veterinary science leading to a degree. From 1879 to 1886 the course was for two years; in 1887 it was extended to three. To 1883 the degree of bachelor of veterinary medicine (B.V.M.) was conferred as a first degree, with the doctor's degree (D.V.M.) awarded to students with a B.S. After 1883 the D.V.M. became the only first degree. With the organization of the school, David S. Fairchild, M.D., a graduate of the Albany Medical College who had come to Ames as a practicing physician in 1872 and had been elected college physician in 1877, was made professor of histology, pathology, and therapeutics, to which expansive chair anatomy was added in 1882. Professor Stalker and Dr. Fairchild carried the bulk of the technical work to the early nineties.

ENGINEERING BEGINS TO SPECIALIZE

Engineering in these years developed its main lines with increasing specialization. From the rather indefinite "mechanical" course, the main branches were emerging by the third biennium. In 1873, following the retirement of Professor Anthony from physics and mechanics, Alexander Thomson, a graduate of the University of Michigan, became professor of mechanical engineering and superintendent of the workshop. While the latter dignity seems to have constituted his main interest, his efforts resulted in a fully established department when he retired at the end of 1884 to enter industrial employment. His successor, Norman C. Bassett, a graduate of Worcester Polytechnic Institute, went the same way after a

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couple of years (1885-87). C. W. Scribner, a young graduate of Princeton and of Stevens Institute, served out the decade. From 1871 to the general revision of 1877, courses in mining engineering and in architecture were listed. Both were identical with mechanical engineering for the first three years, the special work all coming in the senior year.

Professor Jones was followed in his amorphous department by Albert H. Porter, a graduate of Dartmouth College and of the Thayer School of Science who had had experience in the United States coast survey. He headed the combined mathematics and civil engineering work for two years (1874-76), when civil engineering became a separate department under Foster E. L. Beal, an M. I. T. graduate who came from teaching in the Naval Academy. In 1880 Beal was transferred to administrative duties, and Charles F. Mount, a recent graduate (B.C.E., 1878, C.E., 1879) only twenty-two years of age, was put in charge and continued until 1890, when he, too, sought more congenial professional and business occupations.

The bachelor of science degree was awarded in the engineering courses until 1878, when the more distinctive degrees of bachelor of civil engineering (B.C.E.) and bachelor of mechanical engineering (B.M.E.) were conferred. The degrees civil engineer (C.E.) and mechanical engineer (M.E.) were granted from this time as higher professional degrees.

MILITARY REQUIREMENT

The other legally specified subject, military tactics, was planned most elaborately. The designation "military tactics and engineering" was intended to emphasize the technical aspects of the training. For two bienniums, (1870-1873), the instruction was listed as a co-ordinate course of study, although it was explained that "the classes for military instruction are interspersed through the different courses." From 1874 the military was listed with the special departments. The work extended throughout the four years: freshmen, schools of the

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soldier and company; sophomore, field artillery; junior, bayonet and broad-sword exercises and dismounted cavalry tactics; senior, military engineering, field fortification, topographical drawing, and small sword exercises. As in a number of other land-grant colleges in the pioneer period, the women were organized in voluntary military companies.

DOMESTIC ECONOMY

The education of women for the duties of the household had been an essential feature of the plans of industrial education. The training of farmers' wives was regarded as essential as the training of the farmers themselves, but there was great uncertainty about what such training involved. Gue, in discussing the college program editorially in the fall of 1868, assumed without going into specifications that all reasonable needs would be provided for: "The young ladies will be under the direction of a Matron and Professor of Domestic Economy, who will instruct them in every branch of industry that a thoroughly educated and accomplished woman should understand."

The first matron was not a professor, and the work in the early years was entirely practical. The so-called Mt. Holyoke or Mary Lyon plan of student work was adopted at the beginning. The service was carried on by a rotation of work in the kitchen, dining room, and laundry. In 1872, Mrs. Welch supplemented the practice work by lectures to the senior class. The first instructional course was that of domestic chemistry offered in 1871. The following year domestic economy was taught in a practical way by Mary A. Lovelace, preceptress and housekeeper. In 1875, Mrs. Welch was appointed teacher of composition and lecturer on domestic economy. She continued to direct the latter work until 1883. The first course in cookery was given in 1877, and instruction in sewing and laundry was added in 1879. The first official mention of the work was in the report for 1874-75, where the

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following statement is made: "Domestic Economy is taught to the young ladies of the Junior Class, by lectures on the following topics: Home furnishing, ventilation, water supply, cooking, sewing, management of help, care of the sick, training of children, dress, etc."

Mrs. Emma Ewing, who had gained public recognition as lecturer and writer, was in charge from 1884 to 1888. In 1884-85 a school of domestic economy with a two-year course of study was established. The *Aurora* predicted that henceforth the state would be indebted to the College not only for leaders in agriculture, engineering, and veterinary science, but also for those in domestic economy. However, following brief experience with graduate work (1885-87) Mrs. Ewing accepted a call to Purdue, and the separate course was abandoned, and the work of the department was merged with the general course for women under the direction of an unusually able and resourceful teacher. Mrs. Eliza Owens, the widow of a Charles City lawyer, brought to this instruction a cultural training and keen insight. She was a native of New York and had studied at Ripley College, Pultney, Vermont. Her special interests were music and literature, which she had planned to teach. But when invited to conduct the embryo department, she showed adaptability, and carried on with vision during her transitional eight-year period (1888-96).

THE GENERAL COURSES

The first general science course had its origin in the demand for work adapted to the interests and needs of women students. In the first year they were all classified in the agricultural course, but for the sophomore year a "Ladies Course" was introduced. This was identical with the agricultural in the freshman year, and was followed by a selection of required courses in natural and physical science—a term of domestic economy, history, English language, and political economy, with English literature, French, Latin, music, and drawing

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optional. According to the report of 1876-77, the course was "designed to confer a culture that is at once solid and available." The course was offered to 1880 with the varying titles of "Course in General Science for Ladies" and "Ladies' Course in Science." The degree of bachelor of science was awarded. From 1880 to 1885 the course was merged in that of "Sciences Related to the Industries" for both men and women but with domestic economy included for the latter. For the period 1885-98 graduates of the "Ladies' Course" received the degree of bachelor of letters. This course, designed "to meet a growing demand for the higher education," increased the literature and history requirements with a corresponding reduction of those in the physical and natural sciences. Domestic economy was required for three terms of this course.

The opposite tendency in the general course was in a provision for greater specialization and concentration. From 1876 to 1880 the "Course for Juniors and Seniors in Special Industrial Sciences" was designed to enable upper classmen to "attain a higher degree of proficiency in any branch of industrial science or art" by devoting double time to the selected subject, with specified omissions of other studies. As a limitation upon the range of such specialization, "literary studies and options" were excluded as fields of concentration, and the available subjects were specified as chemistry, botany, zoology, physics, agriculture, horticulture, geology, and veterinary science. President Welch's belief in the importance of training special experts was no doubt largely responsible for this plan, which was in harmony with the emphasis of the main general course of these years.

The blanket curriculum in "Science Related to the Industries," 1880-88, which sought to meet all needs outside of the technical groups, made provision for both general combinations and the specialization provided in the previous arrangement. "Science and Agriculture" in 1889-90 was

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apparently regarded as sufficiently inclusive to cover general science and agriculture as given; but it did not satisfy the desires and expectations of the agricultural interests of Iowa. The interest of certain students in under-graduate specialization was extended, at the earliest possible date, to graduate study.

POST-GRADUATE INSTRUCTION

With the conferring of the first bachelor's degree in 1872, "post graduate" students began to be accepted. In the early years before special programs of graduate study were outlined and advanced degrees awarded, these students merely pursued studies in the undergraduate curricula. The distinction was one of time spent and subjects "taken" rather than of the grade and method of the study. In the catalogue of students for 1873, Calvin P. Wellman of Forest City, a graduate in the agricultural course, was classified as a "resident graduate." In 1874, four were listed as "special students" of whom two were graduates of the College—Luther Foster, '72, Monticello, and Willis O. Robinson, '73, Vinton. For 1873, the special classification included three graduates of the class of '72—Joseph C. Arthur, Charles City; Francis L. Harvey, Springvale; and again Calvin P. Wellman. The following year there was no mention of graduates or specials, but in 1877 the name of Joseph C. Arthur again appeared as a special. By this time definite recognition had been given to graduate instruction, and the requirements and procedure for advanced degrees formulated.

In April, 1876, President Welch in proposing to the faculty that greater provision should be made for departmental specialization added the suggestion that "the question of post graduate courses should receive our attention." The attitude of the faculty on advanced degrees was commendably restrained, and the following November they resolved "that

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for the present we are not prepared to recommend granting of a higher title than *Bachelor of Science*." But with continuing post-graduates in certain departments, the demand for "appropriate" recognition of attainment could not be ignored, and at its annual meeting the following month the Board authorized a special post-graduate course of study.

After considering the matter for a semester the faculty was prepared to act. At a meeting in September, 1877, the committee on course of study was instructed to formulate requirements for a "second degree." The committee submitted a list of ten groups of studies with a professor in charge of each "to instruct and examine the candidates" as follows: Welch, the philosophy of science, social science; Wynn, English literature of the Elizabethan period; Bessey, physiological botany, systematic botany, and special zoology; Stalker, veterinary pathology and materia medica, and principles of breeding; Thomson, applied mechanics; Beal, original designs of engineering structures; Pope, agricultural and organic chemistry; Macomber, advanced physics; Stanton, analytical geometry and calculus; Budd, horticulture and forestry. At this period such a recognition of the technical studies as on a parity with the humanities and the pure sciences was notable. The degrees to be conferred were master of science upon holders of the bachelor's degree either in the Sciences Related to Agriculture or the Ladies' Course, and civil engineer and mechanical engineer upon the holders of the corresponding bachelor's degrees. The requirements indicated sound and relatively high standards: Candidates "shall reside at the College for at least one year and pursue, during that time, a course of scientific study embracing at least two subjects selected with the approval of the faculty, from the programme of post-graduate studies; and shall pass a thorough examination upon that course, showing in one of the subjects special attainments, and shall also present a satisfactory

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thesis." The advanced degrees might also be conferred upon "graduates of this College who have not resided here since graduation, who, at a date not earlier than three years after graduation, shall pass a thorough examination and present a thesis as in case of residence."

In accord with this authorization the first advanced degree was conferred at the following commencement, November, 1877, on a student whose studies and researches had anticipated and perhaps helped to hasten the faculty action. The Board's record of November 12, 1877, is of historic interest. The following resolution was received: "Resolved by the Faculty, That Mr. J. C. Arthur be recommended to the Board of Trustees for graduation in the postgraduate course in Botany and Zoology and that the degree of Master of Science be conferred on him." It was thereupon "ordered that the above resolution of the Faculty be approved and the degree of Master of Science be conferred upon Mr. Arthur." The thesis of the young botanist which was to inaugurate his long and distinguished researches is entitled "On the Structure of *Echinocystis lobata*."

PROBLEM OF HONORARY DEGREES

At the same meeting of the Board, the first honorary degree was awarded, and it was doubtless announced at the commencement although there is no mention of it in the program. On a visit to Ithaca some time previously, President Welch had suggested to his former staff member, I. P. Roberts, that though the lack of a degree had been no handicap to him in the West it might prove to be so in the East, and he offered to suggest to his faculty the granting of a degree on the ground that Roberts' personal study and experience had provided the equivalent of a college course. The faculty subsequently recommended to the Board that in view of the Professor's demonstrated "rare merit and attainments in his chosen pro-

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fession" he be given the degree of master of agriculture and the recommendation was promptly approved. Well merited as this bestowal of a professional degree was, it involved a practice that might be open to great abuse, although the College was to maintain a relatively high standard in such awards. In the early years before advanced technical training was fully developed, the degrees conferred outside of course were more in the nature of the later professional award than of the conventional honorary decoration.

In 1876, a degreeless horticultural professor, retiring without distinction, petitioned the Board frankly for the degree of master of horticulture on the plea that his service for the institution had merited such recognition. After a rejection and a reconsideration the request was finally laid on the table. But most applicants either because of greater merit, stronger influence, or more tactful approach were more successful. The conferring upon Professor Wynn of the degree of doctor of philosophy in 1877 by his alma mater, a small sectarian college in Ohio, brought the delicate comment from the student paper, the *Aurora*, that "Being wholly unsolicited it expresses the just estimation of his ability as a thorough scholar and the respect in which he is held by eastern men." Bessey's honorary award of the master of science degree by his own college in 1872 was followed in 1879 by a doctorate of philosophy from the University of Iowa. In the latter year, perhaps to maintain the balance of faculty distinctions, the College made Budd a master of horticulture and General Geddes a master of philosophy. In 1887 the heads of chemistry, veterinary science, and mathematics were awarded master of science degrees. Prominent alumni, especially those in agricultural teaching, were also remembered with such honors, but by the later eighties the questionable practice was being supplanted by the requirement of degrees in course or in definite professional practice for which the prescribed requirements had been met. The determination of the appropriate advanced

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degrees in the technical courses in which there were no established precedents involved considerable difference of opinion.

ADJUSTING THE FIELDS OF GRADUATE STUDY

The application of two members of the staff who had graduated in engineering courses for candidacy for the master of science degree in 1878 presented what was regarded as a serious question of policy—"Shall the graduates of Civil Engineering and Mechanical Engineering course be considered as eligible to the degree of master of science?" The question was referred to a special committee composed of Bessey, Stalker, and Wynn. The committee reported that "after examining the usages of other institutions in the matter of degrees we have discovered that they are uniformly rigid in adhering to the practice of giving higher degrees only in the line in which the first degrees were taken exactly in accordance with the rules . . . of the Agricultural College . . . and would respectfully submit that neither on authority of the reformed usage of the best institutions nor by any construction of the rules the Faculty has adopted to guide them in conferring degrees can the degree of master of science be given to those who have taken this first degree in departments so technical as those of Civil and Mechanical Engineering." Following "a lengthy discussion" through the afternoon session and an adjourned meeting "extending through the entire evening" (the arguments regrettably unrecorded) the report was rejected by a vote of six to seven. On this issue of "technical" versus "general" the professors of English, botany, civil engineering, veterinary science, and the two chemists were arrayed against the president, the professor of military tactics, the professor of mathematics, the professor of horticulture, the professor of mechanical engineering, the instructor in French, and the lecturer on domestic economy.

A week later a case was presented involving the other

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extreme of subject matter. A graduate student sought permission to study literature and social science for the master of science degree. Perhaps to balance curricular interests, since the engineering case had been submitted to a committee in which literature and general science were in the majority, the literature-social science was submitted to engineers, Geddes, Beal, and Thomson. The majority report was submitted by Geddes and Thomson, Beal dissenting without recorded opinion. The petition was approved on four grounds: (1) "all prominent institutions of learning" conferred the M.S. in courses which embraced a "wide range of Sciences," (2) the committee considered that "any of the Sciences taught in this College may rightly claim the degree of M.S. and among the Sciences taught here they consider Social Science to be one of the most important as well as the most difficult of the Sciences," (3) the faculty had made no distinction among the sciences in the requirements for the degree; and (4) the student had come to college with the understanding that he might take such a course, and a denial of his petition would involve bad faith on the part of the faculty. Again "after long discussion" the vote was taken; this time the decision favored the majority report, nine to five. Wynn and Bessey, keeping to the strict interpretation of the degree, were again in opposition, supported by Beal of civil engineering and Pope and Lee of chemistry.

An attempt was made the following year to provide a more appropriate award for advanced study in literature, philosophy, and the social sciences by the introduction of the eclectic degree of master of philosophy. But there remained the inevitable exceptions and adjustments. When in 1880 a mechanical engineering graduate applied for candidacy for the M.S. degree in mathematics and physics, the rule was amended to include B.M.E. graduates among those upon whom the master of science degree might be conferred.

Meanwhile, with growing specialization and professional

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differentiation, the more technical degrees were being sought. The first professional engineering degree to be given was that of C.E., awarded to Charles F. Mount in 1879. Of students receiving the score of B.S.A. degrees before 1891, one Evert S. Richman, '86, earned the corresponding master's degree (M.S.A.) in 1889.

The most original venture in technical graduate work in these years was in domestic economy. In 1884, upon recommendation of Mrs. Ewing, the Board abolished the undergraduate course and established a two-year course for graduates leading to the degree of master of domestic economy (M.D.E.). Two students were awarded this degree in 1886. Clara Shepperd, a graduate of Drake University, who married Willet M. Hays in 1885, presented a dissertation on "Nitrates, Carbonates, and Phosphates of Food." Nellie E. Rawson, a graduate of the State University of Iowa, was interested in the educational phase of the subject and chose the thesis "Manual Training for Women." Her interest was well motivated, as she had already entered upon the position of teacher of domestic economy in the Toledo, Ohio, Manual Training School at a salary of "nearly \$1,000 a year." In spite of this auspicious beginning and the reported wide demand for such graduates, with the change of professors in 1887 the graduate course was "temporarily suspended" with the promise that it would be re-established as soon as the "Ladies' and Domestic Economy Hall" was completed "or as special demand shall require." Such requirement was not to be made until the modern teaching, research, and commercial demands led to the establishment of the division of Home Economics.

NON-COLLEGIATE COURSES

In addition to the regular curricula there were various special courses that did not lead to degrees. In 1870 normal instruction was provided to give training to students who were regularly devoting the winter vacation to teaching in the

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country schools. To meet the needs of students who desired direct agricultural training in the minimum period, a one-year course in agriculture involving a selection from the technical subjects was provided. The entrance requirements were the same as for the regular course. In addition there were various trials of practical, more or less vocational subjects. Mrs. Ellen Tupper, a bee-keeping expert and enthusiast, gave lectures most entertainingly on this subject during 1873 and no doubt anticipated scientific apiarist work at the College. Bookkeeping, telegraphy, and printing were side-line subjects for which instruction was provided during brief periods.

THE BASIC SCIENCES

my The technical work as well as the general courses of study rested mainly on the basic sciences. The mathematics department from 1873 was identified with Professor Stanton, who with an assistant taught all the courses. From 1875 to 1878 his assistant was Miss Margaret P. Macdonald, who became Mrs. Stanton in February, 1877, and retired from teaching a year later.

Following the dropping of Dr. Foote, chemistry was taught by another physician, E. R. Hutchins, M.D., of Cedar Rapids, who had had teaching experience in the East. From 1875 to 1884 the department was in charge of a well-trained modern scientist, Thomas E. Pope, a graduate of Harvard who had been a graduate student and instructor at the Massachusetts Institute of Technology. Pope was largely responsible for inaugurating the modern department. Following his resignation, Dr. Lancelot W. Andrews, a graduate of Yale with graduate training in Germany, was secured for half a year, after which he was called to the State University. Alfred A. Bennett, a graduate of the University of Michigan, was brought from the old Chicago University and saw the department well into the modern period. In physics John K.

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Macomber, of the class of '72, continued until 1883, when he resigned to practice law; and J. C. Hainer, '81, was in charge until 1891, when he also entered the legal profession.

The foundation of the work in the natural sciences was laid by Charles E. Bessey, who came as a youthful instructor in 1870. Bessey's main interest was in botany, but during the seventies he taught courses in zoology and an elementary course in entomology. Professor Beal of civil engineering had charge of zoology in 1880-83. The entomology work was given by one of the most promising young scientists that the College had graduated, Herbert Osborn, '79. In 1883 zoology was again joined to Bessey's department, but with Osborn in charge. Upon Bessey's resignation in 1885 to accept a call to Nebraska, Osborn headed the separate department of zoology and entomology, to which geology was added. Byron Halsted, a Michigan Agricultural College graduate and a Harvard doctor of science, headed the botany work until 1889, when he accepted an appointment in Rutgers University.

Upon the strong recommendation of Osborn and with the support of Bennett and Stanton, the other members of the committee, President Chamberlain was persuaded to secure a young man for the botany work who was to become one of the greatest influences for scholarship and general institutional development in the College's history. Louis Hermann Pammel was a native of LaCrosse, Wisconsin, a graduate of the University of Wisconsin in the agricultural course, and had been a student and assistant of Dr. William Trelease in the Shaw School of Botany at St. Louis. Chamberlain reported that he had had little teaching experience but that he was undertaking the work with great enthusiasm. Teaching experience was soon acquired, and the enthusiasm for his own work and that of all of his devoted colleagues regardless of their fields remained with him through the years. With tireless energy he not only developed the botanical work progressively in the leading lines, but in introducing—under the inspiration

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of Trelease's pioneer lectures on the subject—one of the first courses in bacteriology offered in American colleges, he laid the foundations for a new department.

THE "CULTURAL" STUDIES

With the lack of specialization of the technical curricula and especially in the absence of a rounded professional curriculum for women, heavy demand was made upon the more traditional college subjects. Not only did the ladies' courses consist largely of language and literature, but those subjects were required in the technical courses. Both agricultural and engineering students had English literature and either modern language or Latin specified. Throughout all the courses were sprinkled requirements or options of history, political economy, psychology, and ethics.

In spite of the generous provision for "liberal" studies, either as requirements or options, the problem of substituting general for technical subjects, and the humanities for the sciences, early appeared. In 1876, a request to substitute French for farm engineering was denied. The following year, after considering petitions to substitute English literature and French for required junior chemistry, and a general for a special course in botany which had already been substituted for chemistry, a special committee reported pointedly and pungently: "It is the opinion of the Committee that it is exceedingly dangerous and demoralizing to allow these Special Courses to be made the means of avoiding certain studies and for bridging over defective places in the student's record as seems to have been done in this case. We consider further that no student should be admitted to these Special courses without especial fitness or without some definite object in view; and that when a student has chosen and been admitted to such course it should be without the liberty of its subsequent abandonment on account of difficulties which may arise or on account of not finding the work as pleasant as was antici-

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pated." Hope of faculty accommodation persisted. In 1885 a prominent ministerial student, after having his petition to substitute either Latin or veterinary science for chemistry denied, was allowed to take a special course in that subject if the professor could arrange it, and he was also permitted to "exchange" rhetorical reading for freehand drawing. In contrast the senior class in mechanical engineering in 1887 petitioned to substitute additional engineering work for ethics.

Unfortunately, the provision for the "cultural" subjects was not proportioned to curricular emphasis and student demand. The main department embracing English, Latin, and history was conducted by Wynn to 1887 and then by Barrows. Modern languages were taught at first by part-time instructors, and in the eighties the practice developed of combining the work with the duties of the preceptress. Elocution, the forerunner of public speaking, was much stressed in the early years under the supervision of instructors from other departments who emphasized the delivery of public orations and declamations. From 1876 to 1885 the work was suspended; then, after long agitation in the student publication, it was revived under instructors trained in the leading schools of elocution and expression.

Provision for the social sciences was especially inadequate. Senator Sutton declared in 1884 that history should be the key subject in the curriculum, but no special department was provided in this period. The main work was given by the literature department, but supplementary courses were at times offered by the president. Welch gave courses of lectures in the history of science and in the history of civilization. Economics, not yet arrived at modern assurance, was annexed as a side line to the mathematics department under Professor Stanton.

CHAPTER EIGHT

SCIENCE WITH PRACTICE

Methods & Equipment



If curriculum making was largely an untried adventure, methods of teaching were no less so. In addition to limitation of equipment and shortage of trained personnel, the undertaking was hampered and retarded by certain preconceptions, obsessions, and inhibitions that were inherent in the early industrial movement.

TEACHING COMBINATIONS

Teaching effectiveness, to begin with, was limited by incongruous subject combinations. The presidents—with the exception of Hunt, who seems to have had no teaching duties during his brief term—taught regularly the subjects that were supposedly their specialty and stray courses, theoretical and practical, for which regular provision had not been made. Welch's formal chair during his presidency was designated, successively, psychology and political economy, psychology and philosophy of science, and psychology and sociology, but his actual teaching extended to various other subjects. According to the yearly reports he actually taught, at one time or another, rhetoric, landscape gardening, German, word analysis, Shakespeare, stock breeding, elements of criticism, normal instruction, psychology, geology, political economy, history and philosophy of science, sociology, and history of civilization. Knapp on assuming the presidency had psychology and sociology added to his professorship of practical and experimental agriculture. As an alternate course to the sociology he taught English history. Chamberlain had the curious combination title of "professor of ethics and lecturer on practical

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agriculture," and at Welch's death psychology and civics were added. Stanton, along with continuous administrative duties as secretary of the board or acting president, held the dual chair of mathematics and political economy. His teaching record also included English composition, commercial law, and sociology. During his year as acting president in 1881, General Geddes could report instruction in military tactics, freehand drawing, and bookkeeping.

The versatility of the staff often went beyond their title of record; the rule authorizing added service was frequently applied. J. K. Macomber added the librarianship and instruction in elocution and Shakespeare to his main physics department. F. E. L. Beal for a time joined vocation and avocation in his designation of "professor of civil engineering and acting professor of zoology." The humanities—all that was left from the president's offerings—had to be spread widely. Professor Wynn's simple title of professor of English literature received the addition of "science of language" in 1880 and was extended three years later—from the motive of economy rather than of "natural correlation"—to include "English literature, belles lettres, Latin, history and ethics." In whimsical reminiscent vein, in 1906, he recounted his dignities and responsibilities: "I came in, green hand that I was, clothed with the full dignity of a Professorship, being Professor of English Literature, Latin, History, Rhetoric, Grammar, Moral Science, Agricultural Theology, and everything else of a literary character that my Atlas-like shoulders were able to bear. Indeed on the first morning of my arrival Dr. Welch introduced me to the whole body of students, as one who would be responsible for the entire literary side of the curriculum, and for the chapel services on the Sabbath day."

TEXTBOOKS AND TEACHING METHODS

To judge by departmental reports and contemporary and reminiscent judgments of colleagues and students, teaching

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methods were in general abreast of the times and in some cases involved notable innovations. An early announcement gave this sensible general statement: "The kind of instruction in these several branches varies with the nature of the subject and the views of the Professor in charge. It is mainly by means of text book and recitation in such subjects as Psychology, Geology, Mathematics, Physiology, Botany, Language, Engineering, and Physics. In Landscape Gardening, Agriculture, Horticulture, and in Veterinary Science, lectures are given. In Chemistry, to the text book and lecture, is added constant practice in the laboratory. In Surveying, in addition to the class-room work, students have frequent practice in the field." As everywhere, teaching effectiveness was hampered by inadequate and poorly adapted texts and books of reference. This was notably the case in the technical fields, where authoritative manuals within undergraduate comprehension were just beginning to appear in the seventies and eighties. Some professors at the College prepared manuals of their own. President Welch contributed a textbook on *The Sentence, a Psychology for Teachers*, and, in 1887, a *Syllabus of Short Histories of the Various Civilizing Forces Whose Progress Constitutes Civilization*—"arranged for the seniors of the Iowa State College of Agriculture and Mechanic Arts" and "printed by authority of the Board of Trustees" (very neatly at the Intelligencer Steam Printing House, Ames, Iowa). Bessey was the author of a pioneer college botany, Professor Stanton wrote a review book in algebra, and Mrs. Welch compiled a model cookbook and a *Manual of Domestic Economy*.

Professor Welch as a student of methodology in the eighties became a full supporter of the topical method (the current pedagogical panacea) as the great solution for organization and presentation of material in any subject. Following the report of the course of study committee in 1885, he introduced the following resolutions seeking to commit the faculty to his conviction: "1. That the prime purpose in education

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is to beget in the student the power and habit of independent thinking. 2. That the best methods of instruction in processes that are purely mental supplies indeed abundant stimulant to effort but withholds all unnecessary help and throws the student so far as possible on his own resources. 3. That the topic method in recitation, where the student is left to make a complete statement without interruption is one of the genuine means of accomplishing this important result." The only record of action is that "on motion the resolutions were laid on the table." A report of the debate would be most entertaining if not instructive. In a group with as diverse subject interests and educational backgrounds, agreement on any one method was as unthinkable as that upon the old imponderable, "What knowledge is of the most worth?"

LIBRARY FACILITIES

There was criticism from time to time in student papers and elsewhere of too much lecturing, but without adequate texts the instructor was forced to use that method, while some, as always, could use it with the greatest effectiveness. Library resources, though necessarily inadequate, were for the time relatively good, and the availability for student use was liberal as compared with the older colleges in the East. The report for 1876-77 indicated the resources and aims: "The Library now numbers about six thousand volumes. It is made up almost entirely of new books, purchased since the opening of the College; they are bound in half calf, library style, and substantially covered with strong brown paper. These have all been selected with reference to the wants of the departments, the aim being to build up a working library which shall furnish the students and officers of the College, who are pursuing investigations beyond the ordinary text books, with the best authorities and works of reference. It is not the intention of the College to furnish in its library simply a means of amusement, and while its officers hope to see stu-

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dents use the books freely, they expect that such use shall be in all cases with a definite object in view. As the student's stay in college is short, and his time consequently of the greatest value, he cannot afford to waste it in reading worthless books, nor even in desultory reading of good books. It is therefore urged upon students that they lay out for themselves courses of reading and study in the library, under the advice of the Librarian, or of some of the Professors. It is urged further that students make frequent use of the books of reference recommended by the teachers of the various college studies." That the number of volumes was somewhat inflated was indicated by the more specific report for 1880-81 which put the current total not counting duplicates and pamphlets at 4,500. However, lack of numbers, according to this report, was offset by value of the collections: "We have few government reports which usually figure by thousands in the enumeration of libraries. There are not more than a dozen books in the whole lot which could be called 'trash', and they are sent here gratis. The most valuable works in science, agriculture, mechanics, literature, and history, as well as the standard encyclopedias and books of reference, can be found upon our shelves." The initial appropriation of \$25,000 supplemented by annual allotments of from \$500 to \$1,000 down to 1890 was wholly inadequate for supplying needed works of reference and essential sets of scientific periodicals. The collections were early enriched by some substantial gifts. In 1878 Dr. William T. Harris presented a complete set of his *Journal of Speculative Philosophy*. By the bequest of the noted horticulturist, Charles Downing, his professional library was given to the College in 1885.

Library administration was equally restricted. Student assistants were in full charge until the later seventies, when a professor in addition to his regular teaching schedule was given general supervision with two student assistants. J. C. Arthur in 1876 was the first regularly appointed librarian. He

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was succeeded in 1879 by J. K. Macomber, who continued until his retirement in 1883. The position then fell to the assistant in mathematics until 1891, when it was joined to the duties of the professor of elocution. During Arthur's service a start was made in installing the Dewey system of classification, but the full classification with Cutter author designation was not completed until 1890. At that time the new librarian, Fanny Thomas, announced the special efforts made to acquaint the student with the resources of the library and to facilitate their use, which indicated an early effort at orientation. "The library work laid down in the College curriculum for the freshman class during the second term is proving to be a marked help to students. It is proposed to make the best methods of reading an important factor in the College course. Besides personal efforts, the library furnishes guides and reader's manuals which have been found most valuable in directing the reader. A course of lectures are prepared for classes on the following subjects: How to use the library, The Classification, The Best General Reference Books and Their Use, The Best Reference Books in Each Department. Students are trained to make their own researches—independent of librarian or professor—and are required to become familiar with the library arrangement. They have unrestricted access to all catalogues, indexes and shelves. The subject catalogue, with the analysis on cards, together with the cross-references shows at once all the library contains on any subject called for."

TEACHING ACHIEVEMENTS

With burdensome schedules, inharmonious combinations, and limited equipment, there were, according to the most creditable reports, notable achievements in teaching. Old graduates without recorded exception recalled the earnestness, piquancy, and thoroughness of Stanton's teaching of the fundamental courses in mathematics. Political economy, too, in

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spite of the treatises of his time, was not with him a dismal science, as witness his approach to the history of economic thought: "Students in the senior year are permitted to take advanced work in economic science. Six members of the last class availed themselves of this privilege. A term of solid work (five recitations per week) was given to a study of the historical development of the science. The gradual growth of its leading ideas were traced, and their relation to the perplexing questions of the present shown. It is through such preparatory work that a study of the difficult economic problem of today can best be reached. It is intended hereafter to fully adopt this method." Regardless of the subject there seemed to be general agreement that "Stanty" was a "born teacher." Whatever the differences of opinion regarding Welch's administrative policies there was unanimity regarding his ability and effectiveness in the classroom. His lectures, whether in his special field of psychology, in the social sciences, or in the technical realms of stock breeding and landscape art, never failed to arouse serious interest. In his courses on the philosophy of science and the history of civilization, he anticipated the modern orientation survey. Barrows introduced the seminar method in teaching history, and both Welch and Barrows made use of syllabi.

Wynn brought to his teaching a detached culture that set his work apart and caused him and his lectures to be quoted in student papers and to be remembered with affectionate regard. He apparently gave much conscientious thought to method. After a trial of six years he felt that the special aims in the teaching of English literature in a technical college were "measurably attained." His supplemental title of "professor of the science of language" he sought to justify by presenting to the juniors in the agricultural and ladies' courses the philological controversy of W. D. Whitney and Max Muller, after which the students were "encouraged to draw their own conclusions." One would think that it would have required much

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encouragement indeed. But the appeal of the professor was not in a particular method but in his emotional enthusiasm for his subject. Whether understood or not in lecture or sermon, there was no question of the lasting appeal of his personality. At his retirement a substantial purse was given him by alumni headed by Gurdon Wattles. In general science Bessey, Pope, and Hainer were known as strong teachers. Professor Pammel, though less systematic and exacting, had an enthusiasm for his work and an interest in individuals that awakened scholarly interests in some and a personal regard in most.

The technical subjects here as elsewhere involved pioneering in method of subject organization and presentation. The military department found a discouraging task in maintaining training befitting the skill and discipline of the soldier among country boys. The commandants' reports urged the necessity of military discipline, of regular uniforms, and an adequate drill hall. There were shifts in emphasis in the early years. From an elaborate course for all male students the training was made voluntary for a time. Then all but seniors were formed into companies with required uniforms. The only exceptions were for physical disability and, in a few cases, conscientious objection of students or parents. Sham battles, participation in parades and other celebrations, and policing of state fair grounds gave stimulating variety and piquant application of the drill. So attractive did the conduct of the department become that in the eighties the women sought this training as an added opportunity of the new education as well as an evidence of their equal status. They were formed into companies and proved highly efficient in executing the more intricate maneuvers.

In the early days of this, as of other land-grant colleges, there were frequent complaints that professors of engineering and physics had a professional rather than a teaching background and outlook, and that much of their instruction went

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"over the students' heads." How much of this complaint was due to inadequate student preparation, especially in higher mathematics, rather than to unsound pedagogy remains a question.

Agriculture and allied fields were even less organized and systematized. Stalker was a highly competent and unusually interesting teacher, though his wide range of subjects prevented any approach to specialization. Budd was not a formal or exacting teacher, but he had an enthusiasm that aroused an interest in horticulture even with the naturally indifferent. Roberts, with a background of thorough academy training and practical experience, combined both effectively when almost literally called from the plow to the desk. His informal lectures and demonstrations were characterized by an appreciative alumnus as a sort of farmers' club. Like all effective science teachers, he was able to interrelate principles and practice.

Knapp's rare skill in combining the teaching of principles with practical applications, which was to place him among the great applied science educators, was already in evidence. Quite in contrast was his successor, Loren P. Smith, whose training and interests were more in general science than in the technical fields and who as an easterner was unfamiliar with western farm methods. Some of his essays into the practical, like his demonstration of harnessing horses, were sources of much amusement to his students. He was regarded as an outsider unacquainted with the problems and technique of Iowa agriculture. Such criticisms were not wholly just and fair, as some of his students came later to recognize; the young professor was seriously handicapped by inadequate equipment and the inordinate number and variety of subjects he had to teach.

Domestic economy was a wholly undeveloped field in which the instructor was forced to blaze her way and at the

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same time provide the implements and devise the methods. Mrs. Welch supplemented her practical experience by study at the School of Maids in London where she was mistaken by fellow students for a servant in training, with a supposed professional expert in New York City, and by visitation of the leading proprietary schools of cookery. She felt that her subject was especially handicapped by a lack of understanding and appreciation of its nature and importance. There was thus the necessity for effective and striking appeal without the organized information and tried methods essential to that achievement. Her zealous efforts were detailed in her report for 1882-83. "With no text-books, no works of reference, absolutely no thoroughly classified and systematized knowledge to be obtained in this department of instruction, how can this be accomplished? Only by the most persevering study on the part of the teacher, joined to a genuine love of the work and a thorough belief in its importance. She must search through many books for a few items. She must arrange these in proper order. She must try every recipe before bringing it to her classroom, and give to her students not only its materials and method, but as nearly as possible the whys and wherefores of every step. She must know all about food history, the comparative economy of special foods, including not only the first cost, but the amount of nutrient supplied and the lasting quality of such nutrient. She must look up food adulterations. She must give advice as to market supplies both as to price and quality. She must know the parts of a beef animal as well as the butcher who sells them; in short she must post herself thoroughly on all questions concerning every article of food she handles. The food supply of Iowa is abundant in quantity and excellent in quality, but comparatively limited in variety. Beef, pork and poultry, milk, eggs, and the hardier fruits and vegetables compose our staple articles of food. Since variety enters very materially into the question

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of digestion and assimilation, it has been my aim to give as great a number of simple methods of preparing and combining as possible. This has also required study and practice. Every hour's work in the college kitchen with my class represents many hours of hard labor in my own study and kitchen."

In the study of general housekeeping there was an attempt to give practical motivation along with a social welfare indoctrination. According to the official report the sophomore class "took notes from lectures on 'Arrangement and Furnishing of the Home,' 'Drainage,' 'Water Supply,' 'Management of help,' 'Care of the Sick,' 'Sewing and Mending,' 'Management of Children,' 'Household Accounts,' 'Care of Health,' 'Courtesy,' 'Hospitality and the Etiquette of Entertaining,' and a variety of kindred topics. They also wrote essays for which I dictated subjects and recommended books of reference which they were to consult and take notes from. The following are some of the topics given them for such essays: 'Education Necessary to the Skilled Cook,' 'My Model Kitchen,' 'Slovenliness a Sin,' 'Economy a Duty,' 'Pure Air a Necessity,' 'My House and Its Situation,' 'My Cleaning Days,' etc., etc." In the introductory lecture of her course for juniors in 1876, Mrs. Welch made a strong plea for the recognition of the social utility of the training, in the College and throughout the state:

"If the Iowa Agricultural College can graduate young ladies with finely cultured minds, with hearts truly refined and womanly, and with a correct notion of a happy home added to a complete preparation for its actual management, it will do a grand work for the World. . . . How great would be the popularity of your Alma Mater, if after graduation you should each go home and astonish your Mother by saying, 'I mean to make a skilled housekeeper. I am going into the kitchen and learn to cook; I shall do the fine ironing or I will make and mind my own clothes. You shall rest, Mother dear, and I will show you what a sound, sensible practical education the Iowa Agricultural College gives earnest young women.' The fame of our College would go abroad to such an extent that appropriations for new dormitories for girls would come rolling in. No legislature could deny our

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requests and a cry would come up to us from all the mothers in our state, 'Take my daughter, and mine, and mine.' "

In the late eighties and the nineties Mrs. Owens was stressing primarily the home-making function: "The whole interest and purpose of the present instructor is to secure to the students a knowledge of practical and systematic methods of rendering home a pleasant and healthful abode. . . . The essays prepared by the sophomores and juniors as part of their work in the department, calling for synopsis of subjects taken up in the lecture room during the course, and calling for some originality in matters pertaining to the adaptation of home work to circumstances and individual taste, have, with very few exceptions, shown such intelligence, good judgment, common sense and true womanliness, as promise much for the homes over which they may in the future preside." As in the case of the practice work in shop and on the farm, there was the effort to further the various aims, instructional and otherwise, through the activities of the kitchen and dining hall.

MANUAL LABOR REQUIREMENT

In the establishment and formative development of the A. and M. college, required manual labor was regarded as an essential, distinguishing feature. The full application of this system was a test of the soundness and good faith of any "agricultural college." This requirement, as has been noted, was given a major emphasis in the dedicatory addresses, and in early reports Welch expressed gratification at the successful operation of the system. To many who were doubtful of certain features and policies of the College the labor part was a saving element. In the legislative investigation of 1874 the statement of a recent girl graduate that she had paid her entire way by work at the College and teaching in the winter was received by the senatorial interrogator with "God bless

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you and the College"—and the official reporter showed his spontaneous approval in taking the liberty to echo and record, "Amen." "Father" Clarkson of the *State Register* was especially elated over the training of the girls for practical work of the household. Upon the announcement of the cooking requirement in 1877 he wrote: "Good! The day dawns." And in commenting on the exhibit of a model kitchen at the State Fair in 1880, he asserted that Mrs. Welch was "doing more to improve and elevate domestic economy than all other influences in the State . . ." All descriptions of the College during the first two decades gave special emphasis to the practical training for farm and farm home. The President's early reports were not only favorable but enthusiastic, and he even chided a professor for referring to the system as compulsory when the service was sought so eagerly.

DECLINE OF THE SYSTEM

But doubts soon developed. Students were more eager to earn than to learn, and at times their ideas of their earning capacity were unbounded. Welch cited the case of a boy who proposed not only to meet all his expenses but to send something to his family. The organization of the system involved complications. Effective supervision required more time and effort than staff members could devote to it. The squad organization was soon abandoned. The special detail was the service most sought as it provided more certain remuneration and generally more pleasing work. Such assignments were supposedly made strictly on the basis of competence, but there were many complaints of favoritism. The student labor, especially after the early campus and farm developments were completed, could not be carried on economically. The labor periods were too intermittent, and after the early enthusiasm, student application proved too indifferent to carry on the regular farm work promptly and effectively. Most serious of

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all for a college, the effort to combine remunerative and educational work was not feasible; as the President confessed, labor that was instructive was impossible to provide in adequate amounts. This brought criticism from the original industrialists. As early as 1873, at the meeting of the State Horticultural Society, Suel Foster complained that the intent of the law in making the labor service educational in character was being defeated. At the same time another prominent member, C. E. Whiting, expressed feelingly his disappointment and disillusionment: "This Agricultural College was with me a cherished pet. I thought of it by day and dreamed of it by night. I went over there and saw it fairly inaugurated with feelings of mingled pride and hope as to its birth and future. I urged our boys and girls to go there to learn what? To wash dishes? to throw dirt out of the big college ditch? to wheel dirt and brick? Surely this was not my idea of the labor of an agricultural school. And yet I am sorry to say that so far a higher educational order of labor has not been inaugurated." Others expressed themselves to the same effect, but no one explained how under the system as they understood it instructive labor could be provided. The failure to solve that problem led to gradual abandonment.

In 1876 a distinction was made between instructive and non-instructive labor, the former was to be performed without compensation. In 1880 the service was maintained only in the freshman year, and four years later the requirement was abrogated. There were protests from the old timers against abandoning the essential and distinctive feature of an agricultural college, but the general recognition of the unworkableness of the old survival from the manual labor school opened the way for more effective methods. The constructive influence in the passing of manual labor as an educational device was the prevalence of the laboratory methods. The formative years of the College's history marked the transition from the instructor-

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demonstrational to the student-manipulative experimentation. The College not only kept in step with the main trends of this development in the basic and applied science fields but made certain distinct contributions to it.

THE LABORATORY ARRIVES

Chemical instruction was on an experimental basis from the start, in accord with Eliot's method at M. I. T. But with undue zeal for practical motivation, the young instructor had the students in organic chemistry make bluing, ink, gun powder, and other articles of common manufacture. Dr. Foote thought mistakenly that he was the first in the country to teach organic chemistry by the laboratory method. According to his complacent report, "Sugar was made from sheeting and saw-dust; starch was extracted from potatoes and grain; fruits were analyzed; parchment was made from paper; gun-cotton and collodion from cotton fibre; ether, chloroform, and alcohol, were manufactured, nitro-glycerine was made from glycerine, which had been extracted from fat; hard, soft and transparent soaps were made, etc., etc. Special experiments of considerable interest were performed with the various substances used by bakers to adulterate bread, and with the volatile ethers, some of which are used for flavoring, and others possess remarkable anaesthetic properties." Apparatus was so limited that in the class in quantitative analysis there was but one analytical balance which had been borrowed from the state geological survey and "but a few of the most careful men in the class were allowed to work with it."

The real advance came with an experienced science teacher, Thomas E. Pope, who was surer of his methods and more restrained in his claims. In 1920 Professor Pope wrote of his pioneer work in the department: "When I taught there we labored under many difficulties, lack of equipment, money, and too few instructors, also we had but few books for reference and were far from any library. I believe I was the first to

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have students do quantitative work and equip the laboratory with analytical balances, each year I bought at least one expensive piece of apparatus for the use of the students and so was enabled to increase the efficiency and scope of their work, and while I know you have progressed in equipment, teachers, and fame I do not think the students of late years can be more earnest than those I had. I was proud of their work and know it was the splendid showing made [by] the students whom I sent to be assistants in chemistry at the Massachusetts Institute of Technology that was the cause of my being called to that institution."

Professor Bennett, writing in modern terms, aimed "to unite more closely the laboratory practice with the class room work. The laboratory practice is manual training, is sense training, and should be the highest mental training. The endeavor is to make this practice the means of making clear the statement of text or lecture. Experiments are not performed for the student, but by the student."

In natural history there was provided at the beginning a "museum" that Bessey later characterized as a "marvelous collection of birds and beasts and insects which some trustees with more zeal than knowledge had squandered hundreds of dollars upon." A visitor remarked that the collection was not an image of anything in heaven or on the earth. A real museum in botany and zoology was collected by Bessey, Beal, and Osborn. In the eighties the College missed getting the extensive Hornaday collection for lack of funds for mounting. The collection of this famous former student went instead to the State University. Bessey's own special contribution to science instruction at the College was in establishing "the first botanical laboratory of the United States for undergraduate instruction." He wrote to W. J. Beal of Michigan in 1877 regarding his experiences: "A college which proposes to keep up with the current must provide botanical and zoological laboratories. The college which does not provide such

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laboratories will fall behind the progressive institutions, at least so far as the biological sciences are concerned. A botanical laboratory is just as necessary for the proper teaching of botany, as is a chemical laboratory for chemistry." Osborn was largely responsible for parallel developments in zoology and entomology.

In engineering the civil branch had the direct opportunities of surveying and field work, but the mechanical was dependent in the early years upon a small machine shop, in which the power was provided by a simple Corliss engine run by a student "detailed" for this service. In the eighties testing machines and other laboratory equipment were provided.

Domestic economy made its contribution in 1877 in "the establishment of the first experimental kitchen ever opened in any college" which, as Mrs. Welch observed, was the girls' equivalent of the work shop and the farm. The enthusiastic founder thus described its operation: "Practical instruction is given in bread, biscuit, cake and pastry making; cooking of meats—broiling, roasting, boiling, etc., including beef, mutton, veal, ham, and the dressing and cooking of poultry; the preparation for the table of vegetables, of desserts, and the canning, preserving and pickling of fruits. The teacher remains with the class during all the hours of practice. At each session the cooking of some new dish is carefully taught and the class take notes and assist the teacher. At the next session material is supplied and a certain number detailed to do the same work unassisted. If the material is spoiled, it is paid for by those wasting it and the same work given over until successfully performed. Thus each member of the class becomes in turn responsible for each kind of cooking."

By the eighties the output of the kitchen had apparently reached a degree of standardization, as the instructor reported that throughout the term "bread and yeast are made at every lesson, and it was our good fortune to furnish bread once a week to Professor Bessey's family. You can find out from them the quality of this bread. We also provided some part of their

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dinner twice a week for nearly the whole term." By 1889 Mrs. Owens could report that the "results of the laboratory practice in all the classes have been most satisfactory, showing interest, care, and many times culinary skill."

Roberts' informal agricultural teaching involved using "materials at hand" and the making of direct observations. Weeds were gathered for identification, skeletons of farm animals were disintered for anatomical study, crops were observed by walks about the farm, and comparisons made by trips to neighboring farms. Knapp continued the practical observational and demonstrational work believing that agriculture should be taught largely by direct observation and participation in its practices. The college creamery built in 1879 served not only for experimental purposes but as well for undergraduate instruction and practice in the operations of dairy industry.

EARLY RESEARCH

These methods both in the general and technical fields indicated an awareness of what was going on in college teaching and in the development of science. Continued advance both in methods and content was directly dependent upon research programs and activities. From the beginning it was assumed by this, as by other land-grant colleges, that the law authorized experimental work, and it was started in a modest way. The State Horticultural Society was especially concerned to get orchards and forests established. They secured one of their members as the first professor and when he proved not sufficiently active sought others. Their addresses and memorials in turn chided the College for lack of activity and recommended increased appropriations. When their secretary, J. L. Budd, became professor they were especially solicitous. Budd's Russian expedition in 1882 for fruit and shrubs suitable to Iowa climate was financed in part by the society. The venture proved only partially successful, as the Iowa seasons developed the fruit too early and considerable misunder-

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standing arose with the society members—an illustration of the complication involved in such outside subsidy.

Botany from the earliest days developed a program of research that was to be systematically extended through the years. Dr. Bessey was a research enthusiast and proceeded at once to the collection of an Iowa flora and at the same time did notable work in fungi and insecticides. His research papers were the first to be published in the college reports. His successor, Dr. Byron Halsted, gave attention to germination tests, the control of fungi, and the development of honey plants. Following these mature scientists the youthful L. H. Pammel began his notable lifetime research in weeds, grasses, and plant pathology. Following his graduation in 1879 Herbert Osborn was beginning his entomological investigations.

Agricultural experimentation was started as soon as the college farm was put in running order. Roberts as farm superintendent made tests of cereals, feeds, and fertilizers; and when he was called to Cornell in 1874 his student successor, Millikan Stalker, continued the field experiments and added others in swine feeding. Knapp, as professor of practical and experimental agriculture, sought to justify the latter part of his title by experiments in dairy and animal husbandry, dairy industry, and farm crops. The experimental creamery of 1879 was a noteworthy innovation. President Welch in the midst of his manifold labors in administration and teaching anticipated research in genetics in publishing studies on the laws of animal breeding. The results of the early investigations were published in the biennial college reports, in the college periodicals, in special bulletins of the departments of agriculture and botany, and, in a number of cases, as bulletins of the United States Department of Agriculture.

AGRICULTURAL EXPERIMENT STATION FOUNDED

With its early emphasis upon research the College was a center of the agitation for federal endowment of experiment

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stations. In 1882 Knapp and Bessey drafted a bill that was introduced in Congress by Representative C. C. Carpenter but not reported from committee. The following year at the convention called by Commissioner Loring at the Department of Agriculture the Carpenter bill was endorsed and a committee appointed with Knapp at the head to urge the matter before the committee on agriculture. The bill with some modification was introduced in 1883 by A. J. Holmes, Carpenter's successor in the House. Knapp, then president of the College, issued a circular in support of the bill. The proposed measure was not acceptable to the colleges as it was felt to center too great control in the Department. Furthermore, sufficient interest and support had not been aroused among farmer groups to secure its passage. But the agitation continued and the national convention of 1885 appointed a legislative committee which aided Commissioner Colman in drafting a bill providing for state initiative in experimental programs, which, known as the "Hatch Act," was enacted in 1887. Knapp was a member of the executive committee but not of the legislative committee of this convention, and he doubtless felt that the new bill went too far in the direction of state autonomy. While the Hatch bill was pending, the *Students' Farm Journal*, which generally reflected the Professor's view, argued that the act did not provide adequately for intelligent supervision and uniform methods of work. The future administrative trend, under the influence of the grants-in-aid principle, was to be increasingly in line with Knapp's position. Meanwhile Iowa proceeded to organize on the basis of the original act.

On March 2, 1888, the General Assembly passed an act to establish the station. In anticipation of such action the Board a month previously had accepted the resignation of one of their number, Captain R. P. Speer, and appointed him as director. Speer had been a leader in the State Horticultural Society and according to the *State Register* was "a well educated man

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and a thorough general farmer." The committee on the station decided that the work of the College and station staffs should be separate, except for the employment of certain members of the college staff during vacation. The station force was completed by the selection of John Craig as assistant to the director, G. E. Patrick, station chemist, A. A. Crozier, station botanist, and C. G. Gillette, station entomologist. The early experiments of the station were concerned mainly with crops, soils, horticulture, and dairying—the same general problems that had occasioned the pioneer experimental efforts.

THE STAFF AND THE IOWA ACADEMY OF SCIENCE

The interest of the faculty in scientific research was shown no less in active participation in the meetings of regional and national societies in their respective fields and in their contributions to such organizations within the state. On August 27, 1875, a meeting of scientists was held at the State University at which the first Iowa Academy of Science was formed. Among the organizers were Bessey, Macomber, and Dr. Fairchild. Bessey was elected the first president, and Dr. Fairchild, Macomber, Pope, and Beal were among the fellows. The organization proved premature and did not function after 1884. The second and permanent organization was effected at Des Moines on December 27, 1887. Osborn was on the organizing committee, as was Andrews, late of the College; and Crozier, Gillette, and Pammel were prominent in the early meetings. With all their research interest and professional contacts, members of the staff were no less diligent in making popular ones throughout the state by the extension of their light and leading to the solution of the practical problems of their constituency.

FARMERS' INSTITUTES

None of the early land-grant colleges made a more immediate or persistent effort to serve their state. The College was a

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pioneer in the forerunner of modern extension, farmers' institutes. In the winter of 1870 President Welch and Professor Roberts held three-day institutes at Cedar Falls, Council Bluffs, Washington, and Muscatine. The President reported enthusiastic gatherings of farmers, and four institutes were arranged for the following winter. A regular program dealing with livestock, dairying, and fruit growing, with opportunities at each session for questions and discussions, was printed with the annual report. The movement continued throughout the pioneer years and was a main influence in keeping the College in touch with the farmers. President Hunt during his brief tenure conceived a plan of extension effort worthy of his promotive imagination. He proposed the holding of county institutes to be led by the best scientific and practical talent that the state afforded, and that these meetings be followed by a yearly state institute to be addressed by national agricultural leaders, such as the commissioner of agriculture and leading land-grant presidents. In addition he planned a system of correspondence courses by which the farmer and his sons might gain instruction at home. The plan was in advance of communication facilities and cooperative consciousness, but it anticipated leading features of a developed extension program. Chamberlain, who had pioneered in institute work in Ohio, was an enthusiast for this service. Under his lead in 1887 the College joined with the State Agricultural Society and the State Horticultural Society in organizing the Iowa Association of Agricultural and Industrial Instruction for encouraging and conducting institutes.

The institute work thus provided an agency for tying up with the State Agricultural Society and the State Horticultural Society. The relations with the latter were especially intimate. The professors of horticulture were active in its program, and other staff members found approaches. Welch explained the aims and difficulties of industrial education and expounded landscape art, Beal spoke on useful birds, Macom-

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ber on forests and climate, and even Barrows found a theme in horticulture and education. The relations with the State Agricultural Society were mainly in exhibits at the state fair, and in papers at the annual meetings. In the early seventies the "Agricultural College District Society," nominally composed of the counties of Boone, Hardin, Hamilton, Marshall, Polk, and Story, was really a college institution. The two or three fairs were held in a grove near the campus and the College provided the main exhibits. Welch headed the organization in 1871.

COLLEGE PERIODICALS

As a means of reaching the farmers more widely, official journals were maintained. In 1875 Welch secured control of the *Progressive Farmer* of Cedar Rapids and conducted it largely as a college organ from January, 1875, to August, 1876. The college staff provided the editorial board, which C. F. Clarkson, the agricultural editor of the *Register* termed "the ablest editorial corps of any agricultural paper in the United States." Following the disposal of this journal, *The Producer* was launched at the College in November, 1876, with pretentious prospectus, as an organ for disseminating the findings of the institution in various fields of knowledge of interest to the people of the state. Owing to Welch's ill health the publication was suspended in August, 1877; the subscription list was taken over by the *Western Stock Journal and Farmer*, to which the *Producer's* editorial staff contributed. The next periodical venture was the *College Quarterly*, issued from May, 1878, through November, 1880.

In these publications there was an interchanging of experience, questions were answered, and the new findings made known. Discussions were not wholly in the technical fields. Mrs. Welch conducted a section on household economy and child training, and Professor Stanton discussed the tariff, marketing, and resumption. The program of the college was

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explained in an effort to clear up misunderstanding and create a cordial feeling.

OTHER PUBLIC RELATIONS

There were many less systematized contacts. The chemistry department offered to make analyses. The natural sciences sought specimens for their museums. Regardless of threatened law suit and denunciations by interested parties, Professor Macomber carried through the exposure of a lightning rod fake. With the outbreak of pluro-pneumonia in the eighties, Professor Stalker served as state veterinarian with the resulting complications that early regulatory efforts involved. Staff members were in much demand for teacher's institutes, county fairs, and Fourth of July and Memorial Day orations. Professor Stanton was especially popular on such occasions. At a Memorial Day service at Nevada in 1888 President Chamberlain read an extended original poem on "Our Fallen Heroes" which was undoubtedly regarded as a fitting climax to his oration, and the student paper printed four of the seven stanzas.

In private life many of the faculty had farms, often in the neighborhood of the College. These enterprises at times brought relations not always pleasant with the College, rival breeders, and the community. In 1878 at the annual meeting of the State Horticultural Society, Welch complained bitterly at the way in which, under the lax fencing law, a neighbor's cattle trespassed upon his crops, setting property rights at naught.

COMMUNITY RELATIONSHIPS

College community relations were retarded by the geographical situation of the campus, which under the transportation limitations of these years involved a real isolation. During winter storms and spring thaws the country road was well-nigh impassable. Faculty members joined with city business

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men in the seventies to provide for regrading, but at best the facilities were most inadequate. The result was that campus dwellers were cut off from the city, and faculty members resident in the city took part in campus life only at a great sacrifice of time and energy. Evening faculty meetings were an especial hardship to this group. In 1880 a faculty committee was appointed to request the Board to provide a college team to convey staff members living in Ames to and from faculty meetings, but there is no record of action on the request.

Transportation of mail, express, and passengers was by bus, the service for which was let at competitive bids. After a decade of agitation a railroad with a steam "dinky" engine was constructed by local capitalists in 1891. The previous year two engineering students had taken for their thesis subject the design of an Ames to Campus electric line—anticipating transportation progress by some seventeen years.

