BRIEF HISTORY

of the

Massachusetts Agricultural College

Semicentennial, 1917

By L. B. Caswell

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Mr. Lilley Brewer Caswell
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CASWELL HISTORY

INDEX

CHAPTER I

EVOLUTION OF THE MASSACHUSETTS AGRICULTURAL COLLEGE

THE object of the American college in 1850 and previous was to prepare the student for one of the three learned professions, so-called—law, medicine and the ministry. Teaching was not a profession. Very few chose it for their life work. College professors frequently, college presidents almost uniformly, were clergymen who from choice or necessity had left the pulpit for the college chair. Other teachers had generally taken up the work for bread-and-butter reasons, or en route to something else. Normal schools in Massachusetts had been established by Horace Mann only ten years before. Engineering was not regarded as a learned profession, neither was journalism, literature, music, nor agriculture. The Rensselaer Polytechnic School of Troy, N. Y., had been opened in 1824, and another engineering school in connection with Union College was opened about 1850, as was also a school of agriculture in Michigan in the same year. The farmers looked upon "book larnin," as far as agriculture was concerned, with good-humored contempt, and not without some justification, since the agricultural books and papers of that day were largely the work of academicians without practical experience. Everything in the educational world tended to draw the young people away from the farm instead of helping them to remain upon it.

It was not until 1848 that Massachusetts as a state recognized a movement looking toward scientific instruction along agricultural lines. The incorporation that year by the General Court of the "Massachusetts Agricultural Institute," a private institution, was a preliminary step looking toward the establishment by the state of an agricultural college. The "Institute" was never founded, but seed had been sown that in time was to yield a generous harvest.

It was while the education of the country was in this condition that Hon. Marshall P. Wilder delivered an address on "Agricultural Education" before the Norfolk Agricultural Society, in September, 1849. The suggestions contained in this address were received with such favor that in 1850 a bill was introduced in the General Court providing for the establishment of an Agricultural College and experiment farm. This bill passed the senate without a dissenting vote, but was rejected by the house. The next step taken was the appointment by the governor of a board of commissioners whose duty it was to report to the General Court at its next session upon the expediency of establishing agricultural schools or colleges. The act providing for this commission was approved by Governor George N. Briggs, May 3, 1850, and on June 6 of the same year the following were appointed members of the commission:—Marshall P. Wilder of Dorchester, President Edward Hitchcock of Amherst College, Thomas E. Payson of Rowley, Samuel A. Eliot of Boston, and Ely Warren of Upton. This commission made its report to the Legislature in 1851. It embraced the investigations of Dr. Edward Hitchcock in regard to the agricultural schools and colleges of Europe and contained an account of more than three hundred and fifty of these institutions.

Nothing further was done towards organizing a college of agriculture till 1856. In that year several of the gentlemen who had been most active in the project for establishing a college, cooperated for the establishment of a school, and obtained an act of incorporation under the title of the Massachusetts School of Agriculture. Of the persons named in this act, the name of Marshall P. Wilder heads the list.

In all great movements which call for a change in the existing condition of things, there is some one person who stands out more prominently than his fellow laborers; and certainly if any one person is entitled to be called the Father of the Massachusetts Agricultural College, that honor should rest upon the Hon. Marshall P. Wilder, who from the time of his address before the Norfolk Agricultural Society in 1849, all through the investigations regarding agricultural education, the discussions upon the establishment of the college, its location, and the deep interest he manifested in the welfare of the students both in their studies and activities, showed himself to be the leading and moving spirit, spending time

and money for the success of the college. Marshall Pickney Wilder was born September 22, 1798, in the Town of Rindge, New Hampshire. His father had removed to that place from the town of Sterling, Mass., in 1794, and had opened a store in company with a brother. Reared among the charms of rural life and scenery, where the grand old Monadnock looks down upon the farms of Southern New Hampshire, the son developed that strength and vigor of constitution, that taste and love for rural labors and the beautiful in Nature, which made the name of Marshall P. Wilder loved, honored and respected throughout the land. At the age of sixteen his father gave him the choice of going to college, becoming a merchant, or working upon the farm. He chose the latter and continued the work long enough to gain the firm health and constitution for which he was noted during a long life. But the business of the store increased and his services were needed there. He entered the business like a sailor before the mast, and earned promotion step by step until he became a partner in the concern and postmaster of the town. Having a taste for military tactics he joined the New Hampshire militia, and at the age of twenty-six became colonel of a regiment. In 1825, wishing a wider field of operations, he removed to Boston and became one of the most prominent and successful merchants of that city. But Col. Wilder had higher aspirations than to accumulate wealth: to amass a fortune was not the all-absorbing ambition of his mind. A wider field of usefulness and philanthropy opened before him, and though devoting a reasonable amount of time and attention to his business, all of his leisure was given to agricultural and horticultural pursuits, so that while cultivating his land and importing seeds, trees and plants from distant countries, he was doing all he could to instill into the public mind a taste and love for rural labors and to elevate the rank and position of those engaged in the honorable employments of the farm and garden. To no other one man are the horticultural and agricultural societies of New England and the United States more indebted than to him. It was acknowledged that the immense progress in rural ornamentation around Boston, the increase of beautiful rural homes and gardens filled with fruits and flowers, was due in a great measure to his untiring labors. In 1855, at a great banquet held in Dorchester to which two thousand men and women sat down, there was a graceful arch decked with evergreens and flowers encircling the front of the platform, and bearing this inscription:

MARSHALL P. WILDER
President of the Day

"Blessed is he that turneth the waste places into a garden, and maketh the wilderness to blossom as the rose."

In 1860 the charter of the Massachusetts School of Agriculture was transferred to several enterprising citizens of Springfield, who determined to raise by subscription seventy-five thousand dollars for the opening of the school in that city, relying upon the Legislature for a further endowment. This project would probably have succeeded had not the call to arms for our Civil War absorbed public attention.

In 1858 Hon. Justin S. Morrill, representative from Vermont, submitted a bill to Congress donating a portion of the public lands for the endowment of a college in each state, to teach such branches of learning as are related to agriculture and the mechanic arts. This bill, after prolonged discussion for two sessions, passed both houses of Congress but was vetoed by President James Buchanan. The measure was finally enacted July 2, 1862, and was approved by President Abraham Lincoln. This act gave to each state a quantity of land equal to thirty thousand acres for each senator and representative in Congress, based upon the apportionment under the census of 1860. As Massachusetts had twelve members in Congress at this time, her allotment was 360,000 acres of land. The Legislature of Massachusetts accepted this generous gift April 18, 1863, and after much discussion resolved to found one independent college for the special education of young men in scientific agriculture and horticulture. To this institution was given the proceeds of the sale of one-tenth of the land scrip for the purchase of a farm, and as an endowment, two-thirds of the income of the fund obtained by the sale of the remaining nine-tenths. The other third of the income was granted to the Institute of Technology at Boston.

A bill to incorporate the trustees of the Massachusetts Agricultural College was enacted April 29, 1863, and the original trustees selected were:—Marshall P. Wilder of Dorchester, Charles G. Davis of Plymouth, Nathan Durfee of Fall River, John Brooks of Princeton, Henry Colt of Pittsfield, William S. Southworth of Lowell, Charles C. Sewall of Medfield, Paoli Lathrop of South Hadley, Phineas Stedman of Chicopee, Allen W. Dodge of Hamilton, George Marston of Barnstable, William B. Washburn of Greenfield, Henry L. Whiting of

Tisbury, and John B. King of Nantucket. Governor John A. Andrew, Secretary Joseph White of the State Board of Education, and Secretary Charles L. Flint of the State Board of Agriculture were also members *ex officio* of the first board of trustees. On November 18, 1863, the corporation organized with Governor John A. Andrew president, Allen W. Dodge vice-president, and Charles L. Flint secretary. The organization provided that the board should never number more than fourteen, and that the governor of the Commonwealth, the secretary of the State Board of Education, and the president of the college should be members *ex officio*. The trustees were empowered to elect a president and members of the faculty of the college, to determine their duties, salaries, etc.; to purchase or erect buildings; to make rules for the government of the college; to determine the courses of instruction; and to confer degrees. The General Court might appoint overseers or visitors of the college. The trustees should determine the location of the college, should purchase or obtain by gift a tract of land containing at least one hundred acres for an experiment farm in connection therewith, and should make such provisions for manual labor on the farm by students as they deemed just and reasonable. On January 6, 1864, George Marston, William S. Southworth and Charles L. Flint submitted to the General Court the first report of the doings of the trustees.

The matter of selecting and securing a suitable location was one of the most difficult problems with which the trustees had to contend. Upon this question there was a great diversity of opinion. Many of the towns in the state were anxious to secure the benefits that would arise from the location of the college within their limits, but few were ready to comply with the requirement of the General Court that seventy-five thousand dollars be raised and presented to the trustees before a location was granted. With this condition, only four towns —Northampton, Springfield, Lexington and Amherst—ever offered to comply. Northampton raised seventy-five thousand dollars by subscription; Springfield expected to receive that amount from one individual; Lexington relied on one person for fifty thousand dollars and expected to raise the balance by subscription.

There were also strong influences brought to bear to unite the college, as a department, with some higher institution of learning. All the other New England States with the exception of Maine, gave their money to other colleges:—Vermont, Rhode Island, Connecticut and

New Hampshire giving their money to institutions already established. Governor John A. Andrew, when the matter of location was broached to him, recommended a union of the Agricultural College with Harvard University, stating what was very plausible indeed, that the Bussey farm which was left to Harvard College for the purpose of establishing an agricultural department, might have an agricultural college founded upon it. He urged this very forcibly upon the Legislature.

In one of the notable discussions regarding the college, Prof. Agassiz, who was a strong advocate for connecting the college with some higher institution of learning, assigned as one reason that the number of capable teachers was not adequate. As an example, he said: "The whole of Germany has not three persons equal to Liebig, and yet Germany has thirty-two universities. We have in the State of Massachusetts five colleges. Can you expect to have five persons equal to Liebig?" He was aptly replied to by Dr. George B. Loring, who said: "Heaven knows how many colleges there are in the United States, but there is but one Agassiz, and we did not raise him ourselves."

Another objector at the same discussion, said: "You cannot get teachers. If you have one hundred and fifty thousand dollars today to spend in the employment of the best teachers, you could not find teachers in this country who would fill that school. Our ablest men are located and fixed for life, and we have men that Nature does not duplicate oftener than once in a generation." The prophecies of that gentleman were not well founded, for the Massachusetts Agricultural College had in the "Big Four"—President William S. Clark, Hon. Levi Stockbridge, Prof. Charles A. Goessmann, and Prof. Henry H. Goodell—that very kind of men for her first teachers, men whom it would seem were raised up for the special work of establishing the Massachusetts Agricultural College.

Amherst College and Williams College also petitioned the General Court that the agricultural college be located in connection with their institutions, but in spite of all these petitions and arguments, the Legislature remained firm and said decidedly that it would not connect the agricultural college with any other college.

The Town of Amherst held a special town meeting January 25, 1864, to see if the town would vote money for an agricultural college. There was a strong sentiment in favor of the college expressed from the first, and it was voted to raise fifty thousand dollars by

taxation and twenty-five thousand dollars by subscription. After many meetings and complications regarding the raising of this money, the matter was finally settled, and May 25, 1864, the trustees voted to locate the college in Amherst. In June Governor Andrew and council, with the executive committee of the trustees, visited Amherst to examine the location. On September 13, a hearing was given by the governor's council on the question of confirming or rejecting the action of the trustees in locating the college at Amherst. At this hearing the statement was made that many farmers in Western Massachusetts and officers of agricultural societies were opposed to the location, but the council sustained the trustees in their action, and the executive committee of the trustees was authorized October 3, 1864, to take conveyances of the land under contract for the site of the college and farm. The tracts of land purchased contained 310.55 acres, and on the several tracts were five sets of farm buildings of no great permanent value. The price paid was $34,999.50. Adjoining the estate was a tract of about seventy-three acres which the trustees considered it advisable to control, and which Dr. Nathan Durfee of Fall River, treasurer of the corporation, took deeds of in his own name, advancing the money from his own private funds.

We believe the general verdict today is that the trustees acted wisely in the location they selected for the college: situated in the most picturesque portion of the renowned Connecticut Valley—the garden spot of New England—with scenery unsurpassed in beauty and cultivation in this or any other country. Dunn Browne, an ardent lover of this section, in his book "Dunn Browne Abroad," says: "It is just the most beautiful region in the whole world. Set in its frame of lovely hills and mountains, it is the finest picture ever painted. In its fresh spring morning, in its effulgent summer noontide, in its gorgeous autumnal hues, and in its silvery winter moonlight, it surpasses all other most favored climes." Stand upon the elevation above the plant houses, and as your eye takes in the scene unfolded before you on every side, the Holyoke Mountain range and Mt. Tom, Mt. Warner in the west, and Toby and Sugar Loaf to the north, with the beautiful Connecticut flowing through the wide expanse of fertile meadows—the most fertile lands of New England—you will exclaim, as many another one has, who has traveled in this and other lands, "There is nothing equal to it."

On November 29, 1864, Hon. Henry Flagg French was elected the

first president of the Massachusetts Agricultural College. Judge French was born August 14, 1813, at Chester, N. H. He was graduated at Dartmouth College, studied law at Harvard, and was admitted to the New Hampshire bar in Rockingham County when twenty-one years of age. He practiced his profession at Chester, Portsmouth and Exeter, N. H.; was County Solicitor and Bank Commissioner of Rockingham County for several years; and was Judge of the Court of Common Pleas of New Hampshire. He removed to Massachusetts in 1860, and was assistant District Attorney for Suffolk County from 1862 to 1864. He was interested in agriculture all his life, and in 1857 traveled in Europe for the purpose of studying drainage. He was the author of "Farm Drainage" published in 1859, which had much to do with the introduction of tile drainage into this country, and was also associate editor of "The New England Farmer." He contributed much to "The Massachusetts Ploughman," "The Country Gentleman," and other agricultural journals, and also contributed many valuable papers to the United States Department of Agriculture. On his removal to Massachusetts he located in Cambridge, but later made his home in Concord. When elected to the presidency of the Agricultural College, the affairs of the institution were hardly in condition to attract the services of such a distinguished man as Judge French, but his great interest in agricultural education and everything pertaining to agriculture led him to accept the position.

The work now devolving on President French and the board of trustees required more than ordinary good sense and judgment in many ways. There were no examples or precedents by which they could be guided, and the planning of the organization, locating the buildings, and adopting courses of study were problems to be solved that would in a large degree affect the success or failure of the institution. The building committee consisted of President French, Henry F. Hills, Hon. Wm. B. Washburn, Hon. Joseph White, treasurer of Williams College, and Prof. Henry L. Whiting of Marthas Vineyard. There was a difference of opinion among the trustees as to the location of the buildings, and the services of prominent architects and landscape gardeners were secured to settle the controversy. It was at length decided to locate the buildings on the ridge running north and south near the center of the college grounds, where the present dormitories and chapel are located. President French took an active part in the controversy, and his resignation, which was tendered and

accepted on September 29, 1866, was largely due to the feeling that his wishes had not been as fully consulted in this matter as they should have been.

After leaving the college, Judge French resumed the practice of law, and from 1876 to 1885 served as assistant secretary of the treasury at Washington, D. C., and often acted as secretary and sat as a member of the Cabinet. He died from an affection of the heart at Concord, Mass., November 29, 1885.

On November 7, 1866, Prof. Paul Ansel Chadbourne of Williams College received the unanimous vote of the trustees for president of the Agricultural College. He accepted the position and entered upon the duties of his office December 1 of that year. President Chadbourne was born at North Berwick, Me., October 21, 1823. He prepared for college at Phillips (Exeter) Academy, entered the sophomore class in Williams College in 1845, and was graduated in 1848, valedictorian of his class. For four or five years he was a teacher in high schools and academies, and from 1853 until the time of his election as president of the Agricultural College, he was professor of chemistry, botany, and natural history at Williams College. He conducted scientific expeditions to Labrador and Newfoundland in 1855, to Florida in 1857, and to Greenland in 1861. He visited Sweden, Norway, Denmark, Greenland and Iceland in 1859, for the purpose of studying geysers and volcanoes. At about the same time that he received his call to the Agricultural College, he was offered the presidency of two other institutions—the State University of Wisconsin, and the newly organized Worcester College. His large experience and comprehensive views, together with his practical judgment and great energy, enabled him immediately upon his entrance into his difficult office to inspire confidence, complete a satisfactory plan of organization, and harmonize conflicting views respecting the location and style of buildings. He labored assiduously to organize the college, and contracted for the erection of three of the buildings. Owing to an alarming hemorrhage from the lungs, President Chadbourne was obliged to resign his office and remove to a more congenial clime, his resignation taking effect June 1, 1867.

This vacancy was filled August 7 by the election of William S. Clark as president of the college. Thus the college had three presidents before it had any students.

CHAPTER II

OPENING OF THE COLLEGE

THE first member of the faculty was Levi Stockbridge, who was elected farm superintendent and instructor in agriculture in 1866; and at the meeting of the trustees on August 7, 1867, when William S. Clark was elected president, Ebenezer Snell was elected professor of mathematics, and Henry H. Goodell professor of modern languages. These four men composed the faculty of the college the first year it was in actual operation. Early in 1867 President Chadbourne, William S. Clark and Levi Stockbridge met on the sloping hill south of the ravine, and decided on the location of the south dormitory, the chemical laboratory, and the south boarding house. It was voted to open the college for those who might wish to enter the freshman class, October 2, 1867, and it was only by the greatest effort that the buildings were completed and furniture procured, so that the term commenced on that date.

The buildings that were erected when the first students appeared upon the college premises were: the south dormitory, a boarding house on the north side of the ravine, a chemical laboratory, and the botanic museum near the present plant houses. The south dormitory was a building one hundred by fifty feet, four stories in height, and contained twenty-three rooms intended to accommodate forty-six students, together with two recitation rooms, a reading room and library, and two large rooms occupied by the state cabinet of specimens of the natural history and geology of Massachusetts. These had been removed to Amherst from the State House at Boston, and contained the geological specimens collected by Dr. Hitchcock, as well as the valuable collection of birds and animals made by Secretary Flint. The chemical laboratory, which presented a barn-like appearance and a part of which was used at first as a gymnasium, was fifty-seven by forty-six feet, and two stories in height. The Durfee plant houses, also built in 1867, were an elegant group of glass buildings, which,

filled with many rare and beautiful plants, formed the show feature of the college, through which the students were always glad to guide their friends. Dr. Nathan Durfee of Fall River was the generous donor of these buildings, while by the liberality of Messrs. L. M. and H. F. Hills of Amherst, a fund of ten thousand dollars was provided, the income of which was to be expended for the purchase of seeds, plants, etc., in this department.

It was on October 1, 1867, that the first students presented themselves to take examinations for admission to the college. Everything was in a crude and unfinished condition about the buildings, while the college farm, made up of six different estates, was intersected with old Virginia rail fences and hedgerows, and all around were old orchards of apple trees, and fields that had not been planted for a generation. The number of students steadily increased during the term, until at its close, December 17th, forty-seven had been admitted to the class. They had come from the farm and city, and from every station in life. It had been said by those who were opposed to the establishment of an agricultural college: first, that it would have no students; second, if it did have any, they would be infants; third, if it did have any and they were not infants, they would be boys who had never seen a cow, but had always drunk pump milk—a regular white-livered set of boys sent out into the country for their health. Instead of no students, there were ninety-six admitted upon written examination, in the first twelve months. These boys at the time of entrance averaged more than eighteen years of age, and seventy-four out of ninety-six understood farm labor and had worked upon a farm. Never did pioneer settlers, nor those engaged in any great work or cause, face greater difficulties and problems than did the professors of this new college and the Pioneer Class of 1871 in this great evolution or experiment in agricultural education. The students were there to be experimented on; the education of the farmer for the farm and agricultural pursuits had never been attempted in New England. Prejudice and opposition to the college prevailed in every quarter. Not only was the vocational education on trial, but the college, the professors and the students were all under fire. If this new education should prove a failure and the college not be a success, then the start in life of these students would be seriously affected. It was fortunate that the faith of the students was great, and that they became imbued with the enthusiasm and optimism of the faculty and trustees of that time.

Members of the first class well remember the opening term at the college and their first meeting with Professor Stockbridge. At this meeting the class was divided into squads of six or seven with one of their number as captain, and was sent out upon the farm to dig up old apple trees, husk and sort corn, pick apples, dig ditches for draining, fork over manure heaps, etc., while the professor, with his trousers tucked into his boots, superintended the work of the squads. Though the newspapers poked fun at this new kind of a professor and his students, who had been given the name of "potato freshmen" by the classical students at the college on the hill, yet the work of the pioneers went on, and all were happy.

All students were required to labor upon the farm, without pay, two hours every other day, and those who wished, were paid for additional work at the rate of twelve and one-half cents per hour. Thirty-six members of the class voluntarily worked for wages during the first term, and the one who earned the most was the best scholar in the class, though it had been stated by opponents of the college that no Agricultural College in the world would be successful if manual labor on the part of the students was compulsory.

The college was fortunate in having, at the start, such a man as Levi Stockbridge. Born in the historic town of Hadley, of the purest New England stock, he was a product of the Connecticut Valley and worthy of a place with the "River Gods" of that famed valley. One of a large family, it did not fall to his lot to receive a college education, but his ambition for an education was great and he availed himself of all the opportunities that came to him. He loved the farm, farm life, and the young manhood of the farm, and he saw, as but few did at that time, the great need of the education of the farmer. He had read the works of Liebig, the founder of agricultural chemistry, and the experiments of Lawes and Gilbert were known to him. As a young man he had kept in touch with the proceedings which led to the founding of the State Board of Agriculture of which he became one of the prominent members, and was also familiar with the discussions that finally resulted in the founding of the Agricultural College. The work he undertook when he left his Hadley farm to take charge of the college farm and the erection of the first buildings was of an unknown character. This was practically the first agricultural college to be started in this country. The field was absolutely new, and there was not a model to go by. When he undertook instruction in agriculture, there

was not another chair of agriculture in this country, and there was no one to whom he could turn for advice. He had to blaze his way without books and without charts, into unknown fields of education.

Professor Stockbridge came to his great work at the college when thirty-seven years of age, while he was in the prime of life, full of enthusiasm, healthful, courageous, and optimistic as to the future of the institution to which he was to devote his life work. His lectures on agriculture were interesting, clear, concise, and practical, and they were extremely popular with the students. His tact and judgment in dealing with young men was remarkable. He was thoroughly acquainted with all the needs and all the work of the college, and was President Clark's right-hand man, not only in the launching of this new enterprise, but during the absence of the president in Japan when he had full charge of the college. In the dark days of the institution when it was without friends and without funds to pay its current expenses, he raised the money at the local banks on his own notes, or on the college notes indorsed by himself, and proved himself indeed a present help in time of trouble. The formulas worked out by Professor Stockbridge and given to the public in 1876, revolutionized not only the common notion of fertilizers, but the entire fertilizer business of the country. The first money he received in royalties for the use of his name, was devoted to experimental work at Amherst, which practically laid the foundation for the first experiment station to be established in this country in connection with an agricultural college. It was also the fourth station to be incorporated in the United States, the first one being incorporated by Connecticut at New Haven in 1877, the second a little later in 1877 by North Carolina, and the third by New Jersey in March, 1880.

The Massachusetts Agricultural Experiment station was established in 1882 and located at Amherst, but had no organic connection with the Massachusetts Agricultural College, the act establishing it providing for its independent management and support. But to Johnson and Atwater of Connecticut, renowned as chemists, and to Stockbridge and Clark of Massachusetts, the wisest of practical educators, belongs the credit of inaugurating this great movement.

The great work of Levi Stockbridge, as farm superintendent, professor of agriculture, president and benefactor, is written all through the annals of the Massachusetts Agricultural College, and not only will his memory be preserved by that grand building, Stockbridge

Hall, but it will live in the lives and characters of hundreds of students who will always remember him as dear old Professor Stockbridge, whom they all loved.

Under the terms of the United States grant, the college was required to furnish training in military tactics. To comply with this requirement was at first no easy matter. There was no drill hall, no military equipment, and no member of the faculty who had made a special study of military training. Fortunately the college had, in Professor Goodell, one whose knowledge of military affairs was gained by service in the Union armies, and to his other duties was added that of instructor in gymnastics and military tactics. Under his direction the students received such training as the resources of the institution would permit. In March, 1868, the General Court passed a resolve authorizing the governor to issue arms and equipment to the college, and during that month President Clark acknowledged the receipt of sixty Springfield rifles and equipment for the use of the students. It was not until the following year, 1869, that the first detail was made of an officer of the United States army to serve as military instructor, and at that time Major Henry E. Alvord was selected to serve in that capacity at the Massachusetts Agricultural College. He was the first army officer ever detailed to give military instruction at an agricultural college. Major Alvord was destined to play an important part, not only in the history of this college but in the agricultural education of the country. He was born in Greenfield, Mass., in 1841, studied at Norwich University, enlisted in the cavalry in 1862, and was given the rank of major for meritorious service. After the war he served in Kansas, Texas and the Indian Territory. During this latter period of service he became greatly interested in agriculture, and wrote an extensive paper upon "American Beef for British Markets," for which he was awarded the grand medal of the Royal Agricultural Society of England. He served as military instructor at the Massachusetts Agricultural College for three years, from 1869 to 1872, and at the close of his detail in 1872 resigned from the army. During his detail he took regular courses under Goessmann, Stockbridge and Clark, and during the rest of his life he took a strong personal interest in the affairs of the college, holding the position of Professor of Agriculture during the years 1885 to 1887. Later he reorganized the Maryland Agricultural College, and was also connected with the agricultural colleges of Oklahoma and New Hampshire. At the time

VIEW OF GROUNDS IN 1868

Number of Buildings with Class Rooms and Laboratories, 3. Floor Area in Class Rooms and Laboratories, 4,700 square feet.

VIEW OF GROUNDS IN 1917

Number of Buildings with Class Rooms and Laboratories, 15. Floor Area in Class Rooms and Laboratories, 103,162 square feet.

of his death, which occurred at the St. Louis Exposition in 1904, he was Chief of the Dairy Division of the United States Department of Agriculture. By his will he left four thousand dollars for the use of the Massachusetts Agricultural College, the income of which is to be used to aid in the support of any worthy student, either undergraduate or postgraduate, who specializes in dairy husbandry with the intention of becoming an investigator, teacher, or special practitioner.

During the early history of the college it was indebted to Amherst College in many ways, for valuable assistance. Our first professor of mathematics was borrowed from that institution in the person of Ebenezer Snell. Professor Snell was a graduate of the first class of Amherst college in 1822. In 1825 he was called to a tutorship in the college, and in 1827 was made instructor in mathematics and natural philosophy, receiving the full professorship in 1834. One of his associates on the Amherst faculty said of him: "He was a man, who for exactness, clearness and methods in teaching, has had no equal in Amherst and no superior anywhere; and who as an experimental lecturer cannot be surpassed." Also by his mechanical genius he kept his cabinet abreast of the most costly apparatus of the richest colleges in the land. Others of the faculty of Amherst College to whom we are indebted are: Dr. Edward Hitchcock who gave a course of lectures on comparative anatomy; L. Clark Seelye who lectured on English literature; and Prof. Snell who lectured on physics. Later, Professors B. K. Emerson and John M. Tyler gave zoological instruction; Prof. John K. Richardson gave instruction in mathematics; and Prof. Elihu Root was instructor in rhetoric and elocution. During the first term or two we received our religious instruction from Amherst College, as far as the regular Sunday preaching services were concerned, and on Sunday forenoons the agricultural students could be seen leaving their dormitory and marching in a column, two by two, to the old Amherst College chapel, where they were ushered into the gallery.

The first society to be started by the College students was the Washington Irving Literary Society, which was of great value to its members, and which had accumulated a library of two hundred and fifty volumes of standard works by 1870.

The years 1868 and 1869 were busy times at the college, for accommodations had to be provided for the classes that were to follow the

first class. On May 1st, 1868, the Legislature voted to allow fifty thousand dollars for the erection of more buildings, and during the summer the north dormitory and north boarding house were built, and the botanical museum and Durfee plant house were completed.

President Clark, ever on the alert to secure events that would bring people to the college and attract attention to the institution, procured a meeting of the New England Agricultural Society in May, for a trial of plows on the college farm. This was a successful affair, and in December the country meeting of the State Board of Agriculture was held at the college with a three days' session, the meetings being held in the laboratory building and in Palmer's Hall at Amherst. It was a proud occasion, not only for President Clark, as he welcomed the Board to the college now in successful operation, but for the Board of Agriculture that had done so much for a decade and a half towards the establishment of the college. At these meetings addresses were given by some of the most prominent agricultural speakers of this country and England. Among these were: James F. C. Hyde, President of the Massachusetts Horticultural Society; Col. M. C. Weld of New York City; John Gamgee, Veterinary Surgeon and President of the Albert Veterinary College of London; William Clift, Esq., of the American Agriculturist of New York City; Prof. Louis Agassiz of Harvard University; X. A. Willard of Herkimer County, New York; Prof. Levi Stockbridge; and Dr. George B. Loring, the eloquent agricultural orator, whose subject was "The Value of Agricultural Investigations, and the Ability of Massachusetts to Support the Agricultural College."