Ames by this period had a growing and aspiring population which in spite of difficulty of communication received a certain cultural uplift as well as material advantage from the location of a growing college in its environs. There was as yet no evidence of the fulfillment of the prophecy of Professor Charles R. Tuttle made in 1876 in his *Illustrated History of the State of Iowa* of "a vast city in which education will become subsidiary." "Ames," wrote a county historian in 1890, "is the most widely known of the towns of Story County, as is well typified in its busy depot, where the North-Western Traveler 'changes cars for all points north, south, east, and west' amid the clang of bells and the snorts of iron-horses, or where the verdant freshmen by scores annually step off the trains and take the modest omnibus out to the beautiful acres of the Agricultural College and Farm, there to spend years in growing into the clear-minded finished graduate, who again takes the modest omnibus to the busy depot and buys a North-Western ticket into the busy World. But while these two streams of travel and

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student life pass through Ames, she has also a fixed population of probably 1,600, as the second town in the county. The traveler will not see this unless he leaves the broad and begrimed strip of railway grounds, which divides the town, and, taking a few steps to the north, finds himself on Onondaga, the business street, from which extends north, Douglas Street, the Euclid Avenue of Ames, lined as it is with the finest residences of the place. Here, too, will be found a certain mixture of the civilian and collegian tone typified somewhat in the papers and social life of the Ames Social Club."

CAMPUS DEVELOPMENT

The isolation of the campus emphasized the need for its development not only as an educational, instructional, and experimental plant but as a place of living. The Main building was soon overcrowded both as to rooms and facilities, and temporary outlets were provided in boarding cottages. Serious problems of congestion and sanitation arose. In 1877 after a malaria epidemic had been traced to the sewerage system improperly constructed and inadequately maintained, new pipes were laid, but adequate sanitation was not provided until twenty years later with the construction of a modern disposal plant. Other evidences of modernization were the trial of the first campus telephone in 1878 between the president's office and the physics laboratory, and the installation of electric lights in 1884.

Presidents almost annually stressed the need for more faculty dwellings, and by 1886 eight professors were housed on the campus. The faculty families formed a little community. Their children attended school in a neighboring country school or, later, in the college preparatory department. So convenient and socially desirable was campus dwelling regarded that there was a strong competition for houses when they became vacant. But there were also drawbacks and restrictions, especially when houses were divided. In 1887 a

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new professor petitioned the Board to release him from the agreement to occupy half of the farm house, as he and his wife felt that with their large family "life in this house would be uncomfortable and exhausting to an extent that would interfere with my work. It would be better if the worst should happen, that I should toil on in loneliness here, with the family comfortably housed, than that we should all be here in an uncomfortable home." The same professor was also greatly disappointed to find that in all the expansive college domain there was no place provided for his garden for which he had a "very positive taste" evinced by the hope that this area for relaxing labor would be provided even before his domicile was secured. Evidently campus husbandry did not extend beyond cultivation, as a board rule of 1886-87 provided that "no dogs, pigs, or poultry belonging to any professor, or employee, shall be permitted on the College grounds."

No permanent buildings were added to the campus in these years, but the main form of campus landscaping was worked out by President Welch in the early years. This project, designed by planting of native trees and shrubs on a naturalistic basis, was a labor of love with him and provided one of the more constructive and educative labor activities of the early students. In a description of the College in the *Iowa Normal Monthly* in February, 1889, President Chamberlain referred to the campus as "one of the most extensive in the West; a beautiful park where the principles of landscape gardening have been so carefully obeyed as to please the eye and cultivate the taste." The tradition of the location of clumps of trees by the scattering of potatoes or throwing of walnuts seems to be disproved by the precise description of the planning given by Dr. Welch a decade later. The common practice of planting potatoes to break up the sod may have been a basis for the legend. Dr. Welch's account of the making of the campus in a paper read at the meeting of the State Horticultural Society in 1885 sets forth his ideas of institutional

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landscaping and has permanent suggestions for campus development.

"The plan, after being carefully devised, was sketched on paper, and stakes driven accordingly where the trees should be set. The holes were dug twenty inches deep and thirty inches in diameter. As the work progressed and the workers grew enthusiastic, they were informally instructed in the following particulars:

"1. Some trees do not take kindly to grouping, because of their peculiar form and foliage, which are too striking to bear repetition.

"2. Those trees only should occupy the same group whose leaves and general outlines, when matured, produce a harmonious effect on the eye. Consequently the group will generally be limited to either the same species, or species that are closely related. For instance, you cannot properly combine on a lawn the weeping willow and the Lombardy poplar, nor the hard maple with the honey-locust.

"3. Great care must be taken at the outset that the completed plan should present no formal repetitions. The entire result should, as the years pass, seem like the product of nature in one of her happiest moods.

"4. Natural beauty never interferes with convenience. No tree should be set where it will obstruct the passage or stand in anybody's way, or intercept the open vista lines through which the eye can reach the more striking features of the distant landscape. The vision may be stifled as well as the breath.

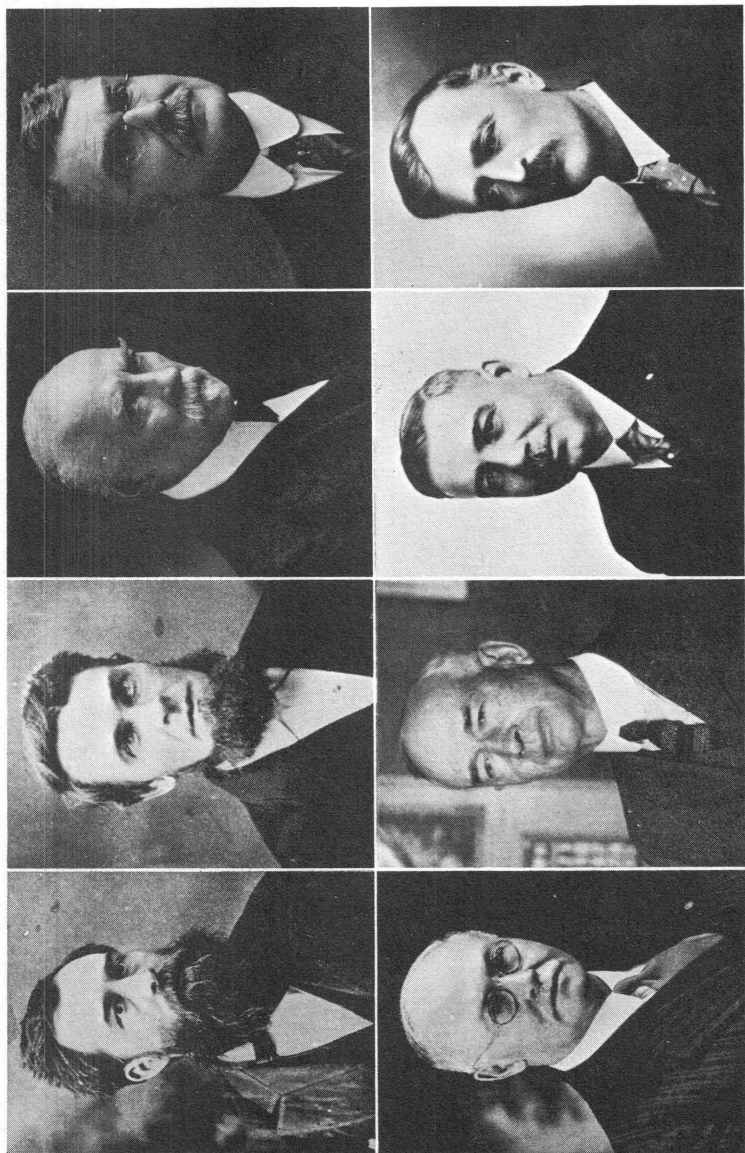
"No invariable rule can be given for the arrangement of trees on extensive lawns, since a variation of surfaces demands a variation of plans, but in general, it may be said that the first settings should extend along the roads and walks, should adorn the buildings, public or private, and crown the elevations wherever found. The humblest dwelling becomes attractive when set against a background of abundant foliage; but care should be taken that close growing trees should not be planted so near as to impede, in any season, the free access to its windows of air and sunlight. This policy may, however, be reversed in respect to surrounding unsightly structures, necessarily attached to every building. All these should be hemmed around by evergreens, whose thick foliage shall hide them wholly from the eye.

"All grouping should be made to answer, as far as possible, two different objects: the one of which is the near effect on the eye when the trees are young, and the other the more remote effect in future years. The first requires a large proportion of quick growing trees, and sets them at shorter distances apart with a view to future thinning with the axe. The second utilizes the slow growing, hardier trees, planted at wider intervals, suitable

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to their final size, interspersed, however, with a fast growing variety of kindred form, to be removed whenever crowding should begin."

"Fifteen years of growth have beautified the college lawn with a variety of tree forms, most of which, I am glad to say, are common ones, for I love common things and common characters whose aspect never varies in any vicissitude of fortune or weather."



PIONEERS IN RESEARCH. *Left to right: Above*—C. E. Bessey, J. L. Budd, L. H. Pammel, and Herbert Osborn. *Below*—Anson Marston, C. F. Curtiss, Wm. H. Stevenson, and William B. Niles.

CHAPTER NINE

TRADITIONS OLD & NEW

Student Life & Interests



In many ways the life and interests of the early A. and M. students were very similar to those of other colleges of their time. This was true especially of a state like Iowa with its high degree of economic and social unity. The great proportion of all college students came from rural homes differing only in non-essentials by custom and attitudes of certain special racial groups. The peculiar characteristics of the "agricultural college" student body were in a greater desire for a more directly vocational training and a distaste for the more conventional collegiate ways. Here as elsewhere, it is true, the influence of location was often determining, and in the early days probably the greater number of students, men and women, were seeking their only opportunity for higher education and desired a "general" rather than a technical education as they understood it, as a preparation for a profession, business, politics, or homemaking. The proportion of students forced to earn their way was high but probably no greater than in many of the old-line colleges. But the emphasis upon manual labor seemed to give a guarantee of such support. Higher education of any type or degree was comparatively rare and the new state institution brought it within the range of a group to whom it would otherwise have been closed.

THE SIMPLE LIFE

Costs to the students were in harmony with the standards of pioneer agricultural communities. Tuition was free, and

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all the necessities were kept to the minimum. There was no charge for rooms until 1876, when a rental of from \$3 to \$4 a month was made, board was provided at from \$2.00 to \$2.50 a week, and books were sold at wholesale prices. Even the railroads for the first decade provided special student rates. To meet these very modest charges a student might earn from a quarter to a third of his total expenses by the college labor, required and special. In the early days when labor needs were great, industrious students might be self-supporting. The report for 1870-71 estimated an average expenditure of from \$123 to \$149 and an average earning of \$50 "including the young, the sick, and the inexperienced." While total expenditures were to increase and labor opportunity to become less, the financial outlay was exceedingly moderate, even for those simple days. The average expenditure for a four-year course for 76 graduates before 1880 was only \$760. In 1880 with the increasing congestion of the main building, "boarding cottages" for men were opened in which equipment and living conditions were reduced to the primitive with corresponding reduction in cost. With the opportunities for earning during the winter vacation mainly in country school teaching (in which a large proportion of the students regularly engaged), no ambitious, able-bodied youth need be deprived of the benefits of higher learning.

Living conditions were in harmony with rural background and modesty of expenditure. The College constituted a little society in itself, and it was a community of simple ways and plain living. Food was wholesome and abundant. There were the inevitable complaints of successive student generations at the monotony of the fare, with the repetition of the traditional boardinghouse text, *Hebrews* 13:8 ("the same yesterday, today, and forever"), but reported menus reminiscent of rural abundance and substantiality, if unmindful of calorie balance and vitamin content, afford slight inducement for sympathy,

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especially when one of the complaints had to do with the over-abundance of blueberry pies! That in spite of grumblings both as to quantity and variety, extending at times to threatened "grub strikes," there was a temptation to over-indulgence is indicated by the faculty order in 1870 that the steward provide a special table "for such students as have been reported for wastefulness or gluttony." Every effort was made, according to prevailing standards, to secure a pure and uncontaminated food supply. The celebrated poisoning case in 1875—probably of ptomaine origin—was an affliction that might have come upon any well-regulated institution and fortunately brought no casualties.

SANITATION PROBLEMS

In spite of the prevailing limited knowledge of the principles and practices of sanitation, special efforts were made not only to combat disease but to safeguard health. There was need of constant vigilance. Infectious diseases like malaria and typhoid occurred periodically as well as epidemics of the virulent contagious afflictions. As early as 1877, investigations of the sewerage systems and water supplies indicated, according to current notions of sanitation, most dangerous conditions; but while certain more obvious remedial measures were taken, the beginnings of modern sanitary control came only in the late nineties with the construction of a water works and a system of sewage disposal. The first two professors of chemistry, who were medical practitioners, served as college physicians in the midst of long hours in classroom and laboratory. Dr. David S. Fairchild, a well-trained physician, began established general practice in Ames in 1872 and was often employed by students and at times consulted by college authorities on sanitary conditions. In December, 1879, when he was elected lecturer in the veterinary school, he was also made "College Physician, to serve without compensation from the

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College," but as a member of the sanitary committee he was allowed fifty dollars.

A material achievement of Dr. Fairchild's service was the establishment of the first college hospital. Through personal friendship with influential leaders in the legislature and in return for his influence in the location of the hospital for the insane, the college physician was able to secure a modest appropriation. Objection from legislators and college authorities to the word "hospital," as indicating unhealthful conditions at the College, was met by the designation "Sanitary Department." The establishment under any name was modest enough; it shared a two-story frame building on the site of the future Memorial Union with the Veterinary Department, was supported by small student fees—sixty to seventy-five cents per term—and was conducted by the part-time service of the physician. Student caretakers and "practical nurses" were secured when emergencies demanded. In these restricted quarters, including five rooms for patients, a laboratory, and an operating room, student health work centered for a decade during which, in addition to the treatment of medical patients, there were several appendectomys, two amputations, two tumor removals, and numerous minor operations and treatments of fractures. Dr. Fairchild made a worthy if modest beginning of the future student health service.

STUDENT ACTIVITIES

Social life was as simple and rudimentary as the physical. Amusements and recreations were limited; outside contacts, especially in the early years, were little disturbing and slightly determining. After making allowances for sentimental reminiscences of the "good old college days," one may conclude that there was unquestionably a wholesomeness and sincerity of attitude, and a seriousness of purpose. At the same time there were the limitations of pioneering. Hard physical labor, in spite of the theories regarding its conduciveness to mental

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effort, could not be carried on without a let-down of intellectual achievement. Separation from cultural opportunities had its narrowing effect upon intellectual outlook as remoteness from industrial activity had upon social contact. The problem was to conserve and foster the elements of growth and spontaneity and overcome those of narrowing and limiting effect.

Organized student interests, significantly as curiously called "activities," were in this seriously purposed undertaking made to supplement the instructional program. The literary society in the land-grant college, as in the sectarian college, was approved and positively promoted as an agency to give outlet to student energy and initiative in a way that would afford training in writing, speaking, and parliamentary procedure as well as incidentally in urbane deportment. The time-honored institution, combining, in theory certainly, restraint and intellectual and social improvement, seemed a providential organization to harassed administrators. The agricultural colleges, following precedent and usage in this as in other respects, reproduced the societies in their usual form and with their high sounding classical names. Such societies grew up with the Iowa Agricultural College. The Philomathean for both men and women was organized during the pre-collegiate term in November, 1868, with the sponsorship of Dr. Townshend. Inevitable, and probably inconsequential, differences brought division and secession with the formation of a Crescent society by a dozen bolters in 1870. The same year the Bachelor Society indicated masculine consciousness which was challenged in 1871 by the women's Cliolian. The Welch Eclectic was added in 1888 and the Philaleutheroi in 1890.

In the early years, when competing interests and distractions were slight, society activity was carried on with as great interest and at times as serious application as that given to studies. Essays were read, declamations and original orations delivered, and debates contested. Procedure was given as

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much concern as proceedings. The Crescents felt that they were making a major innovation in 1876 in substituting Robert's *Rules* for Cushing's *Manual*. The most pretentious enterprise of the literary societies, however, was the publication of the first student paper, the *Aurora*, which issued its first number 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 and contained articles by members of the faculty as well as the more outstanding essays and orations presented in the literary societies, the junior exhibitions, and the intercollegiate contests.

Oratorical and literary exercises were a part of the required program. The summer Junior Exhibition was one of the great events of the year with, as an early account recorded, "subjects as diversified as the ingenious brains of young America can invent," and marred only by the unseemly "procs" issued by the sophomores on these occasions. Commencement was a climactic oratorical or literary demonstration. In the early years, with small classes, all the members delivered original productions. Later only a select ten appeared before the general audience and the others read their "theses" to the Board—in what must have been one of the ordeals of that dignity. The outside speakers at commencement time, on the preceding evenings, delivered the annual address to the joint literary societies and the address to the trustees. The speaker for the societies was frequently a prominent alumnus; for the Board he was the governor, a United States senator, or some other prominent official.

This field of effort provided the only intercollege rivalry before the nineties. An Iowa oratorical association was formed in the seventies to hold an annual state contest, the winner of which would participate in an interstate gathering. Preceding the state meeting there was a home contest. The state and interstate contests called forth much rivalry. There were charges of incompetency and partiality on the part of the

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judges and of political combinations to control the offices. In 1884 because of alleged irregularity in the selection of judges, the association declared the contest void and arranged for a second at which not all of the member colleges were represented. There were consequently rival claimants from the state at the regional meeting.

In addition to these general societies there were various departmental organizations. Most notable was the highly occupation-conscious Agricultural and Horticultural Association which at the suggestion of Professor S. A. Knapp to confound their detractors, adopted the name "Hayseeds." This society undertook the responsibility of publishing its own paper, the *Students' Farm Journal*, which issued three volumes (Sept., 1884—Aug., 1887). It had sufficient circulation to attract a considerable body of advertising and won the cordial support of state agricultural organizations. Among the members of the editorial board of this short-lived student journal were at least a half dozen who were to gain nation-wide recognition: Spencer A. Beach, horticulturist; John Craig, horticulturist; Charles F. Curtiss, animal husbandryman and dean; Willet M. Hays, assistant secretary of agriculture; William B. Niles, serum-therapist, and Henry C. Wallace, agricultural editor and secretary of agriculture. Its demise was one of the evidences of the temporary decline in emphasis on agriculture. Other departments did not lack for organization. During the eighties engineering, veterinary medicine, and domestic economy associations were formed as well as science, economics, and glee clubs, and a college band.

To supplement their own efforts lectures for the students were provided by talent on and off the campus. In the seventies the societies secured speakers not only for their commencement meetings but occasionally at other times. A lecture association was formed in 1880 and continued through the decade with the usual ups and downs of such organizations. In 1887 the faculty provided a lecture series of its own. The

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subjects of the lectures ranged from the universe at large to intimate campus problems, from the most abstract to travelogues, and from the highly oratorical to the professionally humorous. As extreme examples John A. Kasson spoke before the societies in 1875 on "The Chief Characteristics of American Civilization," and four years later while on a visit to the campus President Folwell of Minnesota discussed informally topics suggested by the students themselves such as the function of public education, coeducation, and classical and scientific courses. Among the lecturers of the period were Bob Burdette, Will Carleton, Professor Swing, and the unctuous Schuyler Colfax whose lecture on "Landmarks of Life" gave "general satisfaction" to the student audience. In 1881 Bronson Alcott gave a "conversation" at the President's house to which the senior class was invited.

Faculty talent—according to the reports of the student paper—could be matched with the professionals. In his description of European travels in a special chapel talk of two and a half hours Professor Stalker's "quaint style of describing various incidents and scenes reminded one strongly of Mark Twain's Innocence [sic] Abroad." Professor Welch's lecture on "Animal Intelligence" was an "intellectual feast." General Lincoln described the Battle of Gettysburg with remarkable "vividness and impartiality." President Chamberlain, in explaining what the American boy should do for a living, chose his words "not for beauty of sound but for clearness and force with which to express his ideas," and according to report, in a single lecture Professor Stanton presented "The Railway as a Factor and a Problem in Civilization." To vary the program, the rendition of Ben Hur by the professor of elocution "would have done credit to any elocutionist in the United States."

RUDIMENTARY ATHLETICS

With such instructive forms of entertainment there was little time, along with the day's work, physical and intellectual,

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for sports. This limitation did not trouble the authorities as industrial education traditionally had frowned on games as youthful, frivolous, and distracting—particularly when, it was felt, useful labor supplemented by military drill could better provide all the benefits that might be secured from them.

Athletics, as a matter of fact, in these years were most informal and were organized much as they were in country schools and small towns. The brief recreation period after supper and on occasional Saturday afternoons afforded little time for the actual games to say nothing of opportunity for practice. The main competitive sport was baseball. Games were played among classes and with teams of neighboring towns. The initial class developed a nine that claimed the regional championship. In later years this team came to be noted not so much for its athletic achievement as for the distinction of the members who composed it. J. K. Macomber was a pitcher and first baseman, O. H. Cessna played at third base, E. W. Stanton at shortstop, and LaVerne W. Noyes, John L. Stevens, and John D. Grant were other members. The reports and summaries in the student paper indicate the typically rudimentary status of the national game. The greatest interest was in interclass contests and in an occasional game with the faculty.

Football was given comparatively little attention, though it was reported in 1878 that it was absorbing playing interest to the neglect of other games and that even members of the faculty were participating in the novel sport. There were rumors of state intercollegiate associations, but it was only in the nineties that such organizations were effected.

THE LONG VACATION AND STUDENT TEACHING

If term time afforded little opportunity for recreation, the vacations were no less occupied. The "long winter vacation" was counted upon by most students as an opportunity to earn the bulk of the funds needed for the following college year. The most available and congenial method of employment was

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that of country-school teaching. This practice had been long developed among the older eastern and middle-western colleges and was naturally continued by students in land-grant institutions. Their familiarity with country schools and country people made them especially adaptable for their positions. The long continuance of the system—to the beginning of the present century—indicates that in general the service gave satisfaction to both sides. The contact brought something of the College's aims and spirit to the country region, and not a few country children were influenced by their student teachers to seek the adventures and opportunities of the new type college at Ames. An important but unforeseen effect of these experiences was to lead a surprisingly large number of students, both men and women, to adopt teaching as a life career. If the claim was verified that actual teaching interspersed with study provided a training far more effective than that of the average normal school, the system must have made a real contribution to public education.

SOCIAL DEMOCRACY

College aims and practices combined with the social background of the students made for a true spirit of democracy in the group. It was a democracy that with typical western attitude resented any marked departure from the norm of the region and the ways of the group and especially any assumption of superiority or special position. Even the traditional deference to upper classmen was not stressed in the early years. The *Aurora's* suggestion in 1878 that, in accord with eastern practice, upper and lower class literary societies be organized, as the "abstruse and involved problems" that appealed so directly to the upper class mentality were largely lost on the immature underclassmen and "preps" was not acted upon, and seniors and sub-freshmen continued to meet in the social and intellectual fellowship. This democratic attitude was manifested also in a general and vigorous oppo-

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sition to secret fraternities. Contrary to the situation in most other colleges, the anti-fraternity movement came from the students rather than the administration. As a small minority group the Greek brothers and sisters were on the defensive through the early years; they were forced to hold their meetings at early hours and in such places as might be granted to them, in contrast to the established organization of the literary societies.

The first fraternity, Delta Tau Delta, was founded as Omega chapter in 1875. Two years later Iowa Gamma of Pi Beta Phi became the first sorority. There was from the first strong student opposition. In 1882 a committee of students appeared before the Board asking that secret societies be prohibited. No action was taken at this time. The tone of the college paper reflecting popular student sentiment was consistently hostile. The administrations were generally favorable. Welch granted permission for meetings in his classroom, and Chamberlain, whose sons were fraternity members, was sympathetic. He advised the formation of additional societies as a means of extending the influence, and as a result the second sorority, a chapter of the Delta Delta Delta, was organized in 1889.

Meanwhile student opposition had precipitated a crisis in a raid upon a fraternity banquet in May, 1888, in which gas was turned upon the banqueters. The resulting action, following extended faculty investigation, was indecisive. There was a fraternity element among the faculty who sought to give the organizations all possible aid, but it was evident that their continued activity caused constant student strife. The leaders of the riot were suspended, but the Board was promptly petitioned to abolish all secret societies. The Board in turn passed the matter to the faculty for reconsideration, and the decision was to deny all special privileges in college buildings to such organizations. The *Aurora* continued its demand for complete abolition. Such was the situation to the end of the

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Chamberlain administration in 1890. The successful establishment and functioning of a fraternity system awaited a period of larger enrollment, wider contacts, and the consequent replacement of a paternalistic supervision with one of cooperative relationships and student responsibility.

A balanced social program awaited the same modernizing and socializing influences. The main society event of the year and of the college course for the first two decades was the junior "walk around," as at first sedately designated, or "trot." This humble ancestor of the gorgeous and glamorous "junior prom" was inaugurated by the junior class in 1872 in honor of the first outgoing seniors and by 1891 had reached its full development in the pristine form as attested by an appreciative report of that year's grand soiree:

"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 bachelor's room 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 tad-pole?' 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 freshmen 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."

MORAL STANDARDS AND CONDITIONS

The carefully regulated and regimented day with its combinations of physical and mental work, the isolation of the campus, and the wholesome rural backgrounds of the great majority of the students all tended to make disciplinary problems less serious than in the older institutions, particularly those of the East. In his second report President Welch

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served notice that the new education was not for the idle and vicious.

"The young men and women are expected to do all the duties assigned them, whether of labor or study, promptly and regularly. If they cannot bring to such duties an earnest zeal and a hearty good will they would far better stay at home. The president and faculty cannot give their energies, already overtaxed, to reforming disorderly boys or urging unwilling ones to study. The Iowa Agricultural College is in no sense a reform school. Its province is to instruct and encourage those who are earnest seekers for higher education and not to reform those who are idle and morally perverse. A few law-breakers destroy the harmony of the entire institution, and become an intolerable burden to the officers. If any such are found among our numbers, we shall require them to withdraw as soon as kindly advice and patient admonition are found to be of no avail. The State and national bounty must not be wasted on thoughtless boys and girls who do not appreciate it, and will not profit by it, and parents are earnestly advised not to send children here, who have proved unmanageable at home."

The environment, whatever its limitations in other respects, did not present serious temptations to immorality and depravity. There was nothing here to call forth such denunciations as Governor Larabee made of the intemperate conditions at the State University city in his inaugural address in 1886 and again in his biennial message in 1888. But the earnestness of purpose and standards of conduct which a large proportion of the students brought provided a more effective inhibition. These standards were reinforced by the sanction and motivation of active religious conviction and participation. The general attitude reflected a state in which there was a large proportion of devoted church members. Occasional charges that this technical institution was undermining students' faith were not verified. An investigation by the *Aurora* in 1879 indicated that more than nine-tenths of the students were "believers" and about one-third "professors." Only one case was ~~was~~ found where a student's faith, according to his own claim, had been weakened during his college course. Materialistic or rationalistic interpretations of the new science were offset by

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the teachings of the philosophy courses usually taught by clergyman, and in articles by faculty and students in the college paper. In 1879 Professor Wynn issued a series of pamphlets—reprints from articles in a sectarian journal—to combat the prevailing trend toward materialism in scientific thought. Naturally his challenges brought vigorous rejoinders from some of his scientific colleagues.

Opportunities for worship were not lacking. Chapel was compulsory on week days and Sunday. Bible classes were held on Sunday and in 1878 a Christian Association for both men and women was formed. This was divided in 1890 into separate Y. M. C. A. and Y. W. C. A. organizations. At the same time participation in outside ecclesiastical meetings for improvement or recreation was not allowed to interfere with college regulations. In 1870 the President reported that of a group of students who had attended without permission an evening session of a camp meeting, thirty had given a pledge “not to be guilty of a like offense in the future.” Twelve years later two students were found guilty, by a divided vote, and given five demerits for attending a church sociable and returning to quarters by way of a chapel window.

DISCIPLINE AND STUDENT GOVERNMENT

These salutary attitudes, surroundings, and restraints did not prevent disturbers, rebels, and an occasional stray degenerate. The repression to which the student body was subjected without natural outlet in adequate recreation invited pranks and disobedience. The nature of the cases that filled the dockets of the student council or occupied long hours of committee and faculty meetings indicates such reactions—disorder of various sorts and degrees in the living and dining halls, and less often in classroom, chapel, and laboratories, leaving the college domain without permission, taking fruit from the orchards and provisions from the kitchen. Smoking, drinking, shooting pistols and fire crackers,

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and petty larceny—aside from foraging—give infrequent variation to the court records.

Obviously, under the existing conditions of living and instruction, disturbances in the dormitories necessitated the main applications of institutional social control. The first official faculty meeting was called for the sole purpose of considering the case of a student "accused of being generally disorderly and especially of entering other persons' rooms and blowing out their lights . . ." This first offender was found guilty as charged but owing to "extenuating circumstances," which are not indicated in the record, was let off with a "public warning." But warnings of any time, place, or degree were to be futile to check the ingenious infractions of specified rules and the creation of the need for new ones. The supervising officers might properly class themselves as wardens without the power that is usually associated with that authority. President Chamberlain might well characterize the preceptress' position as "anxious, unpleasant, and laborious." The proctorship was exercised by junior staff members and senior students with about equal ineffectiveness, to judge by complaints from both sides. The exception in the conduct of the office was the service of a special official who was physically and temperamentally an ideal proctor, H. D. Harlow (1878-81). Harlow, who had been in the employment of the College as farm laborer and janitor since the fall of 1868, was tall and vigorous, able to stand up against any trouble maker, but at the same time a man of tact and understanding. Regarding his position constructively he saved many a student from serious trouble by timely advice and admonition. He attended student gatherings, including those of literary societies and spent his spare time—mainly during vacation periods—in the library. Shortly before he retired, the student body held a mass meeting in the Chapel and presented him with a watch, and the Board passed resolutions of appreciation. Harlow was a college character in the best sense, and alumni

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of his period referred to him with respect and affection. The continuance of such a liaison official between students and faculty might have eased many tense situations during the pioneer years.

To regulate student life and conduct at all points, from the rising to the retiring bell, an elaborate set of college laws was enacted by the faculty which were added to or altered to circumvent unforeseen delinquencies or to adjust inconsistencies and complications in the enforcement. The "rules" were codified periodically to keep them in harmony with Board decrees and faculty legislation. So elaborate and specific were these enactments that they left little room for the application of customary practices or judicial interpretation. As early as 1870 the "principal rules of government" extended to twenty-seven headings. Aside from administrative and judicial procedure, the early rules dealt with such matters as study hours, hours for sleep, Saturday and Sunday evenings, general order in the college building, communication between the sexes, leave of absence, the library, the dining hall, recitations and lectures, work (manual labor), examinations, kitchen, supply rooms and fields, the use of tobacco and intoxicating liquors, college dues, chapel exercises, excuses, and public property.

Institutional regulation at times was carried too far for faculty convenience. In 1870 on motion of the steward the rule was enacted that slippers or noiseless shoes be worn by students and faculty in dining hall, chapel and library and that it be the duty of the supervisor of the dining hall and of the librarian to prevent the entrance of persons failing to comply with this regulation. After the chapel was excluded from the areas of restricted footgear, the regulation was adopted. Five months later there is the significant entry in the minutes: "After a prolonged discussion the law relating to the wearing of slippers in dining room and library was suspended by vote of the faculty."

There were also differences of opinion within the faculty,

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between faculty and board, and the college authorities in general and the legislature as to the desirability of certain regulations of conduct. In 1876 in the *Progressive Farmer*, Mrs. Welch expressed the opinion that dancing, at least for children, was a harmless and desirable amusement. The following year Professor Bessey offered the following condemnatory resolutions: "*Whereas*, dancing is entirely foreign to the purposes of this institution and calculated to produce and promote an excitement which is injurious to the progress of the student, and *Whereas*, it is not regarded by many of the friends and patrons of the college as a proper amusement for young people situated as our students are to indulge in, therefore *Resolved*, that it be forbidden as an amusement or pastime to students of the college." The resolutions, in spite of fervency of preamble and expediency of argument, were rejected by a vote of three to eleven. Bessey, Wynn, and Thomson were the only supporters. But in November, 1882, the Board summarily ordered that "dancing by students upon the College grounds is hereby forbidden." The general assembly in addition to biennial reports by its committees, periodical general investigations, and frequent criticism in debate, sought at times to regulate the government. In 1886 a bill passed the Senate but was defeated in the House to require a majority vote of the faculty for the expulsion of a student.

To administer the elaborate code and to adjudicate the cases arising under it, a no less elaborate and ambitious governmental system was devised. In his second year President Welch essayed an experiment in student government that for the time involved about equal vision and temerity, though the system was subjected to various controls and limitations. Each section of the hall selected captains and lieutenants who reported offenders for trial before a student council presided over by the president of that body, with a member serving as prosecutor and another, if desired, representing the accused. The findings of the council were subject to review by the

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faculty with final appeal to the judiciary committee appointed by the Board. The more serious offenses and all those involving a member of the Council went directly to the faculty for trial or to the judiciary committee which in some periods seems to have exercised trial as well as appellate jurisdiction. In 1870 a system of demerits, arranged according to a regular schedule for anticipated offenses and adjusted for others according to judicial discretion, was substituted for other penalties although for certain offenses, like pilfering and smoking, fines were imposed in addition to the marks. When a student's demerits reached five he was to be warned in private by the president; when they rose to ten he was again admonished and "his friends advised" of his delinquencies; and when the fatal fifteen was reached the offender was suspended. Unless the sentence carried with it a decree of permanent expulsion, the student upon showing proper penitence might be reinstated. The records of the judiciary committee contain exhibits of petitions so fittingly and ingeniously worded as to suggest that the appellant had taken counsel of unusual academic expertness and understanding.

Evidently to call attention to mutual rights and obligations, to secure a formal acceptance of rules and to encourage continuous attendance, a unique contract signed by the president for the faculty and by each student at the term registration was in force for nine years (1880-89):

"We, the Faculty of the Iowa Agricultural College, hereby agree that we will guarantee to the students all the privileges and instruction set forth in the College Catalogue, and that the laws we make shall be simply for their advancement and the good government of the institution.

"We, the Students, hereby agree on entering the College, that we will respect its laws, and, except in case of illness, unforeseen misfortune, or the necessity of leaving to teach school, remain the entire term on which we enter."

Such an agreement was at the least a pleasing gesture toward the recognition of mutual rights and responsibilities

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and no doubt did something to create a spirit of understanding and good will, though this would depend mainly upon the fairness with which the whole system was administered.

This early trial of student self-government—which paralleled similar experiments in various land-grant and old-line colleges, East and West—has left contradictory reports as to its wholesomeness and effectiveness. Welch naturally was highly enthusiastic regarding it and his friend and admirer, I. P. Roberts, who witnessed its operation only at the initial stage, was “convinced that this method was the most just, expedient, and satisfactory of any I am acquainted with.” Certain alumni opinion, while more reserved, is in general favorable. In contrast there is much contemporary and reminiscent testimony to the abuses and perversions of the system. This opinion was succinctly and racily stated by W. T. Hornaday in an interview in 1929, “At Ames everything was to the good except the Bolshevik plan of student self-government; which is a world-beater system for the payment of personal grudges against students who do not sufficiently kow-tow.” Like all governments of laws it was administered by men—or boys and girls—with human limitations, and like representative institutions in general, this one was subject to various diverting and devitalizing influences. Too often designing cliques elected officers whom they could control. Naturally, complaints of extremes, both of laxity and severity, were numerous. The faculty participated more and more in the selections and finally substituted appointed proctors. Council decisions were increasingly rewritten by faculty decision, until the student council went out of existence in 1877, more by lack of serious interest than from faculty jealousy of authority.

Even faculty rule proved too bothersome and dissentient for the purposes of Leigh Hunt, who secured a decree from compliant trustees that the college government was “executive”—a euphemism for an academic dictatorship. President Chamberlain, in part as a conciliatory cooperative gesture

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and in part to share the burdens and responsibilities, secured a return to "faculty government" but with certain qualifications—imposed supposedly for speeding up the process of justice. "The Government of the college shall be that which is known as Faculty government, but the President and sub-judiciary of Faculty, however, shall have authority to suspend temporarily, but immediately, any student found deliberately disobeying the rules of the College or wilfully disturbing its peace and good order, the duration of such suspension to be fixed by the President and sub-judiciary committee."

STUDENT ATTITUDES AND OPINIONS

Whether or not they were directly participating in the government of the College, the students' opinions and desires on educational policies did not lack for expression—in student papers, society discussions, and petitions. While the superiority of the new education to the old was loyally and unyieldingly maintained, there was much the same division within the student body as in the constituency over the scope and emphasis of industrial education. The *Aurora*, edited usually by students in the general courses, advocated a broader and more liberal course of study with a wider range of electives, particularly in literature and the social sciences, in contrast to the *Students' Farm Journal* which, during its brief career, supported the claims of the technical and vocational. Much of this discussion was influenced and directed by rival groups of professors who inspired or suggested their students' ideas of educational philosophy and practice.

In such a democratic, pioneering institution the faculty themselves were fully subjected to appraisal, as to manners, methods, and general competence. The attitude of the trustees, as well as that of public opinion, toward a people's college encouraged such an attitude. In January, 1870, the Board resolved that "The intercourse between the Professors

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and Pupils in the Iowa Agricultural College should be regulated by the principal [sic] of propriety and courtesy and that the President be requested to see that the resolution is strictly complied with." Welch could be counted on to be tireless in instilling propriety and courtesy in the student body by precept and example, but the students felt that certain members of the staff were too indifferent to the amenities of life. One such, having passed a student with characteristic academic absentmindedness or careless disregard of the polite conventions, was called back and greeted with an ostentatiously formal salutation. Classroom manner perhaps, as being more readily subject to evaluation, was often more criticized than method. But general competence, in learning, technique, and experience did not escape the student censors. Comment was fully passed in the student papers on outgoing and incoming staff members. Retiring professors must have been reassured to read that they had conducted their courses in a manner satisfactory to their students, and incoming ones have been gratified to have the community informed that they were highly recommended and seemed, from all reports, competent to carry on the work of their departments. But when they were established their teaching methods and personal mannerisms were commented on with the frankness of the modern student column.

Beyond a certain range of tolerance in unpopular instruction there was revolt in some form. During the first years as revealed by the investigation of 1874 there were at least two cases in which classes had been boycotted and protests made to the president. In one instance a petition for the removal of an objectionable instructor met sympathetic response from the Board. In fact, dissatisfied students often found a direct appeal to a politically constituted governing body the most effective means for securing the relief sought. In 1876 there was a series of appeals to a rather pliant Board by an inde-

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pendent group of juniors. The first petition, to be relieved from the class of a professor held to be incompetent and ill mannered, was granted; but one from a student seeking an impartial examiner in place of an alleged unfair professor; and another from a group asking to be relieved from the classes of a professor whom, they alleged, experience and tradition condemned (offset by a counter petition of a group who certified to the professor's character and competence), were received and considered but not allowed. The Board itself was not freed from the censure of student journalists. Specially unpopular policies like the Welch removal met condemnation both inside and outside the walls, and a lady editor took sarcastic flings at a governing body who decreed a non-smoking ordinance and then violated it so flagrantly at its meetings.

Such assertiveness should not lead to the impression that this generation of students was especially subject to a spirit of revolt and of social intransigency. In their reactions to the issues of the day in literary society or commencement oration or journalistic essay, they tended to follow the sentiments and prejudices of their time and region. Support of agrarian interests, as understood, and opposition to eastern domination were orthodox appeals. Here and there, to be sure, would be rebels who more daringly would champion the activities of labor and defend left-wing financial proposals, but they constituted a small minority. Party division followed prevailing traditions of loyalty to organization and slogans. Interest in political discussion was shown in debates, mock conventions, attendance at political rallies, and efforts to exercise the suffrage by challenging college law in going home, or that of the state in local voting. When two students were convicted on the latter charge in 1881, a fund of \$150 was raised to make a test appeal. In general, student social and political reactions showed the same conservative tendencies as those of the early graduates whose political, religious, and social

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opinions were polled from time to time by an alumni association committee.

THE FIRST "OLD GRADS"

Alumni consciousness developed early. After a preliminary meeting in 1876 an association was formed on November 12, 1878, with E. W. Stanton as president and functioned continuously from that time, though for some years meetings were held only biennially. Divisions in the college and state in the early period were reflected in factions among the alumni, but gradually there developed a spirit of united loyalty for the College.

The best evidence of the achievement of the College in realizing its avowed objectives in the pioneering period was to be in the careers of the 502 students graduated in the nineteen classes from 1872 to 1890 along with those of numerous others who had not finished their course or had transferred to other institutions. The showing to this time was one of promise which the years were to fulfill. If the number of those engaged directly in agricultural and mechanical pursuits was less than the enthusiasts had desired, the shortage was more than met by the training of leaders who would further the work of these occupations. In addition all the other leading occupations had worthy representatives.

Among those whose names were to be outstandingly notable in their respective fields were: in agriculture—Francis L. Harvey, Luther Foster, Charles D. Boardman, George W. Curtis, Willet M. Hays, Charles F. Curtiss, Peter H. Rolfs; in veterinary science—Millikan Stalker, William B. Niles, and Myron H. Reynolds; in engineering—LaVerne W. Noyes, Thomas L. Smith, William C. Armstrong, George W. Catt, Elwood Mead, Morris J. Riggs, and George R. Chatburn; among general scientists—William T. Hornaday, the world famed naturalist (an ex-student); Herbert Osborn in entomology; Joseph C. Arthur and Albert S. Hitchcock in botany;

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Spencer A. Beach, Niels E. Hanson, and Evert S. Richman in horticulture; Virgil Snyder in mathematics; and Edwin A. Kirkpatrick in psychology. Education was to be represented by such teachers and administrators as E. W. Stanton, Orange H. Cessna, John K. Macomber, Julius C. Hainer, Herman Knapp, Isaac B. Schreckengast, Samuel W. Beyer, Joseph T. Chamberlain, and Maria M. Roberts. Carrie Chapman Catt was to be a distinguished champion of the suffragist and peace causes. Governors of Iowa, Colorado, and Illinois, in training among the non-graduating students, were Frank D. Jackson, John D. Grant, and Frank O. Lowden. Eugene J. Hainer and Charles H. Sloan were to be members of Congress, both from Nebraska districts. In addition there were numerous public school teachers, lawyers, physicians, journalists, bankers, and merchants, as well as a fair proportion of operating farmers. Here in the initial stages of such careers was a showing which might well have given any college real satisfaction and assurance for the future. But in most cases these future prophets of the new education had little honor in their native state. And there was a growing feeling in influential quarters that by past showing and present trends the institution was failing to measure up to its true mission as an industrial college.

CHAPTER TEN

FROM I. A. C. TO I. S. C.

State & College Get Together

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The organized agricultural discontent with the course of study and leadership of the College had the cumulative force of a local "green rising." The opposition showed itself unmistakably during the latter part of the college year, 1890. In October the Farmers' Alliance appointed a committee to visit and report on college conditions. The committee made its visit at commencement time and consulted with the Board. Its report on the agricultural work was most unfavorable. The resignations of President Chamberlain and Professor Smith at the November meeting offered the opportunity for a change of policy and a campaign was conducted by the opposition throughout November and December with the *Homestead*, then under the editorship of Henry Wallace, as the organ.

THE FARMERS' PROTEST

Letters and editorials charged that in the agricultural work the College had been steadily getting away from its true original purpose. The act of 1884 redefining the objective had been taken advantage of, said the protestors, to offer general theoretical courses at the expense of the practical. According to these critics the work in engineering and veterinary science was highly satisfactory, but there had been no real agricultural course since the Knapp administration. The claim that the course of study in the sciences related to agriculture was in any way professional was ridiculed by a student correspondent, who found the requirement of general and cultural subjects

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in this curriculum an unfavorable discrimination. "Is it more necessary," he demanded to know, "that a farmer should understand ethics and civics, German, astronomy, etc., than a merchant or a horse doctor? Is it necessary that a farmer should master the calculus and analytical geometry, which are two of the higher branches of mathematics?" This alleged conspiracy to subordinate the state's basic occupational interest in its own special College was depicted graphically by a cartoonist in the *Homestead*. A dehorned bull labelled "Agriculture" stood dejectedly in a corner of a field in front of the main hall awaiting the charge of long-horned cattle labeled "Civics," "Astronomy," "Calculus," "German," "Latin," and "Psychology." The caption voiced the moral protest, "Dehorned and cornered in his own pasture lot. This is 'Ethics' (?)."

The plan of the Board adopted at the November meeting to divide the station fund among half a dozen departments rather than to continue it according to the original plan as a separate and distinct establishment was held to be a scheme for promoting certain personal interests at the expense of the direct interest of the farmers for which the experimental work was undertaken. The meeting of the Stock Breeders' Association in December under the leadership of Henry Wallace and James Wilson adopted resolutions for a "distinctly agricultural and mechanical course in which no place will be found for purely academic and scientific subjects," the establishment of a dairy school, and an experiment station as a "distinct department directly for the benefit of farmers, incidentally of students."

The immediate concern of the protestors was to secure the "right" men for the presidency and the agricultural professorship. There was manifested at this time an extreme occupational and state consciousness. This was expressed in an open letter to the Board published in the December 12 issue of the *Homestead*. The College, the writer contended, should be

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strictly an Iowa farmers' institution, "managed by Iowa men—from the president down to the janitor—men whose every interest is in Iowa, and who are thoroughly imbued with the spirit of progress now extant in this state; men who have a greater interest in the institution than simply drawing their salary." Acting on this suggestion, several successful practical farmers with no particular academic training or competence in the basic sciences offered their services for the professorship either through friends or directly to the Board. Meanwhile, leaders in the farmers' organizations were planning for constructive and competent selections.

NEW LEADERS CHOSEN

The choice centered on two individuals felt to be unusually well adapted to meet the critical turn at the College and to command general confidence in the state. The Reverend William M. Beardshear, then superintendent of the West Des Moines school district, was brought forward by his supporters, led by C. D. Boardmen, '74, and C. F. Saylor, '82, as a man of experience, adaptability, and personal appeal who would meet ideally the executive demands. For the agricultural work overtures were made to Henry Wallace, but he did not wish to leave his work in agricultural journalism and suggested James Wilson for the position. Shortly before the meeting of the Board Wallace and Wilson conferred. The latter agreed to accept the position if he were the unanimous choice. The endorsement of these key men by the leading organizations was then shrewdly arranged. Wallace insured this by cleverly drawing away the force of the opposition in the Alliance by purporting to oppose Wilson's selection.

The day before the Board meeting in Des Moines, January 8, 1891, the Alliance, The Dairymen's Association, The Improved Stock Breeders, and The Butter, Cheese, and Egg Association met and endorsed resolutions presented by an Alliance committee. The address emphasized the neglect of

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agriculture, which had reached the point where it could "no longer be fairly considered an important feature of the course." At the same time they found "the higher mathematics, ancient and modern languages, and other studies, which are at most permissive under the law, occupying the time and attention of the student to the almost entire exclusion of studies that by the same law are made one of the chief objects for which the college received its munificent endowment." They were convinced that "the agricultural interest of the State emphatically demands, in addition to the complete course of graduation, a two years' course and a three months' winter course, to which students shall be eligible without regard to age or education." In addition the dairy interest was demanding a special school.

But "of equal importance with the reconstruction of the course of study" was the selection of an "understanding and sympathetic president." The delegates were alarmed at the suggestion of the selection "of any officer of the college or any alumnus who has not been recognized in the past as thoroughly imbued with the farm spirit, or who has not earnestly protested in time past against the measures that have brought the department of agriculture of the College into its present deplorable condition." No man should be chosen who sympathized with the aim of certain of the alumni to use the funds granted for an industrial college to develop a general university. On the contrary, they believed that "an entirely new man should be chosen, one of well-known executive ability in the management of an educational institution and in entire harmony with the objects sought by the Farmers' Alliance in the appointment of this committee." Beardshear was endorsed as a candidate having these qualifications. If the recommendations of these representative bodies to recognize the curricula "by excluding all scientific and classical studies that are not absolutely necessary to the successful pursuit and highest attainment of a practical agricultural, mechanical,

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and business education, not only from the course but from all the courses, and make the college distinctly industrial and agricultural" according to the intent of the law, to establish a dairy school and to elect a suitable president were heeded, they were prepared further to ask the election of James Wilson as professor of agriculture. "If, however," they concluded ominously, "the present course is to be retained and the present conditions at the College are to continue, we withdraw all recommendations."

The following day these recommendations, in essentials, were enacted. A full agricultural curriculum was re-established with a two-year short course, and a dairy school. Beardshear and Wilson were unanimously elected. On the experiment station organization there was a compromise. The existing system was continued, and by a vote of five to four Director Spear was displaced by Wilson, who thus headed the experimental as well as the teaching work.

While thus recognizing in the main this mandate from the organized farmers, the Board issued a reply to the Alliance communication—prepared by a committee representing both alleged factions—in which they sought to correct certain misapprehensions. The Board had not known of the change in the agricultural course until too late to alter it before it was embodied in the catalogue. The allegation that the agricultural work had hitherto been a failure was disproved by the number and standing of graduates in the profession. Any alarm over the selection of an alumnus to head the institution was removed by the action now taken. But the Board took this opportunity to make clear "that Professor E. W. Stanton whose name was mentioned for the place but who was never a candidate for the position has been a warm and faithful friend of the College, always ready to uphold and defend and has uniformly advocated the distinctively agricultural features of the College." Any implied reflection on the Professor would thus be most unjust to "one of the ablest and best friends of the

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College and Agricultural Education that Iowa has ever had . . .” Furthermore, the alumni on the faculty and Board had “been among the strongest advocates of a distinctively Agricultural course in the College.”

On the matter of the experiment station, after an examination of the organization in the various states, the Board was convinced that their plan of combining teaching and research was the most practicable, and they urged that final judgment be withheld until the plan was considered more fully.

Whatever the immediate influences in effecting the change of policy and of leadership, it unquestionably reflected the prevailing sentiment of the state regarding the College's work. The action marked a turning point in the relations internal and external. It came in a period of transition in the land-grant college movement resulting from the research impetus given by the experiment stations, the increased endowment of the second Morrill Act, and the standardizing influence of the Association of Agricultural Colleges and Experiment Stations. The new leadership was worthy of the opportunity of this transitional era.

BEARDSHEAR'S CAREER AND PERSONALITY

William Miller Beardshear well exemplified the spirit of western utilitarian idealism. His tireless, driving energy was directed to the realization of his ideals. This showed itself early when as a lad of fourteen—large for his age—he left his Ohio farm home to enlist in the Union army. On his return from the war he attended Otterbein University to prepare for the ministry and supplemented this course by two years in the Yale Divinity School. After service in the ministry of the United Brethern Church he was called in 1881 to the presidency of Western College, at Toledo, Iowa. Through his able and energetic leadership he was enabled to win support which brought this small college to relative prosperity. He soon became known for his appeal in public address, and had

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been one of the most popular preachers at the Agricultural College chapel. In 1889 he had come to Des Moines to head the West side school district. Thus, for his personal characteristics and demonstrated leadership he was sought as the man most likely to reconcile differences within the College and to gain favor and support without. Only forty at the time of his election, he was at the full height of his dynamic power and nervous energy. He was impressive in appearance and manner, tall, broad shouldered, with black hair and beard and piercing eyes. He was an adaptable speaker with a powerful voice, and his whole presence radiated vitality and energy. With a pioneer practicality he combined a pioneer idealism—expressed in a sincere love of nature and in a broad, unaffected humanitarianism. He had long been a student of Burns, and during his connection with the College became a Whitman devotee. He had a sincerity that brought conviction and a straightforward manner of expression, often in racy and colloquial phrase, that aroused and held the interest of his audiences and the readers of his reports. Behind his rugged simplicity was evidence of determination and latent power which gave assurance that the College had a leader with whom it could go forward.

THE “OLD QUESTION”

The basic problem that confronted the new administration in this transitional era was really the one that had existed from the beginning, that of establishing the College in the state educational system by an adjustment of the place and emphasis of the technical and general studies. The veteran educator, Leonard F. Parker, in concluding his sketch of higher education in Iowa for the Bureau of Education in 1891 observed, “The elements of the old question ‘Shall the agricultural college aim to prepare pupils for citizenship as well as for business?’ still remain.” Upon the answering of this persisting question, then as always, internal harmony and

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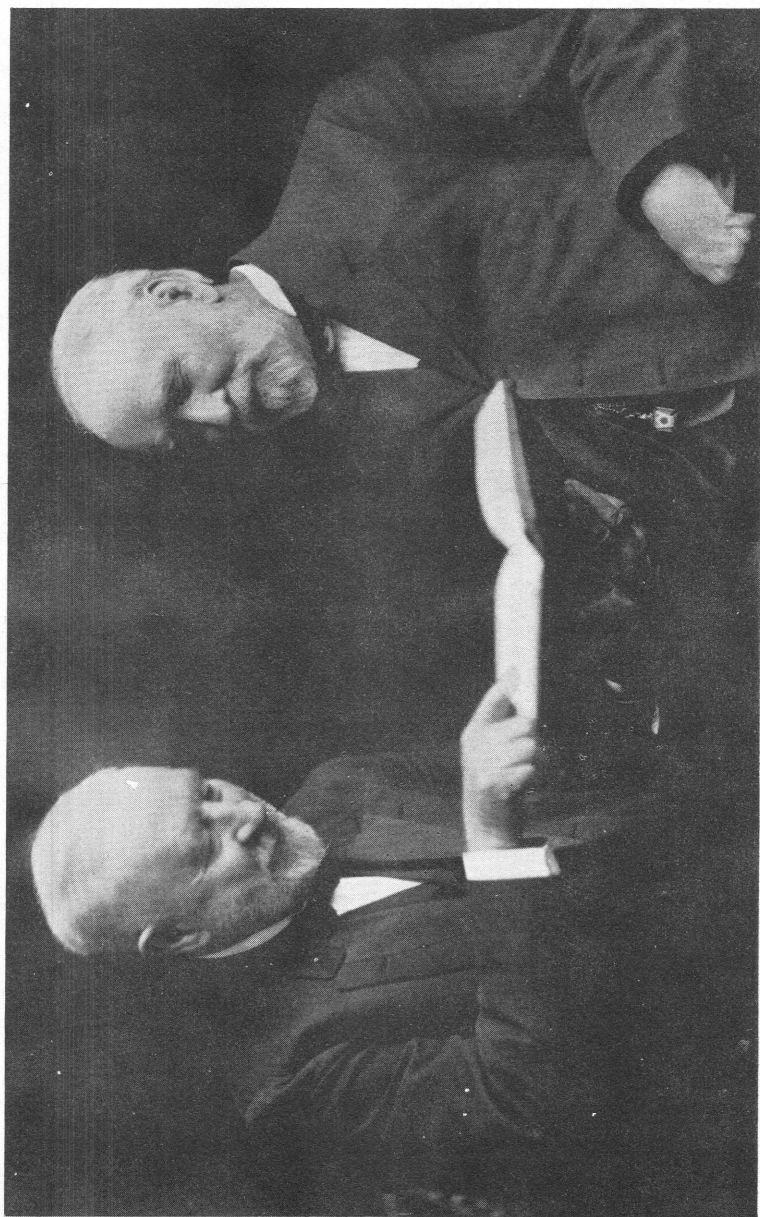
progress and state-wide confidence and support depended. The immediate need was to reassure and conciliate the farmers. In direct recognition of this major interest a man had been chosen equal to the president himself in strength of personality, vigor of purpose, and prominence in public service.

TAMA JIM

James Wilson—"Tama Jim" as he was popularly known to distinguish him from James F., or "Jefferson Jim," who had opposed the College bill in the 'fifties, and from James H., or "Prairie Jim," who was a College trustee from 1902 to 1909—was a Scotchman who, with limited educational opportunities, had combined with unusual success agricultural and political leadership. He had been influential in farm organizations, a contributor to agricultural papers, and had served in the General Assembly, on the state railroad commission, and in Congress. Hitherto he had been a vigorous critic of the college program and had been one of the most pronounced advocates of a practical, vocational organization and emphasis. Now he had the unenviable task of reorganizing the instruction and directing the experimental program in a way to meet the desires of the occupational groups and the approval of educators and scientists. That he would at all times be zealous for the farmers' interests, as he understood them, there could be no doubt.

NEW AGRICULTURAL PROGRAM

Efforts at appeasement in a reorganized and popularized program had been started by acting-President Stanton, and in his first report Beardshear could give the sweeping assurance that with one of the very best agricultural courses in the country, non-collegiate and short courses, and the special dairy school, the College was "now ready to supply every need in imparting agricultural education to the farming indus-



HENRY WALLACE

JAMES WILSON



ALBERT B. STORMS



WILLIAM M. BEARDSHEAR

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try of Iowa." Special groups of producers were recognized in the establishment of new departments of dairying, animal husbandry, and farm crops. The station was organized with a combination of special research workers and the part-time service of the teaching force, with the aim of getting the best results of both systems of recruitment.

Unhappily the new agricultural program was disturbed by dissensions and controversies that were symptomatic of professional and scientific rivalries and jealousies of the period. With the rise of the modern creamery system, the dairy interest was especially active. Henry C. Wallace, the son of the veteran journalist, was made assistant professor of dairying in 1892—the same year that he completed the work for his degree, after five years of practical farming between his under and upper class study. Shortly afterward Professor Wallace, his brother John P. Wallace, and Professor Curtiss secured control of a small agricultural paper at Cedar Rapids, which they brought to Ames and rechristened the *Farm and Dairy*, planning to make it primarily a dairy paper with special attention to the work at the College. Under such auspices the paper proved an organ of controversy. In May, 1894, the paper brought charges to the Board against the station chemist, G. E. Patrick, alleging that certain of his findings on dairy investigations were unsound and unfair. At the same time the state dairy commissioner charged Professor Henry C. Wallace of plagiarism in neglecting in a station bulletin to give due credit for the findings of other investigations. The Board found both sets of charges wholly without warrant or justification; but because of the unfortunate effect of the rivalry upon the public attitude toward the research program, Patrick, Wallace, D. A. Kent, an assistant professor of agriculture, and F. A. Leighton, an instructor in dairying, were requested to present their resignations to take effect at the end of the year. Professor Curtiss was ordered to sever his connection with *Farm and Dairy*. The paper was reorganized

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the following year as *Wallace's Farmer* under the editorship of Henry Wallace, who had just withdrawn from the *Homestead* after bitter disagreement with the publisher over editorial policies.

In 1896 Curtiss, whose reputation as a livestock authority was growing steadily and whose organizing capacity was being felt, was promoted to a professorship of animal husbandry and made assistant director of the station. The following year, Wilson became secretary of agriculture, with the understanding that Curtiss would be made his successor as head of the department and station. Wilson was given an indefinite leave of absence and kept a nominal connection with the staff and a real one with college policies throughout his four-term service at Washington.

FACULTY REORGANIZATION

The other main technical fields, engineering, veterinary science, and to some degree domestic economy, through subject specialization and modernized equipment, were coming to coordinate and stabilized positions. Both in the technical and general departments the administration was marked by unusually strong appointments.

Beardshear's administrative genius showed nowhere to better advantage than in making appointments—where he was free to do so unrestricted. Not a specialist in any particular field, he had the breadth of view to appreciate all fields of learning and the social vision to sense their applications. His ability to judge people made for sound selections, and his enthusiasm and appreciation won loyalty and cooperation. Modern leadership and direction came to engineering at the beginning of his term with the selection of G. W. Bissell and W. H. Mecker in mechanical engineering, Anson Marston in civil engineering, W. S. Franklin and L. B. Spinney, '91, in physics and electrical engineering, and S. W. Beyer, '89, in geology and mining engineering. The agricultural work

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was strengthened by J. B. Weems in agricultural chemistry, G. L. McKay in dairying, and P. G. Holden in agronomy. Veterinary science was developed in teaching and research by J. J. Repp, J. H. McNeil, and W. B. Niles. In the general science field, H. E. Summers in zoology, A. B. Noble in English, and O. H. Cessna, '72, in history and psychology were notable appointees. No less vision was shown in the selection and encouragement of certain young instructors, a number of them alumni, who were destined to give the institution life-long service—Maria M. Roberts, '90, E. A. Pattengill, '97, Annie Fleming, '94, and Julia Colpitts in mathematics; A. T. Erwin, '02, in horticulture; J. E. Guthrie in zoology; and W. H. Stevenson, '05, in soils.

There were certain unfortunate conditions of appointment and tenure that, belonging to the time and system, were beyond the President's control. The main cultural chair involved such a case. In 1894, ex-President Chamberlain was able to realize a long-standing aim in securing a call for Barrows to the Ohio State University. Among the applicants for the vacant chair of English and history, the venerable Dr. Wynn had sufficient influence with alumni board members to be recalled to his old position. To many this seemed an act of belated justice, and the veteran professor was cordially received, but his later years were disappointing. He was past his prime, and though for a few students he had something of his old appeal, for most his lectures tended to be rambling and discursive; the vein of sentimentality that he had drawn upon effectively in earlier days now flowed unrestrained. In 1899 the chair was divided. Professor Alvin B. Noble, a graduate of the State University who had had outstanding success in teaching English at the Michigan Agricultural College, was selected for the work in English, and Wynn continued for a short time as professor of history. With the election in 1900 of Orange H. Cessna, '72, to a new chair of history and psychology Wynn was dropped, and he retired

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to the Pacific Coast with a feeling of deep bitterness for the administration and certain colleagues of the institution that he had served so long and faithfully. Beardshear declared in private that the episode was one of the most distressing in his career. A regular provision, even though modest, for honorable retirement, should have prevented this and similar cases of embarrassment and unhappiness. Factional groups and interests in certain departments—mostly in agriculture and veterinary science—influenced appointments that, however competent the appointees, were to have a disturbing and unsettling influence and at times bring serious criticism upon the work and policies of the College.

Another influence militating in some cases against the freest selection, fairest advancement, and securest tenure of staff members was that of nepotism. The legislative investigating committee of 1898, "found that members of the families, or near relatives, of four members of the Board were employed at the College. This was unusual, for inquiry at other Iowa institutions developed that a like condition did not exist. We are satisfied that the trustees secured their relatives the places on the payroll, and it is probable that such parties render value for the compensation paid. This practice, however, cannot be commended. It exposes the Board to a distrust and criticism that works no good to the College. It can readily be seen how a member of the Board who has a relative on the payroll, will sustain such relations to the management as will prevent that just and ready criticism, that disinterestedness and impartial inquiry into the affairs of the College which the state has a right to expect from the Board of Trustees." This abuse which President James of Illinois held to be "of all the forms of illegitimate influence in the working of a great university, the most subtle, the most disintegrating, the most corrupting" was one with which all land-grant colleges had to contend and was a reflection of a political governing body some members of which sought to bring educational

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appointments within the range of the spoils system. That abuses were not more frequent speaks well for the majority of the trustees, the administration, and the opinion of the constituency. Hopeful signs were a lessened employment of relatives of college officials and leading professors as compared with the practice of the early days and a checking of the tendency toward unbalanced "inbreeding" of graduates on the college staff.

DUPLICATION ISSUE APPEARS

With the rise of the main technical fields to a dominant position, the adjustment of the general subjects—hitherto rather unsystematically developed—both as supporting and service studies for the technical lines and as fields of training in themselves, remained to be made. An appraisal of subjects, courses, and degrees was stimulated by the appearance of the modern agitation over duplications and jurisdictional encroachment among the three state institutions. The investigating committee of 1898 found no material duplications between the State College and the University and gave assurance that there was no rivalry or friction between them. But to insure against misunderstanding and needless expenditure, the committee renewed a suggestion "frequently made" that "some board or committee should be created for the purpose of arriving in an impartial manner between the agricultural college and the State University, so like chairs for like purposes shall not be maintained at both places, unless the instruction at one institution is inadequate for the demands upon it. This seems to be a practical suggestion made, we confess, from a pecuniary standpoint."

Attitudes toward duplication altered with the changed emphasis or specialization of the different institutions. Governor Jackson in 1896 and Governor Drake in 1898 recommended a chair of pedagogy at the State College, but Governor Shaw favored having all teacher training in a group of normal

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schools. His views on the subject of duplication in higher education in general were stated with characteristic incisiveness in his message in 1900: "I doubt the wisdom of duplicating unnecessarily the departments of our three great educational institutions. They should be in no sense rivals. The university should not be a school of poly-technics, but in fact a university. The normal schools, assuming we must have more than one, should not be colleges of liberal arts, and neither the University nor the College of Agriculture and Mechanic Arts has place or room for chairs of pedagogy. Let the special field of each be kept distinct, and each perfected by special appropriations. Then all shall know where the object of their quest can be obtained, and the state will be able to furnish as good as the market affords." As a general proposition, the Governor's statement was incontrovertible—the whole issue concerned the determining of the "special field of each" and deciding what was necessary for its adequate development.

Beardshear sensed both the dangers of rivalry in the general subject field—even when clearly "within the law"—and the opportunity that the new professional technological consciousness afforded. In his report for 1898-99 he gave assurance that there was no disposition to take advantage of the permission in the federal act to include "so-called liberal studies," but rather it was the "purpose and ambition of the college to build up a great technological institution, such as will be a credit to the state, an inspiration to all industries, and an honor to the nation" In the same report he explained that the course in letters and philosophy was restricted to the women students "to avoid conflict of interest with any other state institution." The change of the designation of the general division from "Science and Philosophy" to "Science as Related to Industries" was made directly to provide an adequate general training that was clearly within the recognized aim of the land-grant college. These courses were planned "to lay a broad foundation in scientific facts and principles

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in order to fit the graduate to fill his place in the affairs of the world. There can be no better preparation for the duties of life, and for citizenship than the knowledge and mental training given by a genuine study of the sciences." The efforts of the literary departments in these years to show their practical benefits in facilitating expression and personality development were in line with the prevailing emphasis.

DIVISIONAL ADMINISTRATION STARTED

The growth of specialization and professional status in the main technical fields and the systematizing of the general subjects and their coordination with the technical called for more elaborate administrative organization. In the catalogue of 1898-99, four divisional groupings were made—agriculture, veterinary science, engineering, and science and philosophy, which included the general sciences, literature, domestic economy, military science, music, and the library. The original grouping was curricular rather than governmental; the only deans listed were Wilson for agriculture, on leave, and Stalker for veterinary science. For 1901-02 the only official head of a division was the president, who was listed as "acting dean" of veterinary science. In 1899, as noted, the general division was rechristened "Science as Related to the Industries," which was generally abbreviated to "Division of Science." In the course for women, which included required work in domestic economy throughout the four years, the degree of bachelor of letters was dropped after 1898, and that of bachelor of philosophy was conferred from 1899 to 1901. From 1902 the bachelor of science was conferred on both men and women in the division. The expansion of the domestic economy to degree status a few years later removed the demand for the special women's course.

NAME AND CALENDAR MODERNIZED

Elaborating of curricula and systematizing of organization led to the broadening of the college name to indicate the more

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complete program and the more extended state relations. In this as in other land-grant colleges there had long been growing protest against a designation, which, perpetuating the original interest, emphasized but one of the major lines of work. As early as 1879 a student contributor to the *Aurora* held that the name agricultural college was a "misnomer" and recommended the designation used by the Bureau of Education, "National school of science," as most comprehensive and expressive. The editor commented that if this article could be read by all the people of the state many erroneous views about the College might be corrected. However desirable a broader and more expressive name, in view of the College's origin a national designation would not have found favor at that time and would have seemed increasingly inappropriate and objectionable with the growth of state support. In his report for 1880-81 President Welch called attention to an increasing "public protest" against the restricted name, on the ground that the congressional act designated "two great series of industries." The name, it was felt, was creating an incorrect impression as to the scope of the College. Welch, while paying tribute to the dominance of the agricultural interest of the state, suggested as the most appropriate designation "Industrial." In June, 1882, the faculty recommended to the Board that in the next catalogue the name be changed to "Iowa State College of Agriculture and Mechanic Arts." The alteration was not made until the catalogue of 1886, and it was not until a decade later in the report for 1896-97 that the new name was officially adopted by the Board. Chamberlain had used the A. and M. designation in his first report, and in his second urged that the existing title was inadequate and misleading and not in harmony with the College's objectives as stated in the act of 1884. In his report for 1890-91, C. W. Scribner, the ambitious young professor of mechanical engineering, sought to set the record straight and give proper standing to his work by point-

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ing out that "our school is essentially the Iowa State College of Agriculture and Mechanic Arts, the last part of this title being recognized as equally important with the agriculture."

The legislature made the alteration in a routine manner. The appropriation act of 1896 was to the "Iowa State Agricultural College," that of 1898 to the "State College of Agriculture and Mechanic Arts." The code of 1897 gave the new title to its chapter but the old to the page heading. Certain agricultural papers and leaders viewed the modernization with disfavor, especially when the name was contracted to "State College," as tending to a lack of proper recognition of the great interest. In practice the designations were varied. In student intercollegiate contests as well as in general journalistic parlance it was most frequently "Ames." The possibilities of descriptive terms were indicated by a history of Story County published in 1890 by an alumnus and with the chapter on the College written by Professor J. C. Hainer, in which references were made to the "Industrial College," the "Iowa Agricultural College," and the "Iowa State Agricultural College." There remained the further confusion of the designations, the University of Iowa, the Iowa State College, and Iowa College. The final official sanction was given to the college name, motto, and insignia by the adoption by the Board on June 16, 1898, of the official seal with the inscription "Iowa State College of Agriculture and the Mechanic Arts—Science with Practice."

A further modernization was in the change of the college year. The passing of the old manual labor requirement and of the primitive housing conditions that had made the winter vacation expedient, along with the general practice of June commencements, made the old schedule out of date. Iowa was said to be the last of the land-grant colleges to make the change. In 1898 the legislature changed the end of the fiscal year from November to June 30, and the adjustment of the teaching year was soon to be brought in line. Upon faculty

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recommendation the Board decreed that the 1900-01 year should begin on September 1 with commencements in November and June. From 1901 the regular commencements were in June, in accord with the general practice.

Indications of growing collegiate consciousness were the adoption in 1891 of college colors, silver, gold, and black, which proving too abundant and contrasting, were changed in 1899 to the permanent cardinal and gold, and an official "yell" which was subject to periodical revision. The President's suggestion to the music club that songs should be written reflecting the spirit and customs of the College was well received but apparently called forth no inspired production worthy of permanent adoption. The feeling of need for such expressions was an outgrowth of the beginnings of modern student activities.

RISE OF INTERCOLLEGIATE ATHLETICS

Iowa State's participation in intercollegiate athletics dates from the awakening nineties. As confidently reported in the '95 *Bomb*, "the spirit of progress, which has characterized the college as a whole, has made itself manifest equally in athletics as in other lines." With the passing of the manual labor regimen and the practical occupational zeal that had maintained it, and with the increasing preparatory "school spirit" of the entering classes, the rise of organized college sports in the East, and the growth of intercollegiate relations and rivalries at all points of contact, a competitive athletic consciousness was aroused. Student enthusiasm for organization found another outlet in athletic associations general and special; the complete student initiative in early sport activity gave full opportunity for budding, promotive talent and leadership.

A preliminary organization was started in 1889, and the next year the College sent six representatives to a state field day. Definite participation dates from 1891 when a track

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association was formed to conduct the home field days and to select representatives for the state meets. The initial organization was followed during the next two years by those for baseball, football, and tennis. To unify and systematize the effort a consolidation was effected in 1894. Representatives of the different organizations drew up a constitution for a Union Athletic Association which was ratified by a student mass meeting on April 25. This organization, student controlled—with four student representatives, two from the faculty, and two from the town—directed the athletic program until replaced by the Athletic Council in 1899. The Council was composed of one student representative from each class, four faculty representatives, two alumni, two Ames business men, and the president and graduate manager as members *ex officio*. This composition secured in effect a faculty controlled governing body. The award of the "A," the early athletic insignia, was one of the duties of the Council.

Baseball here, as in other colleges, was the pioneer competitive sport. Played informally from the first years, the national game was given regular status in 1892. That spring the Iowa Inter-Collegiate Base Ball Association was formed. The charter members were Drake University, Iowa College at Grinnell, the Iowa Agricultural College, and the State University of Iowa. Cornell College joined the next year. A silver bat trophy was awarded to the team winning it three years in succession. The Agricultural College made an auspicious beginning with a championship team the first year. Vincent Zmunt as pitcher and Ira C. Brownlie at second base were far above the prevailing standard of college players. Zmunt struck out nineteen batters in one game, and his batting average for the season was .439; Brownlie was a close runner-up with .422. Zmunt was a senior, and his like was not seen again for some years. After his collegiate career as athlete and student leader he became a successful lawyer and

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served the college as a trustee. Brownlie's contribution to I.S.C. athletics was even greater in his relation to the beginning of football.

That dominant college game had been played on the campus informally from the late seventies, but the first competitive team under the Rugby system was organized in 1892 without benefit of expert training and coaching. Brownlie, who had played the game at Eureka College, was the moving spirit, serving as captain and providing such coaching as his experience suggested and as his team mates would tolerate. Evidently in spite of growing enthusiasm for the new game there was a reluctance on the part of the "squad" to engage in regular training. The *Student* reported in August that they had an "association, plenty of ground, two foot balls and a hundred dollars—in fact everything but players," and some weeks later there was complaint that the team was not willing to devote adequate time and effort to the regular practice.

The first recorded game was with State Center; it was played just south of the present Campanile and resulted in a 6 to 6 tie. An 8 to 0 victory over the Des Moines Y. M. C. A. was heartening. The next season Brownlie was absent until late in the fall, and the military trip to the Columbian Exposition disrupted athletics no less than class schedules. In 1894 the first professional coach was secured—W. P. Finney, who had starred both at Purdue and Chicago. He was able to introduce something of the varsity technique of the game in preparation for "fast company" participation.

The year 1895 is a doubled starred one in the annals of Iowa State athletics. That season marked the first of five in which a great master of the game, Glenn S. ("Pop") Warner, late captain of the Cornell University team and just entering upon his famed coaching career, came to Ames for a month or six weeks before beginning his regular duties at eastern universities, (Georgia and Cornell in this period). This season marked a full hard schedule with some of the leading teams

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of the Middle West. The showing was a credit to the early season drilling of the inspiring young mentor. The achievement that more than any other put the College on the athletic map was the defeat of Northwestern on September 28 by a score of 36 to 0. A phrase used in the *Chicago Tribune's* story of the game contributed the popular designation of the college teams—the "Cyclones." According to the *Tribune's* sports writer, "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." The remainder of the season was not all so glorious, as the Ames cyclone was halted both by the Badger and the Gopher attacks, but these reverses were more than offset by the defeat of their own state university by a score of 24 to 0 in the final game. During Warner's first two years Captains Brownlie and Burt German continued the training according to his directions, and in the last three the coaching was continued by J. H. Meyers, '95, a young attorney, who left brief-drawing for gridiron strategy.

When Warner went to Carlisle in 1900 his connection with Iowa State ceased, and for the next two years under temporary coaches football slumped badly. After the recognition that the institution had received in the sport columns the descent to mediocrity was most unpleasant to the student and alumni backers. Both the alumni on the council and the president were favorable to securing Warner for a full-time position, and he indicated a willingness to make the connection—beginning with the season of 1902—even at considerable financial sacrifice, since he had "always liked Ames and the boys there" and was confident that he could bring the College "to the front in athletics." There was no doubt in his mind that "athletics do more than anything else for a college," and the Board, he felt, should consequently be willing to pay a reason-

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able salary for a competent director. But apparently the required sum, modest as it seems today, could not be secured at this time. "Pop" Warner's services at this time would undoubtedly have hastened the coming of age of the College's athletics, and as it was he made a distinct contribution to their formative establishment. On several occasions during the next decade, Warner advised President Beardshear and the athletic council regarding the filling of coaching positions.

ATHLETIC PROBLEMS

With the emergence of modern competitive athletics there appeared the attendant problems of equipment, support, and standards of participation. In 1893 the Board set aside a tract of twelve acres west of Morrill Hall for an athletic field and appropriated \$200 for its development. Pioneering Cyclones had their training quarters in a basement room equipped with an iron tank supplied from a cold water hydrant. Playing equipment was bought on credit from sympathetic merchants. Funds to meet obligations were secured from gate receipts—often scanty, individual subscriptions, donations, and the returns from lectures and entertainments devoted to this cause. With such precarious sources of income the association was insolvent when the Council took over the management in 1899. The chief financial innovation of this body was the selling of season tickets.

Standards of eligibility among colleges generally in the nineties were uncertain and inconsistent and, such as they were, they were honored mainly in the breach. The line between professional and amateur was inadequately determined in theory and generally disregarded in practice. College teams scheduled games indiscriminately with rival institutions, town organizations, and "athletic clubs" of professional or semi-professional players. Hired players were freely imported to strengthen teams, and students from one college joined with the team of a neighbor institution on a

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barn-storming trip. In certain cases, especially in games with professionals, the coach himself would play a key position. At the beginning of the famous 1895 season Warner took part in a game with a Butte, Montana, team of professionals which involved a general fight and the withdrawal of the Ames contingent from the field of battle in protest against alleged openly violated rules. In a neighboring state college as late as 1901 the coach played on the eleven against opposing college teams that were held to be strengthened by imported players. The standards of umpiring were often lacking in competence and reliability; too many officials were incompetent, timid, or venally partial. At the same time, the rules were not clearly defined, and wide latitude was left for discretion. Disputed decisions, player encounters, and spectator interference were frequent; a certain number of protested and forfeited games was expected each season.

The latitude of the nominal regulations indicated a recognition of the impossibility of attaining to a sound amateur status. The rules of the Iowa Inter-Collegiate Baseball Association of 1892 provided that players should be limited to five years of participation, be bona fide students of the college that they represented carrying at least ten hours of classwork, and if challenged present an affidavit endorsed by three members of their faculty. National league rules were to govern, and in case of dispute each side should present its argument in writing to the *New York Clipper*, whose decision would be final.

The I. A. C. faculty, greatly concerned at the notorious abuses of the early years of intercollegiate sport, made a commendable effort to "clean up" the situation. Their resolutions of March 15, 1894, after deploring the prevalence of professionalism of the past season among the colleges of the state, including their own, and expressing their deep interest in the College's "athletic achievements," suggested specific reforms to take effect the coming fall: participation to be restricted to

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enrolled students carrying fifteen hours whose record for the past term was "creditable" and who had a health certificate from the college physician. To administer these regulations, standing faculty committees were recommended. The resolutions were sent to the State University, Cornell College, Iowa College, and Drake University, and all the administrations expressed a cordial desire to cooperate. But the effective realization of even such reasonable and moderate requirements awaited the growth of a saner and more salutary public attitude toward college sport and an acceptance of a full institutional responsibility and obligation for athletics as a regular part of the collegiate program.

The faculty generally was sympathetic to competitive athletics. Beardshear manifested his characteristic ebullience as a rooter, and Stanton at home games and on trips with the teams showed the elation or depression of a freshman at the outcome of a game. Barrows served as the first president of the track association, and Stalker and General Lincoln contributed the returns from public lectures to the support of the general athletic fund. The most active promoter of athletics on the staff both in early and later years was Professor Samuel W. Beyer, '89. He was a faculty representative on the Union Athletic Association, a member of the committee of 1898 that drafted the constitution for the new council, and chairman of the games committee until 1903, when he became general manager of athletics.

SPORTS FOR ALL

Both faculty and student organizations placed great emphasis upon general participation in some branch of sport by both men and women. The variety of games, the graduation of competition provided by the home field meets, and class and "Y" contests provided an activity that anticipated the modern intramural program. Degrees of hardiness as well as talent were recognized if not always appropriately. In

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March, 1893, a new sport was welcomed to the campus with great understatement: "Our Y.M.C.A. is about to introduce the game of basket ball among the sports of the campus. For the many who do not indulge in football because of the roughness and danger of the game this will be just the substitute wanted."

Certainly not because of its proved gentleness, this game became a favorite in women's interclass competition. In 1897 the *Student* felt "assured that our Basket Ball Girls could win a game from any team in the state" and hoped they would soon "issue a challenge to some sister college." From the start the *Student* was a champion of girls' athletics and gymnastics, especially when at the turn of the century the paper came under aggressive female editorship.

PHYSICAL TRAINING

Gymnastics, as the training was understood, was given all the attention that the limited facilities and equipment permitted. "Physical culture" was made compulsory for freshmen in 1891, and a few years later the college physician, Dr. Smith, gave physical examinations using a scale of measurements developed at Yale. General Lincoln seems to have conducted the classes in gymnastics as early as 1894; an instructor in physical culture for women was secured in 1898; and two years later C. E. Woodruff held the position of "director of physical culture and instructor in Latin." Both of these positions, however, were temporary and indicated a premature plan.

The main handicap to a physical education program both in athletics and gymnastics was a suitable plant. Basement rooms in the Main or Morrill halls were little removed from the improvisations of the country school and the village sand lot. A real gymnasium was on the standing agenda of the *Student*, and the President was fully agreed as to the need. In his report for 1894-95 he observed that the new play field had

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"added greatly to the spirit of our athletics and a maturer physical manhood and womanhood," and in his askings for 1900-01 he included an appeal for a gymnasium. The burning of the main building and other emergency demands delayed this essential addition for over a decade, but with all the limitations of plant and inadequacy of staff, the sure beginnings of this essential branch of modern education were made.

MILITARY TRAINING MOTIVATED

Captain Lincoln was able to direct some of this zeal for organization to his department, combining with the instructional aspects the interests of an "activity." Sham battles had the excitement and thrill of a football contest. Demonstrational maneuvers of both men and women companies at state fairs and other gatherings provided pleasing excursions. The high point in the exhibitional events of the department was the trip to the Columbian Exposition at Chicago in 1893 for special demonstrations by both the men's and the women's battalions. The trip was made by a special train appropriately decorated. The President, several members of the faculty, and townspeople accompanied the students. The trip was rather disrupting to the regular program but none the less appealing to the students and to their sympathetic president.

MULTIPLYING STUDENT ORGANIZATIONS

Organizations multiplied in the nineties. The literary societies increased to seven. There were also lecture, oratorical, musical, and athletic associations, as well as the divisional and departmental clubs. The reorganized separate Y's flourished. Inspirational meetings were addressed by leaders like John R. Mott, delegates were sent to Lake Geneva, and a membership was attained that topped the colleges of the state. In 1898 John C. Prall, who combined with an inspiring leadership an

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outstanding athletic record at Stanford and the University of Iowa, was chosen as the first full time secretary. So real was the enthusiasm for the work on and off the campus that during Beardshear's last year a definite movement was launched for a Y-Alumni building.

Forensic contests, oratorical and argumentative, were at the height of their interest. The lecture association, of which the future philosopher, William E. Hocking, was vice-president in 1895, provided as distinguished and varied talent in the years from 1894 to 1902, as Dr. Frank W. Gunsalus, Henry Watterson, Albion Tourgee, John J. Ingalls, Richard T. Ely, Booker Washington, Ben Tillman, and Elbert Hubbard. The modern practice of an outside commencement speaker brought to the campus such distinguished university presidents as Northrop, of Minnesota; Draper, of Illinois; Harper, of Chicago; and Jesse, of Missouri.

MODERN STUDENT PUBLICATIONS

To report more adequately these varied activities and interests and to give fuller outlet for student opinion, new publications were launched. In the spring of 1890 a resourceful group led by F. E. Davidson started a student news sheet known as the *Clipper* on their own initiative, without official support or sanction. This proved the forerunner of the I.A.C. and I.S.C. *Student*, which was issued with formal recognition on August 7, 1890. The paper was usually a weekly, though in the hard times of the nineties it was forced to semi-monthly publication. Athletic and other student activities were now reported with modern style and emphasis. The sedate, literary *Aurora* continued into 1891. When confronted with the tastes and emphasis of a new age it suspended. The paper had rendered a useful and praiseworthy purpose and in general had remained serious and dignified. The rare files constitute an indispensable source for student and faculty ideas and opinions in the College's pioneer period.

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
After several years of agitation the resourceful class of '94 brought out a college annual in the fall of 1893 with the disturbingly suggestive title, the *Bomb*. In originality, information, and artistic embellishment the early issues compared favorably with the college yearbooks of the period. Among the members of the staff of the initial annual were such well-known alumni as William H. Gemmill, C. G. Lee, and Charles D. Reed. The President, who read all the copy, was a tolerant censor, particularly in passing the cartoons of Robert S. Beecher, which caricatured faculty eccentricities and mannerisms with the frankness of the later Sunday supplement. Even "Prexy," as "Father Jonathan," appeared in overalls and smoking a clay pipe. With candor and understanding, he appraised the effort of the class of '95 as a compendium of "something of the wit, a portion of the sense, a modicum of nonsense, somewhat of the beautiful, a little of the ugly, all commended with the standard literature, biography and criticism of our college life." The annual, like the official paper, was subsidized modestly by the Board. The class of '97, with unusual initiative and enterprise, instead of the usual yearbook, prepared a volume of "History and Reminiscences of I.A.C.." This compilation, containing a chronological yearly record, recollections of alumni, sketches of the professors, histories of the departments—usually by the ranking professor, and an account of student organizations and activities, provides a convenient and at some points indispensable source of facts and contemporary point of view.

Divisional interest and consciousness were reflected in the founding of permanent technical journals. The I.A.C. *Engineer*, sponsored by the Society of Engineers in 1894 as a semi-annual publication, suspended with the two numbers of the first year. The articles, written mainly by staff members and alumni, were rather too advanced for student appeal. The *Iowa Engineer* was started in 1901 as a quarterly student publication. The next year the agricultural students made their

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second and permanent venture into journalism in the *Iowa Agriculturist*. All of these varied activities were evidences and manifestations of a unified college program—the students' contribution to the new State College. The '95 *Bomb* in emphasizing current student achievements gave expression to this college point of view. While the legislature, the trustees, and the faculty had been doing their several parts for the cause, the students, the editor reminded, had not been backward. One strong athletic association had been formed in the place of a number of weak ones; grounds were laid out and regular and systematic practice conducted. The work of the literary societies had been invigorated by a new society, a debating league, and a marked improvement in the standard of the programs. The *I. A. C. Student* had taken rank among the best undergraduate periodicals.

THE NEW COLLEGE SPIRIT

This expansion in activities and organizations, though due in part to general modernizing conditions and the influence of growing academic contacts, was none the less a reflection of the new spirit which the President was arousing in the student body. After the years of internal dissension and outside attack, with governing policies alternating from anarchistic indecision to dictatorial regimentation, a strong, understanding leadership was heartily welcomed. The students showed unfeigned pride in a chief who was full master of the situation. The *Aurora* ran his picture as frontispiece for two successive issues, and the *Student* accorded it similar place of honor no less than five times in the first volume. In September, 1891, the *Aurora* gave succinct expression of campus opinion: "In the history of the College 1891 will stand at the head of a page which will bear every imprint of a successful year, probably the most successful. . . . One has but to be present to feel this thrill of life which has come to stay at the I. A. C." 

The removal of the old paternalistic restraints was wholly

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in line with the modern temper. The *Student* "looking backward" in 1894 could refer with condescension to the primitive and naive paternalism of the earlier days. The growth of enrollment which led to the abolition of the college boarding system and to outside rooming for men necessitated a marked departure from the old control, but the positive emphasis upon student freedom and responsibility was appreciated. The off-campus ban was lifted, dancing was allowed, class parties—properly chaperoned—in and out of town were permitted, chapel attendance was made voluntary. The inquisitorial judiciary committee was abolished.

The President's understanding of youthful psychology, his sympathy with student exuberance—within appropriate bounds—and his natural, unaffected friendliness went far to meet the disciplinary situations in a period of transition. To the average student his straightforward, earnest appeals made real impressions. His "special chapels," whether occasions of institutional jubilation or seasons of stern heart-searching for untoward conduct, were events in a student's career to be remembered. He could be effectively dramatic both in impassioned appeal and in studied restraint. After a destructive escapade during his absence on a crucial legislative session, his reading of the "Fool's Prayer" to an expectant student assembly was far more effective than heated denunciations or elaborate espionage.

Beardshear's rare ability to remember names and his unassumed interest in individuals, their families, and their home towns made loyal friends of many a student. His tireless, nervous energy and his love of the outdoors made him an appreciative spectator at games and a participant in student hikes and other activities of which many conflicting tales have been handed down in reminiscent writing or by oral tradition.

THE FRATERNITY FIGHT

But presidential understanding, sympathy, and tolerance did not mean weakness and laxity. Prexy's uncanny under-

standing of what was going on and his facility for appearing and interfering with socially undesirable escapades were proverbial. And with all his tolerance, on a vital issue involving real college welfare, he could be relentlessly determined—in fact, as hard as nails. Such an issue appeared in the fraternity controversy which had been one of the most disrupting influences in past administrations, dividing students, alumni, and to some extent faculty. The fights between the two groups had reached open and at times violent manifestations. A new literary society formed in 1890 of fraternity and sorority recruits had met strong opposition from the existing societies and was forced to appeal for faculty protection in order to secure the usual privileges. The majority student group was demanding drastic action by the Board. That authority early in 1891 submitted the matter to the faculty with full power to act, and that body in turn freely and fully delegated their authority in the matter to the President “to the end that he might make settlement of all questions relating thereto in such manner as his judgment might determine.” Feeling that the continuation of these institutions threatened basic college unity and solidarity, Beardshear met the issue squarely with the decree delivered at a tense and expectant special chapel, that “All members of college secret fraternities belonging at this date shall have the same relations as hitherto authorized by the board of trustees, but from this date onward no other student of this college shall be permitted to join a secret college fraternity.” The Board approved the action and pledged their full support in enforcing the rule.

The editor of the *Aurora*, expressing the majority opinion, rejoiced that by the action of “our noble President” the disturbing matter was finally adjusted. He forecasted a new harmonious day for the College. “The anti-division are determined from now on to lose sight of all wrangle and work for this institution as it has never been worked for before, and one of the first things which will likely be done will be extending an open invitation for all those opposing us in the past to

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join us in the work." But with all this magnanimity of the victor, the spokesman of the popular cause could not refrain from asserting the hopelessness of the minority position: "The anti-fraternity element is a determined one and would never lose sight of its convictions."

The fraternity element, from its side, was not convinced that its cause was a lost one. The following year, encouraged no doubt by favorable judicial decisions in other states, two students made a test by openly announcing their affiliation with a fraternity and upon suspension sought a court injunction to restrain the administration from excluding them. The question heard by the district court without jury involved the issue as to whether as a matter of fact the existence of fraternities had constituted a menace to the successful conduct of the College. After submission of testimony by students and staff members, the court held that there was proper ground for the rule and refused to issue the injunction. An appeal was planned, but the case was settled in 1894 by the Board's assuming the court costs upon surrender of the fraternity's charter.

The episode left its feeling within and without. At a fraternity banquet at which the President was the honored guest to be "roasted," he had asserted his determination to rid the institution of the disturbing influence regardless of the effect upon his position; and the ill feeling continued to some extent, with a limited number of the faculty, students, and alumni, throughout his administration. With the state-wide constituency the determined stand against a special group could but enhance an already unexampled popularity for an educational leader.

STATE CONTACTS EXTENDED

The devotion of most of the staff and the student body to their leader was shared by the people of the state. His earnestness, sincerity, and humanity made friends for him and his

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institution wherever he went, and he went about a great deal. He spoke with equal facility and appeal to Sunday congregations, teachers' institutes and conventions, farmers' organizations and societies, old soldiers' reunions, and community gatherings.

The College program was brought to the attention of the state as never before. Students were encouraged to become missionaries for the new education in their home communities. Traveling salesmen distributed circulars for a president who was a real fellow. Attractive illustrated booklets set forth the opportunities for country young people. The campus became a meeting place for grangers and special producer groups. Plowing matches and sheep-shearings still combined entertainment with instruction. From a suggestion that Professor Curtiss had secured at the Guelph Agricultural College, the college excursions or "harvest festivals" were instituted in the fall of 1898. With the cooperation of the railroads special excursion trains were run. The first year there was an attendance of 6,000, and the interest grew. The main meetings were held in a large tent, with the president, the governor, and prominent agricultural leaders as speakers. Music by various town bands as well as that of the College, recitals, and athletics provided entertainment. The forerunner of the great all-state gathering of farm and home week was a two-week course in stock judging in 1900 at the time when the international and other expositions were creating a demand for such training. The program was soon widened, and the attendance increased steadily.

STATE SUPPORT

These contacts on and off the campus provided a strategic background for the requests for state support in the biennial reports. These were phrased and pitched with nice understanding; they were tactful, conciliatory yet firm, persistent, and logically convincing. The material effectiveness of these

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contacts and appeals, brought to focus at the legislative sessions, through formal representation and informal persuasion by the President and leading professors, was shown in the biennial appropriations.

The provision for buildings and improvements was a forecast of the new campus that was to appear during the first decade of the new century. Morrill Hall—"chapel, library, museum," as proclaimed on the stone facing—was dedicated with appropriate ceremony in June, 1891. Professor Bessey brought personal recollections of the opening years; Johnson Brigham, then an editor at Cedar Rapids, gave his impressions of Agassiz's lectures at Cornell; Congressman John A. T. Hull reminded the audience of the state's liberality to education; and Senator Morrill sent a letter of greetings with a characteristic statement of the place and purpose of the land-grant college. Beardshear in his first report showed almost boyish enthusiasm for the new building. The "gem of a chapel" would aid greatly "in the social, intellectual and moral phases of our college work." The "crowning service" was "a most admirable library room . . . one of the most inviting rooms of the kind in the state." Immediate, well-nigh emergency needs were met by the old agricultural hall (later Botany Hall), the creamery building in 1892, and the first residence for women in 1895, named Margaret Hall in memory of Margaret McDonald Stanton, whose untimely death was mourned that year. As a private memorial Professor Stanton made a gift of chimes, which in 1899 were placed in a separate bell tower.

The early nineties were not a propitious period to seek appropriations from the legislature in an agricultural state. The hard times brought critical investigations of all public activities—including education. At the special session of 1897 a joint resolution provided for a committee to investigate the policies and finances of all the state institutions. The committee was composed of Senator Thomas D. Healy of Fort Dodge,

Representatives Frank Merriam of Hopkinton, later governor of California, and Claude R. Porter of Centerville, later candidate for governor and United States senator, a member of the state board of education, and an interstate commerce commissioner. The general financial policy of the College was highly commended, but certain specific reductions and adjustments of expenditures were recommended. The veterinary department should be reduced to one regular professor until an increased price of horses brought larger enrollment. The practice of board members in accumulating expense accounts that exceeded the per diem legal total was felt to be contrary to the intent of the law, and it was suggested that the statute be made more specific on this point. The committee had reviewed the evidence collected by the Board in 1897 in an investigation of salaries and services of the employees of the College and were convinced that the Board would "correct any abuses found to exist."

By the turn of the century the "new prosperity" had entered and penetrated Iowa so fully that Governor Shaw could make the complaisant assertion: "The state is in a flourishing condition. Her people are prosperous. If there be discontent anywhere or among any class, it is not manifest." The College shared in the general well being. The enrollment had almost tripled within the past decade. While support was not commensurate with this growth, owing to enhanced reputation of the College and the direct evidence of its services, there was a more adequate provision both for buildings and support that involved greater security for the future. In 1900 Governor Shaw declared "on the highest authority" that Iowa State conformed more fully to the purpose of the land-grant act than any other college in the country, and again in 1902 that it was "admittedly the best of its class in the United States." Such attainment could not be denied legislative support.

The year 1900 inaugurated the modern building program. The long-needed president's residence, "The Knoll," a com-

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modious brick house in harmonious setting was constructed from a special appropriation. In February of that year the legislature extended to the State College the one-tenth mill tax that had been granted to the University four years before. The first use of this levy was in the partial financing of Engineering Hall, which was started in 1900. The burning of the north wing of Old Main in December of this same year, which necessitated the early displacement of this central building, prepared the way for a new, modernized campus. In view of this major program, in 1902 Beardshear was able to secure an increase of the building levy to one-fifth of a mill.

Still more significant in state recognition and aid was the securing of annual appropriations for collegiate support. In the biennium 1900-02 \$25,000 per year was granted, to be increased in the next fiscal period to \$60,000. This was the crowning achievement of Beardshear's material provision for the College and the one that more than any of his previous accomplishments insured its adequate permanent maintenance.

NATIONAL RECOGNITION

These same transitional years, in which the state assumed responsibility for the support of this promising offspring, were marked also by a national recognition such as the College had never previously enjoyed. James Wilson's position at the head of the Department of Agriculture and his appointment of alumni to leading positions in the federal service—most notably Willet M. Hays, '85, assistant secretary, Charles D. Boardman, '74, chief of the Dairy Division, Carleton R. Ball, '98, Bureau of Plant Industry, and Clyde W. Warburton, '02, Bureau of Farm Management and Plant Industry—brought continuous recognition and prestige. In the department yearbook for 1899 Dr. A. C. True of the Office of Experiment Stations referred to the Iowa State College as especially outstanding in the development of a real agricultural program.

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Beardshear was prominent in educational organizations, state and national. He was especially interested in relating the work of the land-grant college to general associations. When a group in the State Teachers' Association proposed to make a classification of colleges that seemed to subordinate the technical, he insisted vigorously and decisively on the full and equal recognition of the State College as a condition of continued cooperation. As a leader in the National Educational Association he was influential in securing closer relationships between that organization and the Association of Agricultural Colleges. After serving on various committees of the N. E. A. he was given the great distinction in national education of election to the presidency for 1902. He felt that this was not only a personal recognition but a tribute to the College, as he was the first land-grant executive to be so honored. The selection of President Charles W. Eliot as his successor indicates the standing which the position had in this period. The College was to be further honored at the annual meeting in Minneapolis by addresses at one of the general sessions by Carrie Chapman Catt on "The Home in Higher Education" and by James Wilson on "The Education of the American Farmer."

DEATH OF BEARDSHEAR

But the occasion proved instead one of sorrow; Beardshear was taken seriously ill shortly before the opening and was unable to give his address on "The Three H's in Education" or to attend any of the sessions. In the spring he had suffered a heart attack that necessitated a southern trip with his most intimate friend. With his persistent courage he was hoping against hope that he might be able to carry on his great work. It was from this illness that he died on the campus less than a month later, August 5, stricken in his full prime; his nervous energy and appreciation of the great work to be accomplished in the growing college had driven him at full speed almost to

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the end. The conclusion of his last biennial report, submitted in November, 1901, is typical of his benevolence, practicality, and optimistic vision.

"We still float the banner of goodwill to all the other educational institutions of Iowa, state, denominational, and private. We delight in the thrift and efficiency of all institutions of the state that better humanity. The prosperity of all these is our joy, as we would have our own growth their pleasure. It would take a long roster in the hall of fame to list the names of the friends who have made the last biennial period of the Iowa State College a chronicle of manly effort and endurance, effective growth, and realization in the betterment of the state and the world. We aspire to fill our bits of destiny as a college upon enduring foundations through worthy ideals for a higher life of the commonwealth and the people. Our fathers used to sing in camp-meeting days (hallowed to their memories):

'I am a pilgrim, I am a stranger,
I can tarry, I can tarry but a night.'

"There is still a vast patch of this world to compass in education. The mind is a pilgrim and a stranger. The undertaking of education is to make this stranger at home in the earth, to make this pilgrim a permanent resident of the universe, and to convert the night of the old song into a day of eternal hope and life. This may be sentiment, but what is home, country, or man without sentiment, and what can a college do without money?"

The tributes paid by his associates, at the College and throughout the state—collected in a memorial volume which includes his leading essays and addresses—have in the main been sustained by later judgment. His administration came at a critical time in the life of the College; he met the crisis and went forward to achievements which definitely inaugurated the modern trends. And at the same time he left the lasting impress of a great personality. To his contemporaries he was a heroic figure and to posterity, in the tribute of S. H. M. Byers, he remains

"The lofty mind that strove for human good
That saw all men as brothers and as kin,
In storm or sun, an oak that ever stood
Strong-limbed without, a heart of oak within."

CHAPTER ELEVEN

THE SHAPE OF THINGS TO COME

Modernizing Plant, Program, and Control



PROBLEM OF BEARDSHEAR'S SUCCESSOR

The selection of a successor to so dominating a personality would have been a hard task under any circumstances, but there were conditions and influences at the time of Beardshear's sudden and premature death that made the choice unusually difficult and delicate. The new program—scholastic, administrative, and financial—had been inaugurated but not fully or firmly established; there was danger of slipping back, marking time, or diverting effort. The basic functional question was not finally answered; the rival forces had been held in control but not reconciled. If the old dissension and instability were not to be repeated, a president acceptable to both factions must be secured. This would take time, and there were immediate problems of teaching, research, and building. Again as a safe and competent director in an emergency, Professor Stanton was immediately placed in temporary charge. So pronounced and determined were the rival interests that the interregnum extended to more than a year. With a change of conditions and leadership the cleavage was again along the lines of "agricultural college" versus general technological institution.

FACTIONAL RIVALRY

The agricultural faction, led by Secretary Wilson and Professor Curtiss, were avowed champions of a dominant agricultural emphasis, in line supposedly with the main interest

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and opportunity of the state. Wilson was quoted as an advocate of the transfer of engineering and other non-agricultural work to the University, and though he denied so bold an assertion, the engineering and science alumni feared that such a devastating curtailment was definitely in contemplation. For a time Wilson himself appeared to be a receptive candidate for the presidency, but soundings of opinion on and off the campus indicated a feeling that he was more serviceable to the cause at Washington—that his talents were administrative rather than academic. A far more available and appealing candidate—one who combined scientific training with organizing capacity, and professional assurance with a collegiate consciousness and balance which his political mentor lacked—was Wilson's successor at the College, Professor Charles F. Curtiss. By definite achievements, particularly in dairying and stock raising, he had won undisputed recognition as an outstanding agricultural leader in state and nation, and as such he had the enthusiastic support of the agricultural alumni, most of whom were recent graduates and division-conscious, and of the organized farm interests of the state—the state board of agriculture, state and local societies, the farm press, even the *Homestead* and *Wallace's Farmer* were for once in agreement—and of influential newspapers. The young professor was held to have been the man mainly responsible for bringing the College to assured position and the one who could best direct its policies in line with the interests and desires of the growing commonwealth. Richard E. Clarkson, the veteran journalist, expressed the belief that Beardshear had hoped to have Curtiss as his successor, and he gave his own opinion that it was primarily as an agricultural school that the aims of the founders like Gue and Father Clarkson could be realized.

The other faction, drawn largely from the older alumni representing especially the engineering and science groups, were strongly opposed to a narrowing and curtailing of the

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college program. Stanton was their avowed candidate. Still in his prime, he had the advantages of experience, administrative competence, undying devotion, and, it was held, breadth of vision. The revered "father," Benjamin F. Gue, thought Stanton the logical choice for president, whereas Curtiss would be more valuable to the College in his present position.

The sharp and increasingly bitter division indicated the likelihood of a compromise, and numerous suggestions appeared in the press and elsewhere. At the state teachers' convention in the winter of 1902 the vacancy was the occasion of much solicitude, and by the Board meeting the following March there was a recognized group of aspirants each of whom had support of one or more trustees, either as first or later choice. President Shelton of Simpson, just retired from the presidency of the state association, was more than willing; and ex-Chancellor Craig of Drake, who had been somewhat active in local politics and had the support of Governor Cummins, was reported to be no less so. President Homer H. Seerley of the State Normal School, Dean Alderson of Armour Institute, and two prominent clergymen, Isaac B. Schreckengast, '85, and Albert B. Storms of Des Moines, were also mentioned. It was generally agreed that if the vote were forced at this meeting Stanton would be chosen. The election was not held, but instead a committee headed by the state superintendent of public instruction, Richard C. Barrett, was directed to investigate all the possibilities.

At the meeting at the College on July 2 it appeared that, after eliminating "favorite sons" of certain members, the division was six to six with an absentee who had indicated by letter a preference for Stanton. The odd vote was challenged as irregular, and without decision an adjournment was taken for an evening session at Des Moines where a group of prominent alumni were assembled to await, and possibly influence, the decision. With the receipt of a telegraphed formal vote from the absent member Stanton's majority of one was verified.

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But while the long-sought prize was seemingly within his grasp, its attractiveness was gone. To force the decision under the circumstances meant certain disaster for his administration. So embittered had the feeling become that the selection of the leader of either faction must mean the withdrawal of the rival from the College with intensified conflict within the faculty, the alumni, and the general public at an inestimable cost to institutional support. Certain of Stanton's leading supporters advised him to end the disrupting contest, and their counsel along with his own good judgment led him to agree to a compromise. In an impassioned statement in which he admitted that for thirty years the presidency of his alma mater had been his ambition he withdrew his name from further consideration. Tearfully his supporters shook his hand and, according to a reporter's observation, "there was enacted in that room one of the most pathetic scenes ever witnessed in this state . . ."

COMPROMISE CHOICE

With the main rivalry removed there were presented the duty and opportunity of securing the most available and effective compromise. Several names had been under serious consideration. J. J. McConnell, superintendent of schools at Cedar Rapids, and President Enoch A. Bryan, of the Washington State College, had been interviewed at the afternoon session, and it was understood that either would be acceptable to the Stanton group. But the choice was to be determined by deliberate and careful planning. Since the March meeting Barrett had been urging the qualifications of his friend and pastor, the Reverend Doctor Albert B. Storms, and with strong local backing he was able to win over both sides for a candidate who was not identified in any way with either. The apocryphal story—that has gained a certain credence by repetition—that Storms' support was due to the impressiveness of his opening prayer at the Republican state convention that day,

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disregards the deliberate presentation of his candidacy by his admirers. After a conference with the candidate the vote was unanimous.

The choice seemed, as a local paper put it, in many ways "a happy compromise," and the reactions were favorable. Stanton sent his congratulations with the exhortation, "You are called to a great work. May it prosper in your hands," and Curtiss wired "Sincere congratulations and assurances of loyal support." Neither had lost in real influence and opportunity by the outcome. To Stanton it had been a tragic disappointment, not only because it was the final blow to his great personal ambition, but with his consciousness of life-long devotion to all the interests of the College, as he conceived them, he felt that the opposition to him from one division evidenced a lack of appreciation and a sense of ingratitude. But had he but realized it, he was destined during the next two decades to make unique contributions to the college life and organization such as no president could make. Like Mr. Chips, he was to become in himself an institution and a tradition.

Curtiss' real influence and contribution was also to be greater and more far-reaching than it could have been in a premature administrative position. Disregarding attractive calls to academic, journalistic, and commercial positions in other states, he was to raise his division to a foremost place among the agricultural schools of the nation and of the world. In shaping and directing the policies of a division which was peculiarly his creation, he was to exercise through several administrations the determining authority of a chief executive and the influence of an agricultural statesman.

The press generally was highly commendatory. Supporters of the rival leaders had the consolation of knowing that the services of both would be retained by the College. What was known of the new executive seemed favorable: he was an inspiring speaker, he had a winning personality, and he was

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not committed to any group or faction at the College. *The Register and Leader* from intimate acquaintance predicted that Dr. Storms would come to rank among the country's greatest college presidents. His career thus far, while not in the academic realm, had been eminently successful.

STORMS' CAREER AND EDUCATIONAL IDEAS

Albert Boynton Storms was born in Michigan in 1860 and thus, like his predecessor, was a young man when he assumed the headship of the College. He was a graduate of the University of Michigan with A.B. in 1884 and A.M. in 1893. Lawrence University had given him a D.D. in 1898 and Drake conferred an LL.D. in 1903. He had entered the Methodist ministry in 1884, and had held pastorates in Detroit, Michigan, and Madison, Wisconsin, before coming to Des Moines in 1910. He had published two collections of sermons and was an occasional contributor to religious and general periodicals. As a student he was especially interested in American history and while at Madison had been a member of Frederick J. Turner's seminar. Storms was of impressive stature and bearing and was an attractive preacher with a melodious voice. He was in great demand as a chautauqua and lyceum lecturer. His ability to attract warm and devoted friends and to arouse in them confidence in his ability to handle a big task was demonstrated in the support which he received for the new position under such tense conditions as have been indicated. His educational philosophy and program were summarized in his inaugural address on June 6, 1904, significantly entitled "The Outlook."

The address was a somewhat hortatory restatement of the liberalized industrial education philosophy—a plea for a democratic education enriched by the sciences and socialized by their applications. The prevalent ideals in American education were held to be "that culture, the enrichment of life, the disciplining of brain power, should be the privilege,

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not of a few, but of all the people who will take advantage of such privilege," and "that the means of culture and of discipline shall be more than ever before or than anywhere else the sciences that deal with nature and that deal with the real world in which men must live." On this occasion it was reassuring to hear not only the admission but the eager assertion of a professional theologian and amateur historian that with all the values and virtues of the humanities it was "the new and wondrous discovery of our age that a like mental discipline accompanied by an intenser human interest may, and often does, apply to a study of science. A problem is no less valuable as a problem when it pertains to the sanitation of a city or a home, or to the conservation of the fertility of the soil, or to the production of a better variety of corn and wheat, or to the breeding of better stock, or to the question of wholesome living, or to the construction of a bridge or waterworks system or sewage disposal plant, or the erection of a modern mammoth building, than the problems of metaphysics and of scholastic theology. . . . The student in animal husbandry or in the physics and chemistry of the soil, or in the practical problems of the civil engineer or the electrician, not only may find, but is quite as likely to find, wholesome and healthful discipline in his scientific study in these fields as the classical student in Belle [sic] Lettres. This kind of discipline will not produce the same type of mind. It is sterner; more realistic; less self-centered; more intense; more practical."

But rendering his tribute to the utilitarian, he hastened to assure that it was in no sense incompatible with the ideal, "that finer discipline of the imagination and the heart, and that finer sense of the beauty of the world, the delicacy of sentiment, the strength of spiritual faith, which has always been the finer flower of true culture. Indeed, the so-called conflict or antagonism between science and religion, between classical and scientific culture, is rather an artificial warfare of provincialists than a real battle of principles. Literature,

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which is the fine breath of the spirit of man at his best, will never lose its value, and may never be depreciated. Through literature, the rich representative personalities of the past speak to us and inspire us. Its influence is immortal. No man can more appropriately turn to the pages of literature for refreshment, for uplift and inspiration, than the man whose more serious and constant business is in the realm of science, and the man of literature may find the fresh and fruitful facts, the raw material for his creative genius, in the laboratories of sciences." Thus was the balance maintained; the technical training was magnified and the general study justified.

The real danger confronting the technological institution, he gave salutary and timely warning, was not in lessened mental culture and discipline but in failing to meet its own standards, to be true to the scientific method, that "the spirit of haste, the merely mercenary estimate of so-called practical results, shall lead to a superficial treatment. Science is a stern mistress. Those who would know her secrets must be her devotees. The scientific method and spirit, so remorseless to prepossessions, so destructive of pet hypotheses, so humiliating to over-confident conceit, so ruthless in handling the cherished conventionalities and the inherited prejudices of tradition, first humble and master the minds of men, and then become men's servants. Patient, sincere, and thorough study of the basal sciences—this is the province of the college in scientific education. All shallow and superficial work must be sternly discountenanced. The temptation of a cheap popularity must be resisted, and can be easily resisted when the educational ideals are strong and true. This is the conception and the scope of the educational task confronting the institutes of technology and the schools of science as related to the industries. Of necessity, we are still in the period of the pioneer, but the ideal has been established. The heavenly vision haunts us; the standard has been lifted."

He closed on a note of inspiration and challenge. "Our

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college of the sciences and of the sciences related to the industries, stands at a fortunate focus point. . . . We believe that science is here touching the nerve lines of the divine purpose, making its progress through the ages, and never before forging forward with such power and such rapid achievements as in this, our day. It is our purpose and our prayer that this 'College of the People' may serve a high and unique and ever increasingly useful purpose, in carrying forward this work of the age and of the ages. . . . We believe that here and this moment, if anywhere, are represented the sentiments and the future of democratic civilization."

The basic ideas and aims thus forcefully and felicitously expressed by the new executive were essentially those of Welch and Beardshear as well as of forward-looking contemporary land-grant leaders like Schurman of Cornell. As such they were doubtless intended to be reassuring and inspiring to all groups in the College and its constituency. The assurance and challenge were opportune as the tasks ahead were large and exacting.

BUILDING CRISIS AND THE NEW CAMPUS

The demand immediately pressing was the material one of a major building program and the modernizing of the entire college plant. The burning of the remaining wing of Old Main in August, 1902, was creating housing and instructional demands that the existing buildings and the temporary structure, dubbed "emergency hall," could not meet. With rapidly mounting enrollment the institution was confronted with a building crisis. Beardshear had secured the funds for the engineering building and the initial appropriations for the new main, but there were needed, sooner than appropriation acts and construction agencies would permit, other permanent arterial structures and corresponding modernizing improvements that would involve nothing short of replanning—a new campus.

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Engineering Hall was occupied in January, 1903, and appropriately dedicated on May 23. Acting President Stanton, himself an engineering graduate, presided, and addresses were given by W. Clyde Jones, '91, on "The Engineer," by M. J. Riggs, '85, on "The Making of an Engineer," and by Dean Robert W. Thurston, of Cornell, on "Functions of Technical Science in Education."

Meanwhile, plans and provisions for the new main building went forward without undue delay. The cornerstone was laid by Governor Cummins at the Harvest Home Festival in September, 1905, and the dedication took place the following June with J. B. Hungerford, '78, president of the Board, as the main speaker. At Stanton's urgent insistence, to lend dignity and give balance to this central structure, a dome had been added. Certain members of the Board were a bit critical of the increased expenditure for "Stanton's cheesebox" but, as that experienced planner predicted, the added structural adornment was never regretted. As a fitting recognition of the promoting and guiding spirit of the new college and campus, there was a persistent agitation voiced in the *Student*, the *Alumnus*, and the *Midland Schools* to christen the key building "Beardshear Hall." It was also proposed that the engineering building be named "Thurston Hall" and the projected agricultural structure "Wilson Hall." The Board, however, was not willing to establish a precedent for such designations for anyone except the traditional father of the land-grant system and adopted the obvious and prosaic descriptive name "Central Building." It was not until thirty-five years later that the well-used hall, now with a history of its own, was rechristened for the revered President at the time of the unveiling of his portrait. This commodious and impressive building—like Engineering Hall and the later major buildings of Bedford limestone—housed the administrative offices, the departments of English, mathematics, modern languages, and the social

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sciences, and temporarily the botanical laboratories and the library.

Needs of other divisions and of special activities soon became no less urgent. Agriculture especially had outgrown available facilities. An addition to Agricultural Hall in 1903 and the Dairy Building (later Agricultural Annex) in 1905 did not meet the modern instructional and research requirements, and in 1908 provision was made for a Hall of Agriculture as one of the major group of stone buildings, on the eastern side of the main quadrangle facing Central Building.

THE OLMSTED REPORT

The location of the new agricultural building raised the question of permanent planning. Upon recommendation of the chairman of the committee on grounds, Professor A. T. Erwin of the Department of Horticulture, Olmsted Brothers of Boston, the distinguished landscape architecture firm who had designed many campuses, were employed by the Board for expert advice. Mr. John C. Olmsted, the senior member, gave his personal attention to the plan. His subsequent recommendation, which with slight alteration was followed, as modifying Welch's "naturalistic park" scheme, was heatedly opposed by a group of alumni—some of whom had a sentimental fondness for the results of student labor which provided little thrill at the time—and old residents. To the editor of the *Ames Intelligencer* the breaking of the old circular landscaping was nothing less than a desecration. The expert's statement was that the old plan, which in its pristine entity belonged to a different stage of development, had already been abandoned in adopting a new, more substantial type of architecture which required a replanning for proper balance. The alarmist rumors that a conventionalized design of straight-rowed trees and checkerboard walks and drives was to replace the natural scheme was wholly imaginary. The new plan involved the

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efforts of artistic designers to preserve the best features of the old campus in the new.

With the foundations of the modernized campus thus established, other building needs both general and special were being met. Engineering shops were constructed, and the claims of veterinary science and domestic science were recognized in 1910 in provision for their own particular buildings, which were to be completed in the next two years. Joint efforts of the alumni and of the Y's on and off the Campus brought to completion in 1907 the long sought Alumni Hall, a project that went back to schemes of the literary societies. In 1907-08 there was a definite plan for a college library, and the delegates from the Board to the meeting of the Association of Agricultural Colleges were requested to visit leading eastern libraries with a view to perfecting the plans. Fortunately, in view of existing ideas as to library facilities, growth, and equipment needs, this project was not carried out.

MODERNIZED UTILITIES

The provision of basic modernized utilities was necessitated by the new campus. After a water shortage in 1895 that necessitated closing the fall term two weeks ahead of the calendar, a system of supply was completed two years later that involved deep wells, a new type round bottom high tank designed by Professor Anson Marston, and an extension of pipe lines that supplied the needs of all buildings and afforded for the first time adequate fire protection. The following year a long-needed sewage disposal plant, also planned by Professor Marston, was installed. To complete the modernization, a central heating and lighting plant was completed in 1908, under the supervision of Professor W. H. Meeker.