It was also in 1868 that Dr. Charles A. Goessmann, who was to become such a prominent factor in the history of the college, was elected professor of chemistry, and Samuel F. Miller of Chicago was elected professor of mathematics, physics and civil engineering. The College Christian Union was founded during the same year. On April 25, 1869, the Legislature appropriated fifty thousand dollars for the further erection of buildings and for other purposes. During the year "College Hall," now known as the chemistry building, was built. It is a wooden structure, sixty by ninety-seven feet, and when first erected was occupied as follows: in the first story was a chapel sixty by forty feet, and four rooms occupied by students in practical chemistry; in the second story was a hall for drawing, also used as a recitation and lecture room by the professor of mathe-

matics and engineering, a chemical lecture room, office, and the private laboratory and apparatus room of the professor of chemistry; in the third story was the military drill hall and armory. The old chemical laboratory building was incorporated in this new edifice, and the total cost of the old and new parts was about thirty thousand dollars. Other buildings erected this year were a dwelling house for the farm superintendent costing four thousand dollars, and a barn costing nine thousand dollars.

On June 20th of this year, the second national exhibition of agricultural machines, instituted by the New England Agricultural Society, opened at the college and continued four days, during which time twenty-five mowing machines, twelve horse rakes and other machines were tested by competent committees. The occasion brought together a large number of inventors, manufacturers, and agents, as well as farmers from different parts of the country, and resulted in much good. It was at about this time that Hon. William Knowlton of Upton gave two thousand dollars for the purchase of the herbarium collected by W. W. Denslow.

In the latter part of 1869, the first Index was published which stated that it was, "A pamphlet designed to represent the internal growth and status of the college," and which contained an account of the student body and the organizations they had founded, together with a list of the board of trustees and members of the faculty, including the lecturers in the various departments. The name of Rev. L. Clark Seelye appears as chaplain; John Dillon as farm superintendent; and John Griffin, gardener. In addition to the members of the Amherst College faculty, previously mentioned as among the lecturers, the following special lecturers were employed: Prof. James Law, V. S., on Diseases of Domestic Animals; Charles L. Flint, A. M., on Dairy Farming; Dr. Calvin Cutter on Hygiene; Hon. Joseph White, LL.D., on Civil Polity; Dr. Jabez Fisher on Market Gardening; Hon. Marshall P. Wilder on Horticulture; A. S. Packard, M.D., on Useful and Injurious Insects; and Dr. George B. Loring on Stock Farming. The students in the college at that time numbered one hundred and fourteen, divided as follows: Juniors, thirty; Sophomores, thirty-five; Freshmen, twenty-two, and Specials, twenty-seven. There were two literary societies, the Washington Irving, and the Phoenicia, besides the College Christian Union which had been founded in 1868 through the influence of Prof. S. F.

Miller. There were two fraternities, the D. G. K. and the Q. T. V.; and of musical organizations there were the College Choir, with John M. Lockey as leader and organist, and the Glee Club with Arthur D. Norcross leader. Athletics were represented by one organization, the Wilder Base Ball Association, which consisted of the Wilder Nine and the class nines of '71 and '72. The second issue of the Index in 1870 by the Junior class, had a fourth class added, making the circle of college classes complete. Athletics were increased by a Boating Organization with a college navy and a college crew. On November 5th the first regatta in which the Agricultural College students took part, was held on the Connecticut River near the Hatfield Ferry. This race was between the Juniors of Amherst College and the Agricultural College crew. It was a three mile race, and was won by the the Agricultural crew in nineteen minutes, fifty-nine seconds. The first prize consisted of six sets of gold oars and a silver cup.

Prof. Samuel Fisher Miller died October 28, 1870, of a cancerous affection of the bowels. He was a native of Heath in Franklin County and graduated from Amherst College in the class of 1848. He decided to devote himself to civil engineering, and removed to the West where he was engaged as engineer in the survey and construction of various roads in Michigan, Wisconsin and Illinois, and he was also professor of mathematics in Chicago. In 1868, by the urgent solicitation of his college classmate, President Clark, he was induced to return to Massachusetts and assume the duties of professor in the Agricultural College. During the two years of his service at the college, he won the highest respect from all with whom he came in contact. As a teacher of mathematics he was a model of simplicity, clearness and practicality, and was deeply interested in the application of science to works of public utility. He surveyed the line of the Massachusetts Central Railroad from Belchertown to Northampton; assisted in locating and grading numerous walks and roads in Amherst; prepared a plan for the introduction of water from Pelham; wrote a prize essay on the highways of the state and the best method of constructing and repairing them; and originated the idea of establishing true meridian lines in different parts of the Commonwealth, and requiring all surveys to be made with reference to them.

In the fall of 1870 a new member was added to the faculty, when Professor Henry W. Parker from Iowa College was elected professor of mental, moral and social science, and college preacher. The

Index of 1870 said of him, "We welcomed with joy the advent of our new Professor in Science, and chaplain whom we could call our own." Professor Parker was a man of scholarly attainments and was a valuable addition to the faculty. During this term Professor Martin H. Fiske was chosen as instructor in mathematics and civil engineering.

Additional lecturers for 1871 were secured in George B. Emerson, LL.D., author of "Trees and Shrubs of Massachusetts," who lectured on Arboriculture; Alonzo Bradley, Esq., of Lee, president of the Massachusetts Beekeepers' Association, who lectured on Honey Bees and their Management, these being the first lectures or instruction on bees ever given at an American agricultural college; Marquis F. Dickinson, Jr., Esq., of Boston, on Rural Law; and Professor William R. Ware of Boston, on Architecture and its Application to Rural Affairs.

CHAPTER III

PRESIDENT CLARK'S ADMINISTRATION

THE year 1871 was made memorable by the graduation from the college of its first class which has ever been known as the "Pioneer Class." On the opening of the college in October, 1867, the class during the first term numbered forty-seven members, and on its graduation twenty-seven received diplomas. Sixty-four different persons had been connected with the class during the four years, and all of the twenty-seven who graduated were Massachusetts boys, with one exception. (Forty-nine years before, in August, 1822, Amherst College graduated its first class, numbering three members.) The commencement exercises of the Agricultural College were held July 17, 18 and 19, and were attended by many distinguished men not only from Massachusetts, but from other states. Among those in attendance were Governor Claflin with several members of his staff and council; Hon. Justin S. Morrill, Senator from Vermont and author of the bill under the provisions of which the college was established; Professor Louis Agassiz; Hon. Marshall P. Wilder; and Dr. George B. Loring. The people of Amherst manifested great interest in the occasion, and many of the houses on the street leading north from the village to the college grounds were beautifully decorated during the daytime, and brilliantly illuminated in the evening.

The first public exercises were held on Monday evening, July 17, consisting of prize speaking by the lower classes. On Tuesday afternoon the class day exercises were held on the campus, and in the evening Dr. George B. Loring delivered an address before the literary societies of the college. This was followed by a torchlight parade of the students, headed by the Springfield Armory band followed by a long line of carriages and people, which proceeded from the village to the residence of President Clark where a reception was given to Governor Claflin. There was a fine display of fireworks on the president's grounds, all the college buildings were brilliantly illumi-

nated, and at midnight an artillery salute was fired. On Wednesday morning the cadets were reviewed upon the campus by the governor. The graduation exercises of the class of 1871 were held in College Hall at Amherst College, which was crowded to the doors. The exercises included orations by members of the class, congratulatory remarks by Prof. Louis Agassiz, an address by Governor Claflin, and an historical address by Hon. Marshall P. Wilder, after which the degree of Bachelor of Science was conferred upon the members of the class, and the diplomas presented by President Clark.

Probably the most exciting event in the early history of the college was the intercollegiate regatta of American colleges held on the Connecticut River at Ingleside, between Holyoke and Springfield, July 21, 1871. The race was rowed over a three mile course, and was participated in by Harvard University, Brown University, and the Massachusetts Agricultural College. The Agricultural College crew consisted of Fred C. Eldred (stroke), Fred M. Somers, Henry B. Simpson, Gideon H. Allen, Arthur D. Norcross, and George Leonard (bow). The smooth surface of the river was scarcely broken by a ripple, when a few minutes past seven P. M. the word was given. The college crew, with the outside position, had the poorest start of all, but quickly settled down to work and in two minutes had gained perceptibly and continued to do so, although the other crews rowed as if for dear life. On they went, the country boys every minute leaving their city rivals farther and farther behind. People on the shore fairly shrieked with excitement to see this extraordinary turn in affairs. Down by the Chicopee bridge great crowds were anxiously waiting for the arrival of the crews. As they came in sight, it was seen that the Agricultural College crew was in the lead and was easily keeping its rivals at a respectful distance. It won by a good distance —a dozen lengths at least—and the enthusiasm which greeted its entirely unlooked for success was intense. The time was remarkably good, sixteen minutes and forty-six and one-half seconds,—then the fastest time on record,—while Harvard came in second, in eighteen minutes and thirty seconds. This brilliant victory fairly startled the public and betting men especially were astonished to a great degree. This in some respects was the greatest event in the first four years of student life, for it caused the country to take notice that there was a Massachusetts Agricultural College and that it had a class of students who could compete successfully with students

of older institutions of learning. It was also a fitting climax to the college life of the "Pioneer Class," and the ending of their graduation exercises, for three of the class of 1871 were members of the victorious crew.

On May 26, 1871, the Legislature voted fifty thousand dollars for the payment of debts of the college, and for current expenses added $141,535.35 to the perpetual fund of the college.

In the fall of 1871 Selim H. Peabody was elected professor of mathematics, physics and civil engineering. He was born at Rockingham, Vt., August 20, 1829, and graduated from the University of Vermont in 1852. After graduating he was principal of the High School of Burlington, Vt., for some time. He was preeminently an educator, and served as teacher, principal and superintendent of schools in Vermont, Pennsylvania, Wisconsin and Illinois before he came to the Agricultural College. In 1874 Prof. Peabody resigned his position at the college, and in 1878 he was elected professor of mechanical engineering at the University of Illinois. In 1881 he became president of the university, and resigned in 1891 when he was made chief of the Department of Liberal Arts in the World's Columbian Exposition. He was engaged in similar positions at the expositions at Buffalo, Charleston and St. Louis, and was sent to the exposition in Paris in 1889. While attending to the duties of his exposition work at St. Louis he passed away suddenly from apoplexy.

In February, 1872, the college secured the services of one of the best known American scientists of his day, Henry James Clark, as professor of comparative anatomy and veterinary science. Prof. Clark was a native of Easton, Mass., a graduate of the University of New York in 1848, and of the Lawrence Scientific School, Cambridge, in 1854. He studied under Prof. Louis Agassiz, serving several years as his private assistant, and was spoken of by him as "the most accurate observer in the country." He served Harvard College as adjunct professor of zoology for five years; was appointed professor of natural history in the Agricultural College of Pennsylvania in 1867; and received the appointment of professor of natural history in Kentucky University in 1869, where he was serving when called to the Massachusetts Agricultural College in 1872. His service here was of short duration, less than a year and a half, when it was terminated July 1, 1873, by his death in his forty-eighth year. His death in the

very prime of life was a great loss, not only to the college but to the scientific world.

Prof. Noah Cressy, M. D., of Middletown, Conn., was elected to the vacant position in the faculty. He had held the position of veterinary pathologist of the Connecticut Board of Agriculture, and had the reputation of being a skillful practitioner of veterinary medicine.

In 1872 Levi Stockbridge was elected full professor of agriculture, and Abner H. Merrill was detailed as professor of military science and tactics.

The year 1873 was made notable by the establishment of several prizes, made possible by gifts from friends of the college. Hon. William Claflin donated to the college one thousand dollars for the endowment of prizes to be awarded each year to the two members of the graduating class who should pass the best oral and written examinations in the theory and practice of agriculture. He called them the Grinnell prizes, in honor of George B. Grinnell, Esq., of New York. Isaac D. Farnsworth, Esq., donated fifteen hundred dollars to endow the Farnsworth rhetorical prizes; the Hills botanical prizes were founded by L. M. and H. F. Hills of Amherst; and the Peabody entomological prize was given by Prof. Selim H. Peabody.

An extensive series of investigations was carried on during the spring of 1873 upon the circulation of sap in the sugar maple and other species of trees, the results of which were presented in a paper by President Wm. S. Clark before the country meeting of the State Board of Agriculture at Fitchburg in December of that year. This paper elicited from Prof. Agassiz the extraordinary statement that, "the production of this one paper was an ample return for all that had been expended on the college;" while Dr. George B. Emerson, the celebrated author of the report on the "Trees and Shrubs of Massachusetts," after fully endorsing the statement of Agassiz, added that "under the feeling which it produced in him, he would, if he had a hundred thousand dollars to give, send it all to the college at once."

It was in 1874 that the remarkable experiment was made with the squash in harness that attracted attention all over the country and led papers which did not believe in the college and were inclined to ridicule it, to designate it as the "Bull and Squash College." The experiment was made to determine the expansive force of a growing plant, and the squash was taken as the best plant for the experiment. Never before had the development of a squash been observed so

closely, or by so many people,—thousands of men, women and children from all quarters visiting it. Prof. H. W. Parker was moved to write a poem about it, while Prof. Julius H. Seelye declared that he positively stood in awe of it. The weight of the squash was forty-seven and a quarter pounds, and the weight of iron lifted by it in the course of its development was two and a half tons.

The year 1874 was marked by increased activity at the college, and several important changes were made in the faculty. Prof. Peabody resigned and Prof. Wm. B. Graves of Marietta College, Ohio, was chosen as his successor. Samuel T. Maynard, a graduate of the college in the class of 1872, was elected gardener and assistant professor of horticulture. At commencement this year a large number of graduates were in attendance, and an association was organized, to be known as the Associate Alumni of the Massachusetts Agricultural College.

During the year 1875 the college trustees entered into an important agreement with the corporation of Boston University, whereby they agreed on behalf of the college that matriculants in the university desiring to pursue any regular or special course of instruction presented at the Agricultural College, should be at liberty to do so on the same terms and conditions as other persons, and on completing the course to the satisfaction of the authorities of both institutions, should be entitled to the appropriate degree, either from the college or the university, or from both, as they might prefer. Under this agreement a student at the college might become a member of the university and receive its diploma in addition to that of the college, and many of the students have done this. During this year, C. A. L. Totten of the United States army succeeded A. H. Merrill as professor of military science and tactics; Prof. C. A. Goessmann made extensive investigations concerning the composition and manurial value of commercial fertilizers; and Prof. Charles Sargent of Boston donated to the college several thousand specimens of trees, shrubs and herbaceous plants.