Accessibility to the campus was facilitated in 1907 by the abandonment of the old dinkey line, which had served its purpose long and effectively, for the new electrified interurban which provided connections to cities south and northwest as well as to Ames. Upon the opportune and emphatic advice

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of Mr. Olmsted, the road-bed was located to the north of the main quadrangle.

NEW STUDENT FREEDOM

Even with improved transportation the city was not readily available for rooming, and with the abandonment of the old dormitory system the housing problem was acute. This was one of the influences in the restoration of the fraternity system. Upon recommendation of President Storms, in 1904 the Board voted to legalize such societies under certain established rules. Fraternities were listed in the *Bomb* of 1905, and the next year the first of the sororities to be recognized since 1892 was reorganized. The popular student opposition lingered for a time, but as the increase and extension of the chapters widened the opportunity for entering the mystic ranks the feeling rapidly disappeared. Fraternities, their housing and social systems, from this time became a characteristic feature of college life.

The restoration of fraternities was but one evidence of the reaction, which had started in the previous administration, against the old paternalism. Unhappily, the "new freedom" did not always involve a corresponding recognition of responsibility. Among the unblessed organizations was a chapter of the disturbing T. N. E., and of the train-bumming brotherhood, Quo Vadis—abolished some years later after several accidents and one death had resulted from the qualifying activity of illicit travel. Over-convivial parties in neighboring cities brought discrediting publicity. Within the classroom cheating became so prevalent and flagrant that a student mass meeting was called in the spring of 1905 to consider the demoralizing situation. The student speakers were frank in admitting the abuses, and in their communication to the faculty asking cooperation in establishing an honor system, they were equally frank in placing the blame. They alleged that the work of the sophomore year generally was excessively heavy; in relation to the standards for graduation, entrance

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requirements were low; too much emphasis was placed upon examinations as compared with daily recitations; finally, certain instructors were incompetent or ineffective and others used poor judgment in assignments. The various allegations were referred to "appropriate" faculty committees and from the considerations came the enactment of penalties for cheating. From time to time in succeeding years there were suggestions of an honor system, and in 1909 a student governing council representing the different classes was instituted.

CARDINAL GUILD FOUNDED

The initiation of these movements for reform and positive participation came largely from the Cardinal Guild, which had been founded by the class of 1904 to preserve and extend the true spirit and traditions of Iowa State College. The avowed objectives were most wholesome and commendable: "to preserve and promote desirable traditions and customs; to suggest and advocate such changes and reforms as it may deem advisable; to foster and promote a healthy and democratic college spirit at all times; to welcome and extend the courtesies of the College to visitors from other colleges and to other visitors whenever such welcome may seem advisable; to bring into close touch and harmony the various branches of college activity, serving as a medium of communication between students, alumni and governing bodies of the College; to promote the welfare of and protect the good name of the Iowa State College, at the college and elsewhere." The eleven charter members were selected by the faculty, and according to the original constitution the body was to be perpetuated by class election at the end of the junior year. Among the charter members were William A. Bevan and Fred M. Hansen. The first class election for 1905 included T. R. Agg, R. K. Bliss, M. L. Bowman, and B. G. Budge. For 1904-05 the president of the organization could report these varied efforts and achievements: an agitation for the honor system, the restriction of the sale of the college pin to the three upper classes and

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the alumni; supervision of the refreshment booth at the Harvest Home Excursion; and the institution of a "College Day" in the fall.

There were other evidences of seriousness of attitude and purpose. Discussions of current issues in student paper, orations, and debates became more socially realistic if at times verging on the cynical. Student thinking as well as conduct was in transition. Institutional consciousness and loyalty—expressively if somewhat indiscriminatingly designated "college spirit"—found fullest expression in "activities" that in this period emphasized intercollege rivalry.

AN ERA OF CONTESTS

The latter half of the first decade of the new century marked the height of competitive zeal in which the dominant student interest found expression, directly or vicariously. In every line of endeavor—judging, debating, and sport—victories were secured which in accord with prevailing standards brought elation to the undergraduates, gratification to the staff, assurance to the alumni, and pride, if sometimes a bit grudging, to the constituency. In heralding the winning of the state oratorical contest in 1907, by the very cumulation of triumphs, the *Student* was constrained to tell

Of battles fought and victories won
Beneath the Cardinal and Gold.

"The victory of Indianola," the issue of February 25 exulted, "rounds out a list of triumphs for I. S. C. hitherto unequalled by Ames or any other school in the state. Stock judging, corn judging, football, base ball, debating and stock exhibiting, have all lavished their chief honors upon Ames. Ames has won three state championships in twelve months. Two of them she never won before. These are exclusive of the world championships she plucked at the International. This last championship is peculiarly one over which we may rejoice, because it has been denied us so long and we now know that

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I. S. C. can produce orators as well as athletes, debaters, stock judges, grain judges, good engineers and fine stock." There was evidence, too, that the College could produce poets, as that same month Edward N. Wentworth, a senior in animal husbandry, submitted a prize song which was to be adopted as the official alma mater, "State College of Iowa."

An editorial review of this year with its "string of victories . . . unprecedented" attributed the achievements to an awakened spirit of devotion to the College and added, in proper sentiment, that this same loyalty demanded that scholastic records be maintained on a par with the others. The eyes of the state were upon the College, and the organ of student opinion was confident that the scrutiny would meet with increasing approval.

The climactic competitive achievement was not to be reached until 1911, when a journalistic feature proclaimed the "biggest year in college history"—a simply "remarkable showing for a technical school," with a brace of championships in judging, basketball, and track. With somewhat re-adjusted emphasis the attainment was now attributed to thorough training under "great" coaching. For the modern coach had arrived to become alternately the institutional lion and goat.

PHYSICAL EDUCATION

Modern athletics, with characteristic organization, control, and emphasis, appeared in these eventful years. In this rivalry Iowa State assumed a leading place, as evidenced by the inauguration of modern training and coaching, three successive state championships in football (1905-08), affiliation with one of the major regional conferences, and the development of an up-to-date plant.

This athletic program was developed as a part—albeit a dominant one in student and public interest—of a general physical education department which was founded in 1904. In that year John Piper Watson was secured as "physical

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director" and Winifred R. Tilden, a graduate of Mount Holyoke College, was appointed "instructor in physical education for women." Watson was a professional athlete who had broken several records in track and gymnastics in national meets, including that at the Columbian Exposition. He had had seven years of highly successful coaching at Grinnell. At Iowa State he served as director, athletic trainer, and coach of track. His salary was provided jointly by the Athletic Council and the College. Miss Tilden gave the courses in a department of "physical culture for women" in the division of science and directed the women's sports which in 1915 were organized in a "Girls' Athletic Club."

By the end of the first year President Storms could report a most auspicious beginning of the work of both directors. Not only was Watson proving to be a careful and skilled trainer of the teams, but he was supervising and promoting the general sports activities in a way to bring physical benefit to the largest number of men. In spite of the lack of an equipped gymnasium "incalculable good" had been achieved. Miss Tilden's competent and enthusiastic instruction was combining spontaneous recreation with definite physical benefit. The modern physical education program was thus inaugurated and needed only modernized equipment and enlarged staff. For the men, competitive athletics hastened these developments. The new State Field was opened in 1910, and three years later the State Gymnasium was completed. In the utilization of the new equipment both administration and staff were agreed that the physical education department should direct and have full responsibility for the conduct of the entire program of competitive athletics, which by that time had come to assured and recognized position.

CONFERENCE ATHLETICS

Following the two lean years that attended the withdrawal of "Pop" Warner from early season aid, improvement came with the employment of Albert N. Ristine, a Harvard letter

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man, as football coach for five successful seasons (1902-06), culminating in the state championship in 1906. During his last three years Ristine was aided effectively by A. R. Buckley, '04, and by Professor W. F. Coover, a letter man of Ohio State University who coached teams for interclass contests so thoroughly that they provided recruits for the varsity squad.

In 1907 the new Missouri Valley Conference, with which Iowa State was in process of affiliation, required the employment of full-time football coaches in place of the seasonal recruits of the past, and the College secured for its first coach of record a man who was to make athletic history and create lasting traditions. Clyde Williams, a graduate of the State University with an outstanding record in football, baseball, and track and with experience in professional baseball, was brought to Ames in the spring of 1906 to coach baseball until he joined a professional club for the season. In the fall he was recalled as assistant football coach, and with Ristine's retirement at the end of that season, he was made the first full-time coach, in conformity with conference ruling. From the formal organization of the Missouri Valley Inter-Collegiate Athletic Association on April 1, 1908, the Iowa State College took an active part in the formation and administration of policies. The College's representative was the manager of athletics, S. W. Beyer, whom in 1908 the *Des Moines Register and Leader* termed the "Nestor of Ames Athletics."

CURRICULA BROADENED AND SYSTEMATIZED

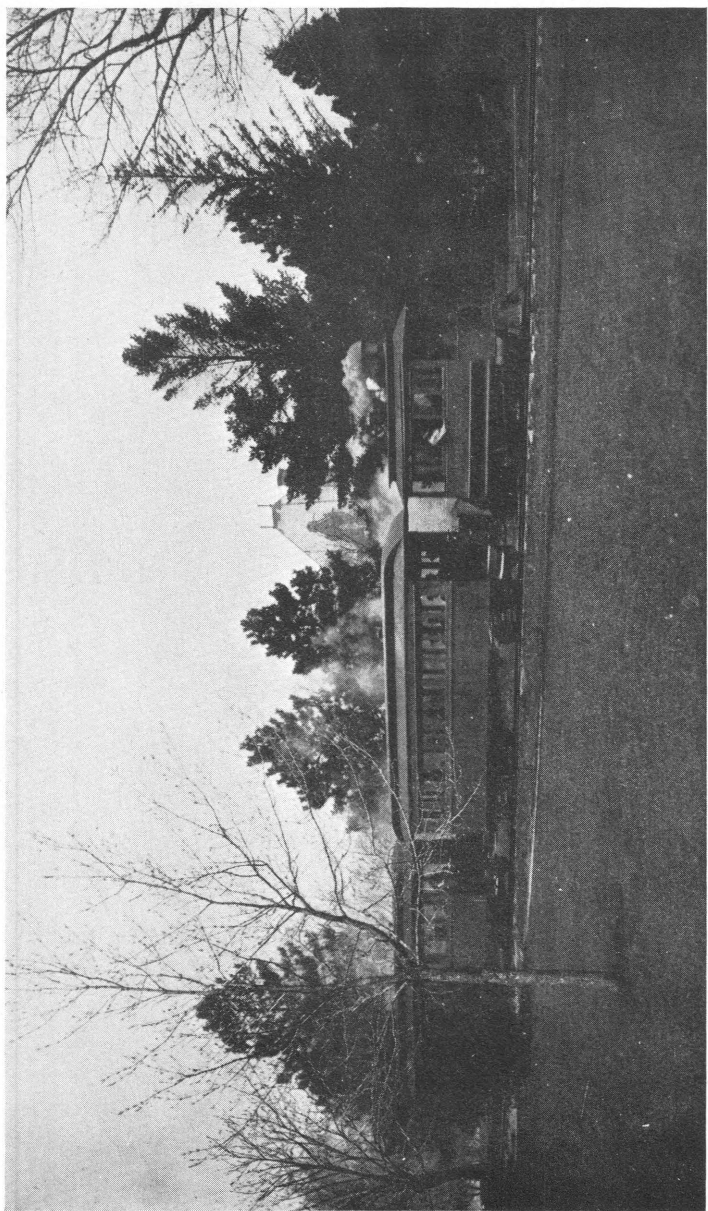
For the students' supposedly main interests and efforts, there was an unprecedented increase and diversification of courses in the established departments and the founding of new lines of study. The conditions were indicative of changing trends and emphasis. Farm mechanics of 1903, taught by C. J. Zintheo, grew by 1906 to a supplemental engineering year, for which the degree bachelor of agricultural engineering was awarded, and by 1908 to a full four-year curriculum.



THE FIRST CYCLONES



EARLY EXTENSION SCENE



THE "DINKEY"

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Professor J. Brownlee Davidson, one of the outstanding authorities in this branch of engineering, was the real founder of the department. Growing professional interests were reflected in the addition of mining, ceramic, and architectural engineering. Dean Curtiss' suggestion to John Clay, the Scotch commission merchant, led to a subsidy, later to become an endowment, for a chair of agricultural journalism. The courses were first taught in 1908 by the station bulletin editor, Will H. Ogilvie; and they were developed to professional status in the following years under the direction of the well-known agricultural journalists, Clifford V. Gregory, '10, and Fred W. Beckman. Forestry came to professional status in 1904 in charge of Hugh P. Baker, whose noted teaching and administrative career was just beginning. Bacteriology was added to the general sciences in 1908 under the direction of R. E. Buchanan, '04, who had previously taught the courses in the botany department. A four-year domestic science curriculum was established in 1909 leading to the degree of bachelor of domestic science. Agricultural education was organized in 1909 to meet a growing demand for vocational teachers in high schools.

Along with the expansion of technical and supporting subjects there was an effort to delimit and systematize the college program. Because of both the growing consciousness of science within and the concern over "duplications" without, the subordination and service status of the "liberal" subjects was proclaimed. In March, 1905, the faculty adopted the curt recommendation of the committee on course of study "that Latin be stricken out of all college courses." The preceding November the committee on post-graduate study had referred to the faculty petitions of two students for candidacy for the degree of master of science in history and literature "with the statement that the Committee was unable to see its way clear to grant a petition for the degree of Master of Science for studies, which are not science."

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This period marked the adoption of uniform degrees. In 1900, the catalogue committee recommended that the degree master of philosophy be not offered henceforth and that "all mention of it be stricken from the catalogue." It was, however, later given in five cases as an honorary award, 1903 (2), 1906, 1907, and 1908. In June, 1909, after investigating the practices of other institutions, the graduate committee recommended to the general faculty that doctor of science be the only honorary degree granted by the College and that it be "conferred only on persons of exceptional merit"—supposedly in pure or applied sciences. The initial recommendation for this degree of James W. Robertson, Norman J. Colman, and Seaman A. Knapp was an evidence of sound intent. A year later President Storms informed a correspondent that the "prevailing opinion" of the faculty was "that no honorary degrees whatever should be given." The same year the uniform bachelor of science was adopted as a first degree in all courses but Veterinary Medicine, and in 1911 the advanced agricultural degree was changed to Master of Science. The former degree of master of scientific agriculture was conferred for the last time in 1913.

DIVISIONAL ORGANIZATION

The administrative organization by divisions started under Beardshear was now completed by the appointment of deans. In 1902 Curtiss was given such a title for Agriculture and Dr. McNeil for Veterinary Science, and in 1904 Marston was made dean of Engineering and the President acting dean of Science as related to the Industries, including domestic science. The Junior College was established in 1903 with Stanton at the head. At the opposite end of the academic scale the graduate work was developing under committee supervision.

On November 2, 1899, President Beardshear had appointed as the first "committee on post-graduate studies": Weems of agricultural chemistry, Spinney of physics, Bennett of chem-

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istry, Pammel of botany, and Noble of English. The composition of the committee indicated personal interest of the members rather than departmental balance of the leading fields of study. The following year Weems and Pammel continued, with Curtiss of agriculture, Marston of civil engineering, Miss Sabin of domestic economy, Summers of zoology, and Bissell of mechanical engineering. Professors Summers and Pammel were especially active in the work of the committee.

The committee's function was to make recommendations regarding general standards and procedures and their application to particular programs. Its administrative authority was increased in 1902 when a rule was passed to have all applications for graduate work referred by the president directly to the committee without waiting for faculty action. From the beginning the committee was zealous in formulating standards as high as conditions would permit.

The main requirements and procedures for the master's degree were revised and formulated: resident graduate study was a privilege granted upon recommendation of the president and the professors in charge of the departments concerned; two years must elapse between the conferring of the bachelor's and the master's degree and at least one be devoted to resident study; two lines of work, major and minor, must be pursued, the major covering two-thirds of the credit and involving actual research, with the results incorporated in the thesis; the candidate must have a reading knowledge of French or German; definite regulations were made regarding the presentation of a program of study and application for and completion of examinations. The following year, in response to a faculty request for rules regarding the admission of graduates from other colleges, it was recommended that such students be required to present to the committee evidence of undergraduate work equivalent to the corresponding courses of the College and to satisfy any deficiencies before admittance to full standing. These requirements reflected a high conception

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of the graduate function by the members of the committee—even though at certain points they might involve a standard of hopeful endeavor rather than one of immediate attainment.

RESEARCH, INDIVIDUAL AND ORGANIZED

Research, personal and organized, was encouraged, promoted, and systematized. Membership and participation in professional societies were emphasized; a Science Club was formed by faculty members and experiment station staff members in 1910 with W. H. Stevenson as president and H. S. Summers as secretary; the graduate school of agriculture, sponsored by the Association of Agricultural Colleges and the Department of Agriculture, was held on the campus during July, 1910, with an attendance of over two hundred from thirty-nine states and six foreign countries; support for sabbatical leaves was sought (unavailingly then as later); and recognition was given to productive achievement. Beginning with the report of 1903-05 faculty publications were listed, and the President reviewed the more important bulletins and research papers of the biennium. The lists were sometimes criticized in private by members of the staff as containing too many popular entries and including addresses that had not been published at all, but the intent was commendable. The bulletins in most demand in 1905 were P. G. Holden's on seed corn, an "almost indispensable publication" which the President thought had received the widest and most enthusiastic attention of any station bulletin in the country; W. H. Stevenson's on the soils of Iowa, "an authority and a classic in this department of the State's agricultural work"; L. H. Pammel's on weeds of Iowa with identifying cuts; and a study of beef production in which John Gosling, the noted meat authority of Kansas City, collaborated. A regular bulletin editor was secured in 1904. During the biennium of 1906-08 the practice was adopted of employing full-time investigators in the different sections under the direction of the respective

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department heads. As organized in 1910 the sections were agronomy, animal husbandry, horticulture and forestry, agricultural engineering, dairy industry, botany, entomology, and chemistry.

In 1904, by act of the General Assembly, the Engineering Experiment Station was founded and placed under the directorship of Dean Anson Marston. Its purposes were to carry on scientific investigations, develop new devices and methods, conduct tests and analyses of materials, and disseminate technical information that would be of aid and service to the state's manufactures, mines, farms, and municipal enterprises. For so inclusive an undertaking the initial appropriations were so inadequate as to permit of no more than the barest beginnings. Of the \$15,000 sought for the biennium but \$6,000 was granted.

The same year the College was made a "State Highway Commission" under the joint direction of the deans of engineering and agriculture. The commission's duties were to devise plans and give demonstrations of the construction and maintenance of highways, and to give advice to counties regarding their highway problems. Thomas H. MacDonald, '04, later chief of the United States Bureau of Public Roads, was the first secretary and highway engineer of the commission.

HOLDEN AND EXTENSION BEGINNINGS

More direct state contacts multiplied with modern facilities for travel and demonstration. The harvest festival excursions to the campus became so popular that two days were devoted to them with attendances for a single day reaching 15,000. The modest short courses inaugurated in 1900 grew in scope and appeal. Contact was made with the high schools through the service of ex-Superintendent Barrett, who was brought to the College in 1904 as professor of civics and supervisor of admissions. Special demonstration activities throughout the

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state and the establishment of local short courses prepared the way for the founding of a definite extension service which was appropriately placed under the direction of the man whose promotive efforts had largely made possible such an establishment—P. G. Holden.

Perry Greeley Holden, a native of Minnesota, had received his education in the Michigan Agricultural College and taught in the schools of Michigan before being called to the University of Illinois as professor of agronomy. He had later entered commercial work and was head of a seed company when called to Iowa State College in 1902. Prominent agricultural leaders like Henry Wallace felt that there was need for a leader who could educate the farmers of the state in the necessity of seed improvement, and Holden's reputation indicated that he was the man. He was brought at a salary of \$2,600, \$1,000 from the Morrill Fund, \$1,000 from the station, and the remaining \$600 provided by three individuals. Holden's great forte was in direct popular appeal; the classroom and conventional teaching methods he found too restricting, and he was in his true element in a mass meeting of farmers. Two years after coming to Iowa he started county demonstration work, and there followed the corn trains and the establishment of regional short courses. This work prepared the way for the act of 1906, providing for a permanent extension department, of which Holden was made superintendent. His great message to the state, which with careful adaptation to the particular audience he delivered with evangelical fervor, was "the gospel of corn improvement." Holden and his followers emphasized the selection of ears of regular, artistic appearance, and their exhibits featured a certain dent variety of this sort as best adapted to the state. Contrary as this emphasis was to the later principles of breeding, Holden's influence dominated the corn shows that were held down to the World War period. In the February, 1912 issue of *Current Literature* Elbert Hubbard listed Holden seventeenth among the

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twenty greatest men of all times by reason of his contribution to the increased production of the world's food supply.

In spite of, probably in part because of, such notoriety and popular acclaim, Holden met strong opposition from certain elements at the College and out in the state. In the spring of 1912 he resigned to run for governor with the backing of *Wallace's Farmer*, and the bitter opposition of the rival *Homestead*, and after defeat in the primaries he removed to Chicago to enter upon industrial work. R. K. Bliss, who had been one of Holden's assistants, was put in temporary charge until called to the University of Nebraska. Willard J. Kennedy, the head of the animal husbandry department and the vice-director of the experiment Station, was then elected "head of the Extension Department."

STATE AND LOCAL MISUNDERSTANDINGS

These outside contacts and services, though they brought the College recognition and support, were also at times the occasion of disappointment, misunderstanding, and consequent denunciation and political opposition. Livestock judging contests at the International and other exhibitions, which were given great attention in these years and in which the Iowa State stock and other judging teams were highly successful, occasioned, in certain cases, serious charges from agricultural papers and stockmen of improper entries and unfair coaching methods. Though most of the charges were heatedly denied, some of the practices were held to be according to the "system"—what all the others were doing. In any case the controversy had a discrediting effect with the constituency upon instructors, departments, and the institution as a whole. Like intercollegiate athletics, judging contests awaited general agreement as to what constituted sound practices. In both realms of competition there was unquestionably an over-emphasis upon winning.

Misunderstandings of a special and local nature developed

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with the residents of Ames. Medical practitioners made protests in their county and state organizations, in newspaper discussions, and in representations to the Board against the alleged restrictive policies of the college physician in administering the hospital. Student sentiment proved to be overwhelmingly for the continuance of the existing service, and the Board upheld the physician, Dr. W. E. Harriman, making the concession, however, that students might employ accredited physicians at their own expense in the hospital or the halls. The perennial dispute over the campus-city road was also being waged. Beardshear had declared that he would desire such a thoroughfare as his monument, but it appeared that the most likely distinction to be gained from the enterprise was one of martyrdom. There began, too, the sectional differences between the college area and the downtown wards, with threats of secession and independent status from the residents of "Campustown." Local alumni journalists passed judgment upon appointments, removals, and college policies generally with the freedom and often the acerbity of a family critic. Other fratres and sorores in urbe were no less solicitous and critical.

ALUMNI INFLUENCE

The alumni in general were exercising an ever-increasing influence. President Storms recognized the essential place of alumni interest and support in the development of a modern college and urged the establishment of a periodical to keep the former students in touch with college activities. The Board readily agreed to provide the needed support, and their president, J. B. Hungerford, '78, and J. S. Dewell, '81, and A. U. Quint, '85, of the alumni association aided in the organization. Thus in 1905 the *Alumnus* was established as the official organ. By that time, in addition to the Iowa branches, there were organizations in Chicago, Washington, New York City,

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and Pittsburgh. The starting this same year of the observance of October 21—the beginning of the preparatory term—as “Founder’s Day” brought prominent alumni to the campus for reminiscences, observations, and admonitions. Since 1888 the alumni had had continuous representation on the board, at times with as many as five members: C. D. Boardman, ’74, 1888–94; C. F. Saylor, ’82, 1888–1900; W. O. McElroy, ’81, 1890–1909; A. B. Shaw, ’76, 1892–98; J. B. Hungerford, ’77, 1894–1909; L. B. Robinson, ’77, 1896–1902; Vincent Zmunt, ’92, 1904–09. The long services of McElroy, a Newton attorney, and Hungerford, a Carroll editor, were especially influential. Hungerford as president of the Board was credited with determining many of the larger administrative policies.

INSTITUTIONAL RIVALRY

This large and influential alumni representation on the governing body tended to increase the competitive spirit and intensify the rivalry with the other two institutions, contributing in this period of rapidly mounting costs, to charges of waste and unnecessary duplication and the consequent demand for administrative centralization. From the establishment of the Board of Control for penal and medical institutions in 1898, there was an agitation for a similar centralized governing body for the educational institutions.

THE WHIPPLE COMMITTEE’S FINDINGS

In 1904 the Thirtieth General Assembly appointed a joint committee to investigate “the entire system of management and affairs of said educational institutions, their business management and educational policies . . .” The committee was headed by Senator William P. Whipple of Benton, and among the members were Senator Thomas Lambert of Jackson, who became a member of the first finance committee under the new board, and Senator Dan Turner of Adams,

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later governor. The committee visited, in addition to the Iowa institutions, Northwestern University and the state universities of South Dakota, Minnesota, and Wisconsin. The governing systems and salary schedules of other representative state colleges and universities were tabulated as a basis of comparison. The findings were held to be decidedly unfavorable to the existing Iowa organization and policies. The investigators found a "considerable duplication" of work between the University and the State College, some of which was held to be wholly unnecessary. The existing system of control, through competitive rivalry, was encouraging such an undesirable tendency. "The governing boards and the presidents and faculties of each of our educational institutions press their respective claims upon the legislature without regard to the needs of the other institutions. A spirit of rivalry is engendered that is, in many respects detrimental to the educational interests of the state." They found evidences of waste and inefficiency in the administration of capital, operating, and instructional funds. The operation of the millage tax system, through lack of cooperation and uniformity, was leading to an extravagant building program. Greater care should be exercised in purchasing and in the letting of contracts. "There should be more uniformity in the tuition and other fees charged," and "without making specifications on this point," the committee found "room for improvement in the educational work at the several institutions."

The committee thus summarized the situation, financial, administrative, and instructional: "The problem is how to bring about harmony of action and uniformity of methods at our educational institutions; how to prevent waste and how to get the best results, allowing only such duplication in the work as is necessary to make each a first class institution. To bring about this condition of affairs there must be a change in the management. A system should be devised, that will remove

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from politics, as far as possible, the administration of our educational institutions and at the same time, secure to the state good and efficient business management." The solution proposed was a centralized policy-making board with a full-time salaried administrative committee to perform the duties of the existing financial officers.

CENTRAL BOARD CREATED

Sentiment in the state was sharply divided. *Wallace's Farmer* supported the proposal, and as usual, the *Homestead* was on the other side. Storms from the first had opposed the plan as tending to subject the State College, with its peculiar organization and function, to a misunderstanding and unsympathetic control. He wrote numerous letters to alumni and legislators and made an earnest appeal before a legislative committee. In the main, he held, the existing system was working well; why, therefore, enter upon a highly risky experiment? Members of the faculty, the supporters charged, were agitating and lobbying against the bill. The opposition could postpone the enactment, but not for long; the appeals to efficiency, economy, and hoped for harmony were too strong. The bill met defeat in the sessions of 1904 and 1907, but was passed in the next session and approved on March 31, 1909.

The new governing system provided a board of nine members—not more than five of whom could be of one party—to be appointed by the governor for a term of six years. To prevent packing of the board by the graduates of any one institution or the possibility of collusion by graduates of different institutions, it was provided that "not more than three alumni of the above institutions and but one alumnus from each institution may be members of the board at one time." The unique feature was the provision for a full-time, salaried finance committee of three to be selected by the Board of Education for a term of three years. The secretary of the committee was also to

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be secretary of the Board. The initial appointees indicated the appreciation of the dignity and importance of the new governing body, and gave assurance of competence, reliability, and fairness. Continuity and stability of policies were to be secured to an unusual degree by the long service of three key officials each of whom combined progressive outlook with a realistic understanding of the conditions and needs of the state's system of higher education. George T. Baker, a distinguished construction engineer who had been active in public affairs, state and municipal, was appointed to membership on the original Board and served continuously—the last seventeen years as its president—until his death in 1941. William H. Gemmill, '94, an experienced teacher and educational administrator, held the secretaryship of the Finance Committee from 1914 to 1936 when he became Superintendent of Documents in the experiment stations. William R. Boyd, journalist and financier has served as chairman of the Committee from the beginning to the present. Despite the reassuring beginning, those who viewed with apprehension any system of centralized government remained unreconciled.

STORMS RESIGNS

The new control, to which Storms had been so consistently opposed, was the final influence in the cumulation of difficulties under which he labored; and in March, 1910, he submitted his resignation to take effect August 31. His final report, prefaced by the observation that the present board could "doubtless work out the policies best with an executive head of their own choosing," gave a review of the achievements of his seven years. The record was an impressive one. Eighteen new buildings had been erected; the instructional divisions had been organized under deans, and an extension department established; the enrollment had steadily increased; income had become more adequate; and, finally, an efficient and loyal faculty had been built up. Referring felicitously to

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the two professions in which he had engaged he concluded, "Both the work of education and that of the ministry to which I expect to return are so full of interest and spell so large an opportunity that any man may well be willing to stay out of heaven to engage in either."

STORMS' CONTRIBUTION

In judging Storms' administration one must take account of the unusual difficulties of the times, general and special. The academic scene was peculiarly unstable; for all colleges the period was characterized by changing standards and practices, in curricula, methods, and student interests and activities. In the midst of these prevailing uncertainties there remained within this particular college the old factional division over aim and emphasis which only subject expansion and changing leadership could fully overcome. Furthermore, under the most favorable conditions, to carry on effectively the program and to bring to completion the projected enterprises of a dominating and aspiring personality like Beard-shear would have taxed the resourcefulness and directive genius of any executive. That Storms' talents were not administrative and that for the sake of internal harmony, he should have given up essential prerogative to more assertive personalities in the College and on the Board should not in any way overshadow his real influence upon the people of the state, the students, and the staff. If he met the problems of the transitional period less effectively in some respects than a more "efficient" administrator might have done, he brought to the task certain special qualifications that gave a balance and moderation to program and policies that might not otherwise have been attained. The technical emphasis was bound to come; the liberal leavening would not have been so certain. Following his service at Ames, Dr. Storms was for some years a pastor at Indianapolis and then became a successful president of the Baldwin-Wallace College at Berea, Ohio, where

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he remained until his death. He returned to the campus a number of times for baccalaureate and chapel addresses and was always held in esteem and respect by his former associates.

PROBLEM OF A SUCCESSOR

The selection of an executive of the new Board's "own choosing" was not an easy or quick task. There were special influences to resist and positive choices to weigh. Dean Curtiss' supporters, led by Secretary Wilson, again urged his claims, but though he had supporters on the Board he now met with opposition in quarters that had previously been favorable. There was a persistent rumor that, in case of the Dean's elevation to the presidency, Professor Willard J. Kennedy, head of the Department of Animal Husbandry and vice-director of the station, would succeed to the headship of the agricultural division. Kennedy's skill in coaching and his energy and enthusiasm in developing stock judging and exhibitions had contributed directly to the rapid growth of his department, but unfortunately, he had become the center of a controversy that divided the agricultural interests of the state. A group of agricultural journalists had brought charges of improper methods in stock judging and undesirable relations with commercial enterprises and had demanded the Professor's removal. In vigorous reply, Kennedy alleged that he was the victim of misrepresentation of fact and distortion of motive by disgruntled rivals. After a prolonged hearing occupying three full sessions in which both sides were represented by counsel the Board decided that the charges were "not sustained." But the controversy extending from September, 1910, to February, 1911, exciting much publicity and involving sharp differences of opinion, in itself and in addition to other complications made the selection of a president from the division concerned inadvisable.

STANTON CARRIES ON

Evidently an executive to guide the College's course in the new day and adjust policies to the plan of the new board must

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be sought widely, throughout the nation. Again, for the third time, Stanton was called upon for emergency service, but he too was regarded as unavailable for permanent tenure. This time the terms of his appointment specified that his service was to be temporary; his opportunity for the presidency had passed. But at the same time the reasons for and terms of the commission indicated the peculiar place of confidence and influence that he had come to hold. The formal resolution of August 19, 1910, read: "Whereas, many years of excellent service commend Dean E. W. Stanton to the full confidence and high regard of this board, Therefore, Be it Resolved: That he is hereby appointed acting-president of the State College of Agriculture and Mechanic Arts for the period of one year, or until such time within this period as a president shall have been elected and reported for duty. The salary of the acting-president shall be at the rate of \$5,000 per annum, this compensation to cover his services as dean of the junior college. This action is with the understanding that Dean Stanton has not been and is not a candidate for the presidency, it being the intention of the Board to elect to the temporary position a man not in consideration for the presidency." With the delay in selecting the new president, the appointment was extended for another year. The *Homestead* commented that the new Board had made an ideal choice and that the only regret was that Stanton was not to be "president in name as well as in fact."

PROGRESS UNDER STANTON

The two full years of Stanton's services at this time were by no means a period of marking time and merely awaiting a new administration. Material advances were under way, vital issues were presented for settlement, and no one was more understanding of the problems in hand than the veteran Dean. The building program continued with the erection of the home economics hall, the veterinary quadrangle, and the starting

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of the gymnasium, and instructional and research interests were advanced steadily and surely.

Stanton had been acting president in 1890 when the first non-collegiate courses in agriculture were planned, and he was now in charge when this grade of instruction was put on a more distinctive and systematic basis. In 1910 the new Board, responding to what was held to be a real demand, created a distinct non-collegiate two-year course for students who had completed the 'common branches' "but from which any student who is prepared to enter the regular college course in agriculture shall be excluded." In addition to the two-year course, the one-year courses for creamery operators and the two-quarter herdsmen courses were continued. The new work was placed in charge of Professor Jules C. Cunningham, a graduate of the Kansas State College who combined effectiveness in organization with an inspiring enthusiasm in leadership. He secured an unusually strong staff and built up a distinct group consciousness among the students. Special clubs, a mimeographed student paper, and other activities were organized, and regular alumni contacts were maintained. For nearly two decades these courses rendered a real service to Iowa agriculture; young men returned to the farm who were outstanding not only in better methods of cultivation and of business but in community leadership. At the same time specialists were trained for practical supervisory positions.

Another major innovation in the instructional realm during this interim administration was the establishment of the summer school. In March, 1911, a special committee of the agricultural division recommended that a ten-day summer school in agriculture be organized. The plan was evidently to conduct summer work comparable to the winter short course; but the instruction developed instead on a broader coordinate collegiate basis. The following May the acting-President recommended to the Board a two-weeks' course and asked a \$5,000 appropriation. There were three special classes, he

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urged, to whom such an opportunity for study would appeal: teachers in agricultural and the manual arts; veterinary practitioners who desired to keep abreast with the latest developments; and highway, city, and public utility engineers. The recommendation was made with the understanding that the work would not duplicate that of the county institutes but would be in lines appropriate to the work of the College. A superintendent should be in direct charge in consultation with the president, the deans concerned, and the special committee. About fifty superintendents and vocational high school teachers attended the short course that year. In 1912 a regular six-weeks session with courses in agriculture, home economics, and general supporting sciences was organized with A. V. Storm, of the department of agricultural education, as director. From this time the offerings and enrollment grew, until in 1915 with the addition of a second term a full quarter's work was provided.

Stanton's long and unique experience at the College as student, teacher, and administrator enabled him to act directly and effectively in removing undesirable conditions and encouraging wholesome and progressive tendencies. For instance an aggravating abuse long tolerated was now dealt with effectively. Hazing was a custom of long standing and of increasing disturbance. Certain recent flagrant cases involving short course students had had discrediting reactions in the state, and the local representative had been led to introduce a bill making such a practice a criminal offense. Stanton's sympathies were especially aroused by stories of students who had been intimidated and whose courses had been consequently interrupted. He was also concerned with such unseemly and inharmonious demonstrations in a technical institution at the very time when a major program of expansion was being launched. Possessed of power to act he used it to suspend offenders until all members of the sophomore class signed an agreement to refrain from hazing and from class

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scraps in general. For all wholesome student interests and activities he continued his enthusiastic support. But his deepest concern continued to be the encouragement and honoring of scholarship.

A notable recognition of scholarly standing was the installation, on October 23, 1911, of a chapter of Phi Kappa Phi by the president-general Edwin E. Sparks, of Pennsylvania State College. Iowa State College was the first institution west of the Alleghanies and the sixth in the country to become affiliated with this great national honor society. Twenty-nine charter members were elected from the faculty, and two years later alumni of intellectual achievement in varied fields were elected. At that time J. C. Arthur, '72, botanist, A. S. Hitchcock, '84, botanist, Frank Leverett, '85, geologist, and W. T. Hornaday, ex '75, zoologist, were made honorary members. First officers of the local chapter were president, L. H. Pammel, who was to become president-general of the society; secretary, L. B. Schmidt; and treasurer, Herman Knapp.

Stanton's relations with members of the staff were harmonious and understanding. A characteristic feature of his reports was the number of cases in which he gave special praise to the work of departments and of individual instructors. All in all his course as chief administrator during this period, as in other interims, bore out the estimate of an alumni trustee in 1907: "He was here at the beginning and is a stay and support, an anchor of safety Professor Stanton has never been 'the first by whom the new is tried; nor yet the last to cast the old aside.' Safe as a conservative and wise as a progressive, he has kept his eye on the middle course, and events have vindicated his wisdom in helping to shape the destiny of the college."

EFFORTS AT CONSOLIDATION FAIL

In the opinion of the College's supporters the true destiny was now put in jeopardy by the proposal of the new Board to give active demonstration of its business and administrative

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efficiency in an elimination of "duplications" by a consolidation of courses in the different state institutions. In July, 1912, the Board recommended that all engineering work be centered at the Iowa State College, that domestic science and general science be transferred to the University, and that the Teachers' College work be maintained only at the junior level. In justification, the arguments of needless duplication were brought forward and endorsements of the Board's action by leading educators presented.

The opposition was immediate and determined from all three institutions. University alumni printed an elaborate brief on the illegality of the removal of engineering, and the I. S. C. alumni association joined with local organizations to prevent the dismemberment of their institution. A fund of \$1,000 was raised for the campaign to retain home economics. The *Student* in an open letter to the Board demanded that representatives of the student body be heard on the proposed changes. Both candidates for the governorship that fall were on record as opposing the policy. The result was that after a heated debate before a joint session, the legislature requested that the order be withdrawn, and under this mandate the Board on April 4, 1913, resolved unanimously that in deference to the request of the General Assembly the action was rescinded.

In vain the president of the Carnegie Foundation inveighed against political obstruction of the true interest of Iowa education. Time was to indicate that public sentiment, even though subjected to special appeals, was in the long run sounder than the immediate demand for economy through consolidation. In any case it was evident that a centralized board would not interfere materially with the program of the state institutions as they had become established through the years in response to real demands and demonstrated service. The State College thus faced the modern period and the hopes and expectations of a new administration with determined purpose and with organization and program intact.

CHAPTER TWELVE

EDUCATION FOR EFFICIENCY

Commonwealth & College Come of Age

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SOCIAL AND ECONOMIC TRANSITION

The beginning of the second decade of the new century marked a new era for the state. It was a time of changing conditions and leadership in politics, business, and education. The decline in population and the growth of tenancy, along with specialized and mechanized production, indicated that the frontier conditions and opportunities were gone. New industries were seeking local adjustment. The 1917 *Bomb* was appropriately dedicated to the "Greater Iowa." At the same time the progressive movement was creating a demand for corporate control and social welfare activities. Amidst these changes and agitations, there was an awakened consciousness of education—a desire for better schools and for a more direct availability of higher education. The period marked the rise of federal grants-in-aid as an encouragement to instructional, investigational, and extension activities. The experimental work and the extension service were bringing the State College to popular attention and creating a demand for its services. As never before there was a desire that education should serve society; education for efficiency was the counterpart of the similar movement in business. In both realms the effort was often made in a short-sighted manner, but the aim was essentially sound and wholesome. The executive chosen to direct the College at this dynamic stage was a fitting repre-

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sentative of the new age. He was, as knowing observers remarked, a new type of president for the state.

THE NEW LEADER

The Board of Education, recognizing the unusually determining significance of their choice both for the modernizing of the College and for their own plans for a state system, and feeling that the institution would be safely cared for by Stanton, had been deliberate and thorough in their search, in spite of growing criticism at the delay. Their consideration came to center on the retiring state commissioner of agriculture of New York, R. A. Pearson. He was endorsed by representative leaders in education and affairs in that state, including trustees and the president of Cornell, the New York State Commissioner of Education, the heads of the New York Agricultural Society and the state Grange, and the president of the New York Central Railroad. Justice Hughes, under whose governorship he had served, was consulted and gave full commendation.

At an interview with the Board in Cedar Rapids in March, 1912, Pearson indicated that he was greatly interested in the position but was undecided between it and an offer in the East. A few days later in a letter to President Trewin, he expressed his personal reactions very frankly. After their conference he had inspected the College, visited relatives in Humboldt County, and conferred with Henry Wallace. He was so strongly impressed with the opportunity the institution offered that it would require unusually strong inducement to keep him in the East. There were, however, certain matters that he desired to have clearly understood before committing himself. The chief uncertainties grew out of the pending proposals for consolidation. The principal lines of the College, he assumed, were to remain agriculture, engineering, and veterinary science, supported by such literary subjects and fundamental sciences as were necessary for their proper de-

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velopment. The future of home economics was to be determined. It was understood that necessary steps were to be taken to qualify the College for the benefits of the Carnegie Foundation pension system. Other proposals were suggested by the reports of the waning executive authority during the past administration under the operation of the divisional system. The president, he stipulated, was to have full freedom in carrying out policies. This was essential to the firmness that had been suggested as needed in the incoming president. The president was to initiate all appointments and removals, and he was to be the intermediary between the Board and the staff. Salaries should increase where necessary to retain the strongest men, and it was understood to be "the intention to considerably increase the salary of the President at as early a date as is practicable." Trewin replied with some personal reservations and suggested that the other members might have additional ones. The location of the engineering work was still unsettled. The requirements of the Carnegie board should not interfere with the special needs of the state. The Board would probably object to any fixed salary scale. On the other matters there was apparent agreement.

Following this exchange of personal opinions the differences were readily adjusted. Pearson replied that he had not sought to suggest new policies but rather to have a clear understanding as to those that were established. He added significantly for his future attitude, "I should like to think of the institution at Ames as the great technical school of the state, and, in its service to the state and in its relative standing with other institutions, comparable with such well known institutions as the Massachusetts Institute of Technology, in Boston, and John Hopkins University at Baltimore." He was especially concerned at the uncertainty over engineering. He would not wish to head the College if that were taken away. Other matters he was sure could be satisfactorily adjusted. On April 3 the Board wired that it was now their avowed policy to develop engineering at the State College

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and that the president's salary would be "increased in due time." Two days later Pearson wired his acceptance. He was given leave until September to complete a survey of agricultural organizations in Europe.

Raymond Allen Pearson was born in Indiana in 1873 and was thus only thirty-nine when selected for this great responsibility and opportunity. He had graduated from Cornell University in 1895 in dairy industry and subsequently received a master's degree. He had been awarded an LL.D. by Alfred University in 1910. Upon graduation he became assistant chief of the dairy division of the Department of Agriculture. After ten years of service there he was appointed manager of a dairy laboratory in New York City, from which he was called to the professorship of dairying at Cornell. His appointment to the state commissionership, with the strong support of the leading farmers' organizations, followed, and he served with conspicuous success until displaced by a change of party control. His commission to investigate agricultural organizations in Europe came at the end of this service and resulted in a substantial report. His family was distinguished in education and business. One brother was an outstanding veterinary scientist and the other a prominent railroad executive. Professor George W. Jones, who after his service at the Iowa Agricultural College had a long career in the mathematics department at Cornell, was his uncle. Pearson had enthusiasm, energy, a pleasing manner, and a good platform presence. From boyhood residence on an uncle's farm in Humboldt County and frequent later visits, he had a familiarity with the state. He had agreed with the half-serious suggestion of a member of the Board that his bachelor status was a handicap for the position and promised to alter it. This he did three years after coming to Ames. His marriage to Miss Alice Dunsford of Avon, New York brought a charming and cultured mistress to the presidential mansion and a gracious and understanding participant in campus society.

At the beginning of his administration President Pearson

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made a most favorable impression. He appeared affable and democratic in his contacts with faculty, student body, townspeople, and state gatherings. Openly at any rate, he sought to ignore past factional differences and to recognize institutional and local traditions and prejudices. In his address at the opening convocation he paid a gracious tribute to Stanton's service and added that he had not come to displace the veteran but to labor with him as a teammate in the common cause. He showed his appreciation and goodwill for his predecessor more substantially by recommending that he be made vice-president.

No less heartily the new President joined in the homecoming recognition of Secretary James Wilson on March 12, 1913. The event, including a mid-day convocation and an evening banquet, was a fitting recognition of a man who had gone from the College to the position of most distinguished leadership in national agriculture. Governor Clarke, ex-Governor Carroll, Henry Wallace, and D. D. Murphy, president of the Board, were among the participants. Pearson referred to the fact that the Secretary had been kept on the faculty roll through the years of his service in Washington and assured him that the administration and staff still felt that he was one of them; and Wilson in reply pledged his remaining years to the service of the College.

TWENTY-FIVE YEAR CLUB FOUNDED

An equally appropriate and fitting tribute was the recognition, two years later, of the members of the staff who had served for at least twenty-five years. General Lincoln, Treasurer Knapp, and Professors Stanton, Bennett, and Pammel were so honored in a convocation which marked the establishment of the "Twenty-Five Year Club." Benjamin H. Hibbard, '98, of the University of Wisconsin, gave the main address, and greetings were brought by President Thomas H. Macbride for the State University, President Homer H.

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Seerley for the Teachers College, and President D. D. Murphy for the Board of Education. Friends and fellow workers from the leading universities, research institutes, and government bureaus sent letters of felicitation. Dean Stanton responded feelingly for the honored group.

A BROADENED PROGRAM

In addressing agricultural and business gatherings the energetic head of the State College evinced an earnest desire to deal with the agricultural and industrial problems of his adopted state in the most thorough and modern manner. He endeavored to speak the language of the farmer and of the business man and to meet them on their own ground with no academic inhibitions. He told the state dairymen, in particular, that he had started his career in life in that occupation and he planned to return to it when his present service had ended. Most of his audiences and visitors would undoubtedly have agreed with the editor of the *Student* who at the beginning of the second year of the popular administration urged the alumni to "Shake Hands with Prexy" and assured them that "Though he came to us from the east, President Pearson is a true type of the friendly westerner."

At the same time, while conscious of the practical occupational instruction to be provided and the direct services to be rendered, the new executive kept his aim, forecasted in his negotiations with the Board, of a broad technological institution. This emphasis was made both as a constructive development of the true program of the land-grant college and as a defense against future threats of consolidation and a fear which was to become something of an obsession with him of the subordination of the State College to the University, in program, support, and the dignity and standing of the administration. The main policies of the alert and ambitious administrator in this period of stress and strain in a modernizing technological institution were motivated by these hopes and

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fears. In line with these aims, during the first two years collegiate administrative organization was completed and the experimental and extension services were strengthened.

A GRADUATE DIVISION

The plan for graduate instruction marked an especial advance. The catalogue of 1912-13, anticipating official authorization, made the promise that "the administration of all graduate work will be placed in the near future in a separate division to be known as the Graduate College. The new division will be presided over by a dean." The term "college" at this time, before divisional status had been attained, while premature, indicated the high goal being sought. On May 22, 1913, the general faculty, acting upon a report by the Board of Deans, recommended to the Board of Education the establishment of a graduate division. The latter Board responded on July 15 with the adoption of a motion made by Roger Leavitt, a member from Cedar Falls, that such a division be established with a dean and that the president should serve in that position "for the present."

During the fall and winter, plans were made for the organization and program of the Division. The committee on organization consisted of President Pearson as chairman, Dean MacKay of Home Economics, Vice-Deans Beach, Beyer, and Dimock from Agriculture, Engineering, and Veterinary Medicine, respectively, Professor Pammel from Industrial Science, and Professor Summers, member at large. Elaborate suggestions regarding standards of work and the appointment of scholars and fellows were received from the graduate committees of the Agricultural and Industrial Science divisions, and the latter made an extensive survey of the practices of leading graduate schools in the selection, service, and compensation of stipend holders.

The recommendation of the agricultural graduate committee on the dean-ship was significant and revealing: "The

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committee recommends and urges that a strong, capable man, qualified for the position of Dean of the graduate work, be selected during the coming year, and that the man chosen for this work be a man of recognized standing and ability as a scientist; a man of broad character and training, and one who is specially in sympathy with the application of science to industrial work, particularly in the field of agriculture. Emphasis is placed upon the agricultural work for the reason that during the past ten or twelve years approximately three-fourths of the students enrolled in graduate work have been agricultural students, and there is every reason to believe that this number will very greatly increase if the work is properly recognized and put upon a good basis."

Sub-committees of the organizing committee were appointed to survey the departments of the various divisions as to their availability to offer courses for the master's or doctor's degrees for the coming year. The assignments by the President were: Home Economics, Dimock and Pammel; Industrial Science, Beyer and MacKay; Engineering, Summers and Beach; Veterinary Medicine, Beach and Summers; Agriculture, Pammel and Beyer. The committees made detailed investigations of each department as to personnel—training, experience, membership in learned societies—publications, and departmental equipment and facilities, and on these findings made specific recommendations.

At the completion of the survey the investigators concluded that "the most important immediate difficulties in the way of the organization of an efficient Graduate Division including all of the departments in *Pure and Applied Sciences* are:

- "1. Instructors at the present time are fully occupied with undergraduate courses and routine work of the department.
- "2. Instructors are permitted, expected or required to give instruction in too many subjects; in some cases the subjects taught are not closely related.

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- "3. Space available is only sufficient, or even inadequate for present classes.
- "4. Inadequate library facilities, especially technical works in other than the English language.
- "5. Absence of research atmosphere."

Though these difficulties were serious, the investigators were confident that none of them was insurmountable. The teaching handicaps, in particular, they felt, might be overcome by more efficient divisional and departmental organizations. The library needs could be met only by a marked and systematic increase in the collections of reference books and sets of scientific reports and journals.

The recommendations for the various divisions are of historical interest as a cross-section contemporary judgment of the status of the various departments. In the Agricultural Division, agronomy, animal husbandry, the agricultural chemistry administered in the station, and horticulture were qualified to give the doctorate in certain lines, while agricultural education and dairy industry were prepared for master's work. All of the main engineering departments, including physics, which was still classified in that division, were equipped and staffed for instruction for the master's degree, and economic geology was prepared for the doctor's. In the science group, bacteriology, botany, and zoology were developed to the doctorate stage, and chemistry was expected "at an early date . . . to meet the full requirements." Economics and mathematics could provide major work for the master's and minor for the doctor's degrees. The combined department of history and psychology was fitted for minor work toward an M.S. Veterinary Medicine with an enlarged staff might do work leading to the master of science in anatomy and histology, pathology and bacteriology, and physiology and pharmacology. The recently created Home Economics Division aspired to the M.S. in two fields, textiles and foods and nutrition, but the inspecting committee felt that the new

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division's efforts should be confined to minor work for the present.

During 1914-15 the graduate committee completed the details of organization and procedure. The graduate faculty was to be composed of the heads of departments offering graduate work and all instructors of graduate subjects. The first meeting, presided over by the President, was held on November 11, 1915. The event marked the completion of a distinct divisional organization and inaugurated the systematic graduate study. The Board was asked to make provision for at least five each of scholars, teaching fellows, and junior and senior research fellows with stipends fixed for the prospective grades at \$200, \$400, \$300, and \$500. The degrees provided for were master of science and doctor of philosophy in course, with the professional degrees continued on the existing basis. Five years before, during the investigation of higher degrees, there had been considerable sentiment in the Agricultural Division for conferring in course the technical degree doctor of scientific agriculture (D.S.A.), but the prevailing trend was found to be toward a uniformity of degree at the doctorate level. Meanwhile, with competent staff, adequate facilities, administrative organizations, and a more perceptible "research atmosphere," the time was ripe, in certain fields, for conferring the highest degree.

THE FIRST PH.D.'S.

The years 1915-19, while showing an increased and continuous award of masters' and professional degrees in the technical and the pioneer science departments, were marked by the first awards in bacteriology and physics (with one exception in each) mathematics, and economic science. But the period was especially notable for the conferring of the initial doctorates of philosophy. In 1916, Leslie A. Kenoyer, B.A., Campbell College, and M.A., University of Kansas, received the Ph.D. in the department of botany. The follow-

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ing year Charles W. Davis, of the University of Tennessee, and Paul Emerson, of the University of Delaware, earned the degree in soil bacteriology. Ada Hayden's award in botany in 1918 completed the roll for this period.

To aid the President in administering the Division, Professor George A. Chaney, Department of Mathematics, served as assistant from the spring of 1916 to the winter of 1919. He entered upon the task with great energy and enthusiasm. His first report in May, 1917, contained a remarkably frank statement of his views of the graduate and research situation and a most ambitious proposal for future developments. The immediate material needs, he felt, were a graduate student center, systematized graduate placement work, and a separate divisional budget. The College's participation in the World War, which was to cut the graduate enrollment 40 per cent, made such a program unthinkable. The vision of a real graduate college long held by certain administrators and scholars awaited the educational reorganization and expansion that came in the post-war years.

GENERAL SCIENCE CONTROVERSY

Meanwhile, before the modern organization could be fully effected, there was a final internal functional struggle over the place and status of the general courses administered in the division of Science as Related to the Industries, still under the temporary direction of Dean Stanton. With the growing professional and occupational consciousness within the institution and the pressure for consolidation without, a general division was forced as never before since the formative years to show positive justification for existence. To meet this situation the divisional faculty in May, 1913, adopting what was regarded as the simpler and more expressive name, "Industrial Science," presented revised curriculums of a four-year course in industrial science, five-year courses in science and agriculture, science and engineering, and science and home economics,

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and a six-year course in science and veterinary medicine. The industrial science course provided for major work in one of the science departments as then constituted. A maximum of twenty-four hours might be chosen from another division. The main functions of the division were held to be the furnishing of instruction in the basic sciences underlying the industries and professions taught in the technical divisions and to qualify students for "certain industrial scientific work." All of the offerings were held to be in full accord with the specific provisions of the Morrill acts.

When the proposal was first presented to the general faculty, consideration of the program was postponed. At the next meeting it was referred back to the divisional faculty for further consideration. Finally on May 15, the revised plan was presented by Dean Stanton. In opposition to the plan of organization and instruction a brief was presented for the division of agriculture by vice-Dean S. A. Beach, '87. In reply a brief was presented for the science division. The agricultural forces presented six opposing allegations: first, the name was inappropriate and misleading, being designed to give the course a standing to which it was not entitled since it did not require a student to connect his work with any industry or any phase of industrial work, but on the contrary the student was left free to elect work that had no industrial relations or significance; second, in spite of claim that the new general course avoided all appearance of offering liberal arts work, they believed that it afforded "greater opportunities. . . to elect work bordering on Liberal Arts than have ever before been presented in any course offered in this institution"; third, a science student might elect courses in agricultural education sufficient to acquire a state certificate "without reference to the relation of educational work to agriculture, as required in the educational work in this institution"; fourth, such a course would be discrediting to the high standards in technical agricultural instruction which had

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been built up at the College—a combination of “science and agriculture” would mark a backward step to such a repudiated combination of former years; fifth, such a course was lacking in other land-grant colleges and was to be found only in state universities in which the agricultural divisions were forced to provide their own basic science training; and sixth, the true function of the science work in a land-grant college was to support and sustain the agricultural and engineering work and the subjects should be specialized and adapted to that end, and it was “no secret that the science work in this institution as at present organized does not fully meet these requirements.” As a substitute plan the agricultural division proposed a system of specialization in the general sciences in connection with the senior college and graduate work in agriculture. These courses would be coordinate for the agricultural division with industrial chemistry for that of engineering.

The representatives of the division, termed “science” pending more definite designation, replied specifically, elaborately, and somewhat ardently. On the matter of designation it was the conviction of their faculty that the sciences in a technical institution should have the point of view and, as far as practicable, subject matter illustrations of the industries and professions of the student taught. This made the emphasis “industrial.” As to the charge of liberal arts trend, their course, emphasizing the sciences mentioned in the second Morrill act in distinction to the “cultural subjects,” was a far cry from a former course that awarded the B.L. without question. Furthermore, the proposed course was much less “liberal” than the existing one.

The alarm over teacher training was held to be not only unjustified but contradictory and inconsistent. Agricultural teachers in the schools were teaching the general sciences in larger numbers than science majors were teaching vocational subjects. Furthermore the agricultural division was announcing its educational course as designed for teachers “in the

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general sciences and agriculture," and in the summer term especial appeals were made for high school teachers to prepare for agricultural teaching. The training of science teachers was a great public service and in turn a boon to the College, for there could be "no stronger force back of an institution than an army of loyal alumni teaching the boys and girls of the High Schools of the state. . . . From the standpoint of strength to the institution we *need* our Science students in the High Schools of Iowa."

The science division, it was urged, had no desire or expectation of deflating or discrediting the high standards and achievements of the agricultural division. All that was sought was a reciprocal agreement by which the latter division, like the other divisions of the College, would be open to students without divisional registration. There was no intent of their students to pose as technical students, and while two cases had been cited of the discrediting effect of vocational teaching by science students, others could be cited of equally discrediting failures by those of full vocational training. The science faculty was willing to break precedents if need be to advance the interests of the College, but it found directly pertinent and sustaining ones in the practices of several outstanding institutions. There was a denial that the sciences had their only mission and function in giving support to the technical divisions; they had their own particular and proper field in addition. If the supporting work was inadequate or to some degree incompetent, the responsibility was mainly with the agricultural division that permitted no representation of the serving departments in their faculty meetings and no voice in the planning and adapting of courses. The substitute plan was held to be inadequate, impracticable, and superficial. The agricultural courses did not provide the requisite foundation in the junior college for advanced science study, either in the senior college or in graduate study.