On April 26, 1876, Dr. Nathan Durfee of Fall River, treasurer of the college from its establishment and one of the most liberal of its benefactors, was removed by death. On May 20, 1876, President Clark left Amherst for Japan, where he had been summoned by the imperial government to assist in the organization of an agricultural college. In his absence the government of the college was left in the

hands of Prof. Stockbridge. This year also, Noah Cressy resigned as professor of veterinary science, and by vote of the trustees, the date for holding commencement exercises was changed from July to June. Of the twenty-four members of the graduating class this year, twenty-one received the degree of Bachelor of Science from Boston University. Lieutenant Totten instituted the practice, which has been continued since, of presenting military diplomas to the members of the graduating class, and also gave the first military prize.

May 16, 1877, the Legislature passed a resolve allowing five thousand dollars for current expenses, one half to be used for payment of manual labor by the students. When the original plan for an agricultural college was outlined by President Hitchcock, he recommended that such of the students as desired to work upon the college farm, in excess of the amount required of each student, should receive suitable compensation. President Clark was an earnest advocate of the establishment of a labor fund, and it was doubtless due to his influence that the Legislature made this appropriation. In 1877 a new greenhouse was built with funds provided by Hon. William Knowlton, and Professor Stockbridge gave one thousand dollars to the college to be used for experimental purposes.

During the year 1877 President Clark returned from Japan where he had organized the Sapporo Agricultural College, and had served as its first president for a year. He had taken with him to Japan, several of the graduates of the Massachusetts Agricultural College, and they were given prominent professorships in the new college. William Wheeler of the class of 1871 was professor of mathematics and civil engineering, and was also civil engineer to the Imperial Colonial Department of Japan. On the return of Clark to Amherst, Wheeler became acting president of the college for a year or so, and was then made president, which position he held until his return to this country in 1880. David Pearce Penhallow of the class of 1873 was the professor of botany and chemistry in the new college, and was acting president for a short time after Wheeler's departure from Japan. William Penn Brooks of the class of 1875, who was professor of agriculture in the Sapporo College from 1877 to 1888, was also for a portion of the time professor of botany, and was acting president from 1880 to 1883, and again in 1886. He resigned his position in Japan in October, 1888, to take the position of professor of agriculture in the Massachusetts Agricultural College, January 1, 1889. John C. Cutter

of the class of 1872 went to Japan in 1878 and was professor of physiology and anatomy from 1878 to 1887, and also consulting physician to the Colonial Department. Horace E. Stockbridge was the professor of chemistry from 1885 to 1888, and Arthur A. Brigham of the class of 1878 followed Prof. Brooks as professor of agriculture, serving from 1889 to 1892. Cecil H. Peabody who was a member of the class of 1875 for three years also served the Sapporo College as professor of mathematics from 1879 to 1881.

In 1878 the college received by bequest, one thousand dollars from Whiting Street for the establishment of a scholarship, and the trustees also offered one hundred and fifty free scholarships for students entering the college that year.

On May 1, 1879, President Clark resigned his office. Elected to the presidency in 1867, he had served the college faithfully and well for twelve years, giving it at all times the best fruits of his ripened intellect, and it was with genuine regret that the trustees accepted his resignation, a regret that was shared alike by members of the faculty, alumni and undergraduates of the college. William S. Clark, the head of the famous "Faculty of Four," was a native of Ashfield, Franklin County, where he was born July 31, 1826. Like Levi Stockbridge he was a product of western Massachusetts and its institutions. In 1844 he graduated at Williston Seminary, Easthampton, and at once entered Amherst College from which he graduated with distinction in 1848. He pursued his studies in Germany at Goettingen University, graduating with the degrees of A. M. and Ph. D. From 1852 to 1867 he served Amherst College as professor of chemistry and botany, and when he was called to the presidency of this college in 1867, he was, as scholar, teacher and public man, better fitted than almost any other man of his day, to inaugurate the beginning of a new departure in education in the state and nation. A man forty-two years of age when he commenced his work here, of fine presence, splendid mental and physical vigor, in the prime of life, and full of enthusiasm and push; everything that he undertook was sure to go, and he had a way of getting there a little sooner than anybody else. He used to relate that as a boy he always made it a rule to run faster, jump farther and higher, fight harder, and swim more strongly than any of his companions, and his watchword and slogan "Do it" guided him to success in whatever he undertook. It was this persistency and enthusiasm that carried him through the Civil War where he served

with distinction, and that placed this institution on a secure and enduring foundation. It carried him to the far-off East where his memory is firmly enshrined in the hearts of the Japanese people, who to this day hold his name in the highest esteem as that of one who conferred great benefits upon their country. His entire period of service under the Japanese government extended over less than a year, but during that time he laid the foundation of a most successful college of agriculture which has since developed into a great university, the graduates of which have won distinction in the domain of science, literature and public life. His enthusiasm was intense. The writer recalls the great race at Ingleside when our college crew won that memorable victory over Harvard and Brown. We were standing near President Clark on the Ingleside grounds and when the crews came in sight and it could be seen that the "Aggies" were well in the lead, President Clark threw his tall hat into the air and engaged in such shouting and jumping as was not equalled by any of the students, and when the victory was won, Clark came tearing into Amherst behind his team of beautiful high-steppers, hat off, and crying at the top of his voice "We've won! We've won!" This intense enthusiasm was carried into everything that he did for the college. His versatility was great. He investigated the chemical composition of meteorites, the lifting power of growing squashes, and the flow of sap. He was a teacher of rare power and influence. As a soldier he had few equals. He had great executive ability. He knew everybody and everybody knew him. He was a born leader, and had that rare gift of personal magnetism that drew men to him and made them follow him. His recognized scholarship, his wide experience, and his genial nature all rendered him the ideal man for the position he held.

CHAPTER IV

THE COLLEGE FROM 1879 TO 1886

WITH the year 1879, hard times and dark days came to the college. For several years its current expenses had considerably exceeded its income, and it incurred a debt which grew larger and larger each year. On April 24th the Legislature passed an act granting thirty-two thousand dollars to the college to pay existing indebtedness, and at the same time made the trustees personally responsible for any debt thereafter incurred in excess of the income of the college. June 12th the trustees, owing to the diminished income, sold at auction all the blooded stock belonging to the college, except the Ayrshire herd. Current expenses were reduced ten thousand dollars a year; one professorship was abolished; the president's salary was withheld; and the salaries of the professors and treasurer were cut down. An attempt was now made, encouraged by Governor Talbot and recommended by Governor Long, to annex the Agricultural College to another college.

A decade before there was a crisis in the affairs of the college, when an attempt was made to disown it, and a committee was appointed to devise a plan by which the college might without expense to the Commonwealth, be organized as an independent institution, and also to inquire whether the term of study of the college might not be reduced. Hon. Joseph White, Secretary of the State Board of Education, and Charles L. Flint, Secretary of the State Board of Agriculture, were chosen to make a careful investigation of the subject, and a report based upon their investigations was submitted to the Legislature in 1871 which was to the effect that it was not practicable to sever the connection between the college and the Commonwealth and withhold from it further aid, and also that any considerable reduction of the prescribed course of study would violate the terms of the congressional grant. In accordance with the recommendation of this report, the Legislature passed resolves allowing the college

money for the payment of its debts, and added quite a large amount to the perpetual fund of the college. Thus this movement, started to separate the college from the state and close the door to further state appropriations, resulted in binding the two more closely together.

An act passed by the Legislature in 1879 constituted the governor and council a commission to examine the status of the institution with the intention of severing its connection with and releasing the state from its obligation and guarantees to the general government respecting the college. This committee submitted its report to the Legislature of 1880, practically recommending that the college with its real and personal estate and the trust funds received from the United States for its specific support, should be given to Amherst College, and that any further effort toward its maintenance by the state should be abandoned. This proposition, although strongly advocated by Governor Long, was so radical and so subversive of the integrity of the state, that it gained no favor at the hands of the public and no effort was made by the Legislature to accept this report. This attempt by those opposed to the college, to destroy its independence as an Agricultural College, seemed to attract to the college the sympathy and support of the agricultural community and the friends of agricultural education.

In 1879 Charles L. Flint was elected president. He was the first secretary of the Board of Agriculture, holding that office nearly thirty years, and was elected secretary of the Board of Trustees of the Agricultural College in 1863, holding the position twenty-two years. The year he served as president of the college was the most stormy in its existence. He served without pay, and so great was his interest in the college that he gave one thousand dollars in the closing year of his life to the permanent library fund. He resigned his office March 24, 1880.

There was no great decrease in the number of students in 1880, and more than the usual interest was manifested by them in their work. Prof. H. W. Parker resigned in 1879 and Samuel T. Maynard was elected full professor of botany and horticulture. In April, 1880, Levi Stockbridge was elected president of the college. He had been connected with it since 1866, before the admission of the first class, and was thoroughly acquainted with all the work and needs of the institution, and this, with his good judgment, made his services of great value at this time.

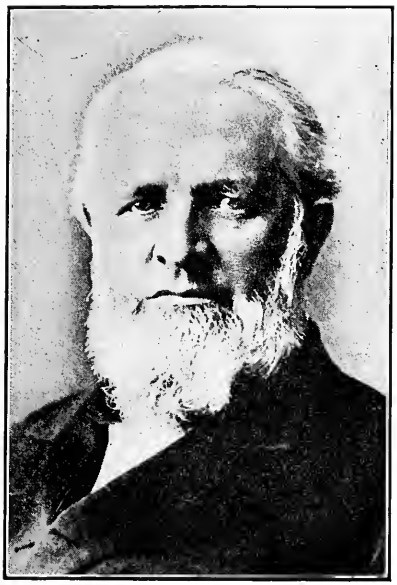
On August 25, 1881, Prof. W. B. Graves resigned, and Charles L. Harrington was appointed professor of mathematics, physics and civil engineering. Lieutenant Victor H. Bridgman of the United States army was detailed as professor of military science. The college battalion attended the celebration of the anniversary of the settlement of Boston, September 17, and took part in the parade as a military organization, receiving great praise from the press and public for their fine appearance. This year the alumni were first represented on the Board of Trustees by the election of William Wheeler of the class of 1871. The class of 1882 erected a handsome fountain on the grass plot in front of South College at an expense of two hundred and fifty dollars. The college grounds were connected with the mains of the Amherst Water Company, a contract being made with the company for water supply at the rate of one hundred and fifty dollars a year.

Levi Stockbridge resigned as president January 12, 1882, and Hon. Paul A. Chadbourne, whose health had so far improved that he had consented to take the presidency of the college once more, was elected the same month and assumed the duties of his office at once. During the period that Dr. Chadbourne had been connected with the institution in 1866 and 1867, he had shown such ability and zeal in the management of its affairs that the friends of the college were more than pleased when he accepted the office for a second time. The year that followed was one of great prosperity for the college, and it was a great shock to all its friends when he died February 23, 1883. It was in 1882 under the presidency of Dr. Chadbourne that nine thousand dollars were appropriated for a drill hall and repairs, and May 12th of the same year an act was passed establishing the Massachusetts Agricultural Experiment Station.

In January, 1883, the Durfee plant house was destroyed by fire.

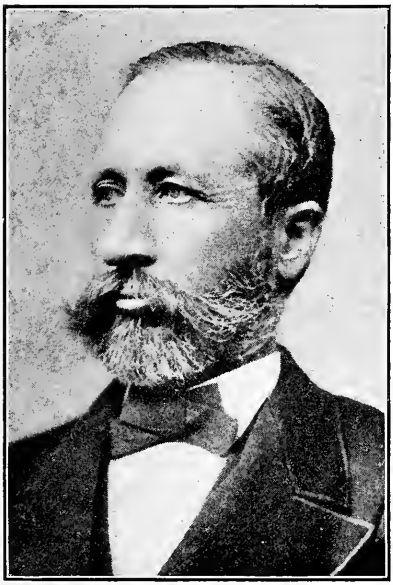
On the death of President Chadbourne, Prof. Henry H. Goodell was chosen acting president of the college, remaining in charge until September, when James C. Greenough, who had been elected president July 5th, assumed the duties of his office. Mr. Greenough who was principal of the Rhode Island Normal School, had not consented to become a candidate, but was elected by a unanimous vote of the trustees.

James Carruthers Greenough, seventh president of the college, was born in Wendell, Mass., August 15, 1829. He was a graduate of Williams College in 1860 and received the degree of A. M. from that

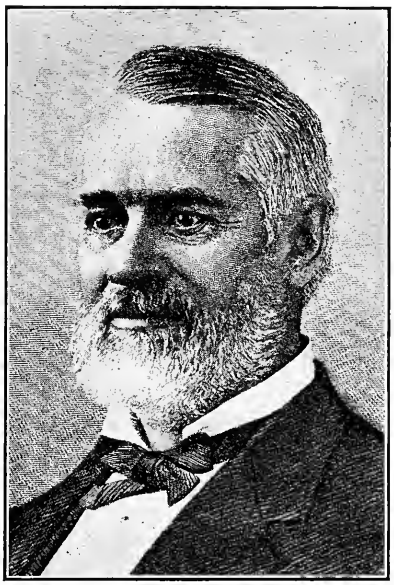


Henry Flagg French. 1864-1866.

Paul Ansel Chadbourne. 1866-'67. 1882-'83

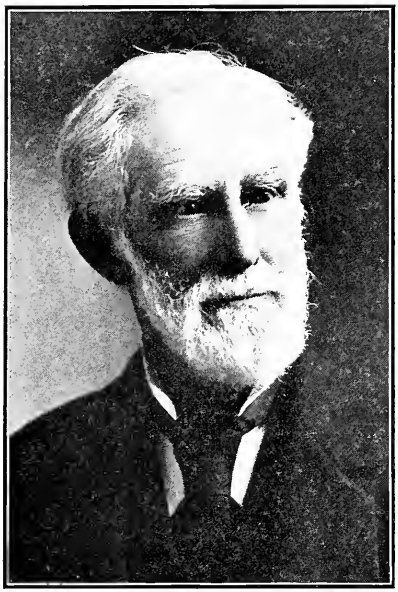


William Smith Clark. 1867-1879.

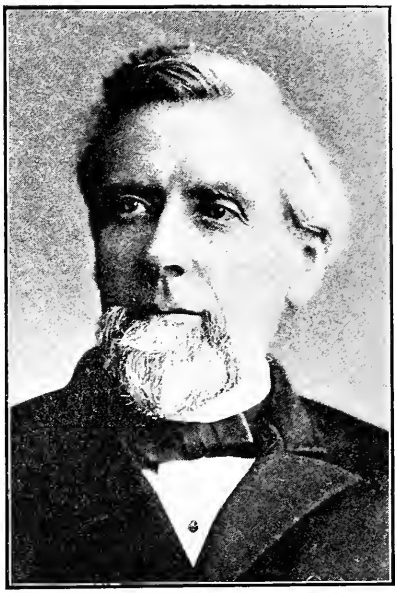


Charles L. Flint. 1879-1880.

PRESIDENTS. 1864-1880.



Levi Stockbridge. 1880-1882.



James Carruthers Greenough. 1883-1886.

Henry Hill Goodell. 1886-1905.

Kenyon Leech Butterfield. 1906-

PRESIDENTS. 1880-1917

college in 1873, and from Brown University in 1876. He was a teacher in public schools from 1849 to 1856, first assistant in the State Normal School at Westfield, Mass., for several years and principal of the Rhode Island State Normal School from 1871 to 1883. On July 5, 1883, he was elected president of the Massachusetts Agricultural College, and assumed the duties of his office in September of that year. His administration of three years was one of progress: the standard of scholarship was raised; the course of study extended; new buildings were erected; and extensive repairs and improvements made in North College and on other buildings of the college.

In 1883 the Legislature passed a resolve, "That there shall be paid annually from the treasury of the Commonwealth to the treasurer of the Massachusetts Agricultural College at Amherst, the sum of ten thousand dollars, to enable the trustees of said college to provide for the students of said institution the theoretical and practical education required by its charter and the law of the United States relating thereto." Eighty free scholarships were also established, two for each senatorial district, the candidates to be recommended by the senator of the district. During the year the drill hall was completed; Manly Miles was elected professor of agriculture; and Leander Wetherell of Boston presented 1410 bound volumes and several hundred pamphlets to the library.

May 8, 1884, the Legislature passed a resolve allowing thirty-six thousand dollars for the erection of a chapel and library building, for the completion of the president's house, and for repairs on the north dormitory. At this time they also limited the term of office of the trustees. This year Prof. A. B. Bassett, professor of mathematics, physics and civil engineering, resigned, and Clarence D. Warner was elected to fill the vacancy. Horace E. Stockbridge was also elected associate professor of chemistry. During the year the repairs on the north dormitory were made, and work on the construction of the new chapel building was begun, the corner stone being laid November 6, 1884, with interesting exercises. Hon. J. S. Grinnell of Greenfield presided; President Greenough briefly outlined the reasons for erecting the building; Herbert Myrick of the class of 1882 spoke in behalf of the library committee of the alumni; Ex-president Stockbridge spoke of the progress and aims of the college; Arthur A. Brigham of the class of '78 and S. C. Damon of the class of '82 also made addresses regarding the value and prospects of the college.

O. B. Hadwen, Esq., of Worcester, of the building committee, gave an account of the plan of the building, and Hon. C. L. Flint, for a time president of the college, outlined its early history. Rev. Samuel Snelling, rector of Grace Church in Amherst, offered prayer, and the corner-stone was put in place by the presidents of the several classes then in college. The building was constructed of granite from the quarry in Pelham owned by the college, and at the time of its erection was the finest building on the college grounds.

On the 4th of February, 1885, the south dormitory was destroyed by fire. On June 11th of the same year the Legislature passed a resolve allowing forty-five thousand dollars for rebuilding the south dormitory, erecting a tower on the chapel building, and the purchase of scientific apparatus. By another resolve on the same date, six thousand dollars was appropriated for the Massachusetts Agricultural Experiment Station, and on June 19 an act was passed making the annual report of the college and the annual report of the experiment station public documents. The boarding house built in 1867 was remodeled, repaired and painted; the interior of the original chapel building was remodeled; and the south dormitory was rebuilt on a much larger scale, with accommodations for the agricultural department, at a cost of thirty-three thousand dollars. During the summer months the president's house was completed and considerable additions were made to the library and to the scientific apparatus of the college. Prof. Horace E. Stockbridge, Ph. D., resigned in April to accept an important position in the Imperial College of Agriculture, Japan, and he was succeeded by Charles Wellington, Ph. D., as associate professor of chemistry. Lieutenant George E. Sage of the Fifth Artillery, U. S. A., was detailed as professor of military science and tactics.

During President Greenough's administration, two ex-presidents of the college died:—Henry Flagg French, the first president, died at Concord, Mass., November 29, 1885; and William S. Clark died at Amherst, March 9, 1886. Colonel Clark was practically the first president of the college, for Judge French did little more than take the initiatory steps, and President Chadbourne had hardly assumed the reins of government when the state of his health compelled him to resign, and it was left to Colonel Clark to really organize and establish the new college, and for twelve years he stood at the helm and maintained his course despite the opposition he encountered on every side.

A new prize was offered in 1886 for the first time, named the Henry James Clark Natural History Prize, in memory of the late Henry James Clark, the eminent biologist, who was the first professor of natural history at the college. It was a prize of Thirty Dollars offered annually for excellence in human anatomy and physiology as exhibited in written examination, and awarded to the writer judged worthy of such distinction. The first time this prize was awarded in June, 1886, it was given to Tataro Mishima, of the class of 1888, a Japanese student from Tokio, Japan.

President Greenough resigned at the close of the college year 1886. The college is indebted to him for his valuable services and oversight in the erection of the beautiful stone chapel and library building.

CHAPTER V

PRESIDENT GOODELL'S ADMINISTRATION

AT the period of the college commencement in June, 1886, Henry H. Goodell was elected president to fill the vacancy caused by the resignation of President Greenough. President Goodell had been connected with the college from its beginning, was familiar with all the work of the college, and knew its needs. On his accession to the presidency, other important changes were made in the faculty. Rev. Charles S. Walker, Ph. D., was elected college pastor and professor of mental science and political economy. He was a graduate of Yale University, and received the degree of Ph. D., from Amherst College in 1885. Henry E. Alvord, the first military professor, returned to the college as professor of agriculture; and Charles H. Fernald was made professor of natural history.

During the year 1886 the college lost two of its most devoted friends and officers in the death of Hon. William Knowlton, July 18, 1886, and Hon. Marshall P. Wilder, December 16, 1886. Hon. William Knowlton who had served on the board of trustees for fourteen years was a generous friend of the college. His purse and his hands were ever open, and again and again in the earlier days of the college he endorsed the notes of its treasurer and lent his name to keep its credit good. There was hardly a year that was not marked by his benefactions. Hon. Marshall P. Wilder was peculiarly identified with the college, for it is to him largely that Massachusetts owes its system of agricultural education. His name appears first in the act of incorporation, and from that time to the day of his death, he never ceased active connection with the college.

In 1886 William Wheeler, a graduate of the class of 1871, was appointed trustee, being the first alumnus to be appointed to that position. In that year also, President Henry H. Goodell, in his first annual report as president and the twenty-fourth report of the college, mentions a new department in the domain of natural history, the

chair of which was filled by the election of Charles H. Fernald, Ph. D. The chair which he took was entitled, "Professor of Zoology and Lecturer on Veterinary Science." Grouped under this were the subjects of human anatomy and physiology, entomology, comparative anatomy of domestic animals, and veterinary science, all of which subjects Professor Fernald handled with marked ability.

From September 1, 1871 to 1886, he served as professor of natural history at the Maine State College, from which institution he received his doctor's degree. He also studied with Prof. Louis Agassiz in his famous school at Penikese Island. He had given special attention to entomology and had made important investigations in that line. His work was becoming known in the country, and other institutions were beginning to seek him, the Iowa Agricultural College having invited him to become its president. For some time he refused all offers, but in 1886 accepted the appointment of Professor of Zoology and Lecturer on Veterinary Science at the Massachusetts Agricultural College. At that time the department of natural history was confined entirely to two or three rooms in South College, and Professor Fernald was in sole charge. There was but little material equipment, and there was no provision for laboratory work.

In the summer of 1889 Professor Fernald went to Europe for further study in the museums, and while there was notified that the Gypsy Moth had been discovered in Massachusetts. He then devoted all the time possible to the study of this insect in the different countries visited. In the state work for the suppression of the moth he was given the charge of the scientific part of the work. He made extensive studies and published a number of valuable reports on Gypsy and Brown-tail Moths, and his advice was of great value in the fight which continued for the next ten years.

As a result of the entomological work made possible by the establishment of the Experiment Stations and the fight against the Gypsy Moth, the college work in entomology developed very rapidly. In 1893 the trustees made entomology one of the advanced courses leading to the degree of Master of Science. In 1894 the department of entomology began the rapid growth that still continues. In 1898 the trustees authorized the conferring of the degree of Doctor of Philosophy upon the satisfactory completion of three years of post-graduate work in botany, chemistry, and entomology, and in the summer of 1899 established a separate professorship of entomology. To

the new chair they called Dr. Henry T. Fernald, then of the Pennsylvania State College. Prof. Charles H. Fernald, although his work consisted mainly in the development of the postgraduate courses in entomology, retained the title of Professor of Zoology. Under the able guidance of these two men, father and son, the entomological courses attracted more students than the laboratory facilities could possibly accommodate, and dozens of applicants had to be turned away. The trustees in 1908 recognized the growing importance of the advanced work by establishing a Graduate School, of which Prof. Charles H. Fernald was made the director.

In 1909 the Legislature granted eighty thousand dollars for a building for the departments of entomology and zoology, to which amount fifteen thousand dollars was later added for furnishings. This building, erected in 1910, was opened and dedicated on November 11th of that year, and contains an equipment for entomological study said to be unexcelled in the world. This splendid structure will stand as a memorial to the labors of Prof. Charles H. Fernald and Dr. Henry T. Fernald who have made the department of entomology in the Massachusetts Agricultural College one which has attracted students from all the leading colleges of New England to its postgraduate courses. Dr. Fernald's work as a teacher of entomology at the Massachusetts Agricultural College is known in every part of this country and in foreign lands, through the men whom he has been largely instrumental in preparing for practical work in entomology, and who are now found in the colleges and Experiment Stations throughout the United States, and as government entomologists in foreign countries.

On June 21, 1887, the twenty-fifth anniversary of the passage of the Morrill Land Grant Act was observed at the college, when addresses were delivered by Charles Kendall Adams, L.L.D., President of Cornell University; Hon. Justin S. Morrill, United States Senator from Vermont; and Hon. Charles G. Davis.

On January 1, 1889, William P. Brooks was called from his position as Professor of Agriculture and Botany at the Imperial Agricultural College of Japan at Sapporo, to take the chair of agriculture. The same year the English department was greatly strengthened by the appointment of Prof. George F. Mills, a teacher of long experience and brilliant reputation, who had been for a number of years principal of one of the most flourishing schools in the state. An insectary was built for the breeding of insects discovered on all useful plants, and for

experiments with insecticides. The Legislature appropriated ten thousand dollars annually for four years for the endowment of additional professorships and for general expenses, one-half of this sum to be used as a labor fund.

In 1890 under the provisions of the free scholarship act of 1883, sixty-two students were admitted to the college. Eighty-nine students availed themselves of the benefits of the labor fund. Two working biological laboratories were opened during the year in charge of Professors Fernald and Stone. Extensive improvements were made upon the farm, the labor being performed by students who were compensated for their work from the labor fund.

James B. Paige was elected to the chair of veterinary science in 1890. He graduated from the Agricultural College in the class of 1882. He was a graduate of the Montreal Veterinary College in 1888, and became professor of veterinary science at the Massachusetts Agricultural College in 1890, and has served faithfully in that department ever since, doing all in his power to improve the veterinary department as well as the college. It was owing largely to the untiring efforts of Professor Paige that the fine veterinary laboratory and stable hospital which were erected in 1898 were obtained. These are located south of the drill hall on the west side of the campus, and were erected during the fall of 1898 and the summer of 1899. They cost twenty-five thousand dollars, and are said to be the most complete of any in this country or Canada.

On April 30, 1890, Senator Justin S. Morrill of Vermont introduced into the United States Senate, "A bill to establish an educational fund and apply the proceeds of the public lands, and the receipts from certain land grant railroad companies to the more complete endowment and support of colleges for the advancement of scientific and industrial education." This bill provided that there should be paid to each state and territory, for the more complete endowment and maintenance of the agricultural college, the sum of fifteen thousand dollars for the year ending June 30, 1890, and that one thousand dollars additional should be paid each year for ten years, and the annual amount thereafter should be twenty-five thousand dollars. This bill was passed by Congress, signed by President Harrison, and became a law August 30, 1890.

In 1891 the college received a portion of the funds arising from the new national grant which was expended in adding to the equipment

of the various departments. The Legislature passed a resolve continuing the labor fund for a term of years, and also granted an appropriation for rebuilding the plant house and erecting a rose house. The standard of admission was raised and a higher grade of scholarship required. During the fall term President Goodell traveled in Europe for the benefit of his health, and in his absence the college was in charge of Prof. C. H. Fernald as acting president. On April 5th the barn of the Hatch Experiment Station was burned.

In 1890, tuberculosis having gained a foothold in the college herd, Dr. James B. Law of Cornell, the most noted veterinarian in the country, was employed to make an examination of the college herd and spent several days examining every animal in the most thorough manner then known to science. After his examination, Dr. Law recommended the slaughter of two animals only, and it was hoped that there would be no further serious trouble. This hope was not realized, and Professor Brooks in his farm report for 1892, in a letter addressed to the president, urged the abandonment of the old barn and the construction of a new one.

The appropriation for the new barn and the moving of the farm house was made by the Legislature in 1893. Construction of the barn and stables was begun the same year and completed in the summer of 1894, the alumni dinner at commencement of that year being held on the floor of the new barn, into which the new-made hay had just begun to be stored. The stables were not completed until later in the fall. The barn and stables were regarded as the most complete and convenient, in many ways, of any in the country at that time. They were completely destroyed by fire in November, 1905. The foundations were not materially damaged and the barn and stables were rebuilt in 1906. A second fire which occurred August 15, 1908, destroyed the storage barn, but did not damage the cow stable. The storage part of the barn was rebuilt in 1909.

The clearing, drainage and bringing into cultivation of the entire level area of the original college estate, which was begun in 1888, was completed in 1893, and following this, extensive drainage operations were carried on which involved the laying of about seven miles of tiles. These improvements practically doubled the area of arable land. The tract called the "Durfee Lot" lying across the Plainville road which was in forest, was cut in 1894 and 1895, and was gradually cleared between that date and 1908, thus adding about forty acres to the arable land.