In conclusion, it was urged that the division was essential

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to a "complete industrial institution." The division, "proud of its connections," sought only an opportunity to render its service most adequately and to develop its particular field. "It does not want to be abolished or smothered. It wants to be a worker among its peers, serving and being served. It has a mission to perform. It is willing to meet every demand made upon it in the line of scientific work required by the other Divisions. It wants in addition a little elbow room to do needed work that will redound to the credit of the College, give standing, courage and inspiration to its workers and attract to and retain in the service of the institution the highest type of scientific men. It proposes to make scientific experts, investigators and educators, who, having thorough knowledge of science in some particular, and having had touch with its specialized application shall be ready to render service of greatest value to industry."

Following a resolution to adopt the new science course of study, Dean Curtiss moved a substitute resolution for the agricultural faculty that it was the sense of the general faculty that "the science work as related to the Industrial, Veterinary, and Home Economics courses in this institution should be put on the strongest possible basis and every facility offered for its development and closer relation to that work, but that the best interest of the institution as a whole would be promoted by discontinuing the four-year course in Science, and that no similar course should be offered beyond a period long enough to permit students now enrolled in this course to complete their work." The substitute motion was lost by a vote of eighteen to twenty-seven, whereupon the motion to adopt the course of study was approved. At the next meeting a recommendation of the board of deans that each divisional faculty have the privilege of sending three representatives to the other faculties as "advisory members" was adopted. And soon afterward Dean Stanton reported for record a resolution of the "Faculty of the Division of Science" that "the subjects taught by them and required in other divisions of the College be

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specifically outlined in the fullest cooperation with the respective departments for which such subjects are taught." A *modus vivendi* was becoming an *entente cordiale* and was on the way, in spirit as well as form, to full federal union.

DIVISIONS COMPLETED

Divisional organization was now completed. In 1913 Dean Stanton resumed his teaching and direction of the junior college, and Professor R. E. Buchanan was appointed the first dean of Industrial Science. In the same year, Home Economics, now with its own separate plant, was given divisional autonomy. Catherine J. MacKay, a graduate of Drexel Institute and of Columbia University, became the first dean. The resident instructional program was now fully organized according to the most advanced conception of a land-grant college. There remained the commensurate development of outside interests and contacts through the experiment stations and extension services.

AGRICULTURAL RESEARCH

The work of the agricultural experiment station was systematized and the range of investigation extended. The purchase of the agronomy farm gave added opportunity for crop experimentation. The soil survey work was of increasing interest, and Professor W. H. Stevenson's contribution in this investigation was recognized in his appointment as vice-director in 1913. The addition of a bacteriology section concerned largely with food problems and sanitation, and one of farm management, which gave particular attention to tenancy, were indications of new lines of interest. The inauguration of research fellowships and the publication of research bulletins gave a marked impetus to the research program.

EXTENSION SERVICES

The extension service, after an embarrassing interlude of personal controversy came to equally assured institutional

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establishment. The "department" created in 1906 with a superintendent responsible to the dean of agriculture, in 1912 was made a separate service with a director responsible directly to the president. W. J. Kennedy as director, with his pronounced supporters and opponents, proved a storm center both in college administration and among the farmers, and finally, in May, 1914, Pearson demanded his resignation which was promptly presented. Kennedy maintained that he was the victim of unfriendly agricultural papers which brought a pressure upon the Board to which it finally gave way. He claimed that he had personally built up the largest animal husbandry department in the world and that the extension service had flourished greatly under his direction. Without questioning his marked competence and popularity as a teacher, his promotive energy, and wide and enthusiastic following, the Board and the President pointed out that, apart from the charges brought against his judging methods, he had created an impossible situation by failing to cooperate and work in harmony with the administration.

After temporary direction by Paul C. Taff, of the extension division, a former member of the staff was made director. Ralph K. Bliss, '05, as a student had made an outstanding record in scholarship and student leadership, especially in stock judging. He had been an associate of Holden, whom he succeeded temporarily in 1912. That year he was called to the University of Nebraska as head of the department of animal husbandry. His recall to head the work in the year of the passage of the Smith-Lever Act inaugurated auspiciously the modern extension service. By the spring of 1916 he could report seventeen dairy testing associations, farm crop demonstration plots in eighteen counties, effective results from boys' corn clubs, and over 500,000 people reached in some definite way within the year. This was a most gratifying showing for the first decade of organized effort. But it proved to be but the small beginning.

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Meanwhile, in 1913 the engineering extension service was founded to provide information and training for the leading trades of the state. The service functioned largely through short courses for different groups of workers held at convenient centers about the state as well as at the College.

In resident instruction, in addition to a variety of short courses in different fields of agriculture, in home-making, and the trades, there were added to the agricultural two-year course, similar non-collegiate courses, open to eighth-grade graduates, in home-making and in trades and industries. With the station findings made known through popular bulletins, with the organized extension efforts, with the resident short and non-collegiate courses in all lines of interest to the people of the state, the modern state-wide, inclusive-interest program was launched—with its great possibilities and perils.

STUDENT COOPERATION

No less than this instructional and research program, student attitudes, interests, and "activities" reflected the modern spirit. In various ways student-faculty cooperation was encouraged and promoted. During his first year President Pearson introduced the faculty adviser system under which all entering students were assigned to staff members for counsel and advice. The assistance of a group of upper-classmen provided a more mature faculty-student contact. Though a far cry from freshman week and the later counselor and personnel system, the plan was a commendable beginning. The interest that the plan aroused in the Association of Land-Grant Colleges indicated that it was a pioneer venture. The resulting social mindedness of the freshmen was indicated by the pledge of the class of '16 in May, 1913, to refrain from molesting the entering class but instead to aid the freshmen in making adjustment to college life. The President thought this action "the most constructive and far-reaching ever taken by any class." The classes of '17 and '18

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maintained the lower class goodwill, and in the biennial report for 1914-16 the wishful hope was expressed that junior college peace had become an established tradition. Cooperation was further sought by student representatives selected by the various classes on college committees and councils concerned with matters of general institutional interest—grounds and buildings, moral welfare, publicity, public health, public safety, public service, athletics, and music.

There were various other occasions of student participation and expression. The student repair fund was administered jointly. The President consulted with the heads of organized houses. The Cardinal Guild sought to accomplish a number of useful things, including a more satisfactory adjustment of the Christmas vacation period, a referendum on campus smoking, in which, after a record vote, the practice was decisively banned, the inauguration of a point system for activities, as well as premature efforts to institute a blanket tax, and the perennial agitation for a more effective system of student government.

The committee on moral welfare under the chairmanship of the chaplain, Dr. Cessna, took its responsibilities most seriously. The pre-war years marked an earnest effort to retain the old moral restraint and direction under modern conditions. Daily chapel was continued, and the best faculty talent was drafted to keep up the interest. In cooperation with the Y's, special religious meetings were held each year. Faculty supervised movies were shown on the campus, and efforts were made in cooperation with the Ames ministerial association to keep downtown amusements within both the letter and the spirit of the law.

MODERNIZED ACTIVITIES

Extra-curricular cultural opportunities were extended. The best of musical talent was brought to the campus and the College activities increased. Following an investigation and

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report by Professor Louis B. Schmidt in 1913, the music work for the first time was organized as a regular college department. Lecture and dramatic features were in accord with changing taste and interest. The period marked the climax of the old-type contest debate and the last serious work of the literary societies. Modern trends in student journalism were indicated by the holding of the first gridiron banquet of Sigma Delta Chi in 1914 and the founding in the following year of the humorous quarterly, the *Green Gander*. In 1912-13 the Cardinal Guild started a vigorous agitation for a blanket tax to finance more adequately and securely the varied student activities. The faculty for the most part tended to view with alarm such high financing of student enterprises, and the attorney general finally ruled that the levy would be illegal as a compulsory regulation. A trial on a voluntary basis proved ineffective, and this effort at institutional unity in support and participation was to prove premature by a quarter of a century. The main objective of the proposed financial system—before other activities had come to coordinate position—was the assured support of a full athletic program.

A "BIG ATHLETIC POLICY"

With increased enrollment, enlarged curricula, and extended contacts, students and alumni were demanding a "big athletic policy." In accord with prevailing collegiate usage, the real test of such a policy was a winning football team, which necessitated a "great coach." Pearson sympathized with the ambition as a desirable adjunct if not an indispensable feature of an aspiring college, particularly in appealing to the younger alumni, who since the fall of 1912 had been attracted to the campus for the "homecoming" game. He gladly furthered the search for a top-notch football mentor, and in the spring of 1913 the choice was made of Charles W. Mayser, of Franklin and Marshall College, whose record was

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most impressive. Clyde Williams was continued as director with a staff of seven, including special coaches for each of the four main sports. The new gymnasium and State Field accommodated the full athletic program and made possible the definite organization of the department of physical education. Well might the *Student* laud the vision of the Athletic Council and exult that the coming season would "put Ames athletics on the big university basis."

AGITATION FOR "UNIVERSITY" DESIGNATION

The "big university" idea in these years was not confined to athletics and to student sports writers. There was a persistent agitation among alumni, staff, and students for a more definite and distinctive name; many suggested, in view of the enlarged and extended scope, the substitution of the designation "university." The discussion was encouraged by the current use of varied and inconsistent labels. In 1911 a former student wrote that the *Alumnus* had referred to the College in seven different ways. Sports writers and journalists in general, more frequently than not, referred to the institution as "Ames." Songs, yells, and letter awards used this name. In some quarters, through carelessness or design, the original anachronistic and unbalanced designation was employed. When Governor Carroll in his founder's day address in 1911 lauded the great achievements of the "agricultural college," he was accused of deliberately slighting engineering and the other divisions. Certain officials of the sister institution were over-effusively condescending in paying tribute to the "greatest agricultural school in the land." Even the finance committee of the Board of Education recorded in their minutes for February, 1913, that "President Pearson of the College of Agriculture was present . . ." Alumni sentiment generally favored the name Ames, either as college or university. Student opinion was divided on the name but was generally committed to university status. A *Student* editorial in 1914

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quoted the opinion of a "prominent faculty member" that the institution was really a technical university and exhorted the student body to get away from the small college point of view and acquire the more liberal university outlook, and as a start in that direction the *Bomb* of that year headed the general section "university." Ex-President Taft, during his lectures in 1916, whether by courtesy or inadvertence, spoke of his host institution as a university, and the editor felt that "he should know."

PEARSON AND THE BOARD

The President was known to share these aspirations of alumni and students, particularly as they concerned the co-ordinate position of the College within the state system of higher education. He was finding his position in relation to the centralized administration hampering and unsatisfactory in various ways. In 1915, when he received an invitation to return to the New York commissionership, he wrote the president of the Board frankly and specifically in respect to his grievances and stated that the Board's reaction to them would determine his continuance in Iowa. These complaints and stipulations indicated a feeling of the lack of harmonious adjustment of the Board and its finance committee with the administrations of the different institutions, at any rate with that of the State College.

To begin with, Pearson insisted, his position as chief executive and administrator of the College should be recognized with full implications. Since he was not a member of the Board he should be given an opportunity to discuss every financial or educational policy. He should be informed and made a party to any investigation of the affairs of the College. He should be consulted by the Board on every item of the budget and be associated with the finance committee in presenting the askings to the legislature. Regarding a particular expenditure, he suggested that the Board's intent on

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the president's salary be made more definite. All college matters presented to the Board should come through him and he should be entrusted with the carrying out of policies. Appointments and dismissals, in particular, should be made only upon his recommendation. All questions having to do with instruction should be left to the president and the appropriate members of his staff. Finally, most significantly in view of past and pending discussion of institutional jurisdiction and emphasis, he reminded the Board that while it was a great privilege to develop the extension, experimental, and sub-collegiate work, it was "also clearly our duty to develop our special lines of work on a full collegiate basis fitting the needs of the state."

Evidently the Board's response was reassuring, as a week later it was announced that the eastern offer had been declined. The faculty asked the deans to present resolutions expressing their appreciation of his leadership and their gratification that he was to remain. The *Student* rejoiced that with an energetic, far-seeing president, an enthusiastic faculty, and a loyal student body future progress was assured. For the agricultural interest of the state *Wallace's Farmer* brought hearty congratulations, "We are happy that he is to remain with us." During his brief service, the editor observed, internal harmony and loyalty had been established and the College had reached a higher degree of service than ever before. Pearson, he added, had grown steadily in the esteem of the people of the state and enjoyed the full confidence of the Board.

SURVEY BY BUREAU OF EDUCATION

The Board, however, had the other institutions to consider as well, and if intramural conditions were relatively harmonious, the inter-institutional ones were increasingly strained. Instead of the cooperative, coordinate adjustment that the Board was expected to establish, there was a competitive

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rivalry attended with mistrust and jealousy. The feeling, the culmination of a decade of strained relations, extended to the students of the two leading state institutions, especially in their athletic contests, which were attended with increasing bitterness and charges of bad sportsmanship. These disruptive influences, together with the lingering hope of securing moral support for consolidation that would overcome local opposition, led the Board to institute the first general institutional "survey" as contrasted with the periodical legislative investigations. To give the investigations and the consequent recommendations all possible authority and prestige, the Federal Bureau of Education was called upon to sponsor the undertaking.

In February, 1915, the Board, in suggesting the possibility of such aid, disclaimed any intent to reopen the old question of coordination as it involved the consolidation of engineering and home economics, but desired to know whether "without resorting to such radical action" it would be possible "to reduce duplications." At a meeting with Commissioner Claxton in Des Moines in the following May, a formal request was made for an inquiry on certain specified matters: duplication in education and psychology between the University and State College; the status of journalism training and the desirability of a school; the status of graduate work and the possibilities of preventing duplication; the feasibility of consolidating the extension work of the three institutions; the adequacy of buildings and future needs and the advisability of new lines of work.

Impressed with the Bureau's responsibility for an investigation that was certain to attract nation-wide attention, the Commissioner appointed a distinguished and fairly representative commission: James R. Angell, dean of liberal arts, University of Chicago; Kendric C. Babcock, dean of arts and sciences of the University of Illinois and collaborator with the Bureau; Liberty H. Bailey, ex-dean New York State College of

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Agriculture; Henrietta W. Calvin, home economics specialist for the Bureau; Hollis Godfrey, president of Drexel Institute; Raymond M. Hughes, president of Miami University; and Samuel P. Capen, specialist in higher education for the Bureau, chairman.

The commission organized in July and during the fall collected preliminary information. As a background for the study, letters were sent to presidents of chambers of commerce, heads of granges, newspaper editors, superintendents of schools, and "certain other citizens of distinction" inquiring if in their judgment each of the three institutions was performing fully and effectively its peculiar function of support that should be given; whether new ones should be developed and, if so, what ones and how they were received from one hundred forty-one institutions were addressed, and most of them were "conscientiously" considered. The commission felt that this information and the reports provided an "atmospheric setting" and a background for the educational needs.

Eleven days—November 8–19—were devoted to visiting and inspecting the institutions—four at Iowa State University, Cedar Falls, and five at Ames. Plants were inspected, were examined, and hearings held with presidents and heads of leading departments. Stenographic reports taken of the hearings and later checked by the commission. Conferences were also held with the State Superintendent of Public Instruction, and the Board of Education. The final report was organized and printed in Ames and submitted to the Bureau for publication in 1916. It appeared as a bulletin of the Bureau, numbered 1, with tables, charts, and graphs to 223 pages.

FINDINGS AND RECOMMENDATIONS

With the agreement of the Board, the commission had decided not to limit its investigation and recommendations to

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the specific issues at first suggested, but to consider the entire problem of the higher education of the state. The extensiveness of the inquiries and deliberations was indicated by a list of fifty-two more or less specific recommendations on matters ranging from the basic principle by which division of the educational field should be determined to football relations between the student bodies at Ames and Iowa City.

The central problem was held to be the existence of three state institutions similar in standards, seeking coordinate status. The unifying solution the commission offered was to regard the institutions together as constituting one great state university with the lines of study and investigation and the fields of service activity divided among the constituent members. Obviously the rub was to make and maintain an apportionment of the total enterprise of a great modern university so as to avoid unnecessary duplication of effort and to secure cooperation and harmony rather than competition and discord. The investigators believed that they had found the guide to such effective and harmonious division of labor in the adoption and application of the principle of major and service lines of work. In general, the commission felt that the classification of subjects in the different institutions on this basis could be readily made. Overlapping subjects, especially in the basic sciences essential to all technical study, could be best adjusted, the members were convinced, by a conference committee made up of representatives of the faculties concerned and of the Board.

The main existing cases of unnecessary duplication were found in the parallel engineering courses at the University and the State College, the senior college work at the Teachers College, and the overdevelopment of certain general subjects at the State College. The commission regarded the continuance of the two engineering schools in their existing form as "uneconomical and indefensible." The most desirable plan—in view of the dual obligation of the land-grant colleges—

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would be a concentration of all the engineering work at the State College. But if this settlement was adjudged impracticable of application, "considering the present condition of institutional and popular sentiment in Iowa," there were these alternatives: a horizontal division between graduate and undergraduate instruction, which was not feasible at the existing stage of technical training in the state, and a vertical or topical division of the engineering branches. The commission believed that the latter plan, if worked out in consultation with a group of impartial, expert engineers, would be the most effective solution.

If, in the commission's view, the University duplicated in the technical field, the other two colleges did in the general. The last two years of the course at the Teachers College were held to be unjustified by the demand for additional liberal arts work and distracting to the true function of elementary teacher training. A much controverted question was begged and a disproportionate emphasis given to the whole matter by devoting an entire chapter of the report to "Liberal Arts Work in the Iowa State College." Applying the principle of major and service courses, in accord with the strictest construction, it was held that general courses were justified in this institution only to the extent that they provided an essential, clearly-established support to the major technical lines. This test seemed to indicate that economic science, geology, mathematics, and physics were offering superfluous courses. But most serious was the charge "frequently . . . made and widely believed" that this institution was endeavoring to build up "a curriculum in liberal arts and sciences, leading to a non-technical degree either in general science or in arts." Though the commission accepted the protestations of the college officials against any such design and the assurance that only such liberal subjects were taught as were essential to a balanced curriculum in the technical divisions of the College as a true statement of present intent, the members felt that there had

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been such an aim in the past and that the non-industrial basis of the required major work in the division of Industrial Science might lead to the equivalent of the objectionable general course. They recommended accordingly a revision of the requirements in that division "to render it impossible to secure the degree except on completion of industrial and professional courses (in contradistinction to liberal arts courses) equal in amount to those required in technical curricula."

Graduate study at the State College, the commission recommended, should be encouraged and developed within the institution's own major fields of concentration; in other fields instruction at this level should be offered only as essential supporting work. Doubtful cases, involving possible duplication, should be considered by a committee representing the Board and the two institutions.

In the survey of institutional administration, the pertinent findings for the College had to do with the danger of encroachment by the finance committee upon the essential financial prerogatives of the presidents and an observation on the unwholesome inter-institutional sentiment as reflected in athletic and other relations. In view of existing criticism and future possible complications, the "strict definition of the powers and functions of the finance committee was recommended." It was further recommended that the presidents be made *ex officio* members of the Board.

Institutional hostility brought a scathing rebuke for "the unfortunate bitterness which characterizes the attitude of the partisans of each of the state institutions toward those of the others. The tendency to regard with suspicion the acts of a sister institution, to impute unworthy motives to its officers and adherents—this is the principal cause of the State's educational woes. It is not an expression of generous rivalry or of wholesome competition. It represents rather a devastating blight fastened upon the whole educational system of the State. That all three of the institutions should have made such

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genuine progress and should have attained such commanding rank among the collegiate institutions of the country in an atmosphere so hostile to true educational advance is testimony of an amazing innate vitality. The fact indicates that fundamental organic weaknesses are lacking and that Iowa's difficulty is largely a state of mind." The commission could not believe that the citizens would long tolerate such a retarding influence and "permit petty institutional jealousies, founded for the most part on the merest illusions, to defeat even partially the state's educational purpose." Even the most partisan should recognize that the interest of the state was above that of any institution, and a student or alumnus who put alma mater's claims above that of his state was an enemy to both.

But the commission recognized the "tenacity of existing animosities" and the slight effect of exhortations upon them, and as one means of relieving a tense situation recommended that football and perhaps baseball games between the University and the State College be suspended for five or six years. The annual game was "the occasion of the revival of feuds, charges, and countercharges, the reassertion of differences and criticisms which at best have had only poor reasons for existence." There was lacking that wholesome, generous sportsmanship which characterized athletic contests at their best. An enthusiastic, reasoned loyalty on the part of alumni and friends was held to be one of a college's greatest assets, and occasions which aroused such true loyalty should be promoted, "but occasions which engender misunderstandings and antipathies, with their consequent disintegrating and harmful effects, are to be avoided. That form of loyalty which finds its chief incentive and expression in hostility toward another creature and servant of the same State cannot of itself and in the long run be a good thing for the State or its institutions."

That this principle applied to all other relations and to all

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of the members of the institutions was made clear in the final exhortation: "The substitution of cooperation for competition is one of the largest and most outstanding needs in the adjustment of the relations of the two institutions. An earnest and progressive desire to cooperate by the alumni, faculty, and students of both the State College and the University should take the place of the factional and oftentimes exaggerated rivalry which has hitherto characterized their relations in general. To magnify and perpetuate old antagonisms and fictitious differences under the guise of cultivating loyalty is to prevent the most efficient accomplishment of the State's purpose in creating these institutions."

ESTIMATE OF THE REPORT

Such exhortations were wholesome, if not highly effective, so long as the aggravating influences continued, and a clearer determination of the relations of the presidents and the Board was to the advantage of both. The efforts to down the spectre of duplication were more dubious. The determining "principle" ignored at times both historical background and existing trends, and the advocacy of more normal schools was directly opposed to the aim of consolidation. The limitation placed upon the scope of land-grant college study was contrary both to the Morrill act and to the state act of 1884 restating the aims and emphasis. A more determining, if less logical, "principle" was that of social need and availability. This was recognized by the members of the commission themselves in the recommendation that no restrictions be placed on the training of teachers for vocational subjects until the needs were met—regardless of major and service distinctions. Apparently neither the experts nor their correspondents and advisers foresaw the near approach of a time when in all lines the facilities of all the institutions would be strained to meet the demands of mass higher education.

The reaction to the report at the time concerned mainly

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the implications for the programs and consequent opportunities of the different institutions. The future of the State College, in particular, depended more upon popular opinion as determined by service to the state than upon expert judgment as to its proper function. There were abundant evidences of growing public favor. Enrollment had shown an increase of over 800 within four years. The state support fund had more than doubled, in spite of the pressure for economy and lack of effective inter-institutional cooperation. A modern chemistry building was completed, a women's dormitory system started, and other major buildings were projected. As compared with the influential professional groups among alumni of the University, the College was making a host of contacts through its short courses and other extension services. In the spring of 1916, about the time that the survey report appeared, a country paper commented, "The Iowa State College at Ames comes the nearest to being a college for the people of any school in the state. . . . It is a school for boys and girls and for men and women of any age." With such a constituency, support was assured and the future had never looked brighter. Along with a greater Iowa, there was developing a greater Iowa State College.

CHAPTER THIRTEEN

OVER HERE AND OVER THERE

The College and the World War

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"Then came the Great War!" This tragic interruption to so many promising enterprises was especially disrupting to American higher education, which was in the midst of unexampled achievements. But there was no hesitation in the academic realm; all other interests and aims were strictly subordinated to the national security. The land-grant colleges with their obligations of military training and their diversified programs of instruction, research, and extension were challenged to "do their bit," which with the paramount demands of technical military training, adaptation and conservation of resources, and increased food production loomed as a major service.

THE LAND-GRANT COLLEGES AND THE WAR

The world struggle was to provide the first real test of the military provision of the Morrill Act; the Spanish-American War had not made sufficient demands upon the system to give adequate demonstration of its possibilities. It was only recently that the government and the colleges themselves had awakened to the backwardness and inadequacy of the training and equipment previously provided. In an address before the land-grant association in 1913 Edward Orton, dean of engineering of Ohio State University, reviewed the unsystematic and unstandardized character of the instruction and urged the establishment of officers' training corps which would fit graduates for army service. Taking note of this address, the

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college committee on course of study recommended a summer training camp but felt that other extensions and reorganizations were not advisable at the time.

THE CAMPUS MOBILIZES

The lesson of the European war altered faculty sentiment here as elsewhere. In December, 1915, at the insistence of the War Department, the drill requirement was increased from one to two years, in spite of disarrangement of class schedules, and a year later, following the passage of the national defense act with its provision for reserve officer training at the colleges and a conference of the chief of staff with land-grant representatives, the faculty unanimously petitioned the War Department for the immediate establishment of an R. O. T. C. unit and provision for four years of drill. Throughout the academic year distinguished speakers had presented to college audiences various aspects of the war issues and of the problem of preparedness. Among them were ex-President Taft, ex-Secretary Bryan, Carl Vrooman, assistant secretary of agriculture, Dean L. H. Bailey, and H. H. Powers, the economist and publicist. In turn President Pearson discussed the College's responsibility for preparedness before the state teachers' convention. Such discussions, along with the increased emphasis upon military drill, helped the College to adjust its thinking and program to war realities in the spring of 1917.

At the beginning of that fateful year, on the eve of war, campus enthusiasm for participation was high. In January a relief fund of \$5,000 was raised for college students in war prisons—a forerunner of the "drives" that were to be a characteristic feature of the war period. Early in March sixty staff members applied for a reserve unit and began immediate training. During the month questionnaires were sent to members of the faculty, alumni, and students regarding training and experience for war service. Plans were made for a summer officers' training camp in technical subjects and for recruiting

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two troops of cavalry and a company of engineers. The faculty also went on record as favoring compulsory universal military service. With such preliminary actions and proposals, the declaration of war did not find the College unprepared.

Early in April the campus became fully mobilized. Drill for all able-bodied male students was required each day from 11:00 to 12:15, with an optional period from 4:00 to 6:00 in the afternoon, which most students were expected to take. Two hundred of the faculty were on hand for an initial drill period and many of them persisted. The women no less devotedly were enlisted for Red Cross work and the conservation of food and clothing. In spite of the advice of the college authorities and the adjutant general to continue their special training until called for service, a large number of students left before the end of the college year. Between the declaration of war and May 28 no less than 500 departed—200 for active military service and 300 for employment in agriculture and industry. To facilitate student employment on farm and in factory, as well as to accelerate the technical training as much as possible before enlistment, the work in the technical divisions was speeded up in the spring; and in the fall a new term was started in November to accommodate late comers from the farms. In veterinary medicine, where the army need was acute, the work was hastened by continuous summer training, and nineteen of the class of twenty-one enlisted for immediate service.

THE AMBULANCE UNIT

The first and the only distinctive organization to be recruited and sent from the College was the Ames Ambulance Unit of thirty-six students, whose departure on May 31 was observed by a special convocation at which a flag was presented. The unit was enlisted in the regular army on June 4, 1917. After a year's training at Camp Crane, Allentown, Pennsylvania, the section was sent to the Italian-Austrian

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front and was the first American unit to reach this area. Its effective service of nearly a year won an army corps citation and an Italian cross of war.

PEARSON CALLED TO WASHINGTON

Staff members were no less zealous for active service; before the end of the spring semester a number had enlisted or entered special civilian service. The Board gave its encouragement by a ruling that enlisting faculty members might retain their positions. The example of outside service was set by the President himself, who late in April answered a call from Secretary Houston to come to Washington as a special assistant in the promotion of increased food production, and in August he was made an assistant secretary of agriculture. Dean Stanton again, for the fourth time, was made acting president and gave himself without stint to the double task of administering a militarized college and of uniting the institution in all its elements and functions for the common cause.

The latter duty was facilitated by the remarkable unanimity of sentiment of the College and the community in support of the war. Ames was spared the suspicions, espionage, and coercive demonstrations which estranged and embittered many college communities. On April 5 a big mass meeting addressed by the journalist Lafe Young brought patriotic fervor to fever heat. Later in the month the general drill and other war service training was inaugurated by an all-college outdoor convocation.

A WAR COMMENCEMENT

The commencement exercises two months later on the evening of June 6, gave further expression to the aroused martial spirit. Ex-President William Howard Taft was the appropriate speaker. A year before in a series of addresses in behalf of the League to Enforce Peace he had captivated the

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campus community and at this critical time he was welcomed with spontaneous enthusiasm. The attendant conditions increased the excitement. To enable the distinguished speaker to meet the engagement, the scheduled exercises were advanced from Thursday morning to Wednesday evening, and President Pearson came from Washington to preside. The national registration of the preceding day had aroused the whole nation.

From beginning to end the address was a vigorous and arousing patriotic appeal. Members of his audience—students, faculty, and visitors alike—recall the unusual earnestness and forcefulness of his presentation and according to the contemporary report in the *Alumnus* the capacity crowd of over three thousand was held “spell-bound” by the speaker’s “consummate logic.”

Taft quoted with approval the suggestion of Secretary Lane that all college addresses of that year should deal with the war issues. Such a consideration he found especially appropriate for a land-grant college which from the beginning “had an intimation of the necessity for military drill; one of that class of colleges and universities which teach and make men for the particular lines of activity that are of the utmost importance in carrying on the great war that now faces us.” His review of the issues of the struggle, though not lacking in the characteristic witty asides which always delighted college audiences, was underlaid with stern and solemn admonition. A million lives, he warned, might be sacrificed “to rid ourselves of a domination that is unbearable if we permit it to continue.” Naturally this was the most widely quoted statement of the address.

The enthusiasm continued through the stress and strain of study and drill, reorganized programs, and financial sacrifice. The relief drive in the fall netted nearly \$22,000. Other appeals met proportionately general and generous responses.

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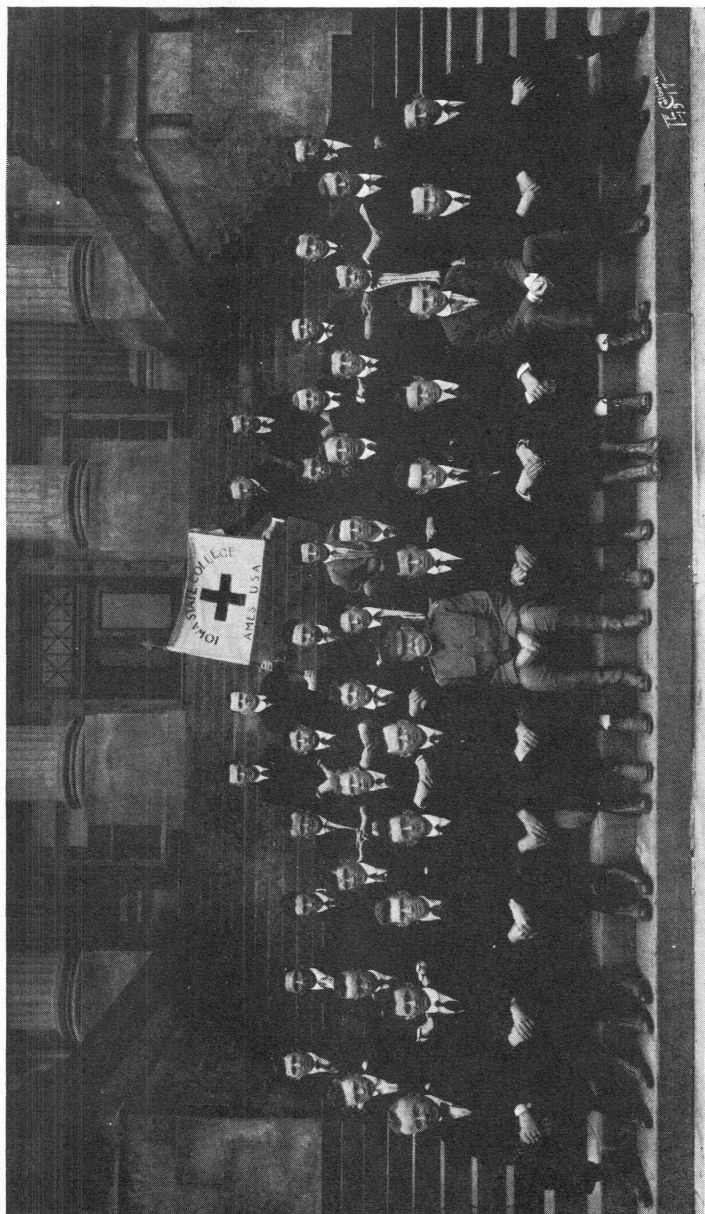
There remained the problem of utilizing the special resources of the College—the equipment and the technical ability—in the most effective manner.

THE S. A. T. C. EXPERIMENT

The greatest problem of the selective service act of May 12, 1917, proved to be the choice of men for the different branches of the service, especially to secure an adequate number of technically trained. By the fall of that year army divisions were being disorganized by the transfer of experts for special duty. There was an urgent need for utilizing all existing facilities for technical training. To secure this essential talent a committee on education and special training was created by the War Department in February, 1918. To act with the committee the Secretary appointed an advisory civilian board, composed of representative educational administrators and specialists. President Pearson was the land-grant college representative of this board.

The first plan to be formulated was that of training drafted men in the mechanical trades and skills most pressingly needed at the technical schools which had the proper equipment and accommodations. On April 15, 1918, the first unit of 500 soldiers, mainly from Missouri, was sent to Iowa State for an eight-weeks training as auto mechanics, blacksmiths, or machinists. At the end of the period they were replaced by another contingent for similar training. A contract for housing and board was made with the College, and barracks were provided under the bleachers on State Field. The instruction, mainly in practical assembly, repair, and operation processes, entirely separate from collegiate work, was under the direction of Professor W. H. Meeker of mechanical engineering. In the later military organization of the College the mechanical training detachments came to be designated as "section B" of the Student Army Training Corps.

The creating of such a corps was a project for combining military training with collegiate instruction. As formulated



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in the spring and summer of 1918, the plan called for the voluntary enlistment into a cadet reserve corps of students between the ages of eighteen and twenty-one, but the subsequent extension of the draft to the lower age necessitated a substitute plan, which was authorized in the man-power act of August 31, 1918. This provided for the voluntary induction into active service of college students of these age limits. The effect was to combine collegiate campus and army camp, scholastic study and military drill, and military authority and institutional administration. The students received soldiers' compensation, and the College was paid for their housing and subsistence according to contractual stipulation. The distinct separation of the collegiate and vocational sections was maintained in organization and instruction. The latter were continued in the improvised barracks, and the collegiate companies were lodged in the fraternity houses, which were sufficiently accessible to the drill field to be approved for the purpose. The gymnasium was utilized as a mess hall.

Theoretically the instructional emphasis was not seriously unbalanced. In the collegiate section 11 hours per week were assigned to the military and 42 to the non-military; and in the mechanical, where less course preparation was required, the proportions were 15½ to 33. The special subject contribution was a course on the issues underlying the war—historical, institutional, and philosophical. This key required subject was organized and directed at Iowa State by Professor Louis B. Schmidt, of the history-psychology department. Brigadier General James Rush Lincoln, professor of military tactics, who had been placed on the army retired list in 1908, was in command of the corps until October 24 when he was relieved from this service and restored to the active list with the rank of major. He was succeeded in command by Captain A. L. Lane, who had been serving as his adjutant.

On October 1, 1918, the campus witnessed one of its most impressive ceremonies when 1,200 men were inducted into the national army. General Lincoln administered the oath,

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and inspirational addresses were made by acting-President Stanton and Governor William L. Harding. There was to be little else that was inspiring in the succeeding weeks.

THE "FLU" EPIDEMIC

Before the training was fully under way the entire program was disrupted by the influenza scourge. Cases appeared the first week, and by the second the virulent epidemic had become a veritable plague. There were 1,250 cases at one time. All facilities and aids were put under requisition. The first wing of the college hospital, opened in April, was used exclusively for pneumonia cases. The gymnasium, a church basement, and dwelling houses became improvised wards. Dr. Charles J. Tilden, the college physician, and his nursing staff secured such emergency support as possible from the depleted ranks of local physicians and Red Cross nurses. The campus was placed under strict quarantine, and passes were required for travel between the Fourth Ward and the downtown district. Eight girls who broke quarantine by visiting their homes at the week end were confined to their rooms under strict guard until the danger of infection was passed. All work was suspended for a week, and the schedule was more or less broken the rest of the quarter by recurring outbreaks of the malady. On October 25 the editor of the *Student* stated that the success in combating the contagion had been "little short of miraculous" and gave assurance that the disease was now "literally stamped out." On November 12, the day following the armistice, 100 cases were reported. From October 8 to November 27, fifty-one deaths were recorded in the corps—twenty-five in the collegiate section and twenty-six in the mechanical detachment.

APPRAISAL OF THE S. A. T. C.

After such devastating interruption the program, military and scholastic, was hardly launched when the armistice

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brought disorganization and unrest pending final demobilization. The S. A. T. C. experiment thus had a most inadequate trial. However, there had been opportunity to demonstrate the more obvious weaknesses as well as the possibilities of this system of selective military training. The emergency nature of the organization was evident at every turn; the plan had not been thought through at any point. Instructions from both the military and civilian committees were consequently often conflicting and ambiguous. The attempt to combine full programs of drill and study, though theoretically plausible, in practice proved even more ineffective than the old discredited manual labor system. Physically exhausted soldiers could not be mentally alert students, in spite of the most carefully outlined and clearly presented subject matter and the most strictly supervised study periods. And of necessity in an army camp the military requirements in training, service, and discipline must take precedence. The system of dual authority, which was at the very best tolerable, offered constant occasion for friction and cross-purposed bickering. While the open rupture of civil and military relations that occurred in some state institutions was avoided, feeling at times became tense, and finally the mediation of mutual friends on the finance committee was necessary to re-establish harmony and secure a cooperative working agreement between the experienced executive and the veteran commander. In spite of all handicaps, inherent and incidental, real contributions to the cause were made. There were inducted into the collegiate section 1,600 men; of whom 189 were transferred to officers' training camps. In addition, at the time of the armistice, 50 had been selected for final examination for the air service. In the vocational section nearly 2,000 men were trained—1,707 auto mechanics, 147 blacksmiths, and 129 machinists.

The general interest, attitude, and as conditions permitted, efforts of the soldier-students were reported as highly commendable. There was evidence that the war issues lectures

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were contributing to more intelligent and reasoned thinking on national and world problems. Both Professors Meeker and Schmidt in their official reports, while frankly recognizing the limitations of the training, felt that as an emergency war measure it had been justified and that in utilizing its plant and staff in this way the College had rendered a real and definite war service. But however willingly given, the service was rendered the "hard way," and there was undisguised relief when the "nightmare of the S. A. T. C." was only a memory.

CONTRIBUTIONS TO THE WAR INDUSTRIES

Military training, essential as it must be, was only one part of the war service conducted on or directed from the campus. Various members of the staff, in addition to increased departmental duties, lectured and gave advice on courses of study at the army camps. On the side, staff members participated in the campaigns for the Red Cross and other war charities, the sale of liberty bonds, and similar public service. The research program was given up to war activities and industries. The Agricultural Experiment Station centered its whole effort on increased and readjusted production. The engineering staff gave special attention to problems of military communication, mapping, camp construction, and the conservation of fuel. Chemistry experimented on war gases and nutritional studies of food substitutes. Bacteriology, botany, and zoology were concerned with various aspects of production and conservation. Home economics motivated its teaching and research programs by practical war needs in food, clothing, and health.

Through its extension service the College became the great center for organizing campaigns of production and thrift in the state. The directors of the stations and of the extension service and the dean of home economics represented the state on the great national boards having to do with the mobilizing of the

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country's resources. The effectiveness of these systematic, organized efforts is indicated by the increase in production—grain 26 per cent and pork 20 per cent over the ten-year average, the ready adjustment to war substitutes, the relatively large purchases of government loans, and the no less real though less tangible contribution to public morale and national loyalty. In his commencement address in 1918, the French High Commissioner, M. Edouard de Billy paid tribute to the achievement of the Middle West in food production for the allies.

SERVICES BY STAFF AND ALUMNI

The college war program in its varied and constant activities was carried on with greatly depleted staff in instruction, research, and extension. Dean Anson Marston set the example for his division by resigning to become a major in an engineering battalion. He was succeeded by vice-Dean S. W. Beyer. Professor T. R. Agg was among other members of the division to enlist. Among technical experts in the direct military service, Dr. Max Levine was in command of a bacteriology laboratory at Dyon, France, in the division of sanitation of the medical department, and Dr. J. A. Wilkinson served in the chemical division. Vice-Dean H. E. Bemis with four colleagues helped to direct the veterinary service of the expeditionary force.

No less important civilian service was rendered by various staff members. Dean Buchanan and Professor G. B. MacDonald spent a summer in directing research at Washington. Professor William R. Raymond of the Department of English had a notable service for two years in Y camp work culminating in the directorship of the national educational program from the New York office. Arward Starbuck of the same department was for a time educational director at Camp Dodge. Charles L. Fitch of the horticultural extension staff, after spending fourteen months in Y work in home camps devoted

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four more to educational work in an agricultural army school in France. Winifred Tilden, professor of physical education for women, became a recreational director in a nurse's camp in France in the fall of 1918. Fred W. Beckman of agricultural journalism served as the editor and publicity man for the post-armistice agricultural school in France.

These instances are representative of the variety of services rendered by the staff in connection with army service, both combatant and non-combatant. And whether at home or abroad they were certain to find alumni of the College, recent and mature, in key positions. Brigadier General Edward A. Kreger, '90, served as advocate general in France. Brigadier General H. A. Allen, ex '92, commanded the 67th Infantry. General Lincoln had three sons high in army service—Colonel Charles S. Lincoln, '94, and Colonel Franz Lincoln, ex '97, both of the general staff, and Lieutenant Colonel Rush B. Lincoln, '16, in the aviation service. It was estimated that approximately one-half of the Iowa State men who entered the actual service were commissioned. A summary soon after the war indicated the following distribution of ranks: 2 brigadier generals, 3 colonels, 14 lieutenant colonels, 33 majors, 117 captains, 224 first lieutenants, 430 second lieutenants, and 55 ensigns. Over one hundred special awards and decorations were made to Iowa State men. The total service roll of students, alumni, and faculty was approximately 6,000. Of these 118 are marked with the gold star of supreme sacrifice.

In this greatest national crisis since their creation, the land-grant colleges demonstrated their effectiveness in providing officers, training soldiers, and supplying the resources for carrying on the war. Their instructional, research, and extension functions found the fullest justification. By none of them was this service rendered more willingly and more effectively than by the representative from the heart of the Corn Belt. The spirit not only of those from the College who served at the

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front "over there" but also of those who remained in less conspicuous service in teaching, research, organization, and extension efforts "over here" was reflected in the poem by a young New England teacher, Harold Willard Gleason, Harvard, '17, inspired by the marching song of Iowa State men in the 168th Infantry—"Fight! Ames! Fight!"

Fourth down, three, and the tension grows—
Stands are hushed—then the eager crowd
In the stadium, rows on rows,
Voice their war cry in cadence loud;
Crouching linemen react like springs;
Backs drive forward, the ball clutched tight
Nerved anew as the chorus rings
Over the chalk lines, "Fight! Ames! Fight!"

Fog and mud and a cheerless dawn;
Whispers pass through the sullen rain—
"Two minutes more, boys! Pass it out!"
Then—a whistle shrills—ends the strain;
Rattle of stones from the parapet
As soldiers scrambled to left and right
Mounting; eyes flashing brighter yet
At the heart stirring slogan, "Fight! Ames! Fight!"

Thus they answered when honor called,
Giving all to their country's needs;
Leaving their college stately walled—
Blazing her name with splendid deeds.
Heroes, late of the football field,
Doing battle for God and Right,
Shoulder to shoulder, never to yield,
With their glorious war cry, "Fight! Ames! Fight!"

CHAPTER FOURTEEN

POST-WAR ADJUSTMENTS

Facing the "New World"

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BACK TO PEACE

The resourcefulness and adaptability of the college organization and program were demonstrated not only by the effectiveness with which personnel and equipment were mobilized for war service, but also in the facility and celerity with which return was made to normal status. This was effected in the midst of disorganization, confusion, and inadequacy of resources. Elaborately organized classes on technical and war issues were abandoned or completely altered in aim and emphasis. The S. A. T. C. demobilization had been followed by the departure of about 700 students with consequent disruption of the scheduled classes for the rest of the year. But this reaction was only temporary. The post-war years marked an unprecedented zeal for higher education, especially in engineering, industrial science, and home economics. Only agriculture showed a relative decline. Veterans were eager for the special training which the federal vocational board provided for them, and these students added an appreciable proportion of the increased attendance until their needs were met.

In face of mounting enrollment and extended program the building shortage was acute. Laboratories, classrooms, offices, and residence halls were badly overcrowded. Land and farm

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buildings were urgently needed for experimental work. During the next five years the essential needs were met by the completion of the hospital, and the erection of the armory, the library, the physics, and the home economics buildings, and the purchase and equipment of the animal husbandry and veterinary investigation farms.

PERSONNEL CHANGES

Deaths, resignations, and administrative reorganization occasioned an unprecedented number of major appointments in the post-war years. The deaths of Deans Stanton and MacKay and vice-Dean Beach in successive years, 1920-22, removed key leaders from the institutional staff. Lieutenant Colonel Marston retired from military service to resume his deanship, Dean Beyer was transferred to Industrial Science, and Dean Buchanan became the first head of the Graduate College. Anna E. Richardson was brought from the federal board of vocational education as the new dean of Home Economics. Professor Maria M. Roberts became dean of the Junior College. In 1922 the office of dean of men was created. John E. Foster of the state department of education was selected for this responsible position and soon afterward was also made dean of the summer quarter. Charles Harvey Brown was secured as college librarian and Dr. James F. Edwards as head of the college health service. In the reorganization of the business and recording functions, Herman Knapp was made business manager and treasurer and James R. Sage, registrar.

This period of readjustment also marked the selection of an unusual number of heads of leading departments: In agriculture: Henry H. Kildee, animal husbandry; Ernest W. Lindstrom, genetics; Bethel S. Pickett, horticulture; and William H. Lancelot, vocational education; in engineering: Almon H. Fuller, civil; Orland H. Sweeney, chemical; and J.

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Brownlee Davidson, who returned to agricultural engineering after four years at the University of California; and in science: Edwin R. Smith, mathematics; Carl J. Drake (following a four-year term by E. D. Ball, '95), zoology and state entomologist; John E. Evans, psychology; and Tolbert MacRae, music. The war and reconstruction brought a correspondingly large number of changes in the general staff.

Although, characteristically, popular interest in military organization waned rapidly with peace times, the War Department and the college administration sensed the lesson of the past struggle and present uncertainties. There was no intermission between the temporary organizations of the war and the permanent instructional organization. In January, 1919, an R. O. T. C. unit was created under the command of Lieutenant Colonel John K. Boles. The early response, particularly for the advanced courses, was discouraging. No ex-service men entered the training. The following year the work was headed by Colonel Pearl M. Shaffer, the real organizer of the new course. Colonel Shaffer was a native of Iowa, a graduate of the State Teachers College, and had seen service in the Philippines, on the Mexican Border, and in the World War. He had taken advanced training at the Army Service School at Fort Leavenworth and had served four years as professor of military science at the Kansas State College. His first task was to build up the instructional staff. He secured a staff of six commissioned officers, and the assistance of twenty-four non-commissioned officers, specialists, and privates. General Lincoln was continued to his death in 1922 to deliver special lectures and used his influence in every way to support the training.

The legislature gave liberal support. An armory was built in 1921, partially destroyed by fire in December, 1922, and rebuilt the next year. The College shared to some degree in the reaction against military training which took place in

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American colleges in the late twenties and early thirties. The agitation was more from outside organizations than from sentiment within. Petitions were circulated among students and townspeople and preferential votes taken. Bills were introduced in the legislature providing for putting the training on a voluntary basis, and a group of anti-military organizations secured a hearing before the State Board of Education in 1930, but no action was taken. At Iowa State the sentiment never reached large proportions. The high caliber of the officers detailed, the strong support of the work by the administration, as well as a full opportunity for discussion, and a rational provision for the relatively few "C.O.s" largely accounted for this lack of the extreme demonstrations that were made in some colleges. Here as elsewhere the new European crisis eventuating in World War II brought a marked cessation of agitation.

A WORLD WAR MEMORIAL

At Iowa State, as in other large colleges, there was a general feeling that the place of the College in the war should be commemorated by some outstanding memorial. Student, faculty, and alumni sentiment was canvassed and proved to be overwhelmingly in favor of a college union building. The peculiar function of such a building seemed most in harmony with the spirit of the sacrifice that it represented. The votes for a purely decorative memorial like a tower, monument, arch, or specialized building, such as a museum, were very few. The project was launched in a giant mass meeting in the spring of 1920 which inaugurated a preliminary campus canvass. In the succeeding months the campaign was vigorously pressed among alumni throughout the country. President Pearson was supported by the president of the Alumni Association, Morris J. Riggs, '83, who in 1922 secured a leave of absence from his business for two months to present the cause. The

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enterprise was so large, involving plans for an outlay of nearly two million dollars, that, in a period of business deflation, it was prolonged, but progress was steadily made.

SEMI-CENTENNIAL CELEBRATION

The institutional enthusiasm called forth by the achievement in the war, as well as the growing maturity of the College and the passing of a convenient land-mark—the fiftieth anniversary of the beginning of instruction—suggested a general observance. The celebration was so elaborate that though planned for October, 1919, it could not be held until the commencement in June, 1920.

The organization of faculty, alumni, students, and townspeople was most inclusive. In addition to the programs of general and special addresses, several other projects were planned. A history of the College was to be started and a brief summary prepared. In July, 1919, the alumni association had asked that Dean Stanton prepare such a history, and a committee of which he was chairman began the collection of materials early in 1920. The Dean's illness in March, which necessitated his going to the hospital, interrupted his work, and the committee decided to issue a brief pamphlet as an historical souvenir—a general introduction and brief accounts of the developments of the divisions and services. This effort marked the beginning of the assembling of a college history collection. In 1922 Professor Pammel was made chairman of the committee and with inadequate facilities assembled available pamphlet and manuscript material and held a large number of interviews with alumni, former faculty members, and early settlers. The preservation of such unofficial records as exist is due largely to his tireless efforts. Another committee, headed by the reference librarian, was concerned with the compilation of a college war record and the collection of an exhibit of war souvenirs.

The celebration was held on the two days between the

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baccalaureate and commencement—the speaker at the former was President Ernest D. Burton of the University of Chicago and at the latter, President Marion L. Burton of the University of Minnesota. The general founders' day program was devoted to addresses on various relations of the land-grant colleges—those with the Department of Agriculture by Secretary Wilson, with the state by Senator Clem S. Kimball, '89, and with the public by Dean Eugene Davenport, of the University of Illinois. There were also greetings from the University by President Jessup, from the private colleges of the state by President Holmes of Drake, as well as from representatives of the Federation of Women's Clubs, the Farm Bureau, the Manufacturers' Association, and the State Bureau of Labor. The afternoon was given over to athletic events, a military drill, and an elaborate historical pageant depicting the founding and functioning of the College. The second day was devoted to divisional symposia in which distinguished alumni and other leaders in the various fields represented participated. Unfortunately the addresses and discussions were not published.

CAMPUS MEMORIALS

This historical consciousness, called forth in large part by the College's heroic participations in the war, was further shown in the marking of campus sites of especial historical interest and the establishment of memorials to the early leaders. The dedication of groups of trees was especially appropriate as a constant reminder of the sacrifices and achievements of the founding fathers. But among the campus memorials, natural and designed, the Stanton carillon—the "bells of Iowa State"—must always have a unique appeal. Dean Stanton's will had provided that his residuary estate should be devoted to a permanent memorial, and his heirs decided that an addition to the memorial of 1899 would be the most appropriate daily reminder of one of the College's

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truest and most devoted sons. The addition of twenty-six bells changed the original chimes of ten to a carillon of thirty-six. The memorial was dedicated on October 6, 1929, with a concert by Anton Brees, the noted Belgian carillonneur.

THE POST-WAR STUDENT

The post-war student was all too little concerned with the past—indifferent to its struggles and contemptuous of its triumphs. With certain ex-soldiers there was an over-critical attitude—invariably, the less their direct participation, the more was their complaint and discontent. With all there was a reaction from the strain and stress of war exertion and control. The jazz age, with flapper and sheik flouting conventions and affecting ultra-sophistication, made its impress on the land-grant as on other colleges.

INTEREST IN CURRENT ISSUES

But along with this seeming frivolity was an increased interest in public affairs—especially in international relations. The combination of absentee voting and woman suffrage gave increased reality to elections. Leslie M. Shaw's address in May of 1924 on "Constitutional Government vs. Democracy" had been received respectfully if not wholly appreciatively. Phil LaFollette's attempt to make an impromptu stump speech on the campus that fall aroused much more interest. On October 31, the Cardinal Guild sponsored an all-college mass meeting in the gymnasium at which professional spell-binders of the three leading parties presented their causes. Straw votes were taken with a zeal if not a technique that anticipated the Public Opinion Institutes.

International relations, the League of Nations and the World Court, post-war tariffs and reparations were the most popular subjects of group and lecture discussion. The Bok peace plan was debated on successive days before capacity audiences by the veteran editor Harvey Ingham for the af-

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firmative and Walter Clyde Jones, '91, a prominent Chicago attorney, for the negative. Speakers like Irving Fisher and Raymond Fosdick were heard gladly, and the realism of H. H. Powers commanded interest. The Oxford international debates began in 1924 and served to revive interest in this main intellectual contest.

THE INTERNATIONAL HOUSE

The presence of a representative group of foreign students gave greater reality to world issues. Their interchanges of opinion in the Cosmopolitan Club provided a forum for the discussion of questions of current interest—national and international. "The Gables," the former residence of President Welch and of Professor Stalker, willed to the College by the latter's sister, Mrs. Sallie Stalker Smith, '73, in 1927, became the International House, the residence of foreign students. This group exerted an influence that was a constant corrective to narrow, provincial view.

STUDENT RELIGIOUS CENTERS

Even more direct humanitarian appeal was made by the church foundations, whose establishment in these years was in part a recognition of special sectarian obligation for its constituency in state colleges and in part an evidence of the war zeal for institutional drives and establishments. Six denominations established centers about the campus, four with their own churches and two with student houses in connection with downtown churches. The other city churches developed special student organizations; they all had clubs or fraternities with extended programs of religious and social activity. The combined effort was expressed in an "all-out-to-church" Sunday, religious emphasis week, and Sunday campus chapel. This last was the sole survivor of that traditional institution; daily chapel went out with the war. Sunday chapel continued, conducted by prominent clergymen of different de-

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nominations, until the retirement of Dr. Cessna from the chaplaincy in 1929. His personal influence, exerted for a full generation up to his death in the fall of 1932, quite transcended organizations and special creeds. His appeals to the student body and the faculties were messages that carried respect and influence for right living, and his persisting optimism was a challenge to a cynical and despondent society. His philosophy was epitomized in his oft-repeated assurance, "I wouldn't miss for anything being alive in these days."

ATHLETIC EMBROILMENT

Whatever the extent of student sophistication and seriousness, the regard for the big activity remained normal. Athletics in the post-war years had a continuing interest, intensified by temporary interruption during the war. During the S. A. T. C. regime, along with the flu visitation, regular team training and intercollegiate schedules had been suspended. In other ways Cyclone fortunes had not been good for some time, and in 1919 open dissension developed. Clyde Williams resigned as director in March to enter business after a service of thirteen years. In later days his contribution to I. S. C. athletics was commemorated in the renaming of State Field "Clyde Williams Field." Mayser, the popular choice, was selected as his successor. Football fortunes, however, did not improve, and after the second coach, appointed upon Mayser's recommendation, threatened to resign, the council requested the director's own resignation in May, 1923. Mayser's devoted followers among students and townspeople rallied vigorously to his support. After an unruly campus demonstration, incited in large part by contumacious speeches of prominent local alumni, Pearson agreed to a hearing before representative students. The members of the athletic council, who had striven tirelessly but unavailingly to secure a harmonious adjustment within the department, presented charges of inefficient leadership and demoralizing dissension. In defense

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the director alleged unfair treatment and unethical methods of espionage. In the end Mayser resigned, and the council, after prolonged faculty discussion and consultation with alumni representatives, was reorganized to provide, in accord with the conference practice, for definite faculty control: there were to be six representatives from the faculty, three from the alumni, and two from the student body. The episode brought most unfavorable publicity, created disturbing unrest among the students, and increased the opposition to the administration of certain local interests who were disgruntled by the long-standing controversy over the location of the city to college road.

THE COLLEGE AND THE AGRICULTURAL PROBLEM

Certainly the College needed all possible unity within and good will without in confronting the problems of reconstruction. The agricultural depression from the fall of 1920 raised problems that defied immediate and definite solution and thus brought impossible demands upon the College. Iowa as the leading agricultural state was the center of proposals for farm relief. Without becoming committed to visionary or intransigent plans, Iowa State through its alumni and staff had an increasingly important place in agricultural leadership. Large numbers of graduates continued to fill important positions in the federal service. Pearson made one of the main addresses at President Harding's agricultural conference in 1921. Professor W. H. Stevenson was a delegate to the International Institute of Agriculture at Rome in 1921-22 and 1924. In this hectic decade the College provided leadership for the Association of Land-Grant Colleges and for the Department of Agriculture. Pearson was chairman of the executive committee of the Association from 1919 to 1935 and president in 1924. Dean Marston served as president in 1929, the same year that he headed the American Society of Civil Engineers. Marston also served as chairman of the engineering experiment station

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section, and Curtiss headed the agricultural. Both Pearson and Curtiss had been prominently mentioned for the secretaryship of agriculture during the campaign of 1920, and Curtiss received active support for the appointment following the death of Henry C. Wallace in 1924. Wallace's appointment to the Harding cabinet had brought this prominent alumnus and former staff member to the direction of agricultural policies at this most critical juncture. His scientific attitude was shown in his selection of trained experts and in his efforts to coordinate the work of the department with the agricultural colleges. It was evident that the College's main contribution to the agricultural recovery would not be in advocacy of any particular panacea but in carrying on systematic research projects, both intensive and extensive, extending to lines hitherto neglected. The title of Pearson's address at the national conference expressed the need and aim, "A National Policy for Agricultural Research."

Without waiting for such a rounded-out national policy, the research agencies of the College were dealing with varied phases of the agricultural problem, especially as it affected Iowa. Corn breeding that was to revolutionize production was undertaken. Soil-building programs were developed. Orchards were extended. Meat and dairy breeds were improved. Plant and animal pests were combated. The dairy and poultry industries were put on commercialized bases. Chemical engineering gave utilization to agricultural waste products. In 1929 *Wallace's Farmer* listed the "ten greatest discoveries in agriculture in the past twenty years," and a perusal of bulletins and reports would have revealed that the organized and individual research efforts at the Iowa State College had made major contributions to all of them.