In 1892, twenty-five years after the entrance of the first class, the college rolls bore the names of 190 students, and the college had received 879 men, of whom 361 had completed the course and received the degree of Bachelor of Science. One young woman entered the freshman class in 1892, but was compelled to leave, owing to lack of funds. This year the little stream flowing across the college grounds was dammed, making a pretty artificial pond which adds much to the beauty of the landscape. In the report for the year it was stated that since the establishment of the labor fund, over 150 young men had been aided, and twenty thousand dollars had been paid out for work in the direct line of their studies, which had contributed materially to the improvement of the college grounds.

In the summer of 1892 Walter M. Dickinson came to the college as military instructor. He was an Amherst boy, having been born at the family homestead adjoining the college grounds. He entered the Agricultural College in the class of 1877 and remained nearly three years when he received an appointment to the West Point Military Academy. He prepared for the academy at the Agricultural College, entered West Point in the spring of 1876, and was graduated in 1880. He was commissioned a second lieutenant in the Fourth Cavalry, and was later transferred to the Seventeenth Infantry, with which he was serving when he received his commission as military instructor at the college. He was successful in his work with the students and brought the military department of the college to a high degree of efficiency. His four years' detail expired in August, 1896, when he was ordered to report to his regiment at Columbus Barracks, Ohio, where he was located when the Spanish-American War begun. He went with his regiment to Cuba, and was participating in the battle of El Caney when he received a severe wound and died on the field of battle July 2, 1898. His body was brought to this country and buried with simple services in the Arlington Cemetery at Washington, D. C., November 20, 1898. He had been advanced to the rank of captain by an act of Congress, April 26, and his commission as captain was signed and issued by President McKinley on July 14, 1898.

On Wednesday, November 9, 1898, memorial services for Captain Dickinson were held in the chapel of the Massachusetts Agricultural College, when a large concourse of friends and relatives gathered to pay their last tribute to his memory. Religious exercises were conducted by Rev. Charles S. Walker, the college pastor, assisted by

the Rev. Albert Bryant of Scituate, and a memorial address was delivered by President Goodell, his life-long friend and teacher. The same day there was placed in the chapel walls a bronze tablet with suitable inscriptions, and the following quotation from an address delivered by Captain Dickinson at the memorial service for Governor Greenhalge, held at the college March 9, 1896: "The day will surely come when one could wish no other epitaph than this 'He lived and died an American citizen.' "

In 1893 the Legislature appropriated forty thousand dollars for the use of the college, of which nineteen thousand dollars was available that year. This sum was used for the erection of two model barns. This year the college made interesting exhibits at the World's Columbian Exposition held in Chicago. It is to the credit of the college that the design for the exhibit of the soils of the state, which was made by Professor Brooks, was adopted by the superintendent of the exhibition of the agricultural Colleges for all the states of the Union.

President Goodell in his annual report for 1893, said that the year which had just elapsed had been perhaps the most prosperous one in the history of the college. Changes in the curriculum were made which necessitated additional help, and five assistant professors were appointed in the departments of chemistry, agriculture, mathematics, English and botany. At the beginning of the college year in September, the studies of the senior year were made elective, and a two-year course was established, twenty-three students entering its first class. In November, Sir Henry Gilbert delivered the Rothamsted American lectures at the college.

In 1894 the Legislature passed a resolve appropriating seven thousand five hundred dollars for an electric lighting apparatus at the college. June 18th of this year the old college barn was burned, the fire supposed to be of incendiary origin. During the spring a course of lectures was delivered by Dr. B. E. Fernow, Chief of the Forestry Division at Washington, and the graduate course leading to the degree of Master of Science was opened with four members. R. W. Lyman, Esq., a graduate of the class of 1871, commenced giving a course of lectures on Farm Law which were continued annually until 1910. In the annual report for 1894 is stated the fact that from New Jersey comes the first application from a young lady to be enrolled as a student.

In 1895 the Legislature appropriated four thousand eight hundred

dollars for building an addition to the insectary, and erecting a gun shed. In 1896 the trustees decided to discontinue the two-year course which had not proved as successful as had been anticipated. It was found that some who would otherwise have entered for the four year course, found greater attractions in the shorter time, and instead of one class fairly strong in numbers, there were two classes numerically weak. There was also considerable friction between the members of the regular course and the "two-year men." In place of the two-year course, a number of short winter courses were substituted. These short courses were under the charge of Professor Brooks, who, as chairman of the committee, had full administrative charge, engaging the teachers, planning the course of study, making schedules, etc., from 1897 to 1908, when they were transferred to the Extension Service with William D. Hurd as director.

Tri-decennial Day was observed June 22, 1897, and was welcomed by the firing of thirty guns. At two o'clock in the afternoon, exercises were held in the chapel which was filled with a large audience. Mr. Charles L. Flint of the class of '81 presided, and the address of the day was given by President Atherton of the Pennsylvania State College, upon "The Present Status of Industrial Education." An interesting feature of the exercises was the presentation of a loving cup to President Goodell. At ten P. M. in the drill hall the grand "*Kommers*" took place. This was the first occasion of the kind when trustees, faculty, and every class of students, old and young were present. Barrett of '75 presided; Professor Stockbridge spoke with his old-time earnestness and wit; President Goodell gave a ringing speech; Dr. Lindsey of '83 spoke with enthusiasm on the College Ideal; and Webb of '73 spoke on college reminiscences. At one A. M. the company broke up with singing.

The annual report of the president, dated January 1, 1898, stated that the faculty numbered eighteen active resident members, one professor emeritus and one non-resident lecturer. The chair of mathematics and civil engineering made vacant by the resignation of Prof. Leonard Metcalf, was filled by the election of John E. Ostrander, C. E., who had been professor of civil engineering and mechanic arts in the College of Agriculture of the University of Idaho. Through the generosity of Mr. George D. Pratt, the donor of Pratt Cottage at Amherst College, the students of the Agricultural College requiring care as the result of sickness or accident were given the advantages of

the hospital on the payment of a fixed sum per diem, subject to the same rules and regulations as the students of Amherst College. The annual report for the college year of 1898 notes the death of Senator Justin S. Morrill of Vermont, and contains an expression of love and esteem for his character, and reverence for the wisdom and foresight that inaugurated a system of education so complete and far reaching in its results.

During the year 1900 the college was called to mourn the death of two of its trustees and two of its students. John D. W. French, for ten years a trustee, died May 2, 1900. He was deeply interested in the agriculture and horticulture of his native state, and held many important and prominent offices. He was a wise counsellor and true friend of the college. September 4 of the same year James S. Grinnell passed away. He was for twenty-two years a trustee of the college, and for many years the presiding officer of the board of trustees. He was widely known throughout the Commonwealth, was an accomplished scholar, a polished gentleman, and was ever loyal to the college and its interests. The animal husbandry building dedicated March 13, 1912, was named the Grinnell Arena in his honor, and at the dedication exercises, a sketch of his life, prepared by Chief Justice Aiken of Greenfield was read.

The college was called upon to prepare the agricultural and horticultural exhibit of Massachusetts for the Pan-American Exposition in 1901.

In 1902, after years of arduous service, Prof. Samuel T. Maynard retired from the position of professor of horticulture, and was succeeded by Frank A. Waugh, a graduate of the Kansas Agricultural College, who had for fifteen years been connected with the agricultural colleges and experiment stations in Kansas, Oklahoma and Vermont. The dining hall, known as Draper Hall, was built in 1902 at an expense of about thirty-two thousand dollars, and was opened in February, 1903.

The annual report for the college year 1904 contains a tribute to Charles Louis Flint of the class of '81, who had been a member of the board of trustees for a number of years, and was a son of Hon. Charles L. Flint, a former president of the college. He established and for several years maintained the "Flint Rhetorical Prizes," which accomplished much for the English department.

In January, 1905, when ill health compelled President Goodell

to seek recovery in the South, the trustees appointed Prof. Wm. P. Brooks acting president of the college, which position he held until the election of President Butterfield. He labored faithfully and well amid trying circumstances and conditions. The freshman class this year was the largest enrolled up to that time, numbering eight-six. The total enrollment in the four-year course was two hundred and twenty-one students, including eight post-graduate students.

An important event occurring during the time that Prof. Wm. P. Brooks was acting president was the "Better Farming Special" Train, the first of its kind in New England, which attracted much attention from the press. The idea originated with Herbert Myrick of the New England Homestead, a graduate of the college in the class of 1882. This train consisted of an engine, a baggage car and three passenger coaches, which were furnished entirely without charge for rolling stock, train crew or operation, by the Boston & Maine Railroad. The material which was used in furnishing the train was jointly supplied by the agricultural colleges and experiment stations of New Hampshire, Vermont and Massachusetts, and the train passed over a considerable proportion of the lines of the Boston & Maine Railroad system in those states, beginning the trip in Massachusetts at Amherst, April 3, 1906, under the direction of Professor Brooks. The exhibits were classified so those of each car illustrated some particular department of agriculture; one car being for Farm Crops and Fertilizers; a second for Animal Husbandry and Dairying; and the third for Horticulture and Insect Pests. The stops at stations averaged about fifty minutes each, and speakers who were experts on the different subjects gave talks at each stopping place. It was estimated that fully 8,000 people in Massachusetts alone inspected the exhibits and listened to the talks. The progress of the train and its work were given wide publicity by the newspapers in both city and country, and the farmers of New England received much valuable information.

Some one has said that, "in every college there is either the presence or the memory of some teacher whose personality is permanently stamped upon it." This is especially true as regards President Goodell, who for almost forty years gave himself with absolute devotion to the service of this institution. Henry Hill Goodell was born in Constantinople, May 20, 1839, a son of Rev. William Goodell, a pioneer missionary of the American Board in Turkey who made a brilliant

record as translator of the scriptures into the Turkish and Armenian languages. When seventeen years of age, Henry was sent by his parents to this country for his education, arriving in New York, October 5, 1856, after a voyage of sixty-seven days. He prepared for college at Williston Seminary, Easthampton, Mass., and was graduated from Amherst College in the class of 1862. At the time of his graduation the country was passing through dark days, and soon after leaving college he enlisted, August 16, in the 25th Regiment of Connecticut Volunteers. He entered the regiment as second lieutenant, was soon promoted to first lieutenant, and became aide-de-camp on the staff of Colonel Bissell, commanding the third brigade of the fourth division, and was everything good that could be desired in a soldier.

After leaving the army he took a year to recuperate, and in the fall of 1864 accepted the position of teacher of modern languages and instructor in gymnastics at Williston Seminary, thus beginning his career as an educator which was terminated by his death forty-seven years later. Meanwhile President Clark's eye was upon him, and at an alumni dinner of the Agricultural College held in 1886, Goodell, while relating some reminiscences said: "It was in the summer of 1867 that I received a brief note from Clark asking me to come to Amherst and see him. No building had as yet been erected, and the several farms of which the college property was composed had not yet been thrown into one. Leading me out into the fields, very near where South College now stands, he unfolded his plans, and turning to me with his hand on my shoulder said: 'There is a great and glorious work to be done. Will you come and help?' And what could I do with that eye looking straight into mine and that hand resting upon my shoulder, but say 'I will'? " And thus his great work for this college and agricultural education was started. Born of missionary parents in a foreign land, educated in a typical New England college of liberal arts, and with no agricultural training, one could scarcely have predicted for him such a career as he followed. But a coincidence of events brought him, youthful, ardent and resolute, face to face with the beginning of two great historic epochs worthy of his entire devotion—the Civil War and the establishment of the great Federal system of industrial education. He had met the first and performed his duty bravely and nobly, and now at the age of twenty-seven years, led by the magnetic power of President Clark, he decides to consecrate

his life to the work of the establishment and advancement of agricultural education which has been the great educational event in America in the last half century. He accepts the position of professor of modern languages and English literature at the Massachusetts Agricultural College.

To be in at the beginning of a new movement which proves successful is a matter of congratulation when success has been attained. But it requires more courage than men usually get credit for, to start with a movement that is in advance of the common thought, when there is a likelihood that one may be buried in the ruins of the undertaking. President Goodell was a part of the beginning of this college, and from the first recitation ever held in college to the time of his death, he was an important factor in the life of the college and its students. During the early years of the college, in addition to the duties of his regular professorship, he was called upon to fill almost every gap including looking after the students and keeping them straight. In addition to his teaching in the various departments he was secretary of the faculty four years; librarian from 1885 to 1899; acting president a portion of the year 1883; and was elected president in 1886 on the resignation of President Greenough. When he became president of the institution it stood sadly in need both of students and resources, while the proposition had been made to give the college away. The problems before him were many and difficult, involving first of all, public confidence in the college. He soon succeeded in securing needed recognition from the state; and during his administration the real estate of the college increased in value one-third, its equipment four fold, and its income three fold, and there was a large increase in the number of students. One of his greatest works for the college was in the college library, which will remain as his most conspicuous monument. The vast amount of labor that he put into the library resulted in the building up of one of the best selected and arranged agricultural libraries in this country, surpassed only by the Library of the National Department at Washington.

In the fall of 1884 he was elected to represent the Fourth Hampshire District in the General Court, where he was able to be of great service to the college. That session of the Legislature was really the turning point in the interests of the college. It was said by Hon. Wm. R. Sessions who was then senator and was for many years Secretary of the Board of Agriculture and a trustee of the college: "I am convinced

that the favorable change in the temper of the Massachusetts legislature towards the college, which set in at that time and has continued ever since, was very largely due to President Goodell's influence on the representative men from all over the state with whom he was brought in contact during that season's session at the State House."

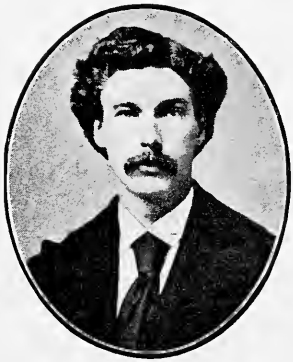
Another great work in which President Goodell was engaged was in connection with the American Association of Agricultural Colleges and Experiment Stations, with which work he was intimately connected from the beginning, and of which he was one of the most conspicuous figures, having been the president of the association in 1891 and a member of its executive committee from 1888 until 1902, the last eight years of which he was chairman. He was Director of the Hatch Experiment Station from its organization in 1888 to his death in 1905. At commencement in 1897 he was presented with a very large and beautiful loving cup, with the following inscription: "By the Alumni and Former Students of the Massachusetts Agricultural College, June 22, 1897, in Recognition of Thirty Years of Faithful Service to our Alma Mater, and in Loving Remembrance as a Friend and Teacher."