INCREASING EMPHASIS UPON THE SOCIAL SCIENCES

Characteristic of the interest and emphasis of the unsettled twenties was the attention given to the social sciences. The

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demand was hastened by the post-war problems of consumption, distribution, population concentration, and world inter-relationships. Agricultural journals and organizations were clamoring to have something effective done and done immediately about tenancy, agricultural credit, marketing, and taxation. Systematized courses and research data and conclusions, it was felt, should point the way so clearly that even the politicians could not mistake it. Social welfare agencies were calling upon the sociologists for surveys of rural populations and their living standards with "interpretation" of the findings. From many and diverse quarters—mild reformers and aggressive pressure groups—there was an insistent if generally vague demand for the teaching of "citizenship."

From the first, largely through the breadth of view and interest of Dr. Welch, for a technical institution the College had given unusual attention to courses in this field. But in accord with prevailing emphasis there had been little specialization and no effective applications. "There is no line of agriculture, science, or learning," President Beardshear asserted in his report for 1900-01, "in which a youngster can get along reasonably well without a living and working acquaintance with history." This subject was joined to literature until 1900; for the next quarter of a century it was administered with psychology. Dean Stanton had conducted the courses in economics unassisted until 1902, when Benjamin H. Hibbard, '98, was added as an instructor; and in 1906, when his former student became a full professor, the Dean relinquished with confidence this one of his numerous responsibilities that in the past he had been loath, upon administrative hint, to yield to other minds. In 1912 Hibbard accepted a call to Wisconsin, and John E. Brindley, who had come to the department in 1907, succeeded as head.

As early as 1894 the editor of the *Student*, quite in the modern spirit, had urged that a chair of citizenship be established to acquaint the students with the great issues of the day and to

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enable them to apply and relate their knowledge to the duties of life. From 1904 to his death in 1909 ex-Superintendent Barrett, with an extended experience in actual government, gave courses in "civics," including national, local, and comparative government, with considerable attention, according to course description, to functional aspects. From 1910-14 American government was taught with economics, under the department title "economics and political science" to 1913, when the name became "applied economics and social science." In 1914 the government courses were given by the history-psychology department. Psychology, beginning with Welch and continuing to the later period with his student of the first class, Cessna, had always been given prominent place among the general subjects.

The first systematic effort to apply the social sciences to actual social problems was in Dr. Brindley's researches in taxation. As a recognized authority in the principles and practical operations of public finance and as a leader in state and national taxation organizations, he was able to render effective service as expert consultant to legislative committees and state administrators. His contribution to the notable report on taxation reorganization of the joint legislative committee of the Thirty-ninth General Assembly, in January, 1923, was especially influential for future policies.

As early as 1908 Professor Hibbard offered a course in agricultural economics, and this continued to be offered in the department of economic science in the science division down to 1918. Meanwhile in 1913 Professor G. H. Von Tungeln was secured to develop courses in rural sociology in the same department and Professor B. H. Munger for work in farm management in the division of Agriculture. The Agricultural Experiment Station added sections in both of these lines. Still another sub-department and section were added in 1918 when Dr. Edwin G. Nourse was brought to the College to develop advanced courses and direct research in agricultural eco-

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nomics. Finally, in 1921 the three lines of applied economics—farm management, agricultural economics, and rural sociology—were united in one section of the station and in one department, both headed by Nourse and further integrated by being a part of the department of “economic science, applied economics and social science” under the general headship of Dr. Brindley. The agricultural economics department was jointly administered by the two divisions. In 1923 Nourse was called to the Brookings Institution, and Clarence L. Holmes succeeded as section director and head of the divisional department. Upon the creation of the bureau of agricultural economics in the Department of Agriculture in 1922, Henry C. Taylor, '96, who had been serving successively under Secretary Wallace as chief of the office of farm management and of the bureau of markets, was transferred to the headship of the new bureau. Taylor had been encouraged by President Beardshear to do advanced work in the unexplored subject of agricultural economics at the University of Wisconsin and in Europe. Taylor and Hibbard were regarded as the pioneer authorities in this general field.

Other lines of economic interest were recognized at the College in the development of industrial or engineering economics in the engineering division and of consumption economics in home economics. Both were connected with the general department and jointly administered with industrial science. The research work both in agriculture and in home economics was stimulated by the Purnell Act of 1925.

History and government continued to be administered with psychology until 1929, when they were included in the economic science department, and industrial history was made a major line of work in Industrial Science. In response to a demand for more direct attention to citizenship training, the first professor of government was appointed the same year. In 1930 history and government became a separate department. Professor Louis B. Schmidt, who had been in charge of

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the history-government courses since 1922 and who became the head of the new department, had been a pioneer in the development of undergraduate courses and the organization of research in industrial and agricultural history.

The department of psychology as reorganized under Dr. John E. Evans in 1922 provided two main lines of applied work—educational in connection with the teacher-training program in agriculture, home economics, and industrial arts; and industrial and social psychology, including such applications as the psychology of business and the psychology of safety. As a general service agency of the institution, the department administered the testing program and served as consultant for the health service.

INCREASING FRICTION OVER ORGANIZATION AND FUNCTION

With expanding program and changing emphasis, the modern issue of status and functions appeared. The President's ambitions for the standards and standing of the College, suggested in his communications to the Board before his election, had grown with the increased demands, widened opportunity, and intensified competition of the post-war era. He gave ready support to the demand of alumni and students that the divisions be renamed "colleges" and that the institution as a whole be officially rechristened a "university." Such change of nomenclature, he believed, would be but a recognition of the facts of institutional organizations, program, and standards. To keep the more restricted designations, he was convinced, was an injustice to the institution in popular if not professional rating and consequently a handicap to its graduates. In keeping, too, with the true functions of such an institution, as determined by federal and state law and the practice of other representative land-grant institutions, the offerings should be enriched by a larger number and a wider

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range of liberal subjects. Hitherto, he pointed out in his final report, the College had "consistently remained in its proper field of work and . . . made less rather than more enlargements and developments than are needed or would be justified."

The true merits of this pertinent issue were confused and complicated by personalities. The enmity between the presidents of the state's institutions of higher education made harmonious adjustments and cooperative intercourse impossible, and Pearson's differences with the Board over curricula, building, campus expansion, and financial control had about reached the breaking point.

The Board, whatever their mistakes and lack of vision, had hard realities to face in the transition and deflation years. In the midst of an agrarian distress in which the "primary" post-war depression was to run into the prolonged "secondary" industrial depression with no effective pickup between, essential demands upon the legislature were greatly increased: a building deficit must be made up, costly equipment secured, and certain new lines of work for which there was an irresistible demand or to which the College in its federal relations was definitely obligated developed and maintained. Rigorous legislative struggles, with a rivalry of alumni groups which brought deadlocks and threatened all adequate appropriations, had to be faced each biennium. The Board of necessity rather than by choice sought economy measures and devices.

Since the consolidation of major lines of work was now definitely out of the question, the main retrenchment proposal for the State College was the abolition of degree courses in forestry and technical journalism. Either by remarkable prescience or a lucky hunch, the President was firmly convinced that these particular fields had great future promise and in defiance of the wishes of the Board sought to build them up. There was the usual professional, local, and alumni pressure

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against any proposed dismemberment. Again, to seek justification, the Board turned to the experts.

CAPEN-ZOOK REPORT

With the vain hope of discovering that substantial savings could be made through the curtailment of duplicating or unnecessary courses or activities, the legislature was induced to authorize another survey, a decade after the much discussed one of the Bureau of Education. The investigation of 1925 was made by the chairman of the previous one, Dr. S. P. Capen, who had become president of the University of Buffalo, and President G. F. Zook, of the University of Akron. The findings of the two reports were as contrasting as the conditions which they reflected. The eminent educators—oblivious of their conventional function of pointing out what was seriously amiss and of warning against dangerous tendencies—characterized the existing institutions in superlative terms. Through “the sympathetic and constructive service rendered by the State Board of Education” more progress had been made than in any other state in which the land-grant college and the university were operated separately. “The institutions at Ames and Iowa City are certainly not now surpassed and probably not equalled in size or in quality by the corresponding institutions of any other state that has divided its university enterprise.” The growth in enrollment had greatly exceeded the generous prediction of the previous decade.

On the full parity of the State College the committee made most emphatic and unequivocal pronouncement: “Certainly if ever there was a distinction between the State University and the State College in standards, equipment, teaching, and investigating personnel and advanced character of the work done, there is now no longer such a distinction nor has there been any for some time. The Iowa State College of Agriculture and Mechanic Arts is a technological university. By every test of educational quality that the committee knows,

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it is comparable to the State University and to other universities elsewhere. The State of Iowa operates its university from two centers. Whatever the two institutions may be called, neither one is entitled to priority of recognition by virtue either of its history or of its name. If a contrary opinion still prevails in any quarter the committee would like to aid in dispelling it."

The committee was reassuring on the matter of duplication. The situation had improved greatly in that respect and there were no serious cases of it. It was the committee's opinion that in general, in this state and elsewhere, the wastes of duplication had been greatly exaggerated. The only recommendation on this score for the State College was the discontinuance of a degree course in forestry.

As in the earlier report, the main warning and exhortation concerned inter-institutional relations. The morale had improved greatly, but this might be destroyed by uncertainty as to future policies and by an "atmosphere of unrest and controversy." The investigators therefore regarded "renewed and active efforts to promote cooperation among the institutions . . . of the highest importance. . . . It is important that the State Board of Education should banish misunderstandings among the institutions and should secure the support of the State for an enlightened policy looking to their future development."

PEARSON'S RESIGNATION

The report thus upheld Pearson's main contentions as to the status and scope of the College. His views seemed further vindicated a few months later when, upon the advice of the Governor, the recommendations regarding forestry and technical journalism were "rescinded." But while endorsing the President's program, the commission had emphasized the necessity of harmony within the state system for its realization. With the existing leadership in the institutions and on

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the Board such harmony seemed impossible. Pearson recognized the impasse and offered his resignation. This action was undoubtedly influenced by lack of fuller harmony and understanding within the College. Pearson's methods had brought increasing dissatisfaction and unrest among some members of the staff, and an influential element of the students had been alienated by the misunderstandings over the athletic situation and the seeming curtailment of effective student participation.

The resignation was made in January, 1926, to take effect at the end of the college year, with a request for a leave of absence for the summer to travel in Europe. There was a rumor, shortly to be confirmed, that Dr. Pearson had been offered the presidency of the University of Maryland. The Board asked a reconsideration, granted the leave of absence, and voted a substantial increase in salary. Whether or not the negotiations were entered upon with the best good will and good faith, they failed. The resignation was accepted with resolutions of appreciation, and Herman Knapp was appointed acting president. Following his return from Europe Pearson left the scene of his long and achieving presidency for his new labors.

PEARSON PRESENTS HIS CASE

That he left the College with deep regret his final report to the Board bore witness. This report, which he distributed among those interested in the College and its program, was at the same time a record, an apologia, an argument, and an appeal. It epitomized his achievements and the controversies that had terminated them. He summarized appreciatively the high achievements of the College in the main technical fields and urged again the familiar arguments for adding to the offerings in the humanities, providing further training for citizenship, and giving more adequate designations to the institution and its parts. A system of long-time campus planning that would avoid crowding and congestion was recom-

mended, and contrary to Board action, he advised the purchase of additional land for the men's dormitories. Generous praise was given to the staff and a strong plea made for an increased salary scale, a pension system, and sabbatical leaves as essential to the highest efficiency. The loyalty and generosity of the alumni were recognized. Tribute was paid to the devotion and sacrifice of the Board.

The one note of direct complaint amounting to bitterness was reserved for the position and practices of the finance committee. Here was "an intermediary committee . . . composed of persons who admittedly know less about educational administration than the college executive, and yet have an authority exceeding his. . . . If any member of this go-between committee has policies of his own that he wants to make effective, it is possible for him to accomplish much by indirect methods. When he controls finances he has great power over all activities. He is likely to become the real president of the institution while the nominal president does the best he can within the limitations that he knows to exist." While expressing the kindest feelings for the members of "your employed finance committee" he felt strongly that "the system was fundamentally wrong and . . . destructive in practice." Power without responsibility was never wise or safe, and any device that provided for it could not endure. He added sarcastically that if the committee were to continue to exercise their existing power and influence, he suggested that it would be best to give all responsibility to them and abolish the Board. But he felt that the trouble could be best corrected by the Board itself.

From their side the Board no doubt found it difficult to view the retiring executive, or either of his fellow executives, in the role of a "nominal president." Their records, verified by their personal experiences, made abundantly evident that he had sought tirelessly from first to last to be every inch a president. The Board had had occasion to feel, too, that apart

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from the matters with which their influential committee was concerned the President had not always acted in accord with their policies and declared desires. While, as the 1915 survey had emphasized, there were grave difficulties involved in the financial administration, the differences of issues here presented extended to questions of fundamental policies and jurisdiction quite beyond these concerns. And back of the policies which might have been reconciled were always the clashing personalities—a government of laws and regulations, but one directed and administered by men.

Dr. Pearson departed with deep disappointment at thwarted purpose and unattained objectives, but under his leadership the College had experienced an unprecedented growth—enrollment more than doubled, land area increased a half, a score of major buildings added, administrative organization completed, and matured programs of instruction and research inaugurated that had brought national and international recognition and standing. His administration, in fact, had marked the modernizing of the College.

CHAPTER FIFTEEN

A "TECHNOLOGICAL UNIVERSITY"

Cooperation & Consolidation



ALUMNI AND STUDENT UNREST

Pearson's resignation, with his expressed and implied protests against certain policies of the Board of Education, brought to a focus the long-pending issues of relative status and absolute functions. Alarmist reports, without responsible basis, represented a design, not to say—as some did—a conspiracy, to restrict and subject the technical member of the state's educational system. There were even rumors of a chancellorship which would place the State College in direct subordination to the University. Alumni individually and collectively voiced excited protest, and the leading local associations went on record in favor of the change from divisions to colleges. The *Student* throughout the year 1926-27, returning to a crusade of a decade before, made the change of institutional and divisional designation a major agitation. The institutional name it was conceded, would require legislative change; but the divisional relief could be given directly by the Board.

That body vigorously denied all allegations of favoritism and discrimination detrimental to the College, pointing to the increasing and relatively favorable support that the technical institution was receiving. However reluctantly made, their reversal on the forestry and journalism courses was a specific and material concession. "The College at Ames," asserted

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their chairman, George T. Baker, "is now and will continue to be the best equipped, the best manned and most liberally supported land-grant institution in the United States." But the main test of the Board's attitude and intentions was felt to be the selection of the new president. On the procedure to be followed in this crucial and delicate matter the members were divided. One group favored an immediate selection of an outsider; the others desired deliberation while the College continued under Knapp's safe and understanding direction. Fortunately the latter counsel prevailed.

HERMAN KNAPP AS CONCILIATOR

Herman Knapp's acting presidency, characteristically straightforward and unassuming, proved most effective in an especially difficult situation. Probably more than any other at the time he was able to reconcile differences and restore confidence within the College and with the sister institutions. His frank and direct presentation of policies and plans, his shrewd appraisals and inherent sense of justice readily won and held the good will and confidence of his fellow workers on the staff and of the student body. The same qualities and policies restored not merely diplomatic intercourse, but the most cordial relations with the University—which awarded him an LL.D. in 1928. His rare understanding of the College's financial needs and his persistence but moderation in presenting them secured a material increase in appropriations both in capital funds and current support.

In many ways Knapp's permanent appointment had an appeal of availability and stability. Members of the Board—perhaps a majority—prominent alumni, and various agricultural and industrial groups favored his selection. An element in the faculty were open supporters, and among all the staff and the students his appointment would have been well received. Had he exerted his full influence, he could doubtless have gained the position; but with characteristic moderation,

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a preference for the financial work, and the wisdom of long observation, he chose not to become an active candidate.

THE BOARD'S CHOICE

Despite the problems facing a new executive at this time, willing candidates for the responsibility were provided in abundance. A score of formal applications were made to the Board, and a dozen other names were suggested with more or less support. Within the College, various deans and department heads had their supporters, especially among agricultural and industrial groups. Alumni in varied fields were endorsed. Available land-grant administrators throughout the country seem to have been well canvassed. There was still a marked occupational cleavage: agricultural interests were desirous of a leader identified directly and conspicuously with their occupation, whereas alumni from other divisions were insistent that an educator whose training and experience fitted him to understand and appreciate the needs of the College as a whole was the type to be sought. The selection finally made, upon the strong recommendation of some of the foremost educational leaders of the country, was a man who, though intimately conversant with the state and the College, had been concerned only as an observer in their issues and controversies—President R. M. Hughes of Miami University.

HUGHES AND HIS PROGRAM

Raymond Mollyneaux Hughes was a native of Iowa, born at Atlantic in 1873. He spent his youth and acquired his education in Ohio, where he graduated from the historic Miami University at Oxford. After graduate work at the Ohio State University and the Massachusetts Institute of Technology he had served as professor of chemistry, dean, and for fifteen years president of his alma mater. Her continuing regard was shown by the conferring of an LL.D. as a parting tribute, and the Ohio senate paid him the rare honor of passing

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resolutions of appreciation of his service at Miami and sending felicitations to the Iowa State College. His interests were primarily those of the educator and administrator. In a period of changing standards and increasing demands, he had been notably successful in raising entrance and graduation requirements, initiating new methods, and increasing support. He had been especially active in the North Central Association, the Association of American Colleges, the National Association of State Universities, and the Council on Education, and had served as a district director of the S. A. T. C. during the World War. Dr. Hughes had been afforded direct contact with the organization and program at the Iowa State College as well as with its relations with other state institutions by his membership on the survey commission in 1915-16. The commission's specific recommendations for the State College which he had helped to formulate and in all of which he had formally concurred he would now have the opportunity and responsibility of applying, in line with the changes that a stressful decade had necessitated.

In his farewell letter to the Miami alumni Dr. Hughes gave a characteristic explanation for his change of institutions: "I am attracted to another field largely for two reasons. In the first place, I believe that a change of responsibility occasionally is stimulating, and I realize that the Iowa State College is one of the great institutions of the United States. I am also interested in endeavoring to carry out in a larger institution some of the ideas relative to organization of an institution for the benefit of the individual student which have been developed here at Miami." Chief of these ideas was the closer contact of the individual student with his instructors. The lack of such contact he believed to be the great weakness of large institutions. He felt that he had solved this problem at Oxford and hoped to deal with it no less effectively at Ames. This statement of his central objective, along with the recommendations

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of the 1916 survey report, provides the key to his administrative policies.

The new executive was fully and firmly committed to the school of educators who believe that problems of teaching, research, and student conduct and welfare, as well as those having to do with public relations and services could be definitely analyzed, deliberately planned for with the development of the proper and adequate techniques, and the resulting improvements measured with essential conclusiveness. A newspaper interview given after a half year's experience in the new position, in spite of whimsically phrased summary, was significantly revealing as to the attitude and purpose of the new administration. The new leader of Iowa's land-grant enterprises in the observation of this reporter combined something of the characteristics of Coolidge and Dawes—"a trace of the army commander and more than a hint of the island governor-general—a touch of the English head-master and a touch of the budget director—the precision of the scientist turned business executive—a glimpse of the Napoleonic solicitude for every rust spot on every cannon and for the appetites of every soldier—these ingredients, artistically commingled . . . unveil in an hour before the interviewer's eyes. They are the ingredients of a consummate college executive . . . As a general is concerned about the tactical wisdom of his colonels, so is Dr. Hughes concerned about the technical wisdom of his deans. As a general is concerned about the fighting qualities of his captains, so is Dr. Hughes concerned about the teaching qualities of his professors. As a general scrutinizes the rifles and hobnailed shoes and 'slum' of his soldiers, so Dr. Hughes scrutinizes the equipment of his students with watchful eye." The variety and inclusiveness of these concerns, indicative of later reforms and reorganizations, was indicated by the projects mentioned in this interview as already entered on the executive agenda: an appraisal of the teaching ability of every

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instructor; a survey of the value and progress of the 627 experimental projects then under way; a system of personal contact of staff and students; financial advice for fraternities; safeguarding faculty standard of living in the lowest brackets; more artistic decorations for students' rooms; a better utilization of the rats used for experimental purposes; reorganization of the clerical force; adjustment of the size of classes; and the construction of hard surfaced tennis courts. As a matter of personal preference and conviction, and probably with no intention of reflecting on the activities of his predecessors, he felt that with the numerous tasks on the campus he could not spend much time in going about the state attending meetings and making speeches. But he was fully conscious of the obligation of a state college to cooperate with the schools and colleges and keep sensitive and intelligent touch with the great constituency.

EXTERNAL RELATIONS ADJUSTED

The immediate task was to continue and extend the good will relations with all other institutions and with the state at large so well begun by Knapp. Hughes' selection was known to be highly agreeable to the other member institutions; the State College head was an intimate personal friend of his colleagues at Iowa City and Cedar Falls. His interpretation of the state institutions as constituting one great state university of which each of the three members were coordinate divisions was readily accepted as a general proposition, if not too logically and specifically pressed. Issues of possible competition and conflict, such as overlapping fields in graduate work and the perennial discussion of engineering duplication were made of less practical concern by the phenomenally large enrollments at all three institutions in the early years of the administration. Where such issues did arise they were adjusted by joint committees and conferences in accord with the recommendations of the two survey commissions. Interchange of

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lecturers, the relations of fellow members of professional societies, inter-departmental and divisional visitations, special arrangements for graduate and other research work by students and staff members of the other institutions, and an increasing interchange of instructors—practices not encouraged and in some cases not allowed under the former regime—all helped to cement this entente cordiale. Even athletic relations were resumed in 1933, but after a football victory by the University that fall by a score of 27 to 7 and one by the State College the following year, 31 to 6, the honors were even, and, with mutual respect the two teams went their former ways in their different conferences. The appeal to the state at large was mainly in an assurance to various representative organizations of a desire on the part of the College to understand and aid in dealing with their problems and the expression of an intent to make the College's planning state-wide.

ALUMNI INTEREST AND AID

From their side the alumni were increasingly loyal and responsive. As never before, individuals and groups became associated with college affairs. In 1928 the practice was started of designating alumni visitors to advise with the staffs of the leading departments and to bring to them the results of their experience. The first "alumni college" was held at commencement time in 1930, with addresses and conferences to appeal to varied interests.

Alumni consciousness and loyalty have been reflected in material aid. In addition to the support of the Memorial Union project, additional lands for experimental purposes have been secured by individual and corporate gifts, and the Alumni Board of Patent Trustees has been set up to administer the utilization of devices and processes developed in the college laboratories. Following the earlier bequests, notably those of George W. and Carrie Chapman Catt of the classes of 1882 and 1880, respectively, and of Gurdon W. Wattles, ex '79,

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there have been increasing gifts for scholarships, prizes, and special equipment. A unique provision has been that made for scholarships for working students of high scholastic attainment by Wilfred G. Lane, '09, and Walter G. Wells, '10.

Regional associations have kept alive and promoted the spirit of Iowa State College. From strategic location the Chicago group has been particularly active. In 1931 this organization established an annual award in recognition of pre-eminent service in advancing human welfare. The first award was to O. H. Cessna, '72, and the successive selections have been, to 1942, Carrie Chapman Catt, '80, Herman Knapp, '83, J. C. Arthur, '72, C. F. Curtiss, '87, Maria Roberts, '90, Joseph F. Porter, '84, Thomas H. MacDonald, '04, George W. Carver, '94, Frank W. Booth, '77, Herbert Osborn, '79, W. B. Niles, '85, James W. Hook, '05, William H. Smith, '06, A. B. Shaw, '76, George H. Glover, '85, R. J. Kinzer, '01, T. R. Agg, '05, Alfred Atkinson, '04, R. E. Buchanan, '04, Virgil Snyder, '89, Niels E. Hansen, '87, Martin Mortensen, '09, R. C. Pollock, '13. The Washington Association, with a large permanent nucleus and continuous recruits, has long been an enthusiastic unifier of outstanding representatives of the different interests of the college.

COLLEGE UNITY

Internally the new administration marked a great advance in unification and consolidation—measured by the growth of a college as distinct from a divisional consciousness. While the intermittent agitation for university name was not acted upon, the true spirit as well as substance of such an institution was being attained. So far as name was concerned, the emphasis in the decade after 1920 was upon the use of the official name rather than popular designations. In athletics the last stronghold of the "Ames" tradition, the award was changed in the spring of 1929 from "A" to "I" against the indignant protest of alumni wearers of the "A," and songs and yells were

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changed accordingly, although there was sufficient lingering sentiment to oppose the appropriation by the Ames city high school—the "little Cyclones"—of the "Fight, Ames Fight" football song.

At the same time that the change was made in the awarded letter, the College's day of birth was at last given official recognition. October 21, 1868, March 17, 1869, and even July 4, 1859, had been celebrated at various times, but in accord with accepted usage, the date of the enactment of the founding law was finally accepted—March 22, 1858. On that date in 1929 the first Iowa State Day was celebrated by alumni groups in all parts of the country. With the prosperity of these culminating boom months, the reports that came to these gatherings of the College's material prospects were most impressive, but still more inspiring were the tidings of the new spirit of unity and loyalty which, hitherto latent, was now being realized under the new administration. In all aspects of college life and work the emphasis was increasingly upon the development and achievements of Iowa State as a whole.

Entertainment and information have been combined effectively in the all-college carnival and exhibition, Veishea. The founding of this annual exhibit in the spring of 1922 was a deliberate attempt to combine divisional spring outings and jubilees in one grand institutional activity. The engineering St. Patrick's Day, the agricultural Barbecue, and the home economics May Day all found a place in the program depicting "Iowa State at Work and Play." The varied round of sports, open-house exhibits and demonstrations, evening entertainments, and the spectacular parade were to become increasingly attractive. The name, suggested by Professor Frank D. Paine, '09—combining the first letters of the names of the various divisions—is symbolic of the unity of spirit and effort.

By far the most effective single agency in uniting college interests and in giving expression to the distinctive features of

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college life and thought has been the Memorial Union. Following the resignation of President Pearson and the death of the alumni leader M. J. Riggs in 1926, the completion of the great enterprise was endangered. The energetic efforts of Treasurer Knapp, Dean Marston, F. W. Beckman, and John P. Wallace, aided by a group of the younger alumni, brought the campaign through the crisis, and in 1928 the memorial structure was opened for use. Colonel Harold E. Pride, '17, who had served as secretary of the Union committee and who succeeded Ward Jones as alumni secretary in 1923, became the director. The Union became at once the center of campus social life, the headquarters for conferences and conventions—local, state, and national—and the gathering place for return-in alumni. From the first the board of management aimed to make all of the varied uses of this memorial—social, recreational, and intellectual—a reflection and expression of the true interests and values in modern college life.

CULTURAL INFLUENCES

Literature and art were common college interests, though in some cases sponsored by certain departments. The general lecture and musical artists series were continued with attention to changing interest and emphasis. Special series were provided. The Graduate College secured funds for special research lectures, general and technical, by leading authorities in this country and abroad. A notable series on philosophy and religion, founded in 1933 in honor of Dr. Cessna, brought to the campus outstanding thinkers in theology and philosophy. In 1934 at the suggestion of President Hughes the lecture committee and the Department of English began a yearly series of lectures and conferences by authors of established reputation. Representative of this "Literature and Life" series have been Zona Gale, Stephen Vincent Benet, and Robert Frost. An undergraduate magazine of creative writing—*Sketch*—was started in 1934.

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A college art committee enriched buildings with well-selected paintings and arranged series of lectures by creative artists. The much-discussed murals representing the College's activities and Iowa farm scenes, executed under the direction of Grant Wood, were given conspicuous place in the library halls, and Christian Petersen's sculptured figures adorn many of the new buildings. The College gave further encouragement to Iowa artists by the annual exhibitions of the works of the Iowa Artists Club and the Iowa Art Salon in Great Hall of the Memorial Union, and by an Iowa artist dinner given by the Union to the exhibitors. In 1934 a grant was secured from the Carnegie Corporation for materials and equipment for a course of lectures on the appreciation of art. The course was organized by a committee headed by Dean Marston of the Engineering Division.

FRATERNITIES AND WARDS

With the growth of the student body the problems of proper housing and of social supervision became of major importance. While appreciating the values of fraternity life and the place of the system in modern university organization, President Hughes was concerned that they should be realized without detracting from the unity of the students as a whole and without the abuses of irresponsible freedom of conduct and financial improvidence in building. He early formulated his position on the question, suggesting as a means of mutual understanding the appointment of a faculty adviser for each house and the holding of periodical fraternity conferences with the administration. The sororities were felt to be adequately regulated under the general rules for women and the direct supervision of the house mothers. The women's dormitory system was extended to provide for increasing enrollment, and the plan of President Pearson for institutional housing for junior college men was inaugurated in 1927 with the opening of the first unit (later to be named Hughes Hall).

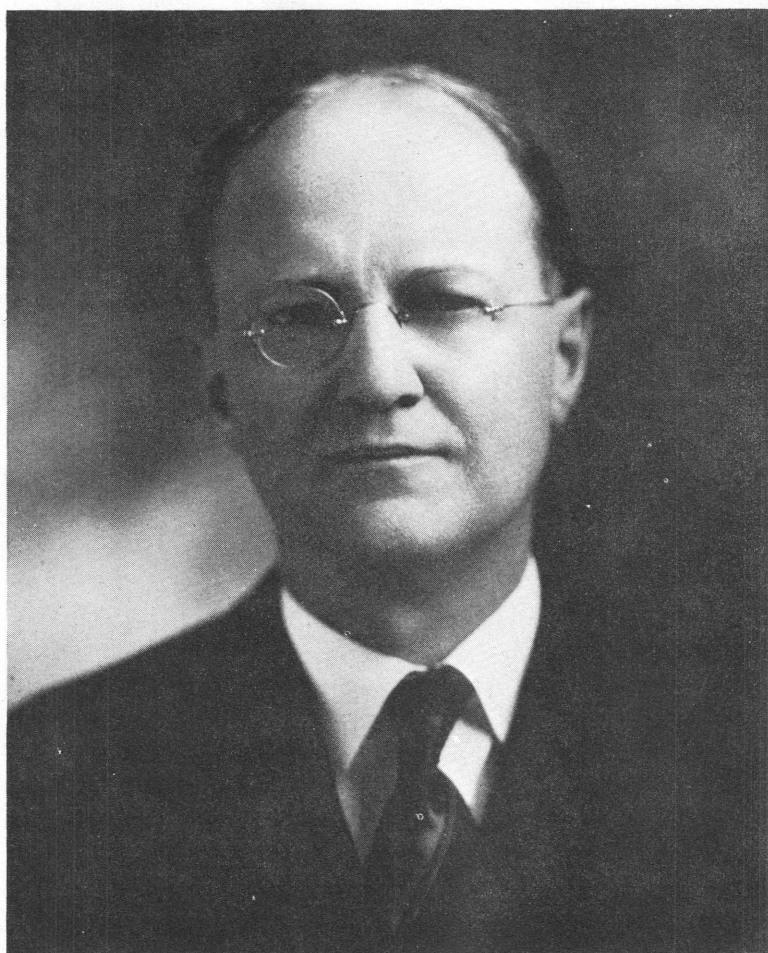
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The creation of the position of director of social life did much to maintain dignity, wholesomeness, and moderation in the whole social program. A plan worked out by this office at the suggestion of the President provided for the organized activity of the non-fraternity men. In 1931 there were created twenty-two "wards" into which these men were organized for social activities. The program was thus designed to be as inclusive as possible.

ATHLETICS FOR EVERYONE

There was a similar objective in the provision for physical recreation, with the logical assumption that the benefits of sports, physical, social and moral, should be extended to all. A system of intramural games under special directors was provided by the departments of physical education for men and women. Varieties and standards of the games were adjusted to all interests, talents, and capacities. Along with the recreational program, provision was made for more thorough and complete health service. Sophomore examinations served as a follow-up to the freshmen, and a senior check-up made the final comparison. Systematic hygiene lectures were required of all freshmen, and the extended clinical facilities were an ever-present safeguard. A further development was in psychopathic service in cooperation with the psychology department and the medical school of the University. Under the able direction of Dr. James F. Edwards, a leader in public health work, a permanent specialized staff was built up, and the primary emphasis was placed upon preventive and correctional work rather than remedial—in marked contrast to the aims and efforts of the early college "sanitary."

This systematic program of intramural sports did not involve the neglect of intercollegiate athletics. The democratizing of physical training left adequate opportunity for an aristocracy of strength and strategy. Athletics, in their realm, reflected the conditions of the unified matured college. In



RAYMOND A. PEARSON



HERMAN KNAPP



RAYMOND M. HUGHES

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1927 from convenience of location and similarity of academic standing and interests, the Iowa State College joined with five regional state institutions (Missouri, Nebraska, Kansas, and Oklahoma Universities, and Kansas State College) in the formation of the new Missouri Valley Intercollegiate Athletic Association—the "Big Six." In this strong competition, with the inevitably varying fortunes, the years have shown a generally commendable record. For instance in 1935 both basketball and baseball championships were won. Cyclone wrestlers and swimmers have averaged well and trackmen have broken their share of records. The main reverse was in football in the years from 1929 to 1931, but the losing jinx was effectively overcome and since that time teams to provide competitive thrills have steadily appeared. If the College did not secure for its teams the publicity of institutions that accorded to the sport a nearer approach to a total emphasis, it was spared the distress of deflation in the depression years.

EMPHASIS UPON SCHOLARSHIP

With all the provision for social expression and physical well being, there was an increased emphasis upon scholarship and a recognition of the scholar; election to honor societies was coming to be valued among the greatest attainments of a college career, and encouragement of the "superior" student was one of the evidences of the new college consciousness.

A notable development in the recognition and encouragement of high scholarship in the student body came with the establishment of Honors Day and the Honors Banquet. A local chapter of the Association of American University Professors was established in 1922 with unusually devoted leadership and serious purpose. An activity developed from the beginning was that of recognizing a small group of students of high scholarship by a dinner. In 1926 the institution became a regular all-college observance with a morning convocation and an evening dinner. A special outside speaker of estab-

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lished reputation in some field of scholarship, has been secured for each of the Honors Day observances. Phi Kappa Phi and divisional and departmental honor societies functioned with increasing influence. A city chapter of Phi Beta Kappa and an active organization of the American Association of University Women contributed further to the emphasis upon scholarship. Edgar W. Timm, '36, was chosen in December, 1935, as Iowa State's first Rhodes scholar. Dr. Jay W. Woodrow, who came to the Department of Physics in 1921 and was promoted to the headship in 1930, was the first former Rhodes man to join the staff.

COUNSELOR AND PERSONNEL SYSTEMS

President Hughes did not delay the projection of his cardinal aim of personal contact and guidance for the individual student. The old freshmen counselor system introduced in 1914, which had assumed a contact not always effectively made and with no facilities and authority for continued supervision, was superseded in 1928 by the system of junior college counselors established for each division as a regular part of the Junior College organization. There were thirteen counselors when the system started, and the number had increased to thirty a decade later. The inclusiveness of the contacts was indicated by the classification of the main interests involved in the counselling as vocational, personal, and educational. The previous year a college personnel system had been established to provide vocational guidance, personal and professional adaptation, and placement service. A general personnel director was placed at the head, and personnel officers were named for each division. The counselor-personnel systems absorbed the functions of the deans of men and women, and these positions were abolished. At the same time the old governing committee was reorganized with the president at the head assisted by the director of personnel and the deans of the divisions. As a special aid to entering students, the first

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"freshman day" was held in the fall of 1926, and this was soon expanded into a three-day registration-orientation period.

STAFF RENEWAL

The President was no less concerned with personal problems involving the employees of the College. Staff efficiency was constantly emphasized in selection and in provision for retirement. In the latter respect there was the problem of the lack of any fund for administrators and professors emeriti, in spite of long efforts to secure such provisions from private foundations and legislative grants. Under these limitations no retirement system could be wholly satisfactory. As an effort to meet the immediate situation, the Board upon the President's recommendation provided that after the age of sixty-five, heads of departments would relinquish administrative duties, and staff members should be elected on a yearly basis until seventy, when they would go automatically on half-time. The presidents' and deans' regular appointment would cease at sixty-five, and yearly appointment would follow with half-time status at seventy. Various efforts at provision for retirement annuities were unavailing, as were proposals for sabbatical leaves. As a go-between for personal faculty relations a council advisory to the President was created.

As a result of the retirement system, resignations, and deaths, all of the deans and the heads of most of the major departments were replaced within less than a decade. Dean Richardson retired from Home Economics in 1926 to direct adult education for the national association, and Genevieve Fisher, a former instructor in teacher training at the College and later with the federal board for vocational education and a member of the staff of the Morrison College of Carnegie Institute, succeeded to the deanship. The tragic death of Dean Samuel W. Beyer, '89, of Industrial Science in an automobile accident in June, 1931, removed a stalwart veteran who linked forward-looking policies with past traditions. In addition to

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his teaching and administration he was a father of Iowa State athletics and of the health service. Dr. Hughes became acting head of the division for a year, after which Dr. Charles E. Friley was brought from a similar division at the Agricultural and Mechanical College of Texas. In 1932 both Dean Curtiss of Agriculture and Dean Marston of Engineering retired to teaching and research activities with the title of dean emeritus. Professor Thomas R. Agg, '05, an authority in highway engineering, was selected to head his division, and after a year of presidential direction of the agricultural division and station, Professor Henry H. Kildee, '08, head of the department of animal husbandry and an international authority on stock judging, was made dean; Dean Robert E. Buchanan, '04, had the directorship of the station added to his work of dean of the Graduate College; and George Godfrey, '09, a master farmer, agricultural writer, and former member of the staff and of the Board of Education, was made assistant to the president in agriculture. The same year Dean Maria Roberts retired from her effective service as the head of the Junior College to administer the student loan funds, and Professor Maurice D. Helser, college personnel officer, was named as her successor. In 1933 the business and financial work was divided. Dr. Herman Knapp became treasurer and vice-president, and Hugh C. Gregg, a graduate of the University of Chicago, was secured as business manager. Upon Dr. Knapp's death in 1935 Dean Friley was made vice-president and C. B. Murray college treasurer. Following Dean Stange's sudden death in the spring of 1936, Dr. Charles Murray, professor of veterinary hygiene, was made dean.

One of the most effective and definite steps in unification of interest and in standardization of instruction and research was the opening of the new library in 1920. Since 1913 when the unsafe quarters in Morrill were abandoned, the main collections and the administrative offices had been housed in Central with a congestion that involved inadequate utilization, limited accessions, and a tendency to divisional or departmental

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decentralization. The foundation of the modern library administration came with the election of Charles Harvey Brown as librarian in 1922. He brought to the position broad scholarship, an unusually wide professional and administrative experience, and a sympathetic understanding of the library needs both of undergraduate and graduate students and of special research workers in a technological institution. Under his direction the accessions multiplied, the classification and administration were fully modernized, and an efficient staff of specialists secured. Dr. Brown's professional leadership was to be given national recognition in his election in 1941 as president of the American Library Association.

Among the notable, in some cases historic, department heads who were retired to teaching or research status were W. H. Stevenson, '05, of soils (continuing as vice-director of the station), Martin Mortenson, '09, of dairying; W. H. Meeker, of mechanical engineering, who was characterized by students past and present as "the best teacher on the campus"; L. H. Pammel, of botany; L. B. Spinney, '92, of physics; A. B. Noble, of English; and John E. Brindley, of economic science. The retirement of Dr. Orange H. Cessna, '72, as College Chaplain in 1929 marked the end of an era.

Division and department heads selected and renewed with so much care were exhorted constantly to be no less thorough and judicious in the appointment of staff members from professors to assistants. And with the securing of a competent staff, there was to be no relaxing of vigilance in maintaining teaching efficiency.

EFFORTS TO IMPROVE TEACHING

To start the college year, President Hughes introduced a plan that he had inherited from President Guy Potter Benton at Miami of a convocation day for the entire staff. A general gathering was addressed by the President on the plans and objectives for the year. The printed address included lists of specific achievements, in plant and organization, of the past

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year and those sought for the present one. This meeting was followed by divisional staff meetings and departmental consultations.

To give definite motivation and practical direction to the progressive improvement of college instruction, a Council on Teaching was formed with the specified objectives of submitting to the president "a practicable means for improving the general quality of teaching" to arouse in the faculty an interest in their teaching that would insure constant effort on their part to increase their efficiency; and to aid departments and individual instructors in solving particular teaching problems. To these ends rating scales were devised and given a limited application, and bulletins were issued which discussed objectives, skills, and procedures. Educational experts were brought to the campus for lectures and conferences; and courses on college teaching, intended especially for the younger staff members but open to those of more mature years, were organized. The Council was headed and the general program for improved teaching directed by the head of the Department of Vocational Education, Professor William H. Lancelot. In part as a result of these special efforts and probably even more as a progressive continuation of the traditional emphasis upon teaching, there were definite evidences that the teaching program was keeping abreast of new methods, devices, and subject emphasis. Up-to-date textbooks and study manuals were written, both in special and general fields, and laboratory and demonstrational techniques and procedures were developed with realistic effectiveness. In line with educational trends, orientation and honor courses were established and elaborate testing programs undertaken.

GRADUATE COLLEGE COMES OF AGE

These efforts for increased effectiveness in teaching were not confined to the undergraduate level; they were extended to the Graduate College, which was now coming to full development and assured standing. While keeping consistently

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to the fields recognized by the federal Office of Education and other impartial authorities as clearly belonging to the land-grant college, within these limits there has been a continual addition of subjects for the master's degree and a promotion of others to the doctor's level. Resident graduate work in the Engineering Division was inaugurated on the modern basis. Civil Engineering conferred its first Ph.D. in 1926. Veterinary Medicine, with a research staff, launched its graduate program in the twenties. The Smith-Hughes vocational educational movement created a demand for specialized advanced educational training that led to an increasing number of masters of science in vocational education from 1920. The growth of consumer consciousness, specialization, and institutional and public welfare agencies gave the opportunity for the permanent development of the Home Economics research program that had been essayed prematurely in the eighties.

In the same ambitious decade, work for the doctorate was systematized and expanded both horizontally to new departments and vertically within given fields. Chemistry, with its varied lines of application and under the effective leadership of Professor W. F. Coover, now joined the pioneer departments and soon led in the number of doctorates annually conferred. Bacteriology, general and applied, found steady demand for its graduates. Genetics was inaugurated on the graduate level in 1922. The graduate committee's recommendation, from time to time, of additions of fields for the highest study were symptomatic of the trend of research interest and in some cases paralleled directly the corresponding emphasis in the experiment stations and the research institutes. Thus in 1924 agricultural economics was approved, to be followed a few years later by consumption economics; in 1925, applied physics; in 1929, electrical engineering, veterinary pathology, and foods and nutrition; and in 1933, applied mathematics.

The demand for advanced work offered at the State College showed a remarkable growth. In the year 1919-20 the Graduate College enrolled 123; in 1939-40, excluding the summer

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school, the total had reached 669. To the year 1919 but 268 masters of science and 4 doctors of philosophy had been conferred; by July, 1940, the corresponding figures were 2,659 and 571. In 1928, as revealed by the land-grant college survey, Iowa State College had by far the largest graduate enrollment of any of the separate land-grant colleges. In a selection of twenty-six institutions made by the Office of Education to illustrate the increasing number of masters' degrees conferred from 1880 to 1930, the Iowa State College and the Massachusetts Institute of Technology were the only separate land-grant colleges listed. Among all the institutions of the nation awarding the doctor of philosophy degree in 1932, Iowa State ranked thirteenth in number conferred.

This increase in numbers was by no means at the expense of standards, which were advanced progressively in accordance with the approved practices. Under the prevailing leadership and the consequent alert key-men in the faculty, there was never a doubt that where abuses appeared there would be clamor and correction. Since 1923, the Dean has presented to the graduate faculty each year a review of the past year's work and a consideration of current and future problems. These annual statements, which stressed not so much achievements as the weakness to be met, provide one of the best guides to the development of the College. An epitome of these reports would include a statistical record of continuous growth, along with interpretative evidences of scholarly achievements that reflect the overcoming or progressing adjustment of the "difficulties in the way of the organization of an efficient Graduate Division"—in personnel, equipment, and "research atmosphere"—noted by the organizing committee in 1913.

UNIFIED RESEARCH PROGRAM

The strengthening and unifying of research was a consciously recognized and emphasized phase of the institutional

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planning of President Hughes' administration. The entire research activity, experimental and instructional, was unified within a Council on Research which served as a clearing-center for the different lines of effort. In the following years the College's research program was developed along both divisional and general institutional lines of investigation. The basic organizations—the College's research pillars, so to speak—were the Agricultural Experiment Station, the Engineering Experiment Station, the Industrial Science Research Institute, and the Veterinary Research Institute. The institutes were organized under the direction of the deans of the divisions involved. Other investigations of a cooperative nature have cut across divisions and departments in bringing all pertinent subjects and methods to bear on a common large problem. Such cases have been the formulation of the objectives of rural life, the study of land utilization, the development of the unique Corn Research Institute and the Federal Swine Breeding Laboratory, and various regional research projects having to do with pasture, erosion, and farm planning. The special federal Agricultural By-Products Laboratory became a campus institution. At the same time the Stations' undertakings were growing and changing in accord with progress in research and social and commercial interests. Home Economics investigations were regularized and standardized. A social science section and a rural education subsection appeared in the Agricultural Experiment Station. The applications of chemical technology and chemical engineering, particularly in the industrial utilization of agricultural products, came to a leading place in the Engineering Station and in the Industrial Science Research Institute. Modern problems of highway safety and rural electrification were also given major attention. All of these varied research activities in numerous fields and with different sources of support provided problems for research fellows and scholars.

This unified program was further integrated in 1932 by

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the appointment of the Dean of the Graduate College as Director of the Agricultural Experiment Station, with the continuing experienced and effective service of Dr. W. H. Stevenson as vice-director. In 1932 Dean Agg succeeded to the directorship of the Engineering Experiment Station. In the graduate office Dr. J. J. L. Hinrichsen of the department of mathematics gave effective assistance for some years. In 1937 Dr. E. W. Lindstrom of genetics, who had rendered long service on the graduate committee, was appointed vice-dean.

Equipment and facilities for research and advanced study were developed progressively. The college library secured essential reference works; sets of scientific reports and journals, home and foreign, have been built up as opportunity and funds have permitted. The inter-institutional loan system and provisions for photostating and microfilming have been systematized. Laboratory equipment and facilities have been kept abreast of changing technique and emphasis, and additional diversified experimental lands acquired by purchase or by alumni gifts. A statistical laboratory under the directorship of Professor G. W. Snedecor of mathematics has provided a research service for the whole College and at the same time afforded opportunity for investigations in statistical methods. Another essential service has been rendered to the graduate program by the Modern Language Department, whose head, Professor Louis DeVries, in addition to providing translation service, has made special adaptations of subject matter and methods, including the preparation of a series of scientific readings and dictionaries, for the acquisition of competence in the use of foreign languages by technical research students.

The Osborn Club and the college chapter of Sigma Xi and the continued participation of the staff in the Iowa Academy of Science and in regional and national scientific associations gave further stimulus to productive research efforts. As a channel of publication the *Iowa State College Journal of Science*,

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a Quarterly of Research, was founded in 1926. From 1928 annual lists of publications of the members of the staff were issued by the Library, and indicated an increasing and extending productive achievement. The Collegiate Press, a corporation formed in 1924 to print the student publications, provided a medium of publication for a limited number of research monographs. This service was broadened and increased by the adoption of the college imprint in 1938. To Professor Blair Converse of the Department of Technical Journalism was largely due the vision of an established college press.

To maintain the graduate work at a full coordinate position in a period of normally steady growth and to support the interrelated research undertakings has necessitated a major financial program with funds from different sources. The supplemental federal research grants of the Purnell and Bankhead-Jones acts have provided funds for the newer lines of investigation. In 1929-30 the Graduate College was given an independent budget. For a period of five years beginning in 1931, the Rockefeller Foundation provided a fund for the aid of research in the biological sciences, and this grant became the basis of a permanent fund for grants-in-aid to be administered through the Council on Research. As a supplement to state and federal research funds various interested private agencies have provided fellowships or special grants for carrying on investigations in particular fields. Most of these subventions have been directly available to graduate students.

RECOGNITION OF RESEARCH ACHIEVEMENT

The concentration of Iowa State's graduate work within its particular major fields, without seeking to extend into inappropriate realms or to develop degree-programs prematurely, has brought recognition of leadership among technological research institutions. In 1921 in a Bureau of Education bulletin of information for foreign students on opportunities in

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American graduate schools, Zook and Capen listed twenty-eight institutions of which twenty-seven were universities in name and one, Iowa State, a college. The writers assured prospective students that the institutions named were "universities in the strictest sense of the term . . ." By the various standardizing bodies, including the Association of American Universities, the Graduate College has been accorded front rank in its class. After a brief inspection in 1929, Dr. David A. Robertson of the American Council on Education reported that in his opinion "real graduate work and research" were being conducted in the fields of bacteriology, botany, chemistry, chemical engineering, civil engineering, genetics, soils, and zoology. His questionings of the work of some of the newer technical subjects, though pertinent and pointed in some cases, in others showed a lack of an adequate standard of comparison and at times an obvious lack of understanding of what was being undertaken in the projects.

In the arresting report in 1934 of the American Council's committee on graduate study, of which President Hughes was chairman, involving a general rating of graduate schools at the doctorate level by representative leaders in each of the fields chosen, Iowa State's work, so far as included in the subjects appraised—animal husbandry, dairy industry, general engineering, farm crops, horticulture, veterinary anatomy, veterinary hygiene, and veterinary pathology were not assessed—was given appreciative recognition by the appraising scholars. By the vote of the majority, bacteriology, entomology, and soil science were rated as "distinguished"; and animal nutrition, botany, chemical engineering, chemistry, civil engineering, genetics, human nutrition, plant pathology (one vote short of distinguished rating), plant physiology, and zoology as "adequate." At the convocation of distinguished scholars on March 31, 1941, in observance of the twenty-fifth anniversary of the establishment of the graduate faculty, recognition was given to the contribution of the graduate and

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general research program through the years. But in harmony with the prevailing attitude and emphasis, in research and collegiate circles generally, main attention was directed to the outlook for research in the unstable present and the tragically uncertain future.

LAND-GRANT COLLEGE SURVEY

Despite the definite achievements and decisive professional recognition of both instruction and research, the steadily mounting enrollments, and ever-increasing utilization of the College's research and extension services, in these days of agricultural stress between post-war deflation and industrial collapse, Iowa State, like the other land-grant colleges, had its whole program subjected to thorough and inclusive scrutiny and questioning by governing authorities and the constituency at large. Increasing expenditures at a time of decreasing rural income were creating a demand for an examination of the land-grant program from the standpoint of costs. Changing educational ideas and values and shifts in vocational emphasis brought differences of opinion, public and professional. Still other questions were occasioned by the administrative issues of state and federal jurisdiction. The result was the minute fact-finding and critical land-grant college survey carried on by a staff of experts under the direction of the Office of Education during 1928-29. As members of the research staff, Dean Buchanan and Librarian Brown were largely responsible for the respective investigations of graduate work and of library organization and operation.

THE TWENTY-YEAR PROGRAM

In harmony with this general spirit of inquiry, but for its own special purpose, the Iowa State College made a searching self-survey. To bring together all of the varied special organized efforts to improve the college program, to give a picture of it as a whole, and to estimate future developments

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and needs, a Twenty-Year Program Survey was made in 1932. This was suggested to President Hughes by the Russian Five-Year Plan, and he urged the significance of such an inventory and forecast upon each department and administrative service. The survey attracted wide interest, especially among land-grant colleges, state universities, and federal administrative agencies. It provided a fitting summary of the innovations of President Hughes's administration, as well as an interesting estimate of the trends of the future.

CHAPTER SIXTEEN

NEW OCCASIONS AND NEW DUTIES

Serving the State and the Nation

☆ ☆ ☆

Then came the Great Depression! The best-laid and longest-visioned plans were not proof against a basic economic disturbance that reached all business and all aspects of life. The full repercussion came to the Corn Belt just about the time that the Twenty-Year Program was issued. The economic upheaval did not invalidate the plan but rather put new demands upon it and necessitated unforeseen adjustments. It indicated, too, that no specific program in material requirement and subject emphasis could be made for two decades when the fortunes of a fortnight—certainly of a quarter—might be seriously in doubt.

THE COLLEGE MEETS THE DEPRESSION

The storm hit the College and the College bowed to it as gracefully as might be. The Diamond Jubilee in 1933 came upon troubled times, but the College had been born in critical years and had lived through other stressful periods. Enrollment for 1932-34 dropped about 25 per cent under that of the 1930-32 years. The state appropriation for the biennium 1933-35 was cut 27 per cent and was increased but slightly during the remainder of the decade in spite of the marked increase in enrollment. The policy was adopted of retaining the regular faculty members but of shortening time in many cases, of employing fewer assistants, and of not filling vacan-

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cies, temporary or permanent. In spite of such measures drastic salary reductions were necessitated.

With all the decreased enrollment the problem of student aid to aspiring, ambitious, but impecunious seekers for special training was a desperate one. Outside employment was at a minimum, fee exemptions were already embarrassing to the budget, and the regular loan fund was soon overdrawn. Emergency measures were the institution of cooperative dormitories where expenses were markedly decreased, rental and loan of books, increase of loan fund by temporary borrowings, and the extension and staggering of student employment by the College. In the later stage of the crisis as well as in the early years of recovery, the federal N. Y. A. grants were a saving provision. Every effort was made to secure placements for graduates—even the most temporary. In this extreme test the personnel system demonstrated its peculiar effectiveness.

AIDING IN STATE RECOVERY

The College's part in the depression, however, was not wholly or mainly one of survival and keeping afloat until the storm passed. It had a very active and positive part in efforts of recovery and stabilization. The research and the extension services turned their efforts to immediate problems of re-adjusting and stabilizing production, living standards, and marketing. The agricultural economics staff brought out a group of scholarly but popularly understandable studies on the "Agricultural Emergency in Iowa" dealing with all aspects of the background, immediate causes, and proposed adjustments. Especial attention was given by the agricultural economics section of the station to banking, credit, and farm tenure problems. The rural sociology investigators were at the same time concerned with state administration of social security and subsistence homestead projects. Dean Kildee served as chairman and Professor P. H. Elwood

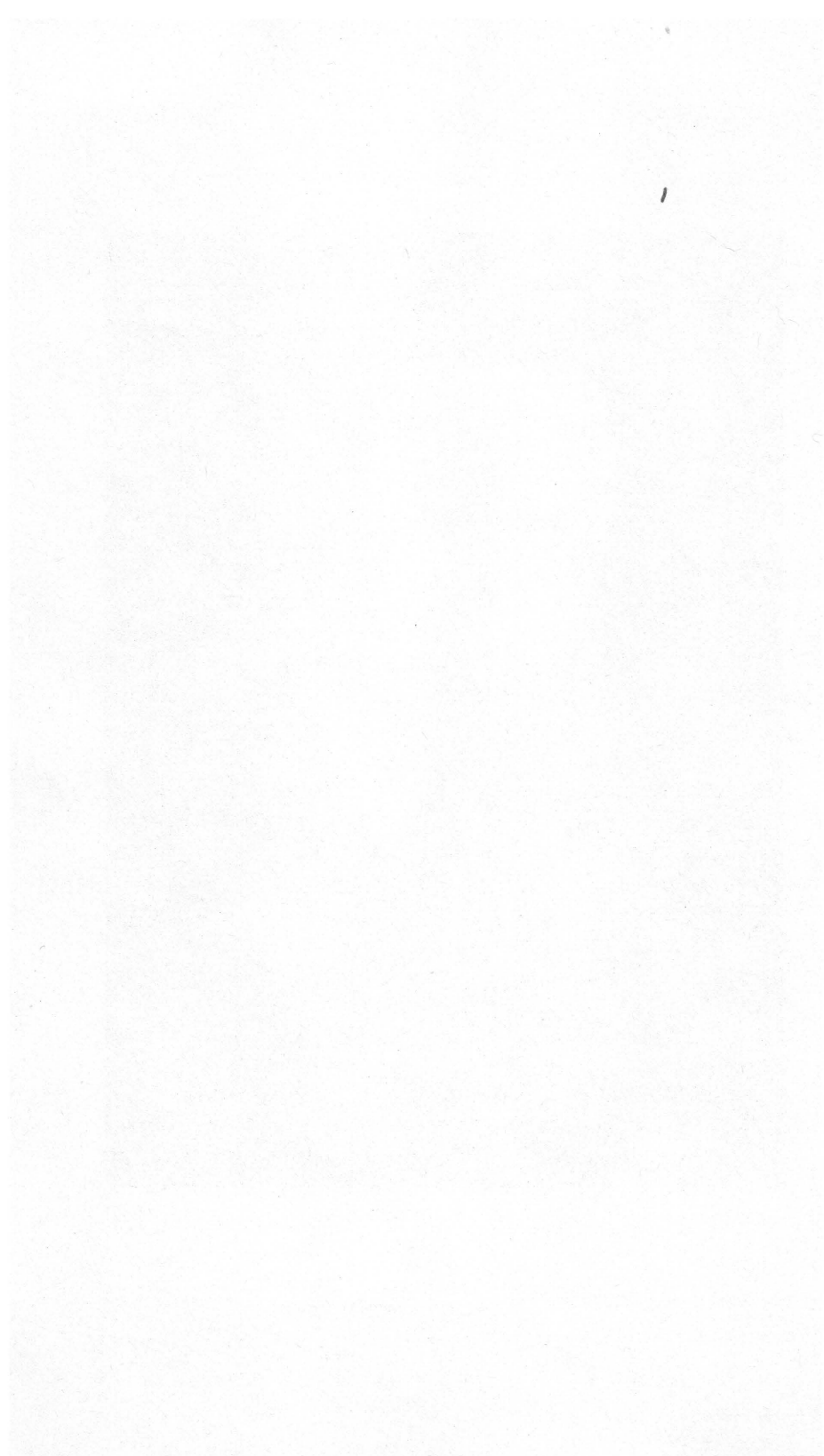


HENRY A. WALLACE



VEISHEA SCENES





NEW OCCASIONS & NEW DUTIES

of landscape architecture as technical adviser of the state planning board.

LEADERSHIP AND COOPERATION IN NATIONAL PROGRAMS

Iowa State had a peculiarly intimate relationship to the federal recovery program. Three alumni, Cap E. Miller, '17 G, the father of agricultural club work in Iowa and professor of agricultural economics at the North Dakota Agricultural College, Milburn L. Wilson, '07, of the Montana State College, and Henry A. Wallace, '10, the editor of the paper founded by his grandfather, were the most prominently mentioned names for secretary of agriculture. Wallace was chosen for the position which his father had held in the twenties, and Wilson became assistant, later under-secretary. Other prominent alumni were called to join their fellow graduates in the department and there was an unusually heavy drain upon the College's staff, especially in the Department of Agricultural Economics. There were many temporary appointments and a considerable number of permanent contributions to the federal service. Members of the Department of Vocational Education carried on research in Washington for President Roosevelt's Advisory Committee on Education, and Professor Barton Morgan, the new head of the department, collaborated on the volume of the report dealing with the land-grant colleges. Dean Marston was a member of President Hoover's inter-oceanic canal board and served as chairman of the state Merit System Council which organized the social security work. Lester W. Mahone of civil engineering was appointed supervisor of the system.

At the College the exigencies of the hour, economic and social, brought new types of research and service contact which, designed directly for emergency conditions, were to have lasting significance for the college program. Cooperative research of the College with the federal Department of Agri-

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culture, and of the varied departments within the College with each other reached a new high in integrated effort by the establishment of the Corn Institute to investigate all aspects of production, processing, and distribution, and in the similar foundation of a Swine Laboratory. Regional research programs, characteristic of the period were carried on in the study of pastures, erosion, and farm planning. The annual Country Life Institute brought together at the College specialists in all phases of the agricultural problem and its interrelation with the industrial.

In the administration of the federal agricultural recovery program in the state and in regional cooperation, the College was a key agency. The extension staff aided in organizing farmer groups and providing information to the constituency, while the station conducted research on the technical problems involved. The College was thus a unifying and coordinating agency in the administration of state, regional, and national programs, without becoming in any way committed to the policy-determining aspects. The desirable relation of the land-grant college to such policy formulating and testing was admirably and convincingly stated in a study made in 1938 by a representative committee of the staff on "The Role of the Land-Grant College in Governmental Agricultural Programs."

PRESIDENT FRILEY AND THE PASSING SCENE

In the midst of the recovery program there was a change of leadership but without a marked break in the continuity of essential policies. In November, 1935, President Hughes suffered a physical breakdown and was given a leave of absence in the hope that he might resume his full responsibility. Vice-President Friley was made acting president. On February 29, 1936, Dr. Hughes sent his resignation from England, and on March 17, Vice-President Friley was selected as his successor. Dr. Hughes was made president emeritus, and

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George W. Godfrey was appointed to the new position of Director of Agricultural Relations.

The new executive was a representative of a forward-looking type of land-grant educators with vision both of the technical field and the social mission—a fitting head of a land-grant college that had become a “technological university.” A native of Louisiana, his undergraduate training had been secured at the Sam Houston Teachers College, Baylor University, and the Agricultural and Mechanical College of Texas, and his research in educational administration had been carried on at Columbia and Chicago. He had been professor and registrar at the A. and M. of Texas and had organized and become the first dean of its division of science. A specialist in college administration—in which he was to find time to offer advanced courses—he had special training in the social sciences and an understanding appreciation of their needs and values. As a musician of unusual ability he had the fullest sympathy for the cultural emphasis on the campus. The President continued as dean of the Science Division until 1938 when Professor Harold V. Gaskill of the Department of Psychology was appointed to that position.

President Friley's inauguration on October 6, 1936, was the largest and most representative educational convocation in the history of the College. President William B. Bizzell of the University of Oklahoma brought greetings from other state-supported institutions. Dr. Friley's inaugural address on “The Place of the Technological College in Higher Education” was a plea for the broad and inclusive view of land-grant education that would enable it to meet its modern responsibilities. Dr. Hughes was awarded an LL.D. As President emeritus he was to conduct research in special phases of the organization of higher education.

The administration thus auspiciously inaugurated, while falling in the contemporary years of stress and strain, has been none the less one of unprecedented advancement—not only

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in education and scholarship but as well in an increased range of public service to state and nation. The achieving lines of growth characteristic of the past generation and especially accelerated in the previous administration have been carried forward with innovations in harmony with the progressing trends of higher education.

An unprecedented increase in enrollment brought the College into the class of the large universities and raised questions of the future limits of growth. A balanced liberalizing of the curriculum was being made as a proper basis of the sound development of technological education and without the old fears of encroachment and neglect. Continuing efforts for teaching effectiveness gave less emphasis to formal procedures and more to the scholarly attainment and social awareness of the instructor.

Student relationships have involved an increased recognition of adult responsibility. Student government has grown in spirit and substance of participation with lessened emphasis upon forms, procedures, and petty jurisdiction. Student activities have shown the sanity and moderation characteristic of the period. The interest in current issues as discussed in conferences, forums, and student legislative assemblies has been especially marked. The social program has shown better proportion and balance. The religious program has marked a progressive and wholesome adaptation to modern thought and institutional functioning through the continuing work of the Ys, the church foundations, and the instruction and leadership provided by the College. Following the retirement of Dr. Cessna as college chaplain, Dr. Nelson P. Horn was brought to the College as director of religious life and professor of the history and philosophy of religion. Dr. Horn was called to the presidency of Baker University in 1936, and after an interim of visiting professors the Rev. Jack Finegan, who had studied in leading universities and theological schools in this

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country and Europe, was selected to head a department of religious education.

The campus has witnessed a new building era. With extended program, optimum enrollment, and an approach to definite plan, the matured rounded-out campus seemed in sight. The planning has taken account of instructional needs, research facilities, public services, recreation, and esthetic effects. The modern campus, an expansion and adaptation of the plans of President Welch and of the grounds committee of the Storms and Pearson administrations, has owed much to the expert planning and designing of Professor Allen H. Kimball of architectural engineering and Professor Philip H. Elwood of landscape architecture.

The research program of the station has been systematized and standardized at a high level and at the same time individual productive scholarship has been encouraged as never before. Public contacts and services have been progressively extended. The alumni ties are closer and more harmonious by reason of effective organization and sincere mutual interests. Research agencies are dealing with the specific needs of the state's and region's industries, the extension service is bringing the available portions of the college program to every part of the state, and short courses are being introduced and adapted for every cooperating group. The vocational training and direction from the College and the varied functioning of the club work have provided an effective contact with the schools and with the whole range of youth interests.

THE PAST AND THE FUTURE

With such inclusive reaches and activities it is evident that the Iowa State College, like other typical land-grant colleges is not a mere "college" in the conventional meaning but rather a great instructional-research-service foundation. As such, this particular land-grant college, so strategic in situa-

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tion and so socially purposed in traditions, has come to realize under conditions far removed from their ways and relations alien to their experience the vision of the long line of industrial education pioneers stretching back a full century: a harmonizing of a state A. and M. college with a national school of science, a reconciliation of the claims of science and practice, an attainment to the truly cultural through a socially utilitarian program, and the truest and fullest realization of the democratic ideal in higher education. With such ideals and such a record of achievement, the College faced the second world crisis of the generation with determined and assured purpose.

APPENDIX ONE

STUDENT LIFE AND INTERESTS
IN THE 1870's

By JOHN BOYD HUNGERFORD, '77

[Written about 1935]

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The Old Main, which was completed and made ready for occupancy in 1867, was the college. There was no other building, and within its sheltering walls were housed most of the faculty members and all the students. It was a complete college building, containing sleeping quarters, class rooms, public rooms and living quarters. Long after the institution had grown and departments had buildings of size and beauty of their own, the Main continued to be regarded as the college, its center and circumference. Other buildings within the encircling horizon were secondary, it was premier. Until its destruction by fire in the early 1900's it retained its supremacy.

For a good many years the attendance never exceeded a few hundred and students and faculty members commingled in the spirit of a large family. Coming in contact every day, sometimes oftener, in class and laboratory practice, there was an intermingling that developed a spirit of community and a healthful interest in the main purposes. Because of those intimate personal associations and attachments then formed, the ties of early college days have been peculiarly lasting. There was a nearness between the faculty and students in the small colleges that was never possible in the larger institutions. The strong men and women in the faculty were interested in the welfare of the students and rendered assistance in many ways. Students were thereby inspired to greater effort and better accomplishments. This side of college life has disappeared in the mass associations of the universities and colleges of the present day, a consummation to be regretted.

Life in the Main began when students arrived, from different parts of the state. As the year started in March, and the weather was generally inhospitable, the work of preparing living quarters was often fraught with difficulties. Students had been notified before leaving home what was necessary to bring in the nature of equipment for living quarters. First, a

¹From Sketches of Iowa State College. Typewritten manuscript in College History Collection.

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bed tick was essential, then were enumerated sheets, pillow and cases, and a few toilet articles. A supply of clean straw was piled at the entrance and from this ticks were filled and dragged to the rooms. Generally there were boys enough on hand to fill the ticks for the girls. Beds were easily "made" with the supply of new straw, but when the straw broke into short bits, as it did after a short time, and the slats beneath felt through, the soft beds that "mother made" were present in troubled dreams.

The rooms were scantily furnished. The list charged to the occupant included two straight backed chairs, a wardrobe, study table, washbowl and pitcher and waste receptacle. Carpets were permitted but not furnished. Decorations on the walls were taboo, as there was an effort to prevent defacement. Shelves were fastened to the walls to accommodate toilet articles, ornaments and bric-a-brac. The shaving kit, the bootjack and assortment of brushes were in evidence, and a vase for flowers had a place. Some of the boys used for vases the mustache cups that came among their Christmas gifts. The average students had pictures of some notable on the wall. It might be Lincoln, Grant, Gladstone, Darwin or Agassiz. Or Frances Willard, Grace Darling, or highly colored plates from Godey's Ladies Book, or Pius IX et al. All depending on the taste of a widely differentiating multitude.

The white collared class was in a minority among the boys, who for the most part came from the farms and workshops. They were accustomed to the open spaces and cared less for the sartorial excellence than comfort and were satisfied with what was merely conventional. They all wore boots, derby and sometimes stovepipe hats, string ties, red flannel underclothes, paper or celluloid collars and boiled shirts, with sizable solitaires in the bosom, also scarfs two feet wide and ten feet long and woolen socks. It was the day of the bull's eye watch and the hunter's case that could not be jammed if run over by a railroad train. The watch guard was a loop around the neck usually carrying a locket which contained the picture of the wearer's favorite. Stiff cuffs that extended to the finger tips were conspicuous and uncomfortable.

Doctor A. S. Welch, president for the first decade and a half, was a man of fine fibre. He was an educator of national prominence when, because of failing health, he was obliged to seek relief in change of climate. In the stirring days of reconstruction he was elected United States senator from Florida. His first arrival at Ames was delayed because of congressional duties, so when he took charge he was fresh from the activities of business and politics. He was splendidly equipped for the duties of his new undertaking. In its organization he did not neglect spiritual needs of the student body and this side of college life he faithfully maintained. Mid-week

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meetings were fostered and sustained, and Sunday services were never omitted. When Dr. Welch preached there was always a large attendance. His addresses were full of experiences from varied phases of life, and his philosophy so inspiring that students seldom were absent without a cause. Professor W. H. Wynn, head of the department of English Literature, was also a favorite. His long periods and polysyllabic diction were sometimes mystifying, but there was so much in his preaching that students listened to with absorbed attention. It was said of him, however, if he were describing a minnow, he would, like Dr. Samuel Johnson, make it talk like a whale. Some of the best speakers in the country were called to conduct Sunday services. Their presence was a treat, as it afforded opportunity to see and hear notable pulpit orators. Nevertheless, they were the subject of criticism by the students. Students, at least in former years, have standards that few can attain. Their demands as a rule extend to the impossible and the instances are rare when they are disposed to commend. A college audience is the most difficult in the world to satisfy.

Darwinism made its way into the study of biology in the period that the college opened. Obviously, the origin of the species, descent of man, natural selection, etc., received major attention. The Darwinian theory gripped the mind of the materialistic thinkers and afforded more definite basis on which to dispute the conclusions of revealed religion. On the other hand, more balanced thinkers saw in the theory nothing to affect the basis of orthodoxy. Not hesitating to follow the teaching of science, they insisted that it accept only truth as distinct from unwarranted assumption. The result was a clarification of the premises, leaving science holding its own and orthodoxy firm in the citadel of faith. Apropos, it is to be doubted that the college course had harmful effect on the religious mind of the students. They came from homes, good, bad and indifferent, on the religious question. A large per cent had vague, indefinite notions about spirit, biology or soul destiny. Through mental growth and the teaching of the savants, clarification came and young people went forth strengthened in the faith. Spiritually, student experience at Ames served to reenforce rather than to imperil the structure.

While the student body was much of a family group and students dwelt together in a community spirit, the system was distinctly the segregation of the sexes. Laws were laid down as immutable as those of the Medes and Persians—"thus far shalt thou go and no farther." Young men and young women were under certain restrictions that must not be ignored. In the class rooms and in the dining hall there was no bar, they were seated promiscuously and went to classes and returned from the same without taboos. But there was no social intercourse, nor passing hither and back in

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restricted quarters. There was a social hour after the evening meal and restrictions were raised, within certain limits, on the grounds. Saturday afternoons taboos were withdrawn and young people were granted social privileges on the campus. Then there were divisions into groups and couples. "Campus Lab" was the order, and on such occasions matches were made on the campus, not in heaven. Saturday afternoons, by the way, were signalized by the boys entering the Main by the front entrance, when at all other times they were obliged to enter by the side or back doors. Supervision over social conduct was exercised with rigid discipline, but not too much so, for it was vital to the welfare of the college.

Discipline within the college was enforced through a self governing system. Living quarters were divided into sections, boys and girls separately organized, and from each section were elected a captain and member of the council. Captains exercised police power and the council was a judiciary body. The accused, dissatisfied with the action of the council, had the right of appeal, the decision of the faculty being final. . . .

There were no fraternities in the college for a number of years after its opening. Students had other activities which were quite as engaging and perhaps equally as profitable. In their out-of-class engagements they had plenty to do in the literary societies of which there were at least four. This afforded sufficient variety and students chose that which most suited their tastes. In the main the programs were similar, though some may have put more stress on this feature or that than others. Debate was stressed, for all aspired to proficiency in discussion and public speech. The programs included miscellaneous exercises, and development was attempted along forensic lines. The benefit derived was noticeable in the progress made by earnest society workers, and many attributed the proficiency attained at college to the work in literary society.

Possibly the things that ultimately displaced the societies, fraternities, sports, and regulated pastimes are more conducive to success in practical life; it is a moot question.

The chapel was used as a place for assembling of the students. There the students gathered after classes were over and listened to brief devotional services. Announcements of special and general nature were made. Then, after the evening meal, students commingled promiscuously. Then all distinctions of class, color, previous condition of servitude and mental bias disappeared. Discussion included every question, private and public, conversation knew no bounds, the sky was the limit. It was there that acquaintances were made and friendships formed that lasted through life.

The Main compared well with public buildings of the time, but in structure and material it lacked the substantial qualities of buildings of

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later date. Nor were its appointments as complete. It was heated by hot air which came from a furnace in the sub-basement, and the impossibility of heating a large building to the fifth story above was demonstrated every time a cold blast swept from the northwest. One part of the building would be too warm, and windows would be thrown open, while on the windward side it would be uncomfortably cold. The heating system became so intolerable that in time it was replaced by steam heat.

Light was furnished by gas generated from naphtha. The light was inferior to that furnished by kerosene lamp in the homes. There was insufficient compression and the lights flickered and were unsteady. Incandescent mantels had not made their appearance and illumination by gas was far from present day efficiency.

Water was pumped from the spring north of the farm barns to a supply tank in the top story of the south wing, but was not well distributed throughout the quarters, which often caused congestion when too many appeared to fill their pitchers. Toilet facilities were maintained within the building, and when the pipes worked and equipment was in order, the system was sanitary. Bathing facilities were ample, for the kind. But they consisted of bowl and pitcher, available to every student occupying a room. Quite as good as most students had at home, for bathtubs were still strangers in private homes in Iowa. Nor is that a reflection on the college, or Iowa homes. About that time the president of the United States was urging congress to make an appropriation for improvements in the White House, and among the things urged were bathtubs and increased modern conveniences for the guests. Electric lights were installed along in the 80's when electricity was made practical for illuminating purposes.

The college had graduated a dozen classes or more before the advent of the telephone. Unmindful of a handicap of any kind, it forged ahead meeting each new responsibility with renewed resourcefulness. The telephone was unknown outside the laboratory where Edison and Bell were seeking to make it practical. It was only an expectation, a hope, and the world was getting along without it. But the processes were slow. Communications with the departments were broadcast by messenger-boy service, and for longer distances a miniature pony express service was maintained, similar somewhat to the vogue on the western plains in an early day. Cumbersome? Slow? Perhaps, but representative of the way things were done at the time.

Stenographer, typist, typewriters, dictagraphs and radios are innovations of later years. Typists were in the cradle, typewriters and kindred paraphernalia in confused experimentation in the inventors' studios, and yet the college progressed. Documents emanated from the offices in long

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hand, it was a time for the copyist and the messenger. The appearance of the typewriter had the effect of destroying penmanship and degrading handwriting to the appearance of hen's tracks.

The college had its beginning in the days of the simple life. Individual experience was confined to a narrower range. The things that have since appeared were born of necessity, they meet new demands and serve in a more complicated, abundant life.

APPENDIX TWO

A JOURNALISTIC REPORT OF THE
FIRST COMMENCEMENT¹

*State Agricultural College Exercises of the First
Annual Commencement—Graduation Day*

(EDITORIAL CORRESPONDENCE OF THE REGISTER)
State Agricultural College, Near Ames, Nov. 13, 1872

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Two o'clock of the afternoon of Wednesday found assembled in College Chapel, an interesting and interested audience, comprising many of the most eminent men and women of Iowa. Opened by an invocation for divine blessing from Dr. Thatcher, President of the State University. The exercises of commencement proper were introduced by the oration of Mr. John L. Stevens upon the "Economy of Labor." The subject of science was his key note—applying it as the basis of wealth and the instrument of labor. His delivery was distinct and good, and his exercise was well received.

His successor was Mr. C. L. Sucksdorf, Scott county, who spoke on "Physical Deterioration." The cause of physical deterioration is fashion and ignorance. So closely are the mental and physical organs united that so surely as the body is crippled the mind will become stupid and indolent. This is an age of reading and also an age of sitting. Machinery supplies the place of muscle. We have too much culture in our hands and not enough in our feet. He who possesses a sound body has the foundation of a sound mind, a fountain of energy. In health there is joy in every look, courage in every enterprise, and it is our choice whether we take this or the opposite. Prevention demands more attention than cure. Proper eating, drinking, and dressing is the cure for the whole catalogue of mental and moral and physical disease.

The oration was a staunch argument for the practical in education, and for the combination in education of labor and study, delivered well and warmly applauded.

The College choir then rendered the chorus, "Far Away the Camp Fires Burn," in a delightfully pleasing manner, followed by the delivery of "Encourage the Beautiful" by Mr. J. C. Arthur, of Floyd county. The

¹*Iowa State Weekly Register*, November 22, 1872. Article reprinted from the daily edition.

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preference for the practical in education is rapidly asserting itself in America to the disregard of the beautiful, in home surroundings and personal and public taste. It is thought that it is a weakness to indicate a love of the beautiful, but the real tendency of aesthetics is to ennoble the mind and to furnish the genuine pleasures of life. Following the physical sciences for imparting polish to education is the study of the ancient and modern languages and to these next come the fine arts. May the time never come when from our colleges will be demanded the sending forth of educated boors. The speaker evinced a thorough love for the aesthetical part of life and nature, and was very successful in creating alike enthusiasm in the hearts of his audience. His delivery and bearing upon the stage was easy and graceful and his oration well received.

"Science and Faith" was the subject chosen by Mr. C. P. Wellman, of Winnebago county. The idea that the advancement of science tends to the destruction of faith is a mistaken idea. The fear that Darwinism will undermine Christianity is groundless. Science must not be trammelled in the search for truth. Let science develop the resources of nature and the key of true progress, giving to man nobler purer thoughts, and through the transparency of nature will he see the design of nature and the grand purpose of life.

The next speaker was Mr. G. W. Ramsey, of Buchanan county, whose subject was "Climatic Influence." Vegetation and climate are so closely connected that any change in climate produces its corresponding change in vegetation. And not only in vegetable life is the effect of climate shown, but in man. It is an observed fact that there is a close analogy between the plants and the people of a country. The most industrious man removed to the tropical climes becomes as indolent as the most indolent of the natives. Mr. Ramsey's production showed close observation of his subject, united with good original thought of his own.

An instrumental duett [sic] preceded the oration of Mr. E. M. Hungerford, of Wapello county, whose subject was "Our Own Literature." The address indicated an enthusiastic fondness for, and interest in, literature, and the speaker paid a just tribute of admiration to that of our own country. The subject-matter betrayed the mind of the true student and the knowledge of the history of literature from its earliest times to the present. We liked it well and enjoyed it; and so did the audience. The literature of our country evinces the sturdy, common sense, practical mind that speaks the dignity, the manliness, the independence of our race. We plead for the study of our own literature as being the handmaid of beauty and virtue. It is the literary men and women who give complexion to their times. Our literature is not a column reared upon the sand; the elements in its nature give its immortality of time. In its fullness we cannot yet hope, but the

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promise of our nation is all brilliance, through its literature. Mr. Hungerford was succeeded by Mr. F. L. Harvey, of Humboldt county, whose subject was "Scientific Agriculturists." Men have utilized every plan for the economy of labor, until the laborious process of farming has been replaced by one of ease and pleasure and profit. The idea that science and practice are antagonistic is fallacious. Farming is all scientific, and hence, in order to thoroughly cultivate a farm it is necessary to thoroughly investigate the elements of the soil. Agriculture is both a science and an art, and requires the application of a science with individual tact and energy—hence the necessity of agricultural schools. The speaker was very earnest in his advocacy of the combination of human thought and science with agriculture, and he believed that the result of such schools as this would produce a regeneration. It was a well written, well delivered oration. The next speaker—Miss Fannie H. Richards, of Hamilton county—one of last winter's efficient Legislative clerks—chose for her subject "Deonominal Christianity." Christianity is love, nothing but love, and the dogmas of men avail nothing against it. Religious belief is no subject of harsh investigation. The society formed by Christ was able to march out and conquer the world; and his words as soon as formed into a creed, fall like a dead weight upon us. Many doctrinal statements exist in entire conflict with each other. In the heart of many of the churches of to-day, we may see the dragon head. Sects should be abolished. Christ was content with such an organization and evinced a plain contempt for every religious limitation. Let us cultivate that true spirit of Christianity which makes all believers in Christ one in Him. The subject matter of Miss Richards's oration was a plea against the sectarianism and dogmatism which in so large a degree now characterizes the religious bodies of the world. With a bearing upon the rostrum of womanly ease and grace, with a good voice and with earnest, sensible words, the speaker won her just deserts, the warmest plaudits of her audience.

The next address was by Mr. L. W. Noyes, of Linn county. Subject, "How to Build a State." It is with mind, not matter—men, not things, that we build a State. Industry and intelligence are essentials. We must develop intelligence in our people rather than build three hundred thousand dollar State houses. There are two policies in the government of a State—the material and the intellectual. The advocates of the one use every effort to increase material wealth and greatness; those of the other policy seek to elevate and perpetuate the State by fostering the intellectual and industrial interests, providing general intelligence by placing its means within the power of all. What shall be the future of Iowa? Shall she be bowed with struggle and contention, or rise to strength and power?

Mr. S. R. Churchill, of Scott county, delivered the next oration on the "Necessity and Benefits of Military Instruction." Connected with every

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educational institution in the country should be a thorough department of military instruction, the exercise of the drill being beneficial to students and making men of them when nothing else can. This instruction deserves an equal footing with every other department and should be made compulsory. "The Pride of Scholarship" was the subject chosen by Mr. J. [I.] W. Smith, of Floyd county. Scholastic education is but secondary after all. Mr. Smith took a very common-sense view of life and the various duties and missions of its victims on earth. With good delivery, a clear, rich voice and first-rate thought, he made himself exceedingly entertaining to his audience. Mr. L. Foster, of Wapello county, was the next orator—his subject being "Self-Government the Highest Wisdom." It was an earnest plea, especially for restraint in morals, the tone being one of mental healthiness throughout. The subject of Mr. T. L. Thompson, of Fayette county, was "The Pnyx and its Lessons." The speaker deriving many practical applications to our form of government from the Pnyx—the throne of Athenian oratory—evolved a fine scholarly address, which the audience warmly applauded.

The subject of the next oration was "Journalism"—the speaker, Mr. C. A. Smith, of Clinton county. While the press is responsible for very few of the evils of society, society is responsible for nearly all the evils of journalism. Make society pure and high-toned and there will be a corresponding change in the journalism of the country. Mr. Smith possesses a manner of delivery both easy and pleasing, and his address was one of entertainment and good interest throughout.

Mr. O. Cessna, of Story county, next spoke. Subject: "Failure, the Law of Progress." Man improves by the knowledge gained by failure, and when the point comes where there is no failure, the time has come when there can be no human progress.

Mr. H. C. Spencer, of Poweshiek county, gave an interesting, historical sketch of "The National Banking System of the United States." For ten years the present system has been before the public, well balanced in the public mind, and found not wanting. The first advantage is the uniformity of its notes throughout the country; the second its security; the third the strict regulations and examinations of the national banks. No banking system has ever shown itself so excellent and secure as has this. Mr. Spencer spoke with a vivacity and strength which impressed his audience very favorably. He evinced a deep-felt interest in the pursuit of banking, a good understanding of the questions it involves, and very properly has chosen it for his straight path in this crooked world.

Mr. Spencer was followed by Miss Mattie A. Locke, of Benton county, also of Legislative fame, last winter. Her subject was "Education for Women." If woman wants domestic, social, and political equality with

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man, she must attend to the requirements of these conditions. Woman must first be taught to know herself, her physical system, for the brain cannot be used as a working body when the functions of the body are impaired. Woman also must have as decided a purpose in life as her brother. The sooner every college door is open to woman, the sooner will she be upheld in her work by public opinion. The world must first learn that in woman's heart there are longings for better things. We want it understood that we are neither dolls nor drudges, but participants in a common humanity. Miss Locke's production was a sincere appeal to women for a better physical condition—for the care and attention to bodily conditions of which the majority are so neglectful. She held that this was the first real step to the development of perfect womanhood. In choosing a subject so practical, in discussing it so ably and sensibly and in her delivery so agreeable and so good, Miss Locke received the kindest possible expressions of praise from her audience. She certainly acquitted herself with high honor both to herself and her beloved Alma Mater.

"The Ages" was the subject of Mr. E. W. Stanton, of Story county, and this we considered one of the two best exercises of the day. As a writer Mr. Stanton's style is vigorous and versatile, indicating a strength of mind and a culture of intellect which gives him bright prospects for the future.

And now *nineteenthly* comes Mr. S. H. Dickey, of Henry county, with an exposition of the new system of education introduced by the Agricultural School system, entitled "The Old and the New." He skillfully contrasted the two systems of education, yielding the palm to the "New," and if his enthusiasm failed to convince all his listeners it failed to interest no one. His style was classical and his delivery excellent.

Mr. J. K. Macomber, of Cass county, delivered the final oration of the class, his subject being, "Culture, the Showy and the Solid." His attempt was to prove that the study of the sciences is superior to the study of the languages. This is a licensed argumentative point which, perhaps, never will be settled satisfactorily in the minds of all; but Mr. Macomber's dissertation thereupon was both well written and delivered.

Six of the graduates were excused from speaking, the first class of graduates which closes behind them the doors of the State Agricultural College, numbering twenty-six in all. The presentation of the diploma conferring the Degree of Bachelor of Science over, the exercises were closed by a parting song to the out-going class, composed by Mr. Hungerford, one of its members, and the benediction. In tomorrow's issue we will draw our conclusions, relative to the system of agricultural training in schools, from the data of our observation.

Paul

APPENDIX THREE

REDEFINING THE FUNCTION
OF THE COLLEGE¹

Senator Sutton's Bill

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AN ACT TO REPEAL SECTION 1621 OF THE CODE OF 1873 CHAPTER 4, TITLE XII, AND TO ENACT A SUBSTITUTE THEREFOR RELATING TO A COURSE OF STUDY FOR THE STATE AGRICULTURAL COLLEGE, BY THE TWENTIETH GENERAL ASSEMBLY OF IOWA.

Be it enacted by the General Assembly of the State of Iowa:

SECTION 1. That section 1621 of the Code is hereby repealed, and the following is enacted in lieu thereof:

SEC. 1621. That there shall be adopted and taught at the State Agricultural College, a broad, liberal and practical course of study in which the leading branches of learning shall relate to agriculture and the mechanic arts, 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, including military tactics.

SEC. 2. That all acts and parts of acts inconsistent with this act are hereby repealed. [Approved March 20, 1884.]

SENATOR SUTTON'S SPEECH IN BEHALF OF THE BILL
[March 7, 1884]

Mr. President:—This bill provides that there shall be adopted and taught at the Iowa State Agricultural College a broad, liberal and practical course of study, in which the leading branches of learning shall relate to agriculture and the mechanic arts, but which shall also include such other branches of learning as will most liberally and practically educate the agricultural and industrial classes in the several pursuits and professions in life, including military tactics. It proposes to enact this in lieu of section 1621, which it repeals, and which specifies as a course of study Geology, Minerology, Meteorology, Entomology, Zoology, animal and Vegetable Anatomy, Veterinary Surgery and Book-keeping, and permits no other studies except such as are directly connected with agriculture. It will

¹From Aurora, XII (March, 1884).

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thus be seen that this bill proposes to change the law so as to provide a general and liberal course of study in which agriculture and the mechanics' arts shall have a leading place, and to repeal the exclusive course that is now provided by the statute. When this change is proposed in regard to perhaps the most important educational institution in our state, I am aware that the bill proposing it should be based upon valid considerations, and considerations that look only to the permanent welfare of the institution. For this reason I desire to be heard somewhat fully, that I may have a fair opportunity to lay before the senate, with reasonable clearness, the reasons which have led me to offer this bill. It has received the careful consideration of the present faculty of the college, and has the approval, as I believe, of all the more particularly informed friends of the school of whatever faction (if there be different factions,) and comes to the senate with the unanimous approval of the committee on the Agricultural College. And while I would be willing to submit the bill upon the recommendation thus given it, I have been asked to state the exact reasons that have caused this proposed change in order that it may be known that the change is not asked by any faction as against any other faction, that it may also be understood that by asking this change no imputation is made against the past management of the college, but that for other and what is deemed good reasons this change is now desired in order to broaden the usefulness of the school and more fully to make it conform to the purpose of the Act of Congress which created it.

The Agricultural College is demanding especial attention of this legislature. It is the best endowed educational institution in this state. In fact it is the only educational institution in the state having a permanent endowment of any considerable amount. The endowment fund of this college is very close to three-quarters of a million of dollars. This fund and other property belonging to the college reaches beyond a million dollars. This endowment, when properly applied to the purpose for which it was made, will give us one of the grandest colleges this country has ever known. It is well, therefore, at this time, when this college is demanding our special attention that we should give it that patient and intelligent consideration which its importance entitles it to. There will probably be three bills before this honorable body relating to this college, one relating to the reorganization of the board of trustees. The source from which this bill may come I am not permitted to speak; a parliamentary usage will not permit me to speak of the other branch of this General Assembly. There is another bill now pending before the senate providing for the investment of the college fund. The bill now under consideration relates only to the course of study of the college and to defining the purpose and object of the college itself. It has no connection whatever with any other bill, and has purposely been

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kept free from all other matters. For whether this shall be adopted or rejected or some other bill adopted in its stead, it is desired that the people shall speak through their representatives in some more definite way than they have heretofore spoke, and settle for this college a well defined and general plan that its trustees can execute and that its faculty can work to. I have no selfish pride in this particular bill. As a legislator and citizen who expects to patronize this school I do have a deep and sincere desire that the energies of this college shall be no longer exhausted in trying to settle what manner of school it shall be, but that its great energies shall be used in the furtherance and completion of such a general plan as this Assembly, when informed, shall in its wisdom adopt. Expecting to patronize this school, I have visited it both this year and last, and the last time as one of the committee from the Assembly. I have made a careful study of the school and the statutes relating to it; and without desiring to be tedious I desire to call your attention to the fact that this endowment of three quarters of a million is not ours; that we hold it in trust only, and only for a specified purpose, that the State of Iowa is only the guardian of this fund, that the state only holds it in trust for the general government, that the state is bound to keep it unimpaired and is held to a strict account by the general government for the use of every dollar of that fund, and that the state is liable to the government for every dollar that is used for any other purpose than that specified by the government, that the government never imposed this fund upon us, that it left us to accept it or not, but specified the terms we should undertake if we chose to accept, that by accepting the trust as we did, we agreed to perform the conditions of the trust, that we are thus bound by the agreement and its conditions, and that the government, further to protect the purpose of this trust, has provided that it shall revert if we fail to perform its conditions. I then desire to call your attention to the purpose of the trust as defined by Congress, also as interpreted by the author of the Act of Congress. I then desire to call your attention to the fact that our state has never appropriated this fund fully to the purpose defined in the act of congress, and I desire to show you the trouble we have suffered because of this failure. I desire then to discuss briefly the wisdom of the purpose, I believe, this bill embraces; and to urge the desirability of adhering strictly to that purpose, and of so amending our statute that no one can doubt that we have fully and fairly complied with the act of congress.

THE FUND A TRUST FUND

That the fund is only a trust fund is shown by the first section of the act of congress granting the endowment. This Act of Congress is not found in

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the revised statutes of the United States, but is found in volume 12 of the statutes at large and at page 503. The first section begins with these words, "That there shall be granted to the several states for the purposes hereinafter stated, certain lands," etc. Thus, at the very outset of the act it is specified that the lands are not given to the several states to become the property of such states, but to be used by the states for a specified purpose; and then in the second section of this act, to make it more emphatic, it says that the proceeds of the lands and the land scrip which constitutes the entire fund, shall be applied to the uses and purposes specified in this act and for no other purpose whatever, and section three of the act provides that the entire proceeds of the lands shall be applied without any diminution whatever to the purpose hereinafter mentioned. Section four provides that the interest of the fund shall be inviolably appropriated for the purposes of the act. Section five provides that if any part of the fund, principal or interest shall be lost it shall be replaced by the state. The act then provides that no part of the fund shall be invested in perishable property. One-tenth of it may be invested in farms for the use of the college, but all buildings shall be built and kept in repair and furnished by the state, and the state must pay all expense of managing the fund. So that the fund, which is a trust fund in the hands of the state, shall be kept absolutely intact and the interest thereof applied for the one specified purpose set forth in the act itself. Now the state was not obliged to accept that trust, but it did so, and I contend it should be faithful to it, and apply the interest of the fund with absolute fidelity to the purposes for which it was intended, and I further insist that any other course may endanger our right to the fund itself.

THE PURPOSES OF THE COLLEGE,

as defined in the act of congress, and for which it says the interest of the fund shall be inviolably applied, is to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life. This is the exact language of the act, I will read all that part of section four which defines the purposes of the act. This is the only section in the act which specifies the purposes of the grant and the purposes, when mentioned in other sections of the act, are spoken of as the purposes specified in section four. Section four reads as follows:

"The entire interest thereof," meaning the fund, "shall be inviolably appropriated to the endowment, support and maintenance of at least one college, the leading object of which shall be, without excluding other scientific or classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and mechanic arts in such manner as the legislatures of the states may respectively prescribe, in

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order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." As the Grecians prescribed an education and a training for their youth, in order that they might become the greatest heroes of the world, so would it seem that the author of this Act of Congress undertook to provide an education for the toiling sons of America that will enable them to attain to the highest possible citizenship,—not soulless bodies nor bodiless souls, but men who are strong physically, mentally and morally; men who by labor are allied to the laboring masses and whose learning enables them to grapple with all the questions of business, of science, and of state. All the great men of this country have come from the industrial classes, and this Act undertakes to place learning within the ready reach of that class upon which a free country must depend, not only for its producers, but also its statesmen and its soldiers as well. Hence this Act provides that the purpose of the Act shall be the liberal and practical education of the industrial classes in the several pursuits and professions of life, thus educating the sons of toil to the performance of duty that a citizen of a free country may be called upon to discharge. It provides that the college shall teach those branches of learning that relate to agriculture and the mechanic arts, but not to the exclusion of the classics and such other sciences as are necessary to a liberal and practical education. It wisely leaves it to the legislatures of the several states to say how these branches of learning shall be taught, but specifies that it shall be in such manner as will best promote the liberal and practical education of the industrial classes in the several pursuits and professions of life. Believing that each state may most wisely prescribe the methods of instruction that will best promote the liberal and practical education of its own industrial classes it leaves that discretion to the state, but it takes care to put it in those expressive words: "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 of life." It recognizes a fact well known in educational science that in order to give a person a practical education you must specially educate him in those sciences which relate to his calling. In order practically to educate the agricultural classes (for they are industrial classes) you must educate them specially in those sciences which relate to agriculture, but in order liberally to educate the agricultural classes you must educate them not only in the special sciences which directly relate to agriculture, but also in those sciences which show the relations of agriculture to all other pursuits and professions, and also to the government itself, upon which all pursuits, and happiness itself, depends. Now the Act says liberal and practical. It says both. The college must educate these classes not only in agriculture, but in all those matters

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that are essential to the well being of agriculture and of the country at large. It must educate the youth not only to successful agriculture, but to the highest citizenship as well. Thus the act requires that the liberal and practical education which it provides shall not be alone in the agricultural line, and the mechanical arts, but that it shall be in the several pursuits and professions of life. The act specifies it. It leaves no doubt. It speaks in unmistakable language. It acknowledges the usefulness and necessity of the several pursuits and professions in life, and also the desirableness of having those pursuits and professions filled by men who are well educated in, and who are in full sympathy with, the agricultural and mechanical interests of the country. I have accustomed myself, when desiring information, to go to those who could be presumed to be best informed in the matter concerned. I have therefore written, or rather telegraphed, Hon. Justin S. Morrill, one of the present United States Senators from Vermont, for an interpretation of the fourth section of this act. He was the original author of the bill that finally became enacted into this law. Mr. Morrill received a liberal education, and began life as a merchant, and was a successful business man. He quit the mercantile business, however, and began agriculture, not because he was educated for an agriculturist, nor that he could succeed at nothing else. He took up the pursuit of agriculture just as any free American should take up any pursuits. He took it up because it was his free choice. He was a very successful agriculturist and later was elected by the class of people which he joined to represent them in congress, and nearly if not quite a quarter of century he has been retained in the one branch or the other of the national legislature. Soon after entering congress he conceived the bill that finally became this law. He is now an old man, but he writes me this letter, which I am glad to be able to read to you. It is as follows:

UNITED STATE SENATE,
WASHINGTON, D. C.

FEB. 11TH, 1884

Dear Sir:—Senator Allison has handed me your telegram asking for a history and interpretation of section four of the Agricultural College Act, especially the clauses about not excluding the classics and other sciences, and the clauses to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life. Of course I have not time to give you anything of the history of that act. It was intended to apply to states where the colleges would have large funds as well as those having very small sums, and it was intended also that a considerable prominence should be given to the practical sciences, such as are related to agriculture, chemistry, botany, etc., but it was not intended to limit the amount

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of education in any way so as to prevent a college from having the means and the efficiency of even a university as to languages and mathematics.

JUSTIN S. MORRILL

Hon. P. M. Sutton, Des Moines, Iowa

Each state was given 30,000 acres of land for each senator and representative in congress; so some of the states, like Rhode Island and Delaware, received very small endowments, while such states as New York and Pennsylvania and Iowa received munificent grants. The general government could not prescribe just what method could be best pursued in each state in order to attain the common object, but it could prescribe what kind of instruction should be given, and it did so in unmistakable terms.

Mr. Morrill says it was the intention to give prominence to the industries, but not to prevent states having a sufficient fund to give the school the efficiency of a university in the languages and mathematics. The education must be practical, and just as liberal as the funds of the state will permit. Now, I insist that Iowa with a fund of three-quarters of a million of dollars, has no excuse for clinging to a narrow course of study, for this is its richest and should be its best school. Its pupils should be taught agriculture, together with such other studies as will give them a liberal as well as a practical education. Or, in other words, the purpose of the grant as made by congress, and as accepted by the state, should be adhered to with strictest fidelity and without any attempt to avoid it.

There is a disposition among trustees to make trust funds their own. When an agent appropriates his principal's money to his own purpose it is a crime. When a trustee diverts the funds in his hands from the purpose for which he received them, he betrays the trust which he promised to perform. It has been contended that an endowment for a special purpose in the hands of trustees gives the trustees a discretion, but it is settled that the discretion thus conveyed pertains only to the manner in which the trust shall be performed, and not to changing the purpose of the trust. This was one of the doctrines settled in the celebrated Dartmouth College case. In that case the state of New Hampshire, in its sovereign capacity, sought by an act of legislature to change not only the board of trustees, but also the character of the college, and after one of the most remarkable contests of the kind in history, the supreme court of the United States decided that even a state had no right to divert a trust fund from the purpose of the trust. When a great fund is placed in the hands of trustees for special purposes it is but natural that they should claim a degree of freedom in the performance of their trust; and too often this freedom is abused,—not always with a wilful

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intent, but with an honest belief that they can better judge to what purposes the funds should be appropriated than he who made the appropriation. In this way the trustee forgets that he is only a trustee; forgets that he is only using the fund of another; forgets that the donor who made the appropriation alone has the right to say for what purposes and what purposes only the fund shall be used, and in place of performing the trust for the purposes for which it was made, misappropriates it to purposes of his own. Every trust has two elements its means and its purposes. When we accept the means belonging to a trust we accept also the purpose of the trust. We are trustees only so long as we are true to both. The means are given not to us but to the purpose. They belong to the purpose, and whenever we abandon the purpose in any degree we misappropriate the funds.

It is remarkable to what measures donors have resorted in order to prevent the misappropriation of funds which they bequeathed to special purposes. Some have been very eccentric. Perhaps one of the grandest endowments ever made in this country was that made by Stephen Girard for the education of orphan children. It was a bequest of millions. His whole thought and purpose was to rescue the fatherless from want and neglect and fit them for usefulness, "to feed the hungry and clothe the naked," to minister unto the wants of the needy. He was the good Samaritan that Christ commended, and yet he provided that his college for the education of the fatherless should be surrounded by a wall, and that no minister of Christ should be allowed to enter upon the grounds.

The class he excluded were the best class of people the world has ever known. The clergy of the country, who devote their lives, regardless of compensation, to the good of mankind, and yet this most devoted class is prohibited from the grounds of Girard College because it was feared that in their devoted zeal they might seek to divert the college from the one purpose he had in view—that of educating orphan children without teaching the doctrines of any particular creed. Knowing how liable the states might be to mistake the purpose of this grant, and how natural it would be for some to desire to substitute a purpose of their own for the one specified in the law, congress took every precaution to guard against any perversion of the fund, and made every possible provision to bind each state to the practical and liberal education of the industrial classes in the several pursuits and professions. Congress could not build a wall around these colleges, but it did everything that it could do; and yet I think I will show you that before we fairly got possession of these lands we sought to avoid the plain purpose for which they were given. Now a bequest from the general government should be just as sacred as that from an individual, and the state that receives it for a special purpose, should be just as strict in adhering to that

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purpose as any board or body of men. If our statute then fails to provide a course of study such as is required by the Act of Congress, we should not hesitate to correct it, and it should be put in such plain terms as to be unmistakable as the Act of Congress itself. Section 1621, I contend, does not at all comply with the Act of Congress as to a course of study, and it fails to state the object of the college in terms either general or special.

All that is said in our entire statute as to the purpose of this college is in section 1604 of the code, and in the following words.

"The lands, rights, powers and privileges granted to and conferred upon the State of Iowa by the Act of Congress, entitled "An act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts, approved July 2, 1862, are hereby accepted by the State of Iowa, upon the terms, and conditions and restrictions of the said Act. And there is hereby established an Agricultural College and model farm to be connected with the entire agricultural and mechanical interests of the state."

So it will be seen that the only part of our statute which at all undertakes to define the purpose of the college, simply copies the title of the Act of Congress and omits for some reason that part of the Act, the body of it, which defines plainly the purpose thereof to be "liberal and practical education of the industrial classes in the several pursuits and professions of life."

The statute, which should comply with the Act of Congress, only says the college shall be connected with agricultural and mechanical interests of the state, but it fails to say how it shall be thus connected with those interests, or how those interests are to be benefitted. Now the Act of Congress specifies exactly how the agricultural and mechanical interests are to be benefitted, and that is by promoting "the liberal and practical education of the industrial classes in the several pursuits and professions of life."

It is true that the statute refers to the Act of Congress by its title, and says that the endowment is accepted upon the terms, conditions and restrictions of said act. If it then had stopped, or had copied the provisions of the Act itself, it would have been better, but it states a purpose or provision that is not in the language of the Act, and that permits the purpose, as stated in the Act of Congress, to be altogether misunderstood. That the college shall be connected with the agricultural and mechanical interests of the state, and all of them, is not enough. An exposition might do that, a school in which nothing but agricultural and mechanic arts were taught might do as much, but neither would be the purpose specified in the Act of Congress, for that purpose in express terms is education in the several pursuits and professions.

It may be that the legislature of 1862 thought that they could better

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benefit agriculture and the mechanic arts, in some other way than by educating farmers' sons and daughters in the several pursuits and professions, and it is possible they might; but they have no right to convert these lands to their own purpose when the very law under which the lands were accepted specifies another purpose.

The congress of 1862 evidently thought that agriculture and the mechanic arts could not be better benefited, than by so educating the agricultural and industrial classes, that they might be qualified to discharge any and all of the duties of life; and it was to this purpose that the lands were dedicated, and from that purpose we have no right to divert them.

Now, Section 1621, of the code, which provides a course of study and practice in said college shall include the following branches: Natural Philosophy, Chemistry, Botany, Horticulture, Fruit Growing, Forestry, Animal and Vegetable Anatomy, Geology, Mineralogy, Meteorology, Entomology, Zoology, the Veterinary art, Plain Mensuration, Leveling, Surveying, Book-keeping and such mechanic arts as are directly connected with agriculture; also such other studies as the trustees may from time to time prescribe, not inconsistent with the purpose of this act."

Why say "not inconsistent with the purpose of this act?" Why not say "not inconsistent with the purpose of the Act of Congress?"

I can see no reason, unless the legislature conceived a purpose different from the purpose specified in the Act of Congress. And it seems quite plain they did. Now the Act of Congress specifies two industries that it intends to benefit, agriculture and the mechanic arts, It nowhere subordinates the one to the other, but this section says: "Such mechanic arts as are directly connected with agriculture;" thus confining the benefits entirely to agriculture alone, and that which is directly connected with it.

But this is not the only divergence. This section specifies sixteen sciences and book-keeping and then stops short, except to say that the board of trustees may adopt such other studies as they from time to time may specify, not inconsistent with "the purposes of this act."

Now, the only purposes anywhere specified in this act—that is, the statute, is to establish an Agricultural College and model farm, to be connected with the entire agricultural and mechanical interests of the state. Then it excludes all mechanic arts except those directly connected with agriculture. So no study can be consistent with the purposes of this act of the legislature unless it serves to connect this agricultural college and model farm with agricultural interests, so that under the code everything is excluded except that which relates to agriculture, while the Act of Congress specifies that no study shall be excluded, not even the classics.

Now this act of the legislature expressly excludes the classics, and

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literature, and history, and other sciences that are necessary to learning and general usefulness, unless they serve directly to connect the agricultural college and farm with the agricultural interests of the state.

There seems to be running all through this statute an intent to serve some other purpose than the plain, unmistakable purpose of the Act of Congress and I think I can account for it without charging anyone with a wilful intent to evade the purpose which congress so carefully and expressly defined; at least I hope I can. I should be sorry to think that any one had been so dishonorable or so unwise, as to attempt to subvert a purpose so noble as that which congress has specified. The course of study now specified in the statute, and the purpose defined in the code, were both formulated by the legislature four years before the Act of Congress became a law. Neither one was formulated with reference to the Act of Congress, but were created for another and earlier enterprise, and were afterwards, without the change of a word or a letter, injected bodily into the provisions of the Act of Congress. It is not strange, therefore, that they should not be in keeping with it. The legislature of 1858, four years before the Act of Congress was passed, created by statute an Agricultural College and model farm, and specified its purpose, and formulated its course of study, and elected a board of commissioners to buy a farm and to erect a college, and also elected a board of trustees to select a faculty and to organize a college. This college and farm was entirely an Agricultural Institution. The statute of 1858 creating the same said. "There is hereby established a State Agricultural College and model farm, to be connected with the entire agricultural interest of the State."

There was nothing said about its being connected with mechanical interests at this time. It was a college for the sole purposes of agriculture and called the Agricultural College and farm, and from the date of its creation it was four years and a few months old when the Act of Congress passed, donating public lands to such states as would provide colleges for the "promotion of liberal, and practical education of the industrial classes, in the several pursuits, and professions in life." It was four years old and under charge of a board of trustees who had been appointed because of their known sympathy with the purpose of this purely Agricultural College and Farm. After they were thus appointed, it may be fairly presumed, that they became enthusiastic in the purpose for which the college was established.

Now the Act of Congress was passed July 2, 1862, when this college and farm was little over four years old. It was to create a college for the purpose of benefiting agriculture and the mechanic arts, by educating the agricultural and mechanical classes liberally for all the pursuits and professions

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in life. The Agricultural College board must have seen that the colleges required by the Act of Congress were to be for the benefit of agriculture, but it must have overlooked the kind of benefit it proposed to bestow upon agriculture. And the legislature, which met in special session on the 3d day of the following September, must have made the same mistake. The board wanted these lands, worth now more than half a million of dollars, but to do that must they give up the Agricultural College and farm connected with the entire agricultural interests of the state, for the purpose of a college of liberal education in all the pursuits and professions as provided in the Act of Congress? That question had to be solved. For this Act of Congress provided that those lands should be given to such states only as provided colleges for this liberal education, and should be used for that purpose alone and no other. The board wanted the lands, but it was hard for it to give up its pet ideas of special and technical education. The honorable gentlemen who composed that board, had planned a purely Agricultural College devoted wholly to agriculture, which they no doubt had good reason to believe would best benefit agriculture and stand as a lasting monument of what they had done for the greatest of all great industries. The college was their pride, and justly so. They had made it, and they had built their hopes upon it, and they wanted to see it stand just as they had planned it. But they wanted these lands. Now there came a struggle, and I have no doubt it was an honest one, but I must contend it was not a successful one. They desired to be the trustees of this great trust from the government, but wanted to avoid the plain expressed purpose of the trust, which was a liberal and practical education in the several pursuits in life, and misappropriate it to special and technical education in the sole pursuits of agriculture and such mechanic arts as are directly connected with agriculture. The legislature undertook to help the board out of their dilemma by getting up an act which would seem to turn the Agricultural College over to the purpose required by the Act of Congress and yet retain to the old college its original character. Now we will see if they succeeded. They took a part of the act of the legislature of 1858, and thus sought to unite the two so as to appear to embrace the provisions of both. I say that I have no doubt that it was an honest attempt, but I do say it was not a successful one. It was unsuccessful because it was impossible. They took out of the title of the Act of Congress, keeping well clear of the body of it, "colleges for the benefit of agriculture and the mechanic arts," and then took out of the act of the legislature, a "State Agricultural College and model farm, to be connected with the entire agricultural interests of the state," and then put these two together and adopted word for word the course of study prescribed in the act of the legislature, and thought they had solved the ques-

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tion. But in place of providing a college for "the liberal and practical education of the industrial classes in the several pursuits and professions in life," they only provided a college for technical education in the sole pursuits of agriculture, for here is the whole statute on this matter: "There shall be established an Agricultural College and model farm, to be connected with the entire agricultural and mechanical interests of the state, where nothing shall be taught except agriculture and that which directly connects the college and farm with the agricultural interests of the state." They had to insert the words "mechanic arts," but for fear they would rob the college of its exclusively agricultural character, they restricted the mechanic arts to such as were directly connected with agriculture. It would seem that the legislature could not have read more than the title of the Act of Congress. They seemed to think that all they were required to do was to provide a college that might in some manner benefit agriculture and the mechanic arts. After they had thus united in one a part of the Act of Congress and a part of the old act of the legislature they were satisfied. They read in the title of the act "Colleges for the benefit of agriculture and the mechanic arts." And from the old act of the legislature, "A college to be connected with the entire agricultural and mechanical interest of the state." Now, they reasoned, that if this college is connected with these interests, it will be a benefit to them, and, therefore, it complies with the Act of Congress, which in its title says, "Colleges for the benefit of agriculture and the mechanic arts." They stopped too soon. You can tell very little about the Act of Congress by simply reading its title. Had they read the Act of Congress through they would have seen that it required a particular and specially defined benefit for these industries. When the state accepted this trust it undertook to confer upon the industrial classes the one special benefit which the act defined—that of liberal and practical education in the several pursuits in life. The legislature of 1862 entirely overlooking the purpose of the Act of Congress, entirely ignored it and substituted in place of it the purpose of the old state college created by the legislature of 1858, and thus misappropriated the funds which the state received. I am not here to say that the Agricultural College has not been a benefit to agriculture and the mechanic arts, but I am here to contend that the purpose of the Act of Congress is different from that adopted by the legislature. Agriculture and the mechanic arts can be benefited in different ways. For instance, by schools of invention, by agricultural stations, by agricultural fairs and in many ways different and diverse. If the Act of Congress were silent as to the character of the benefit required, then we might consider whether some other kind of benefit might not do, but the Act of Congress is not silent. It speaks aloud, and it speaks with no uncertain sound. It says

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the benefit required is such as "to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

Now, I have no quarrel to make with the honorable and philanthropic gentlemen who started out to give to Iowa an exclusively agricultural school. I have my own opinion whether any school can be made useful which is devoted technically to a single pursuit. These gentlemen had their opinions also, and they had a right to their opinions, and they had a right to insist that the one single purpose of the college should be strictly adhered to until they themselves turned it over to another and more liberal purpose. They turned the college to another and broader purpose in order to secure to it a great endowment. This endowment, however, was accepted upon the express condition that every dollar of it should be inviolably appropriated (that is the language of the law) to the promotion of the liberal and practical education in the several pursuits, and professions; and our Agricultural College today has no other fund whatever, except the fund we agreed to so appropriate. The whole plan of the congressional agricultural college was liberal and practical education. The plan of the old state agricultural college was technical and exclusive education. The two plans were entirely different, and when the legislature interposed the plan of the state college and applied this fund to its exclusive use, the legislature misappropriated these funds.

The one plan was for an exclusive and special education in a single pursuit and the other for a liberal education in the several pursuits. One was to teach exclusively agriculture and the other to teach such branches of learning as related to agriculture and the mechanic arts, together with such other studies as would give to the industrial classes a broad and liberal education. I say it was unwise to attempt a compromise between two plans, so absolutely different, and it has proved to have been very unwise.

By thus attempting to unite two plans so adverse in their character we have a plan partly of one and partly of the other, and still not wholly either the one plan or the other. It leaves it so that the friends of each plan can contend for conflicting measures. And for this very reason there has been an irrepressible conflict in this school. The energies of the school have been divided, and much of its strength exhausted in unfriendly and fruitless contention. Were it not too serious it would be almost amusing to witness the struggle that has gone on in this college between the old plan and the new. We would see one set of men reciting the Act of Congress and construing it for broad and liberal education, and then another set reading the act of the legislature and clinging with all the fondness of a father to the old farm. One side would read from the act of congress: "The branches of learning relating to agriculture and the mechanic arts, without "excluding"

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anything, not even the classics, necessary to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life, and then insist that the funds devoted by the act of congress should be used for the purposes as herein set forth, and would beg that History and Literature might be made regular studies in the school so that the students could be taught the history of agriculture, the history of liberty, the history of their country, the history of all great causes, and the history of the world's great men. The other side would read from the act of the legislature the course of study provided for the old Legislative College of 1858, as follows: Mineralogy, Meteorology, Entomology, Zoology, Geology, etc., and such other studies only as will directly connect the college with the agricultural interest of the State, and that side would insist that History was a dangerous study that led the youths to long for other than agricultural pursuits, and thus would they contend for absolute technical agricultural education. To this day there is not a word of history to be found in any one of the five studies in this college for young men. Young ladies are allowed nine weeks of History, but no young man need apply. It seems to be concluded, I presume, that girls will read something besides Mineralogy, Geology, Entomology, Meteorology and Zoology, anyway. Girls will read, but they seldom read Geology, and so for fear they might read something worse, they give them a few weeks of History.

It has been suggested that History is properly a preparatory study, but it is not. It may be contended that History should be completed before entering college, but it cannot be. The best colleges and universities of the country admit it. There is not a respectable college in the country but makes History one of its leading and most essential studies. It is studied in our own State University for two years and a third out of the four years course. In the Illinois Industrial University, established under this very Act of Congress, they have an extensive course in History. This is what they say of it: "Our historical studies are designed to afford a general view of the history, social organization, and progress of the race. They embrace also the history of the arts and sciences, and of civilization, the principles of civil policy and law, the philosophy of history and the principles of political economy and constitutional law." And their course in History embraces the history of Greece, Rome, Mediaeval History, Modern European History, History of England, History of the United States, and History of Civilization, and this school was founded under the same Act of Congress that gave us our lands. Illinois, in her Industrial University, has shown a just conception of what the act means when it says "liberal and practical" education, and all these studies are taught in the Junior and Senior years in the Illinois Industrial University. Instead of being considered as only pre-

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paratory studies they are taught in the last half of the college course, when the student is best competent to give to the study of history that thought and reflection which it so richly deserves. In Cornell University, another college endowed by this Act of Congress, they began history in the spring term of the Freshman year, and continue a most complete course in Ancient, Modern, European and American History until the close of the Junior year, there being three Professors in history including President White. The University of Michigan has a very extensive course of history for its advanced students, closing with a history of political ideas and taught by Dr. Angell, the President of the University. This idea that History is a preparatory study is all wrong. Everything else might better be said to be preparatory to history. Old Harvard is not above teaching plain history. In her course of study we find mediaeval and modern European history, Roman history to the fall of the Republic, later Roman history and early Mediaeval history, the general history of Europe, the constitutional and legal history of France and of England, the history of the United States, political and constitutional. History is not only absolutely essential to learning but history may be said to be learning itself. Learning without history is Hamlet with Hamlet left out. The only learning that the artists of this capitol have personified is history. They have given us the beautiful picture of America relating her history. There is nothing that America is so proud of as of her history. Nothing so inspires the American heart to high ambition as the study of American history, and yet we have a college pretending to give a liberal education with her doors locked against history.