He had been in ill health for years, but his final and fatal attack was caused by a chill which prostrated him about the middle of December, 1904. The trustees of the college at a meeting held January 2, 1905, voted to give him six months leave of absence with full pay. On March 6, 1905, in company with his wife he left Amherst for Florida. He did not seem to improve, and by the doctor's advice they started for home, but when within a few hours' sail of Boston Bay, he died on Sunday morning, April 23. Funeral services were conducted at the college chapel on the afternoon of April 27. While the remains were escorted to their last resting place in West Cemetery by the batallion of college cadets, the bells of his Alma Mater and the college of which he had been president so long, were tolled. The memory of President Goodell is enshrined in the hearts of his many friends, while his work as a brave soldier, an inspiring teacher, an able administrator, and a pioneer of a great work will place his name high on the annals of this college and the Town of Amherst.

GEORGE LEONARD, *Captain.*

FRED C. ELDRED, *Stroke.*

FRED M. SOMERS, *No. 2.*

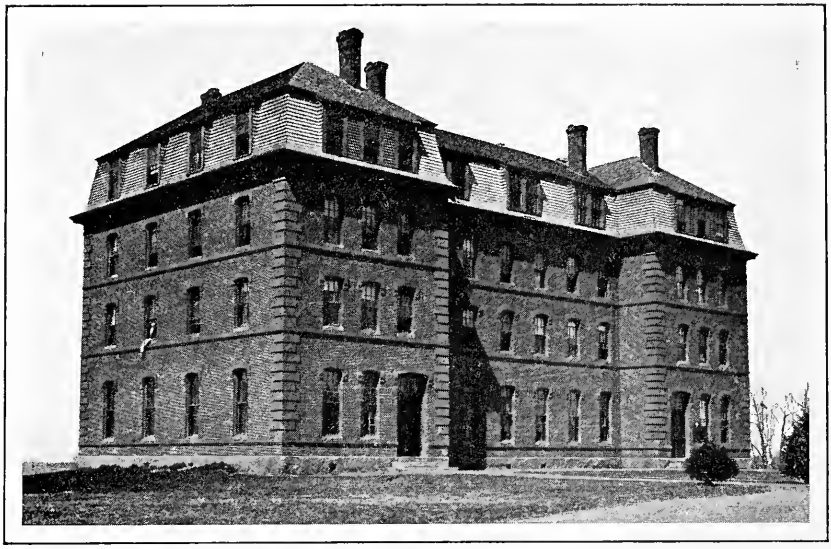


ARTHUR D. NORCROSS, *No. 3.*

HENRY B. SIMPSON, *No. 4.*

GIDEON H. ALLEN, *No. 5.*

WINNING CREW AT THE REGATTA OF AMERICAN COLLEGES AT INGLESIDE ON THE CONNECTICUT RIVER, JULY 21, 1871.



OLD SOUTH COLLEGE. 1867-1885.

NORTH COLLEGE. 1867.

CHAPTER VI

PRESIDENT BUTTERFIELD'S ADMINISTRATION

AT a meeting of the trustees of the Massachusetts Agricultural College held January 2, 1906, Kenyon L. Butterfield was elected to fill the vacancy in the presidency caused by the death of President Henry H. Goodell. He assumed the duties of his office the following July.

President Butterfield was born in Michigan in 1868, and was thirty-eight years of age when he was called to become president of this college. He is descended from the best of New England stock, his ancestors being of the Massachusetts Bay colony. His grandfather was among the pioneers of Michigan and became a prominent cattle breeder of his time. He also was a member of the Michigan senate. His father was a leading farmer of Michigan, and was for many years a member and then Secretary of the State Board of Agriculture. He was also on the faculty of the Michigan Agricultural College, and secretary of the Michigan Agricultural Society. Kenyon L. Butterfield was brought up on a dairy farm, educated in the public schools of Michigan and graduated from the Michigan Agricultural College in 1891, with the degree of B. S. After graduating, he engaged in agricultural newspaper work, and in 1895 was made superintendent of the Farmers' Institutes of Michigan, where he met with great success. He was also field agent of the Michigan Agricultural College for several years, having charge of the extensive advertising of the college. In 1902 he received the degree of A. M. from the University of Michigan at Ann Arbor, working largely in sociology and economics. In the autumn of 1902 he became instructor in rural sociology at the university, and in December of the same year was elected to the presidency of the Rhode Island College of Agriculture and Mechanic Arts, where he served with marked ability and entire satisfaction until called to the presidency of the Massachusetts Agricultural College. He had written many articles on various phases of

rural sociology for leading farm journals and magazines of the country, and had read a paper on "The Social Phase of Agricultural Education" at the annual convention of the Association of American Agricultural Colleges in Des Moines, Iowa, in 1904, and when he came to Amherst was regarded as one of the leaders in agricultural thought and education in the country.

The first public inauguration of a president of the Massachusetts Agricultural College was that of President Butterfield, which took place October 17, 1906, and was attended by leading educators from all over New England. The exercises opened with prayer by Rev. Henry Hague, a graduate of the college in the class of 1875. The address on behalf of the board of trustees was by Hon. Charles A. Gleason, vice-president of the board, and the presentation of the Charter, Seal and Keys of the college was by Marquis F. Dickinson, Esq., also one of the trustees. Mr. Dickinson gave a biographic résumé of the administrations of the seven past presidents of the college, only one of whom was then living. He also treated of the enormous development of our agricultural resources, and of the growth of agricultural education in Massachusetts since 1850. He stated that one-seventh of the whole number of graduates of this college in the first twenty-two years were employed in Agricultural Colleges and experiment stations, and among them were three college presidents, eight professors of agriculture, five of horticulture and botany, three experiment station directors and several vice-directors. The Inaugural Address of President Butterfield had for its subject, "The Forward Movement in Agricultural Education." The official delegates present at the inauguration were: President William E. Huntington of Boston University; President G. Stanley Hall of Clark University; President Henry Lefavour of Simmons College; President Charles S. Howe of the Case School of Applied Science; President Rufus W. Stimson of the Connecticut Agricultural College; President Howard Edwards of the Rhode Island College of Agriculture and Mechanic Arts; President George E. Fellows of the University of Maine; President Carroll D. Wright of Clark College; Prof. George D. Olds, Amherst College; Prof. Cornelia M. Clapp, Mt. Holyoke College; Prof. Alfred E. Burton, Mass. Institute of Technology; Prof. C. D. Smith, Michigan Agricultural College; Dr. Edward Hitchcock, Amherst College, the veteran leader in the physical training of college men. Former President James C. Greenough also was present.

President Butterfield succeeded to the presidency when the college was entering upon a period of rapid growth, and with greater opportunities for efficient service in the cause of education and rural betterment than any of his predecessors.

There were also several other important changes made in the faculty during the year 1906. On July 1, Dr. Charles S. Walker severed his connection with the college after a period of service extending over twenty years. Dr. Walker is remembered by the alumni chiefly as professor of political science and chaplain, although he also taught English, rhetoric, mental science and history. Prof. Richard S. Lull who had been connected with the college as Instructor and Assistant Professor of Zoology; curator of the Museum since June, 1895, and registrar in September of that year, resigned in June, 1906 to accept an important position in paleontology at Yale University and Clarence E. Gordon, a graduate of the College in 1901 was appointed in his place, Prof. P. B. Hasbrouck of the Department of Mathematics and Physics becoming registrar.

Capt. George C. Martin, who relieved Major John Anderson in the military department, reported for duty at the opening of the fall semester, September 20, 1905. Captain Martin had a record of military service in the Spanish-American War in Cuba and the Philippines. Wilder Hall, the horticultural building was completed early in the winter, and occupied for the first time, January 16, 1906. During the time Professor Brooks was acting president, the Legislature made an appropriation of seventy-four thousand eight hundred dollars to be used for the erection and equipment of a building for the use of the botanical department.

One of the interesting developments of the year 1906 was the remarkable progress made by the Young Men's Christian Association which was reorganized in February, and which in a few months had become a leading factor in the college, receiving the support of nearly every student. The speakers which the association procured, together with the cooperation of the students, aided in making this year prominent in Christian work at the college. At the alumni banquet, June 20, the newly elected president, Kenyon L. Butterfield, made his first appearance before the alumni and was given a cordial welcome.

The year 1907 at the college was made memorable in many ways. It was the fortieth anniversary of the founding of the college. Tuesday of commencement week had been set apart as Alumni Day, and

more of the alumni returned for that occasion than at any previous commencement. The program of the day was filled with interesting events, the presentation of the portrait of President Goodell being the chief feature. The portrait, which was a gift from the alumni to the college, was the work of Edwin B. Child, and was true to life in every respect. The address of presentation was by Dr. Frederick Tuckerman of the class of '78, and the speech of acceptance in behalf of the trustees was by Elmer D. Howe of Marlboro of the class of '81. The fortieth anniversary of the founding of the college was celebrated by a conference on Rural Progress held October 2, 3, 4 and 5, 1907, under the auspices of the college, and with the cooperation of several other organizations. The part that was of special interest to the alumni was the anniversary program of the first day. The exercises held in the college chapel in the forenoon of that day included an address on "The Beginnings of College History," by Hon. M. F. Dickinson, a member of the board of Trustees. Other addresses were "The Old Guard;" the famous "Faculty of Four," and "Our Debt to Amherst College," the latter address being given by William H. Bowker of the class of '71. Director William P. Brooks of the class of '75 spoke on "The Massachusetts Experiment Station."

At four o'clock in the afternoon occurred the dedication of Clark Hall, the beautiful new botanical building named in honor of President Clark. Prof. George E. Stone presided and introduced as the first speaker, David P. Penhallow, D. S., professor of botany at McGill University, Montreal, Canada, and a graduate of the Massachusetts Agricultural College in the class of '73. His subject was "William Smith Clark: His Place as a Scientist and His Relation to the Development of Scientific Agriculture." John M. Tyler, professor of biology at Amherst College, paid a glowing tribute to the memory of Colonel Clark.

Another event during Anniversary Week which was of great interest to the alumni, was the dedication of the Trophy Room in North College on the afternoon of Friday, October 4, when the "Old Shell" in which the crew of 1871 won their great victory at Ingleside, was taken from the drill hall where it had lain for years, and was escorted by a long line of alumni and students, headed by the Clark cadet band, to the Trophy Room. After a presentation speech by Gideon H. Allen of the class of '71 and a member of the winning crew, the "Old Shell" was placed in its position suspended from the ceiling of the

room. The five living members of the crew were present at the exercises, it being their first reunion since the victory of 1871.

Other athletic trophies were presented by E. A. White of '95, and included several championship banners and the old chapel bell which had on so many occasions in the past rung out the college victories. On behalf of the College Senate and the Athletic Association, K. E. Gillett of the class of 1908 thanked the crew and other athletic interests for their gifts, and President Butterfield spoke briefly regarding the significance of the Trophy Room to the old men, as a center where they might return and renew old memories, and to the new men as an inspiration in athletics and other branches of college life.

There were many changes in the faculty during the year 1907, the most notable of which was the resignation of Dr. Charles A. Goessman as professor of chemistry, after a service of nearly forty years. The leadership of the department of general and agricultural chemistry in the college was given to Dr. Charles Wellington of the class of 1873, who had been associate professor of chemistry since 1885. During the year a division of humanities was established, with Professor George F. Mills as professor of humanities and dean of the college. This division also included the departments of language and literature, political science and the library. The horticultural department was reorganized and became the division of horticulture, with Professor Waugh as professor of general horticulture, and under his general supervision were placed the departments of floriculture, pomology and landscape gardening. The trustees, acting under the law creating a normal department at the college, organized a department of agricultural education and elected as the head of this new department, Prof. William R. Hart of Peru, Nebraska. This year also witnessed the creation of a separate office of treasurer of the college, and Professor Mills' duties in that connection were assigned to F. C. Kenney, who had been for thirteen years cashier of Michigan Agricultural College.

A new form of class contest was inaugurated this year in the tug-of-war across the college pond, in which the actors are the sophomore and freshman classes, and which has been made an interesting occasion of the early fall.

During the year the college lost by death, Mr. James Draper of Worcester, a man whose life and services had been of unusual value to the college. He had been a member of the board of trustees for

twenty years, and as chairman of the committee on new buildings and arrangement of grounds, he was active in securing for the college the new buildings which had been erected since 1900. His generous services to the college were often at much personal sacrifice, and the trustees have recognized his worth by giving the name of Draper Hall to the fine college dining hall, and ordering that a proper tablet and a suitable picture be placed in the hall, as a memorial of Mr. Draper.

Another trustee who died during the year was Merritt I. Wheeler, who had been a member of the board since 1890, and who was an earnest worker for the welfare of the college.

The Legislative appropriations for the year 1908 were more liberal than ever before, the special appropriations amounting to fifty-six thousand dollars and the total for all purposes to ninety-three thousand dollars. Among the most important of the special appropriations was that of thirty-four thousand dollars for the glass houses and instruction building adapted to give instruction in commercial floriculture and market gardening. By vote of the trustees this building was given the name of French Hall in honor of Henry F. French, the first president of the college, and the glass houses were called the new Durfee Range. Six thousand dollars was spent for improvements on North College, one of the principal ideas in the reconstruction of the old dormitory being to provide a place for the college men to get together and become acquainted. This resulted in the Social Union Room where students and faculty gather for social times.

In the death of Mrs. Louisa S. Baker, March 9, 1908, the college lost a good friend, and many students a generous benefactor. When the Agricultural College was first established, a part of her father's farm was bought by the trustees. Living at the entrance of the college grounds, she watched every step in the growth of the institution and took a personal interest in teachers and students. She had no children of her own and was left a widow, so that she delighted in acting a mother's part towards boys who came to college determined to pay their own bills as far as possible. She opened her house to such, and always had one or more occupying rooms under her roof. In her will she provided that every year the income of six thousand dollars shall be given by the majority vote of the faculty of the Agricultural College, to aid poor, industrious and deserving students to obtain an education at the college.

This year Captain Martin purchased for the state, a strip of land to be used for a rifle range. This is situated about a mile and a quarter east of the college, and contains about twenty acres. On the night of August 14, 1908, the new college barn was destroyed by fire with a large amount of machinery and some live stock. This was probably one of the best barns in New England and involved a loss of thirty thousand dollars.

There were ten new members of the faculty appointed this year, either to fill vacancies or to take positions that were created by votes of the trustees. In July, Miss Ella Frances Hall resigned as librarian. Miss Hall had been connected with the library since August, 1899, assisting President Goodell for some years, and after his death had charge of the library. The place thus made vacant was filled by the appointment of Mr. Charles R. Green, graduate of the Connecticut Agricultural College, employed four years on the Hartford Courant, and from 1901 until his appointment at the Massachusetts Agricultural College connected with the Connecticut State Library at Hartford. By vote of the trustees the division of agriculture was organized and Prof. James A. Foord was made acting head of the new division and professor of farm administration. Prof. Wm. P. Brooks who had served as professor of agriculture since 1889, then devoted practically all his time to his work as director of the Experiment Station, but retained his college lectureship in soil fertility.