Now is this liberal education? I ask you is it even practical education? What is practical education? It certainly is not a bare technical knowledge of physical science. A man may read the rocks and all of the lessons they teach, and study the flowers till he can call them all by name, and be able to analyze all the minerals and measure their component parts, and be able to give the name and character of every specimen of animal or insect life and still not be able practically to apply his learning to the solution of a single problem in life. The German nation is a nation of scientists, who are possessed of most profound learning, but it is technical and in no degree practical or liberal. The learned men of Germany should have been its rulers, and would have been, had their schools been practical and liberal. The German schools have been technical. The German education has ever been of the most technical character. It has made profound scholars in the technical sciences, but it has failed to develop great men in the affairs of life or of state. It spent itself in the solution of abstract questions until Germany retrograded into absolute and iron monarchy. The framers of this great educational law were not in favor of that kind of

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education. The framers of this bill intended to educate the American sons of toil in all the affairs of life and state; to make them strong and trustworthy freemen, learned and capable freeman, free to choose the pursuit or the profession in life that God made them, and each of them, to fill, freemen possessed of a practical and liberal knowledge of the great industries of our country and a knowledge that should reach beyond these industries to the country itself. Such an education as may fill every useful pursuit and professions of life with men who understand our industries, our country and our people. The sons of toil when blessed with learning have always been our strongest and truest men. The framers of this law looked beyond the farm and forge, and saw their country and sought to prepare the sons of toil for every duty essential to their country's good. Otherwise why did they say these schools should teach military tactics?

If the purpose of these schools was to teach agriculture and the mechanic arts alone, why say they need teach warfare? It was because they intended these schools should teach the strong arm of labor to be strong in the cause of freedom as well. They were intended to open the eye of the toiler, to see his heart, to feel his hands and to uphold the country and its flag. These schools were not intended for technical education alone. The act says so. It says liberal and practical education. It was not intended to make farmers and mechanics alone, for it says so. It says the several pursuits and professions. It leaves no doubt about it. The framers of this law saw among the toiling sons of America what the poet saw in the country churchyards, "mute inglorious Miltons, Cromwells, guiltless of their country's blood." They saw them in the morning of life, however, with grand fields of usefulness lying open before them, fields which learning alone could place within their reach. The world's great men have been learned men. The object of this law was to place learning in the easy reach of honest ambition. The history of this country is full of instances in which men have been compelled to spend a great part of their lives in first acquiring the learning that fitted them for the field of usefulness to which they aspired. Such a man was the great and successful champion of this law, the son of a revolutionary father, who, after a most heroic and long-continued struggle, became at last the learned scholar, jurist and statesman—Benjamin F. Wade. Had Andrew Johnson been impeached he would have been president of these United States. He was only a poor farmer's boy. But his father had fought under Washington. This boy heard from his father's lips what freedom cost and what it meant, and he read its history. This farmer's boy read history, the history of the world, the history of mankind, the history of freedom, the history of great struggles, and the history of great men, and he longed for opportunities beyond his reach, for opportunities that learning alone could

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give, and then he longed for learning itself. There were colleges then as there are now, but then as now there were no colleges where a poor boy could go unaided and complete its course. Charity, it is true, had educated many, but Ben Wade was as proud as he was poor, and while God gave him hands to work he refused to beg. Like Abraham Lincoln he taught himself by the fires at night between the labor of the days, and was 28 years old before he had acquired the necessary learning to be permitted to enter upon the profession of the law—the ambition of his life—28 years old; just the age of Wm. Pitt when he was acknowledged to be the ablest lawyer in the world. When Benjamin F. Wade saw that in the bill for this act there was an effort to place learning within the easy reach of all the sons of toil—liberal, practical learning—he became at once its champion, and to him more than to any other one man do we owe its enactment into a law. It was a hard, long struggle, but it succeeded at last. It passed both Houses of Congress in 1860, and was vetoed by James Buchanan. The friends of the measure, with Wade at their head, pressed its cause again in the next Congress, and when it passed again Abraham Lincoln was President; a man who, unaided and alone, climbed from the lowest to the highest round in the ladder of learning. He signed the bill, and blessed it, and made it a law, and thus placed all the pursuits and professions in life in the easy reach of the laboring millions. What a grand provision! Useful professions are filled today by incompetent men whom nature never intended for the places, and who entered these professions simply because an education permitted them to do so. And many and many a naturally great man has been kept from great accomplishments just because a want of learning has shut the door to usefulness against him. Educate the toiling masses, not narrowly, not technically, but practically and liberally, just as this law provides, and then the industrial and agricultural pursuits will be as inviting to educated men as other pursuits, and the other pursuits and professions will be as open to the agricultural and industrial classes as any other. Men will be farmers then not from compulsion, but permitted, as he ought to be, freely to choose the pursuit for which he believes himself best fitted. It was not intended that the industrial classes should get their education half at these schools and half somewhere else. A college is not worth the name unless it gives a complete education. Liberal education means complete, well-rounded and practical education, and education that does not embrace a thorough and continued study of history and English literature is narrow, one-sided and technical. It is wrong to say that the student must learn his history before he enters the schools. Where will he learn it? Where can he learn more than a smattering of it? And what can be more valuable to any one in any pursuit than a full, complete and philosophical knowledge of history? What

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can a knowledge of rocks and insects, and meteors and minerals, give to the farmer that will compensate for the loss of history, and the loss of the world's literature—the one relating the events and the other embodying the sentiment and portraying the beauty of the ages? Why shut out all this from the sight of the youth and give him nothing that can supply its place and usefulness? Why, I ask you, shall we prescribe a course of study so filled with Mineralogy, Geology, Entomology, Meteorology and Zoology, that history and literature cannot be given a proper place? I asked the faculty of the Agricultural College when there as a member of your committee what possible reason they could give why history had been absolutely and literature practically banished from the school. They did not pretend to defend the fact. They all expressed themselves as regretting it, and excused it only by saying that the statute imposed upon them the course of study—so much of Mineralogy, and Geology, and Entomology and Zoology, and Meteorology, and the like—that there was no room for History and but little for Literature in the four allotted years. These colleges were intended for colleges of learning. It provides for the teaching of “branches of learning” that are settled and known. They were intended for colleges of learning just as broad as the funds will permit, even, as the author of the Act says, to the efficiency of a complete University. Our Agricultural College is altogether the best endowed institution of learning in the state, and we should not narrow or dwarf its powers. We should make it what it was intended to be and what it is so well capable of becoming, the most liberal and most practical institution of learning in Iowa. But it may be asked if this college is to be a college in which only the leading branches of learning shall relate to agriculture, and from which the other branches of learning shall not be excluded, how is it to be different from other colleges. Even if this college were no different from other colleges it would be no reason why we should violate the plain letter of the law that endowed it. We should faithfully perform the trust, and not seek to avoid its plain provisions. But it is different from other colleges. It is to be very different indeed. True it is that the state and country are full of colleges of general instruction, but they are not full of colleges in which the leading branches of learning are related to agriculture; nor colleges that are in any great degree such colleges as this Act of Congress requires. A poor boy who goes unaided through the common colleges of the country, is looked upon as a hero. It is so hard to do, and we have but few who have ever attempted to do it. The great Garfield was one. But how many Garfields have we? He earned his way by dint of perseverance. From necessity, for health, and for the love of it, he chose to work. He built the fires and cleaned the floors, and did the servile work about the college. There was no other kind for him to do. It might be said of him that he

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swept the very stairs that led up to learning in order that he might climb its steps. These common colleges furnish no labor to speak of, and what little they do furnish is of the most servile kind, and few enter them except those whose parents can pay their way. The idea of this new college is to furnish work to every boy. To furnish such work as combined with study will educate the mind and body together, and neither at the expense of the other, wholesome, honest, ennobling work, not scrubbing floors and sweeping stairs alone, but beautiful fields to be plowed and planted, ripened harvests to be gathered in, the finest of cattle to tend and feed, and the noblest of horses to care for and drive, work that the farmer's boy knows how and loves to do, remunerative work, a college where every boy and girl is expected to work, a college where work is made honorable and where work confers a dignity, a college where honest poverty even is welcome, a college where a poor boy can go without a dollar and proudly earn his way, as hundreds have already done, a college where labor can earn not only learning, but the most liberal and practical learning under the sun, that learning which, rightly wedded with labor, made a Franklin possible. He says of himself in his autobiography, "I dressed plain, and in order to show that I was not above my business I often brought home the paper I purchased at the store on a wheelbarrow." Thus did he court the honest name that labor always gives. Thus did he labor as he studied, and Harvard and Yale conferred their most learned degrees upon him and all Europe hailed him the philosopher and scholar of his age, and better than all this the laboring millions of the world claimed him as their common brother and friend. But this labor that the new college furnishes is not the only difference. The common college is in the city and in the towns, where baneful influences make hazing possible. The new temple of learning is a country home, which has always been the object of deepest love, and the subject of gladdest sentiment. Virgil's gladdest and truest verse was that in which he enshrined the Roman country home. In all ages and in all lands the country home has been the object of most sacred admiration and of deepest love. Heaven seems a little nearer there than any other spot on earth. And how lasting are the influences of a country home! They cling to us through all the after years. The Washington of the fireside, the field and the wood, was the same Washington that was first in war, first in peace, and first in the hearts of his countrymen. In his country home he learned to pray, and afterward, when general of all the armies, and while his armies slept, he would seek the seclusion of the wood, and commune in prayer with the God that rules the world. And when at last the work of his life was done, and the palaces of the world were eager to welcome him, he turned away from them all, moved by an influence greater than they all possessed—the influence of

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a country home in his early years. When the sentiments and habits of young men are being formed, how grand the thought to have them ever surrounded by the lasting sublime influences of a country home. When I visited our Agricultural College last fall, and saw its beautiful fields and herds of cattle, its lawns and its woods, and its commodious buildings, and its laboratories and libraries, and contemplated its magnificent endowment fast nearing a million, I thought I could see the possibility of one of the grandest institutions of learning that the world has ever known—a grand temple of learning where learning shall lead labor by the hand, and confer upon him all her manifold blessings. A college that may carry the broadest of learning into every toiler's home, and that may prepare the sons of toil for the broadest possible usefulness to all mankind. The providing of such a college I believe it to be the true purpose of the Act of Congress that gave us these lands. I believe by the acceptance of these lands we have pledged the honor of the state to the maintenance of that purpose alone. To that end I have in good faith offered the bill to which I have called your attention, and perhaps at too great length. I believe it truly and wisely settles the purpose of this college, which, for the good of the college, should have been settled long ago, and which cannot be settled too finally nor too soon. To the provisions of this bill I invite the conscientious and careful consideration of this honorable senate.

APPENDIX FOUR
A PLAN FOR THE NEW CAMPUS¹

The Olmsted Report

☆ ☆ ☆

JUNE SECOND, 1906

DR. A. B. STORMS,
PRESIDENT OF IOWA STATE COLLEGE.
Dear Sir:—

Having visited the Iowa State College and having conferred with you and other members of the faculty and of the Board of Trustees, as to the probable future requirements of the College, we submit the following report.

We find that the main college campus is unusually large and beautiful.

We learn that when the college was started its first president, realizing that the bare prairie land, however beautiful in itself, was not attractive in its bare state as the setting for the College buildings, and feeling the need of shade, of relief from the glare of an unbroken sky, and of shelter from the fierce prairie winds, studied landscape gardening and directed the planting of the grounds with trees.

The original plan appears to have been the simple and natural one of housing the college at first in a large long building. It was located on the highest available spot, with its long axis north and south and faced east so as to command a good view down a gentle slope, across a wide grassy river bottom, toward the object in the vicinity having the greatest human interest, namely the little town of Ames, embowered in trees.

The gently sloping lawn east of the Main Hall was left mainly open, but was framed in, diversified and beautified by planting irregular masses of trees north and south of it. Care was taken to preserve vistas from and toward the Main Hall and sufficient, irregular open spaces were left in the more extensively planted southern part of the grounds and elsewhere for varied effects. A sheltering wind screen of trees was also planted along a north and south fence line a few rods back of the Main Hall.

The trees so planted have now grown to practically mature size and what can readily be inferred to have been the designed landscape effects have been duly realized. They are simple and beautiful as everyone who visits the

¹Manuscript in the Iowa State College archives.

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grounds must at once appreciate. The first general plan was well conceived and served admirably for years.

The first modification of the plan necessitated by the growth of the college was not at all a serious one. When some additional minor buildings were to be built, they were located south and west of the Main Hall where they did not at all interfere with the central, open landscape.

The second modification of the plan occurred when several additional buildings of more ambitious architectural design and more imposing height and mass than those last above referred to came to be built. These were located north and northeast of the Main Hall and were boldly made to take every landscape advantage of the great central lawn by being placed in its borders and faced east and south upon it.

The third modification of the original plan occurred when the large Dairy Building was located at the east or lower end of the great Central Lawn and faced west upon it. This large building has practically obstructed the only distant view and has had the effect of frankly closing off the landscape connection of the great central lawn with the broad, open slopes and extensive meadows beyond (east).

The fourth modification of the original plan occurred when the large and imposing Engineering Hall was placed well back of the Main Hall, yet not directly back of it, the idea being that there would be some view of the central lawn from it and that it would be seen from many parts of the central lawn.

The plan so inaugurated and modified was similar to that followed at the Ohio State University and at Lawrenceville School, namely, a naturalistic park having a central lawn diversified in grades and by groups of trees and single trees surrounded by picturesque buildings of irregular plan and masses and free architectural style intended to harmonize with the irregular masses of foliage and with each other. At Iowa State College, however, there had developed a strong reluctance to placing the buildings on all sides of the lawn. This was due, however, more to appreciation of the beauty of trees as such than to regard for the greater and nobler beauty of landscape, for the Dairy Building was permitted to block the principal view directly in front of the Main Hall. However, this is done and with the growth of the College it would have been necessary for some building to be placed where it would block that view.

The fundamental conception of a plan or scheme thus developed is admirable. It is commonly designated the "Park plan" or "landscape" plan, implying thereby a naturalistic landscape treatment. This is an erroneous narrowing of the meaning of both park and landscape, since both a park and a landscape can be absolutely formal and yet be beautiful, although the

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people of this country have, with comparatively few exceptions, had but little experience of beautiful formal parks or landscapes.

The plan as so far developed has been very satisfactory and has been greatly admired and would continue to be so were it not for the difficulties.

First, the trees planted were mainly of soft wooded and short lived varieties, so that every year many are broken by storms and rendered feeble and shapeless by crowding, in consequence of which they are gradually becoming decrepit and succumbing to drought and cold and insects.

Second, the College has outgrown and will continue to outgrow the informal landscape plan through increase in the number of students and teaching force and through differentiation and development of methods of instruction. The result is that many more and much larger buildings are required and in the inconvenience of widely separated buildings is more felt every year, and the lawns are more worn out year by year by the enormous increase in traffic from building to building.

Moreover, a marked change of fashion in architecture has occurred, as a result of which the newer buildings besides being much larger than the older ones are now designed in the exceedingly formal, classic style and with very pronounced symmetry in at least the front elevation. The increased size of the buildings tends to make them out of scale with the trees and lawns and being constantly more numerous the buildings dominate and supersede the comparatively small and modest naturalistic landscape treatment. The formal buildings come to demand, most obviously and urgently formal relations to each other, and their symmetry cries for recognition in the laying out of the roads and walks and plantations among the buildings.

While it seems inevitable that good taste requires that formality and symmetry of design should be increasingly evident in the grounds between and immediately about the buildings it does not follow that the naturalistic park landscape at a greater distance from the aggregation of buildings should not be preserved and extended, particularly in the broken southern part of the campus and wherever the ground is rolling and irregular.

The first difficulty although distressing and important requires only time and intelligent effort unremittingly applied to be overcome. It can be and is being mitigated by gradually cutting the poorer trees and replanting wherever desirable with oaks and long lived trees.

The second difficulty is a great one and while matters have perhaps gone too far to enable an ideal and perfectly satisfactory plan to be devised and carried out, yet if the principles of design and the practical requirements of college business are clearly appreciated and constantly applied, reasonably creditable and satisfactory results can be looked forward to. It will soon strike anyone approaching the problem from this point of view that certain

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of the informally designed buildings will, in time, through the erection of classic style buildings about them, come to have an aspect of incongruity which will imply that they must be removed when the college can afford to do so.

We may mention, by way of illustration rather than as a complete summary, some of the ideas or principles which ought to have careful consideration in connection with planning the grounds and buildings.

First, the students' working buildings should form a central nucleus corresponding to the business center of the town.

Second, the residential buildings should be relegated to an outer zone.

Third, the business buildings should be assembled according to their uses. The main lecture room buildings, corresponding to the office buildings of financial institutions in a town, may be given central and prominent locations, as can also the library, the chapel, the administration office building, when there is a separate one, and others the purposes of which are quiet and dignified and for which a relatively costly and formal style of architecture is appropriate. Those studies which require laboratories, involving disagreeable noises or smells, or for which more or less cheap and temporary accommodations for experimenting or storage and like utilitarian purposes may be needed, from time to time, should be accommodated in buildings so situated that they can have rear premises without offense to the appearance to the grounds as a whole. Some of this class of buildings may often best be a little out of the center, as are usually the factories of a town.

Fourth, the business buildings should be distributed according to the department of instruction. If the buildings were small and numerous rather than large and few, this would often be looked after better than it is with less confusion. In that case there might be a radiating street for each department and as it grew it would naturally expand outward along its street instead of pushing circumferentially into its neighbor's territory. The idea is simple enough and when once appreciated, it will doubtless govern the selection of sites fairly well hereafter.

The Engineering and Agricultural Departments will need most space reserved for expansion, but they should spread outward and not across into the space needed for the expansion of the Departments of Horticulture, of Domestic Science, of the Library, of the Museum, of the Languages, of Elementary Mathematics, Chemistry and other Sciences common to two or more departments, not to mention Physical Culture which so far as it is conducted in a gymnasium ought to be centrally located and to have room to expand.

Fifth, until such time as the appropriations are large enough in proportion to the accommodations to enable buildings to be thoroughly fireproof

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throughout and of first class materials and of dignified size and proportions and style, they should be limited in height, to lessen the danger of loss of lives in case of fire and they should be of modest yet respectable materials, such as brick and unpretentious, yet by no means displeasing architectural design. Taking the country as a whole, there has been a notable improvement in the architecture of municipal schools, while many city halls, county court houses, and we regret to say, many college buildings are pretentious, but obviously very cheap imitations of costly cut stone architecture. Their columns and porticos and cornices and domes and cupolas are but little more durable in material or painstaking in workmanship than the frankly temporary buildings of the World's Fair. College professors should have too much intelligence and taste and love of honesty to endorse wooden or galvanized iron imitations of stone architecture.

Sixth, a sufficient similarity of materials used for the exteriors of buildings and in architectural style should be maintained to secure a harmonious general effect. An almost riotous license has prevailed in many of our most prosperous colleges which has reduced such a hodgepodge of architectural units as to be more distressing to persons of cultivated taste than the architectural beauty of individual buildings is gratifying. Some of these incongruities are being mitigated by tearing down the older and less costly buildings, and the fundamental necessity of a general harmony, with only local and minor contrasts, is far from being recognized by college architects and administrations.

Without going further into principles of design we will record some practical advice which may be of service in guiding the physical growth of the college.

The first difficulty when we come to the application of principle of design is the existence of a dummy railroad right in the ornamental front lawns of some of the most important buildings. It is convenient—very much so—but so are sewers and stables. For the same reason that we intelligent and refined Northerners do not admire the very convenient and economical open sewers in front of the dwellings of New Orleans and other semi-tropical cities, and for the same reasons that we would make its residents averse to an electric railway through Vandeventer Place or Westmoreland Place in St. Louis, or Fifth Avenue adjoining Central Park in New York, all concerned ought to feel willing to accede to the removal of this railroad and to the location of a modern electric railway back far enough of, that is north of, Margaret Hall, to leave room for needed additional working buildings. There could be a break in the lawns between what might be the college campus proper and its outlying dependencies. But to deliberately lay out a new electric railway with its long, heavy, dangerous, noisy, vulgar and

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conspicuous cars, directly in front of handsome college buildings, cutting through their refined and beautiful broad lawns would seem to most intelligent and unprejudiced people an almost incredible yielding of love for the beautiful and appropriate to a blind, narrow-minded greed for utility and personal aversion to even the exertion of walking say 200 yards. If it had not been for the existence of the old dummy road, we doubt if the idea of running a great interurban electric railway close to the fronts of important college buildings and destroying the beauty of the lawns would ever have been proposed, much less ardently advocated or selfishly assented to by professors and students. True, the wishes of professors and students should ever receive respectful and careful attention from the Trustees, but we take it Trustees are appointed not to carry out the will of a majority of the professors or of the students, whatever it may be, but to use their best judgment and to decide in view of the future as well as with regard to present requirements and conditions. Colleges are permanent institutions, as a rule. They grow and change but much of what is done now will aid or hamper, beautify or permanently disfigure the grounds and through them part of the enjoyment of life of untold numbers of teaching force and students for many generations to come. Public opinion and that of the college community would, we firmly believe, always regret the decision (if it should be made) of the Trustees to allow the new interurban electric railway to run through the lawns and among the principal college buildings. The incongruity would inevitably become more marked with the erection of each new large, handsome college building in the future. We earnestly recommend that the location asked for by the new interurban electric railway be not granted, but that a location north of the college buildings that will accord with a reasonable plan for the disposition of future college buildings, such as that we shall now partially describe, be offered them. In closing our professional protest against the location of the proposed electric railway south of Margaret Hall, we beg to assure the Trustees, through you, that the electric railway, if so located, will very greatly interfere not only with the plan for location of future buildings which we shall advise, but we have been unable to think of any other disposition of buildings, that would be satisfactory, that would not be interfered with by the location of an electric railway as proposed. In other words we believe the location proposed was devised to meet present commercial requirements and with little or no regard for any reasonable or suitable plan for the disposition of future college buildings. We certainly could not recommend the Chemistry-Physics Hall to be where we have planned it, if the electric railway is to be there. Various sensitive instruments could not be used and many delicate experiments would be vitiated or become impossible in such close proximity

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to an electric railway. Most likely the college would have to spread its buildings over the beautiful lawn, and into the picturesque park, to avoid the electric railway, if located as proposed.

Hereafter, there should be a more orderly disposition of buildings and if present fashion controls there will be more symmetrical buildings, so that the motives of an architect in squeezing the heterogeneous requirements of the interior accommodations into formal and symmetrical exteriors ought to be followed in the placing of buildings, with respect to each other.

The relation of the Engineering Building to the Main Building is not as formal as it should have been to correspond with the symmetry in design of each of these buildings. The two buildings are parallel with each other but "Staggered," as the mechanical engineer would say, so as to give the Engineering Building a view upon the Central lawn and conversely to enable it to be seen from it. This is an idea and a good one for informal and smaller buildings, such as professors' residences, but its application in the present case is unfortunate in its results. More and probably still larger formal buildings have yet to be located.

We advise that sites for four large buildings be reserved, in two rows, two buildings to be north of Engineering Hall and two North of Main Hall. Let that next north of Engineering Hall be rather near to it, say within about 60 or 80 feet of it. This we think should be a long building, north and south, with two wings, projecting westward, and should be for chemistry and physics, the northerly part being for chemistry.

In the Main Building row there should be a large building with its center directly east of the center of the Chemistry-Physics Hall. This building in continuation of the class of buildings devoted to the Humanities and not requiring laboratories should, we think, be a joint library and museum, so planned that in time the library with its reading and study rooms may take more and more of the building, so that eventually the Applied Art Department may be moved into another building. Probably the best idea would be to make this building into a series of units around one or more interior courts, which could when completed be roofed and lighted from ampleclere story windows or by skylights. Its situation is such that it should have two fronts, facing east and west. While centered on Chemistry-Physics Hall it could eventually be much longer. It might even extend south to a point as far north of the east and west axis of Engineering Hall as the north end of the Main Hall is south of it.

North of the Chemistry-Physics Hall would be a site which might be occupied by a somewhat temporary Assembly Hall. We believe it is hardly worth while to have such a building of monumental construction and design, since its purpose is to contain, as a single audience, the whole body of

HISTORY OF IOWA STATE COLLEGE

students and instruction force and numerous visitors. It would perhaps be best to have a steel and wire lathing and cement floor and ceiling that would be non-inflammable and yet not too costly to replace when the need arises as it surely will. When it is to be superseded, this site may be in more pressing demand for a science laboratory building. In that case the larger assembly hall can be erected further from the central buildings.

The corresponding site east of this in the Humanities Row can be used for a school of Pedagogy or for a school of Arts and Crafts or Applied Art or of Music or Oratory or some other profession.

Directly back of the Main Hall and south of Engineering Hall is a site which calls for a small building. This might perhaps be an office building, for doing business with the students particularly. It would relieve the Main Hall from this burden and enable it to be devoted more exclusively to lectures and studies. Possibly it might not be as convenient for the students. If so, it might be used for Faculty and Committee Meetings and for the President's office, which would leave space in the Main Hall for lecture purposes.

Further south in the Science Row, there would be a site for a Mechanical and Electrical Engineering Hall, similar in size and style to the present Engineering Hall and correspondingly related in distance and direction from the Main Hall.

When still other buildings of the same dignified size and style are needed for the Department of Engineering it is likely that they would better be west of the Engineering Hall in a row parallel with it and far enough to leave a large "Back Yard" sort of area for one story, cheap shops and sheds and odds and ends. It may be this ugly area could be partially closed in and to a great extent hidden by additional good looking buildings along the north and south sides of the rectangle or square. This should be studied, and if feasible, kept in mind. Presumably the north side of the Northerly buildings should line with the north side of the present Engineering Hall and the south side of the Southerly buildings with the south end of the future Mechanical and Electrical Engineering Hall.

It has been contemplated that the athletic and baseball field, now crowded by Engineering Hall, should be given up and a new athletic field located in the nearly level land in the southwest corner of the college campus. This may do for a term of years sufficiently long to fully justify the eventual relinquishment of the ground for buildings and the transfer of the athletic field to some distant location, either down toward the river or north of the railroad. Its great convenience, especially after the proposed electric railway has been run, as we have recommended, along the side west of the area where the grand stand would be, is certainly sufficient to warrant running

APPENDIX

the risk of having to lose the investment eventually. The fact that it is nearly all underdrained already would make it cost less than a site near the river, which moreover would have to be dyked and at times drained by pumping to make it available.

The most convenient site for a men's gymnasium would seem to be southwest of the present Engineering laboratory and at the northeast corner of the Athletic field. It should be considerably further south of the straight east and west road than the new Social Hall, because it may prove necessary to move that road south to make suitable space for the proposed Mechanical and Electrical Engineering Hall.

When the more pressing needs of the College for students' working buildings have been met, we believe the policy of building dormitories will be inaugurated. When sites for dormitories come to be in demand, it seems clear enough that the women's dormitories will be north of Margaret Hall, but far enough from it to leave space for working buildings for the women students. The men's dormitories would best be in the nearly level area that would remain between the westerly row of Engineering Department buildings above referred to and the west boundry of the college campus. Both men's and women's dormitories if long and narrow should run north and south so all rooms will have sun either morning or afternoon. Each of the men's dormitories should be centered on the east and west axis of either Engineering Hall, Main Hall, or Mechanical and Electrical Engineering Hall, or else the space between them should center on one or the other of these axes, and the north ends of the northerly ones should line up with the north end of Engineering Hall and the south ends of the southerly ones should be on the east and west line correspondingly south of the east and west axis of Main Hall. In this way an orderly grouping of buildings will eventually result which will prove more satisfactory in every way than the irregular, hand to mouth, shortsighted way of locating each building without regard to the many other buildings which the needs of the future will cause to be erected.

It would seem reasonable to lay out definitely what may for convenience be called a street, only it would be mostly turf, 80 ft. or 100 ft. wide, running east and west immediately north of Engineering Hall and another equidistant south of the east and west axis of Main Hall. The latter may be wider than the other so as to center exactly on the Social Hall around which the little roadway can pass by a gentle curve. The Social Hall can be considered as the eastern terminus of the southerly straight road. This location of the southerly road will determine the north side of the Men's Gymnasium, if it is put near the northeast corner of the new Athletic Field.

HISTORY OF IOWA STATE COLLEGE

There would be another open strip or street probably 100 feet or 150 feet wide extending northward from the central lawn just east of the suggested large Library-Museum building. The next large working building for women could face west on this. It is assumed of course that Morrill Hall being poorly built and out of harmony in style, presumably, with the new Library, would be eliminated, but the new library could be finished first. Another grassy street running north could be reserved between the present Agricultural Hall and Margaret Hall. It should be 100 feet or 120 feet wide. If located next the Agricultural Hall there would be a space west of it for another Woman's working building facing east.

There would remain a site for another woman's working building between the two suggested and facing north toward the street. About 100 feet north of the existing east and west little roadway. In this street would, we think, properly be the electric railway as suggested in our preliminary report.

The woman's dormitories would best be placed around an open rectangle north of the electric railway street. There could well be two long ones running north and south on the west side of the quadrangle and two on the east side with square buildings in the middle of the north and south sides. The dormitories unless fire proof should be only two stories high. To give greater accommodations they might be longer than usual, but they should be so designed as to express their residential character, as by low ceilings, compared with the working buildings, bay windows, balconies, chimneys for open fire places and the like. They should in fact have a decidedly domestic effect, avoiding the usual plain barracks or factory aspect so common in college dormitories. It would be economical to have a central dining hall and kitchen at the middle of the north side and a social hall in the middle of the south side.

The next wide grassy street would be east of the present Horticultural establishment. The space between this street and that last described would not be very large but would probably be sufficient for both the Biological Department and the Horticultural Department. It seems the best available space for these purposes. Botany, Zoology, Physiology, and other sciences of vegetables and animal life should have adequate recognition and should eventually be provided with laboratories and collections of living specimens under glass, as well as outdoor working collections. Biology and Horticulture might be at first accommodated so far as lecture rooms and professors' studies are concerned in a building together here, instead of having Botany accommodated in the top story of the Main Hall along with the Humanity studies. If after further study the space here should prove inadequate, these departments might be provided for Northwest of Engineer-

APPENDIX

ing Hall, although the space would be limited by the cultivation patches of the Department of Agriculture, unless it should be decided that these experiments could be transferred to some more distant ground.

It has been proposed to locate an Animal Husbandry Building on the knoll in the southwest corner of the pasture east of the road that crosses the Railroad. This appears to accord well with the general plan which we have outlined, but care should be taken to keep it well south of the proposed electric railway street and on the east side of the proposed grassy north and south street east of the present Horticultural Building. The location of the proposed new Agricultural Hall would influence the location of this 120 foot grassy street and be affected by it. The two should be considered together and when determined the proposed Animal Husbandry Building can be located to fit the proposed street. Unless there is some reason to the contrary, the center line of the road to the railway may as well be taken as the axis for the reserved space, the new Agricultural Hall east wing being kept 60 feet west from this center line and the west front of the Animal Husbandry building being kept 60 feet east of it. The grade of the Animal Husbandry Building should be established with due regard to the probable profile of the electric railway street, and probably that would require that a few feet in depth of the top of the knoll should be cut off. The land southward of this is conveniently located for an important future building of the Department of Agriculture, but is in need of grading. It will help it greatly to set the new Animal Husbandry Building lower than the present surface of the knoll and to use the earth to fill up the low ground. There would be sites for two or three agricultural buildings. They should, if possible, have imposing front buildings but may have work shops or laboratories in their rears.

The proposed Agricultural Hall, already authorized, is to be longer than and perhaps fully as imposing as the new Main Hall, recently occupied, and it will be closely similar to it in architectural design. Such a building is far too important to appear to have been placed casually on a little rise of ground and without symmetrical relation to the Main Building in any direction from it except East. It is true there are disadvantages in placing it at the lower end of the Central lawn facing the Main Building, but the advantages far outweigh the disadvantages.

Without having studied out a comprehensive plan for the disposition of numerous other buildings which will probably have to be built hereafter, it seems a reasonably safe proposition to keep this building far enough west of the new Dairy Building to permit of the extension southward in a straight line of the straight road already existing just east of the Horticultural Building. This will minimize the disadvantage of seeming to somewhat efface

HISTORY OF IOWA STATE COLLEGE

the relation of the Dairy Building to the Central Lawn. There will still be a broad and handsome view of the Central Lawn from the Dairy Building past the north end of the proposed Agricultural Hall and plenty of good views will remain of the front of the Dairy Building from the northern part of the central lawn, and doubtless eventually a sufficient view will be opened up to and from the Dairy Building past the southern end of the proposed Agricultural Hall by the partial thinning out of the existing trees at present needed for screening the small residences existing there.

Located as proposed, the finished grade line along the west front of Agricultural Hall should be raised by filling to about five or six feet above the existing surface at the middle of the front. (Less at the ends). The slope of the ground toward the east is such that to preserve a desirable degree of harmony with the landscape conditions, the finished grade line along the east side of the long part of the building ought to be about three feet lower than we have advised for the west front, and at the east end of the proposed projecting wing at the middle of the building, the finished grade should be about two feet lower yet. It would even be reasonable to have the finished grade along the east front of the building low enough to expose the whole basement, thus making it possible to plan useful lecture or other students' working rooms in it.

If some other adjustment of the finished grade along the east front of the building is not made, it will be, we can only suppose, from motives of economy in the construction of the building. Such an economy we can hardly believe to be wise or necessary at the expense of the good appearance of the building in its relation to its surroundings, including not only the ground surfaces but trees in the vicinity and especially the Dairy Building. This is just one of the points of design in which the Trustees and Professors are liable, through lack of sufficient experience in such special matters, to yield to the idea of economizing in masonry and fall into the irremediable error of setting the building too low, or of necessitating the creation by filling, of ugly grades and a gawky relationship of the building to the local landscape, of which it will become the dominating feature. We venture to lay particular stress on this important matter, because we did not have a conference with the Architect, and as we have known of many cases in which architects have set buildings too low in order to save in expense of foundations, or have insisted upon a level grade line all about the building when a slight slope would have been much more harmonious with the landscape, and also because we noticed that the Dean of the Department of Agriculture has become so impressed with the same application of the motive of economy as to have seemingly lessened his fear of producing an ugly result in the way indicated. In short, the question of grades about this

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building is an unusually important and difficult one, and we recommend that we be authorized, after learning, through correspondence, if possible, of the views of the Dean and of the Architect, to prepare grading plans for the surroundings of this building. If this is to be done, the area likely to be affected, and a margin of about 200 feet in addition, extended eastward to the east side of the circuit drive, should be cross-sectioned at intervals of twenty-five feet and trees located and a plat sent us as soon as possible.

The fact that a large area remaining free of important working buildings in the southern part of the College Campus is so irregular in topography and that it is well furnished with the trees originally planted, makes it exceedingly desirable to reserve it mainly for landscape effect.

Another objection to having buildings in this part of the campus is a practical one, but in its bearing upon the beauty of the landscape it is a very important one. This is that if there are buildings there it will inevitably follow in time that the great natural lawn will become traversed in many directions by short cut paths and these would for the most part have to be improved as a matter of comfort and convenience into regular walks with hard smooth pavement. This may seem incredible to many who hardly notice the few short cut paths now being worn in the grass, but we have had occasion to study this matter in many cases for years and we cannot too strongly express our conviction that buildings on the south side of the central lawn will inevitably lead to cutting it up with broad walks. The location of the New Agricultural Hall as proposed will compel the leaving out of a walk east and west through the southern part of the lawn. This can be laid out on a long graceful curve with branches at each end to meet the requirements of foot traffic, and by keeping it slightly depressed and somewhat among groups of trees existing or to be planted, it will be comparatively unobtrusive. No doubt other walks will have to be laid out from the new building to other points. All this is bad enough, but a moderate area of lawn between the new Agricultural Hall and the Main Hall can be kept free from walks. If more buildings are put around the south side of the central lawn, a great part of its natural beauty would unquestionably be lost by cutting it up with walks. With the limited number of students having occasion to cross the lawn, the wearing of short cut paths has not been marked, but the trouble is bound to increase faster than the increase in the number of students and teaching force. The present Music Hall should be eliminated from the south side of the central lawn as soon as other provision can be made for music.

We suggest that the present Veterinary School be altered and improved into a hospital for students. The new Veterinary Hospital can be in the southeastern part of the College grounds, away from all other buildings and

HISTORY OF IOWA STATE COLLEGE

frequented grounds and convenient of access for persons bringing diseased animals to it. It should be surrounded by trees but not shaded by them.

It does not seem to be a good policy for the college to provide its teaching force with dwelling houses, for various practical reasons, but certain attendants of barns and greenhouses must live close to their work, as they are liable to have to work at any hour of the night as well as during the day. These cottages are not necessarily large. If they are made of wood, they can be moved when necessary at no great cost, as it seems well to have them close to the working places their occupants have to go to, but generally a little further out from the central lawn. By suitable planting they can be made unobtrusive.

Many other topics might be discussed, but we must leave them for consideration as they arise.

Yours respectfully,

(Signed) OLMSTED BROTHERS

APPENDIX FIVE

GOVERNING AND ADMINISTRATIVE OFFICERS



PRESIDENTS AND CHAIRMEN OF THE BOARD OF TRUSTEES

| | |
|--------------------------------|-----------------------------|
| Suel Foster, 1859-65 | George H. Wright, 1882-84 |
| William H. Holmes, 1865-66 | D. W. Mott, 1884-88 |
| Benjamin Franklin Gue, 1866-68 | Joseph Dysart, 1888-90 |
| Adonijah Strong Welch, 1868-73 | C. M. Dunbar, 1890-92 |
| O. H. P. Buchanan, 1873-74 | J. H. Wood, 1892-94 |
| Samuel J. Kirkwood, 1874-76 | W. O. McElroy, 1894-1900 |
| C. C. Warden, 1876-78 | John B. Hungerford, 1900-08 |
| John N. Dixon, 1878-80 | W. J. Dixon, 1908-09 |
| H. G. Little, 1880-82 | |

PRESIDENTS OF THE STATE BOARD OF EDUCATION

| | |
|--------------------------|--------------------------|
| James H. Trewin, 1909-14 | George T. Baker, 1925-41 |
| D. D. Murphy, 1914-25 | Henry C. Shull, 1941— |

FINANCE COMMITTEE

| | |
|-------------------------|-----------------------------|
| William R. Boyd, 1909— | Jackson W. Bowdish, 1923-31 |
| Thomas Lambert, 1909-23 | William G. Noth, 1931— |

Secretaries of the Committee

| | |
|---------------------------|-----------------------------|
| Daniel A. Emery, 1909-13 | William H. Gemmill, 1913-36 |
| Merrill R. Pierson, 1937— | |

PRESIDENTS OF THE COLLEGE

Adonijah S. Welch, May 11, 1868—Nov. 27, 1883
Seaman Asahel Knapp, Dec. 1, 1883—Dec. 5, 1884
Leigh Smith John Hunt, Feb. 1, 1885—July 20, 1886
William Isaac Chamberlain, July 20, 1886—Nov. 13, 1890
William Miller Beardshear, Feb. 1, 1891—Aug. 5, 1902
Albert Boynton Storms, Sept. 1, 1903—Aug. 31, 1910
Raymond Allen Pearson, Sept. 1, 1912—Aug. 31, 1926
Raymond Mollyneaux Hughes, Sept. 1, 1927—Mar. 17, 1936; emeritus
Charles Edwin Friley, Mar. 17, 1936—

HISTORY OF IOWA STATE COLLEGE

ACTING-PRESIDENTS

George William Jones, Dec. 1, 1868—Mar. 15, 1869
James Lorraine Geddes, May, 1877—Feb., 1878
Charles Edwin Bessey, Sept. 1, 1882—Nov. 24, 1882
Seaman A. Knapp, Nov. 24, 1882—Mar. 1, 1883
Joseph Lancaster Budd, Dec. 5, 1884—Feb. 1, 1885
Edgar Williams Stanton, Nov. 13, 1890—Feb. 1, 1891; Aug. 6, 1902—Aug. 31, 1903; Sept. 1, 1910—Aug. 31, 1912; April 20, 1917—Nov. 21, 1918
Herman Knapp, Feb. 8—July 17, 1926; Sept. 1, 1926—Aug. 31, 1927
Charles Edwin Friley, Oct., 1935—Mar. 17, 1936

DEANS OF DIVISIONS

Agriculture

James Wilson, 1898-1902 (on leave)
Charles Franklin Curtiss, 1902-32; emeritus
Raymond M. Hughes, acting, 1932-33
Henry Herbert Kildec, 1933—

Engineering

Anson Marston, 1904-17
Samuel Walker Beyer, 1917-19
Anson Marston, 1919-32; emeritus
Thomas Radford Agg, 1932—

Home Economics

Catherine Josephine MacKay, 1913-21 (acting, 1913-14)
Edna E. Walls, acting, 1921-22
Anna Eurette Richardson, 1923-26
Frances A. Sims, acting, 1926-27
Genevieve Fisher, 1927—

Science

("Science and Philosophy," 1898-99; "Science as Related to the Industries," 1899-1914; "Industrial Science," 1914-39; "Science," 1939—)
Albert B. Storms ("Science and General and Domestic Science"), 1904-10
Edgar W. Stanton, acting, 1910-13
Robert Earle Buchanan, 1913-19 (acting, 1913-14)
Samuel W. Beyer, 1919-31
Raymond M. Hughes, acting, 1931-32
Charles E. Friley, 1932-1938 (acting, 1936-38)
Harold Vincent Gaskill, 1938—

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Veterinary Medicine

("Veterinary Science," 1898-1908)
Millikan Stalker, 1898-1900
William M. Beardshear, acting, 1901-02
John Henry McNeil, 1902-09
Charles Henry Stange, 1909-36
Charles Murray, 1936—

Graduate College

Raymond A. Pearson, acting, 1913-19
Robert E. Buchanan, 1919—

Junior College

Edgar W. Stanton, 1903-20
Maria M. Roberts, 1920-33; emeritus
Maurice David Helser, 1933—

Summer Quarter

("Summer School," 1911; "Summer Session," 1912-29; "Summer Quarter, 1930—)
Ashley Van Storm, dean, 1911, director, 1912
Guy Mitchell Wilson, director, 1913-21
Robert E. Buchanan, director, 1922-23
John Elden Foster, director, 1924-28, dean, 1929-39
James Edward Wert, director, 1940—

Non-Collegiate Courses in Agriculture

Jules Cool Cunningham, supervisor, 1918-29

Short Courses

Russell Manning Vifquain, director, 1920—

DIRECTORS OF RESEARCH

Agricultural and Home Economics Experiment Station

Robert P. Speer, 1888-1891
James Wilson, 1891-97
Charles F. Curtiss, 1897-1932
Raymond M. Hughes, acting, 1932-33
Robert E. Buchanan, 1933—

HISTORY OF IOWA STATE COLLEGE

Agricultural Relations

George William Godfrey, 1933— (assistant to the president in agriculture, 1933-36)

Engineering Experiment Station

Anson Marston, 1904-17
Samuel W. Beyer, 1917-19
Anson Marston, 1919-32
Thomas R. Agg, 1932—

Industrial Science Research Institute

Charles E. Friley, 1934-38
Harold V. Gaskill, 1938—

Statistical Laboratory

George Waddel Snedecor, 1933—

Veterinary Research Institute

Charles H. Stange, 1931-36
Charles Murray, 1936—

DIRECTORS OF EXTENSION

Agricultural and Home Economics Extension Service

Perry Greeley Holden, superintendent, 1906-12
Ralph Kenneth Bliss, acting superintendent, 1912
Willard John Kennedy, director, 1912-14
Paul C. Taff, acting director, 1914
Ralph K. Bliss, director, 1914—

Engineering Extension Service

Daniel C. Faber, 1918—

Radio Station WOI

Walter Irving Griffith, director, 1925—

STUDENT SUPERVISION AND GUIDANCE

Dean of Men

John E. Foster, 1922-28

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Dean of Women

Marion H. Kilbourne, 1900-15
Hazel May Harwood, 1922-24
Julia Wentch Stanton, 1924-28
Madge I. McGlade, acting, 1929-31

Directors Personnel Service

John McKee Shaw, 1928-31
Maurice D. Helser, 1931—

Directors Student Health Service

James Franklin Edwards, 1921-36
John Gray Grant, 1936—

BUSINESS AND RECORDS

Business Managers

Herman Knapp, 1887-1933
Hugh Carleton Gregg, 1933—

Recorders and Registrars

James L. Geddes, 1886-87
Herman Knapp, 1887-1920
James R. Sage, 1920—(acting 1920-23)

Director of Residence

Madge I. McGlade, 1932—

Secretaries

| | |
|---------------------------------|-----------------------------|
| William Duane Wilson, 1859-65 | Millikan Stalker, 1873-74 |
| Peter Melendy, 1865-66 | Edgar W. Stanton, 1874-1920 |
| Hugh M. Thomson, 1866-71 | Edward M. Effler, 1921-33 |
| Isaac Phillips Roberts, 1871-73 | Hugh C. Gregg, 1933— |

Treasurers

| | |
|----------------------------|-----------------------------|
| Richard Gaines, 1859-60 | James L. Geddes, 1880-82 |
| Oliver Mills, 1861-62 | William M. Greeley, 1883-84 |
| Moses W. Robinson, 1863-65 | James L. Geddes, 1885-87 |
| Samuel E. Rankin, 1866-71 | Herman Knapp, 1887-1935 |
| John F. Ely, 1872-73 | Charles B. Murray, 1935— |
| William D. Lucas, 1874-79 | |

APPENDIX SIX

SUMMARY OF ENROLLMENT STATISTICS

☆ ☆ ☆

ENROLLMENT BY DECADES

(Net Total Resident Students, June to June)

| | |
|--------------|-------|
| 1869-70..... | 192 |
| 1879-80..... | 281 |
| 1889-90..... | 297 |
| 1899-00..... | 940 |
| 1909-10..... | 1,723 |
| 1919-20..... | 4,475 |
| 1929-30..... | 5,735 |
| 1939-40..... | 7,969 |

ENROLLMENT OF DIFFERENT STUDENTS BY DIVISIONS FROM 1915-16 TO 1940-41

| | 1915-
16 | 1920-
21 | 1925-
26 | 1930-
31 | 1935-
36 | 1940-
41 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| Collegiate Students
(September to June) | | | | | | |
| Agriculture..... | 1,005 | 1,228 | 994 | 1,007 | 1,265 | 1,525 |
| Engineering..... | 746 | 1,158 | 1,214 | 1,697 | 1,277 | 2,169 |
| Home Economics..... | 546 | 756 | 932 | 994 | 1,012 | 1,804 |
| Industrial Science..... | 110 | 202 | 459 | 388 | 689 | 741 |
| Veterinary Medicine.. | 109 | 96 | 96 | 240 | 198 | 246 |
| Graduate..... | 103 | 204 | 381 | 516 | 530 | 676 |
| Non-Collegiate..... | 327 | 895 | 438 | 155 | 148 | 215 |
| Music..... | 121 | 228 | 97 | 126 | 154 | 163 |
| Less Duplicates.... | (189) | (288) | (124) | (120) | (141) | (178) |
| Net Total..... | 2,878 | 4,479 | 4,487 | 5,003 | 5,132 | 7,262 |
| Summer Quarter..... | 1,055 | 1,088 | 1,935 | 2,288 | 1,733 | 1,776 |
| Short Courses..... | 2,127 | 1,232 | 5,423 | 8,978 | 9,697 | 18,553 |

APPENDIX SEVEN

INTRODUCTORY AND PROVISIONAL LIST OF THE MAIN SOURCES OF INFORMATION

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Note: The continuous repetition of the full name of the College, which strict adherence to bibliographical exactness would require, has been dispensed with in this tentative listing. Where the place of college publications is omitted, Ames is to be understood.

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Governing Bodies

Board of Trustees. Reports. 1858-1908; Des Moines, 1860-1908 (1859-63, annual; 1864-65—biennial).

——Minutes. Manuscript, 1865-1909.

——Rules and Regulations. n.p. (1888).

——Same. Atlantic, Iowa, (1890).

——Same. Des Moines, Iowa, 1892.

——Same. Cedar Rapids, Iowa, 1905.

Board of Education. Archives: correspondence, minutes of Board and of Finance Committee, reports, general and special. Office of the Board, Des Moines, 1909—.

——Biennial Reports. Des Moines, 1910—.

——Rules and Regulations. Iowa State College Bulletin, IX, No. 2; 1910.

Faculty Records

Administrative Board. Typed Minutes. 1929—.

Athletic Council. Manuscript Records. 1899—.

Faculty Minutes. Manuscript. 1869—.

Judiciary Committee. Manuscript Records. 1879-1884.

Public Grounds Committee. Typed Minutes. 1911-28.

Rules of the Faculty Codified. 1905—.

Experiment Stations and Extension Services

Agricultural Experiment Station. Reports. 1888—.

County Extension and Home Demonstration Agents. Typed Reports. 1913—.

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Engineering Experiment Station. Bulletin. 1900—.

Agricultural and Home Economics Extension Service. Reports. 1916—.

Engineering Extension Service. Reports. 1926—.

Administrative Reports

Business Manager. Financial Report. 1934—.

Library. List of Publications of Members of the Staff of Iowa State College. 1920—.

———Summary of Reports of the Iowa State College Library, June 1, 1923—June 3, 1933. With an Outline of Possible Lines of Development, 1933-35. 1933.

———Reports. 1935—.

IOWA TERRITORIAL AND STATE LEGISLATIVE AND EXECUTIVE DOCUMENTS

House of Representatives Journal. Various places, 1839-49; Iowa City, 1850-57; Des Moines, 1858—.

Land Department. Report. Des Moines, 1859-1903.

Legislative Documents. Iowa City, 1856-57; Des Moines, 1858-1931.

Messages and Proclamations of the Governors of Iowa. Edited by Benjamin F. Shambaugh. 7 vols. Iowa City, Iowa, 1905.

Senate Journal. Various places, 1839-46; Iowa City, 1847-57; Des Moines, 1858—.

Session Laws. Various places, 1839-44; Iowa City, 1845-57; Des Moines, 1858—.

Visiting Committee of the General Assembly to the State Agricultural College. Biennial Reports. Des Moines, 1864-96 (except, 1866 and 1892).

Yearbook of Agriculture. Des Moines, 1900—.

UNITED STATES DOCUMENTS

Bureau of Education. Report of Commissioner of Education, Washington, 1868—.

Congressional Globe. Washington, 1834-73.

Congressional Record. Washington, 1873—.

Congressional Reports. Washington, 1789—.

Department of Agriculture. Report Commissioner of Agriculture. Washington, 1862-89. Report Secretary of Agriculture. Washington, 1889—.

———Yearbook. Washington, 1894—.

Statutes at Large. Boston and Washington, 1850—.

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- Calendar, Official Weekly. 1916-32.
Campanile. Inauguration of the Stanton Carillon, October 6, 1929.
Catalogue. 1880—.
College Statements. 1874, 1876, 1879.
College Directory. 1901—.
Commencement Program. 1872—.
Farm and Home Week Program. 1916—.
Freshman Day Program. 1925—.
Graduate College Announcement. 1915—.
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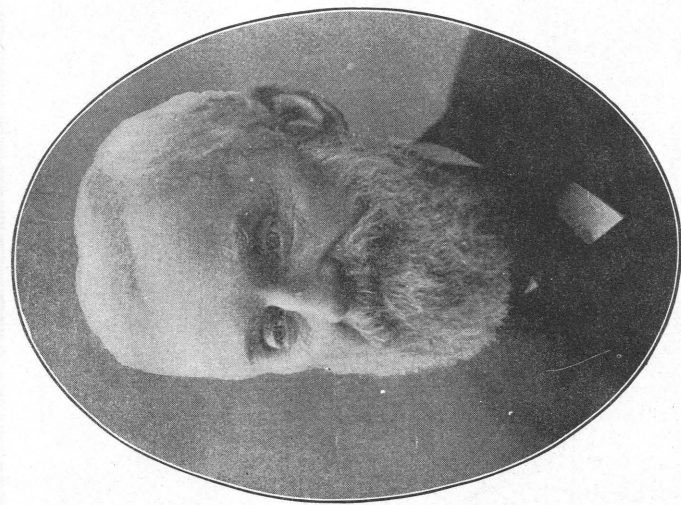
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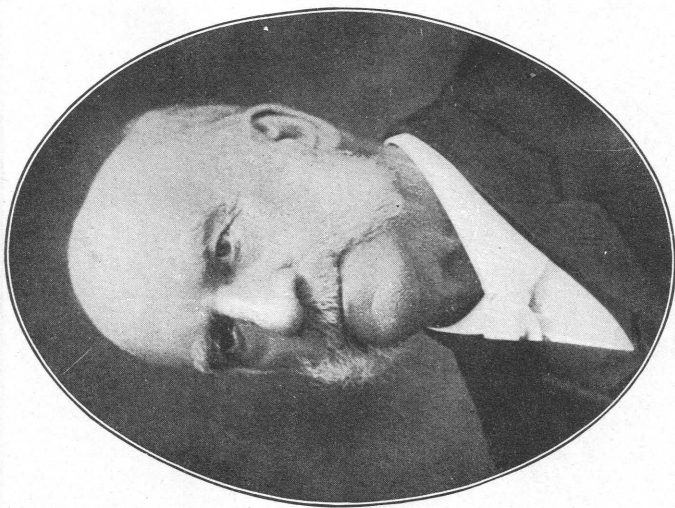
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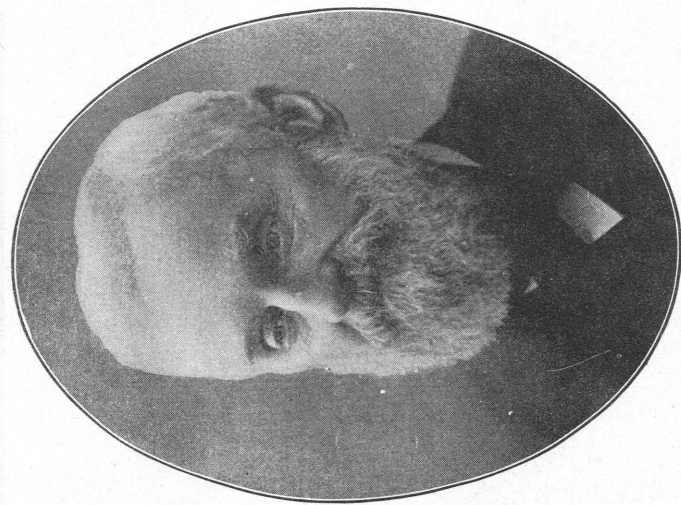
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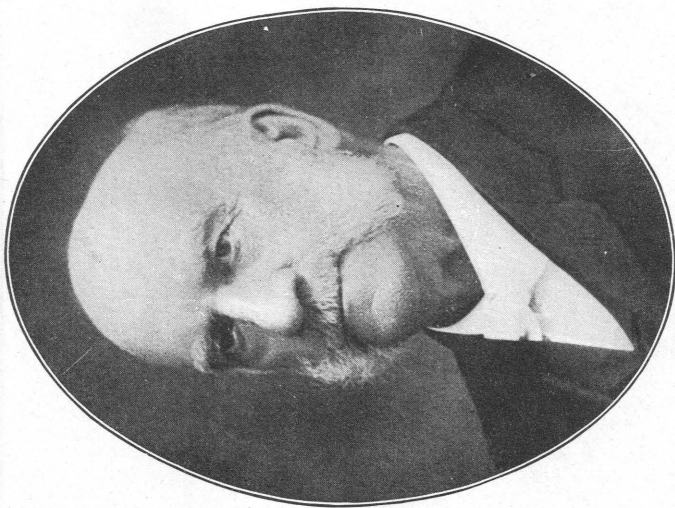
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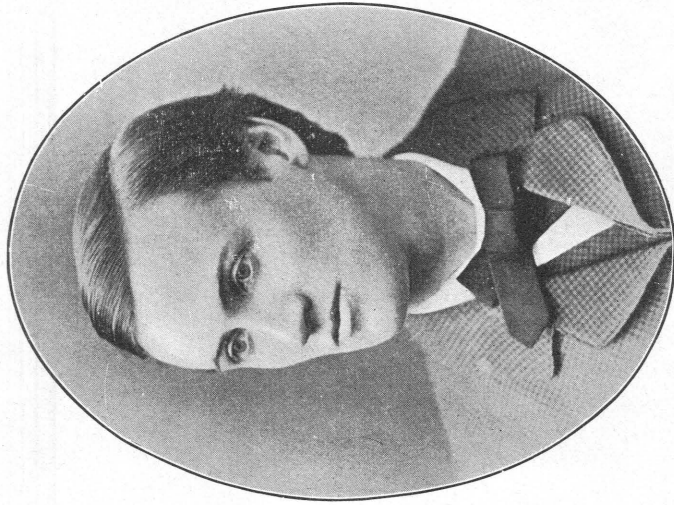
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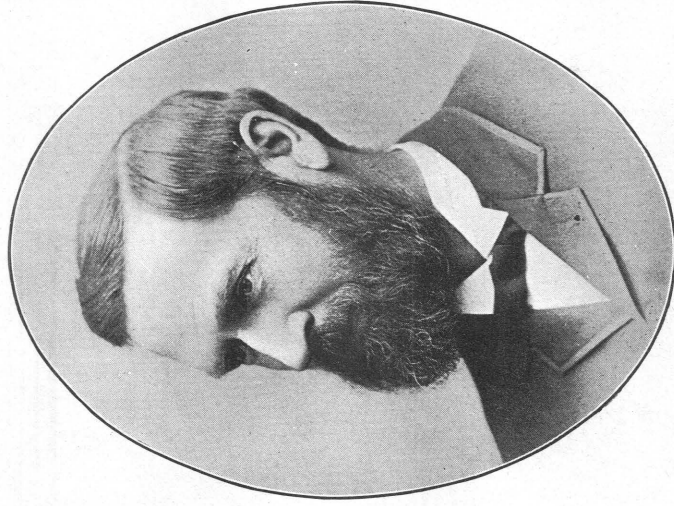
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