In 1909 the faculty, with the approval of the trustees, adopted new requirements for admission to the college, which for the first time in its history placed the college upon a strictly college and university basis of admission. A new position was created this year, and William D. Hurd was appointed Director of Short Courses, taking up his work September 1st. Prof. Hurd received the degree of Bachelor of Science from the Michigan Agricultural College in 1899, and the degree of Master of Agriculture from his Alma Mater in 1909.

In this year also the department of forestry was created, but not until August, 1910, was a suitable man secured to take charge of the work, when Frank A. Moon, A. B., M. Fr., was elected associate professor of forestry, and began his duties September 1st. Dr. John C. Cutter, a graduate of the college in the class of 1872, who died in August, 1909, bequeathed one thousand dollars to the college to be invested by the trustees, the income to be used annually for the purchase of books on hygiene. This was the first gift of any great amount

from an alumnus of the college. Dr. Cutter was a son of Dr. Calvin Cutter, who was the first lecturer on hygiene at the college. He graduated from Harvard Medical school four years after graduating from this institution, and went to the Sapporo Agricultural College in Japan, where he was professor of physiology and anatomy from 1878 to 1887, and in addition to his college work was made physician to the Department of the Japanese government which controlled the province in which the Sapporo College is situated.

In June, 1910, Prof. Charles H. Fernald resigned as director of the Graduate School, professor of zoology and entomologist of the Experiment Station. He was granted a pension from the Carnegie Foundation, and was retained by the college as honorary director of the Graduate School. He served the college twenty-four years, built up a strong department of zoology, and created the department of entomology, building it into one of the strongest departments of its kind in the United States. In January, 1910, Dr. Joseph B. Lindsey who had been connected with the Experiment Station much of the time since its organization, was made its vice-director. In 1911 he was given the headship of the department of general and agricultural chemistry.

In 1910 the title of Prof. Wm. D. Hurd was changed to that of Director of Extension Work, and Prof. James A. Foord was made permanent head of the division of agriculture. Because of illness, Dean George F. Mills was granted a leave of absence for the college year, and Dr. James B. Paige served as acting dean. The course of lectures in Rural Law was discontinued, and with it, the services of Judge Robert W. Lyman of Northampton. Dr. Burton N. Gates was chosen assistant professor of beekeeping, and expert in beekeeping for the Experiment Station. He was also made inspector of apiaries for the State Board of Agriculture, his duties beginning July 1. Dr. Gates graduated from Clark College in 1905 and took his Ph. D. degree at Clark University in 1909. He served in the United States Bureau of Entomology as expert in apiculture from 1906 until he came to Amherst.

On September 1st, 1910, Dr. Charles A. Goessman passed away. His connection with the college began in January, 1869, and for nearly forty years he gave to the work of research and instruction in chemistry at the college powers of a high grade, until in 1907 he was

relieved of his active duties and made honorary director of the Experiment Station, and in June, 1908, was made honorary professor of chemistry. Both Dr. Goessmann and the college were honored in the fact that on dropping college work, he became the recipient of a pension from the Carnegie foundation.

Charles Anthony Goessmann was a native of Germany where he received the best education that could be given by his mother country, graduating with distinction in 1852 from the University of Goettingen, the home of great teachers and the Alma Mater of famous thinkers and scientists. The university honored him with the degree of Ph. D., and a position in the faculty for a number of years. Naumburg was his birthplace and Fritzlar his boyhood home, places of great natural beauty, while some of the greatest industries of the world are to be found in this region which has also been renowned for its chemists. About 1857 he came to this country and became chemist and manager of a Philadelphia sugar refinery, traveling extensively in Cuba and the South in the interests of the sugar industry. From 1861 to 1868 he was chemist for the Onondaga Salt Co., during that time investigating the salt resources of the United States and Canada, and he was also professor of chemistry at the Rensselaer Polytechnic Institute in 1862-64.

It was while at Syracuse, N. Y., as chemist for the salt company that he was induced by his fellow student at Goettingen and life-long friend, William S. Clark, to come to Amherst to assist in laying the foundations of a humble institution, the necessity of which was being questioned, and in some quarters ridiculed. He came with Clark, Stockbridge and Goodell, and became one of that immortal "Faculty of Four." He was elected professor of chemistry in 1868, was appointed chemist of the Massachusetts State Board of Agriculture in 1873, and along with Agassiz added strength and distinction to that body. In 1882 he was made the first director of the Massachusetts Experiment Station, one of the first founded in this country, and in which his work was of national reputation.

At the alumni banquet in Draper Hall on June 17, 1907, the chief feature of the occasion was the recognition of Professor Goessmann's birthday, and the close of his forty years' service as professor of chemistry and chemist of the Experiment Station. Dr. Charles Wellington in behalf of the alumni, presented to Professor Goessmann a highly decorated, colored window, bearing symbolic designs and a

suitable inscription, to be hung in his study. During the commencement of 1910, at the alumni dinner June 21, a fine portrait of Dr. Goessmann was presented to the college by the alumni, the presentation address being given by Dr. Frederick Tuckerman of the class of 1878, and the address of acceptance in behalf of the trustees, by Wm. H. Bowker of the class of 1871.

It was not only to the students of the college that Professor Goessmann gave instruction, but in his work and investigations he was teaching the farmers of the state, indeed his audience was the farmers of the whole nation. Thus he made a name for himself and for our college—a name of which we are all justly proud.

In 1911 the trustees voted at their June meeting to group the various departments into divisions, each division to have a head who acts as administrative officer, with more or less control over general policies. The divisions as organized, with their heads, were: Agriculture, James A. Foord; Horticulture, Frank A. Waugh; Science, James B. Paige; Humanities, Robert J. Sprague; Rural Social Science, Kenyon L. Butterfield.

On September 1, of this year Edward M. Lewis was appointed assistant professor of English and assistant dean. Prof. Lewis graduated from Williams College in 1896.

The annual report for the year 1912 states that six buildings were completed during the year. These buildings were the dairy building (Flint Laboratory), completed and available for use September 1st, at a cost of seventy-five thousand dollars and named in honor of Hon. Charles L. Flint, fourth president of the college; the apiary completed in June at a cost of three thousand dollars, and four much needed buildings for the poultry department. The Legislature of 1912 appropriated eighty thousand dollars for the addition to Draper Hall, sewers, repairs, improvements and equipment. At the annual commencement this year on June 19, the degree of Bachelor of Science was conferred on eighty-three men, thus making the class about a third larger than any class previously graduating. Hon. Charles W. Garfield of Grand Rapids, Michigan, delivered the commencement address on "The Business Conscience."

In this year also, Charles E. Marshall was elected director of the Graduate School and professor of microbiology. Dr. Marshall came from the Michigan Agricultural College where for many years he had been head of the department of bacteriology. He was trained chiefly

at the University of Michigan, from which he holds the degree of Doctor of Philosophy. Dr. Marshall is one of the foremost microbiologists of the country, is an active leader in many scientific associations, and is a recognized authority in the department of learning to which he gives his chief attention. William D. Clark was elected professor of forestry in place of Associate Professor Moon, resigned, and Ezra L. Morgan was appointed community field agent in the Extension Service.

In April, 1913, President Butterfield left the college on a year's leave of absence, to serve as a member of the United States Commission to investigate and study cooperative farm financing in European countries. During his absence, Prof. Edward M. Lewis was acting president of the college. During the year, Prof. Edward A. White, head of the department of floriculture, resigned to accept a similar chair at Cornell University. Professor White came to this institution in 1907 and undertook the organization of a department of floriculture, which at the time of his resignation had become one of the strongest and best equipped departments in the college, and it is doubtful if any college in the country had a stronger department of floriculture.

Among the more important appointments of the year were those of F. H. H. VanSuchtelen, Ph.D., assistant professor of microbiology, and Miss Laura Comstock, extension professor of home economics. Early in 1913, M. F. Dickinson, Esq., who had been a member of the Board of Trustees since 1905, resigned on account of ill health. He had rendered valuable service on the board, and took an exceptionally active interest in everything relating to the college.

During the winter of 1913, just before the midyear examinations, the scarlet fever epidemic broke out at the college, and before it was checked, twenty-five of the students had the disease, of whom five died. The Kappa Gamma Phi house was converted into a hospital, the Kappa Sigma house into a detention home, and the Amherst College Infirmary was generously placed at the disposal of our college. This was the most serious epidemic in the history of the college. Although careful investigations were made, the definite cause of the outbreak has never been discovered. The expense incurred by the college at this time was about four thousand five hundred dollars.

In October of this year the trustees authorized an annual lectureship on World Politics, the first lectureship of its kind established in this country. Mr. R. L. Bridgman of Boston was invited to deliver

the first series which was given during the fall term. The addition to French Hall, for which an appropriation of thirty-five thousand dollars was granted, was commenced about the middle of July. An important event in the year as regards the library was the decision of the Carnegie Institution of Washington to place the college upon its "omnia list" to receive all of its publications without charge. The Academy of Natural Sciences of Philadelphia has also taken the same action.

Great interest was manifested in the intercollegiate rifle contests this year, the indoor team having won the Eastern League championship, while on the outdoor range our college team won the college championship for the United States by the score of 825. In four years the Massachusetts Agricultural College had won the indoor championship three times and second place once, and had made a like record on the outdoor range.

The year 1914 witnessed several important events and changes at the college. This year the Legislature granted an appropriation of two hundred ten thousand dollars for the agricultural building, the contract for which was let and work commenced during the summer. During the year the addition to French Hall was completed, providing more than double the classroom capacity formerly available, and making it one of the most attractive buildings on the campus. Work on the Infirmary for which the Legislature of 1913 appropriated fifteen thousand dollars was not commenced until the fall of 1914. This consists of one building with wards for patients and rooms for the matron and nurses, with a second building designated as an "isolation ward."

Prof. George Franklin Mills died October 27, 1914. Dean Mills had served the college for nearly twenty-five years, having joined the faculty in 1890. For a large part of his career he was a teacher of English, for many years the hard working treasurer of the institution, and for seven years dean of the college. In June, 1914, he was made dean emeritus. He was a faithful officer, an able instructor, and well worthy of the title of "a Christian gentleman."

The college lost a loyal friend in the death of Major John Anderson, who died at his home in Belchertown, August 27, 1914. Major Anderson served as professor of military science and tactics at this institution from January, 1900, until September, 1905, and won the love and respect of the students.

The lectures on World Politics, established in the fall of 1913 were continued this year, when Dr. Edwin D. Mead of the World Peace Foundation visited the college and gave two lectures in October. The topic of the first was "The United States and the United World;" that of the second, "War and Peace in 1914."

An event of more than common interest was the visit in March of Dr. Shosuke Sato, the exchange lecturer from Japan to the United States, who delivered at the college three lectures on the industrial, economic and educational conditions of Japan. Dr. Sato's visit to this institution was of particular interest because of the fact that he was president of the University of Sapporo, Japan, which was founded by Col. Wm. S. Clark for twelve years president of the Massachusetts Agricultural College. Dr. Sato was a student under both Professor Brooks and Mr. William Wheeler of the trustees, and he was given a cordial welcome by the faculty and students.

Another event of more than local interest was the meeting at the college of the tenth annual convention of the eastern section of the Chinese Students' Alliance of America, from August 28 to September 1, 1914. Over one hundred were in regular attendance at this conference. This meeting was also significant because in the summer of 1905 there was held at this institution the first formal gathering of the Chinese students of America.

At the annual commencement in June, 1915, for the first time in the history of the college, the number of graduates reached and exceeded one hundred, the degree of Bachelor of Science being conferred on one hundred men and one woman, while five candidates received the degree of Master of Science, and the same number the degree of Doctor of Philosophy. The alumni dinner was attended by 241 alumni and officers of the college. This year also witnessed the largest entering class in the history of the college, there being 210, of which number, nine were young women. The total number of women students in regular attendance in 1915 was eighteen.

In January, 1915, Captain George C. Martin, U. S. A., retired was relieved of his duties as commandant and professor of military science and tactics. Captain Martin was first detailed to the college in September, 1905. In 1909 when his first detail expired, he was, at the request of the president, detailed for another period of four years, and when his second term expired, was still further continued until 1915. For nearly ten years he was the head of the department of military

science, the longest term that anyone ever served in this position in the history of the college. At the conclusion of his labors the trustees adopted resolutions expressing their appreciation of his faithful and efficient service. On the retirement of Captain Martin, the War Department detailed Lieutenant Henry W. Fleet as commandant.

The Legislature of 1915 granted an appropriation of sixty-seven thousand five hundred dollars for a microbiology laboratory, and ten thousand dollars for an addition to the power plant.

On October 29, 1915, Stockbridge Hall, the most important building of the college, built at a cost of two hundred ten thousand dollars, was formally dedicated. It is probably the largest and most complete building of its kind in New England, and one of the best in the country. For nearly fifty years the college was without a Hall of Agriculture, but with this elegant structure, representing the most modern ideas in regard to classrooms, offices and laboratories, with an auditorium seating one thousand people, a beautiful organ, and all the equipment necessary for work in this department, surely the department of agriculture has come to the place it should occupy in this institution. This building will form the central figure of the proposed agricultural group, the dairy building known as Flint Laboratory, built in 1911, flanking it on the west, while a proposed farm mechanics building is to occupy the position on the east. The exercises at the dedication were very interesting, and were attended by a large audience. The program opened with music by the college orchestra followed by prayer by Edward M. Lewis dean of the college. The addresses given were as follows: "Levi Stockbridge and Charles L. Flint," by William H. Bowker, M. A. C., '71, chairman of the building committee; "Agricultural Possibilities in New England," Joseph L. Hills, M. A. C., '81, dean, College of Agriculture, University of Vermont; "The Engineer in Agriculture," Wilfred Wheeler, secretary of the State Board of Agriculture; and "The Stone which the Builders Rejected," President Kenyon L. Butterfield.

On January 4, 1916, Mr. William H. Bowker, the senior member of the board of trustees in years of service, died in Boston. He was born July 3, 1850, at Natick, Mass., but his boyhood was passed in Phillipston, Mass., from which town he entered the Massachusetts Agricultural College, October 2, 1867, as a member of the first or "pioneer" class, and was graduated July 19, 1871. After about two years given

to teaching and newspaper work, he founded the business that grew into the large and successful work of his life—the making and selling of fertilizers and allied products. From his student days he was an ardent friend of the college, and probably no member of the alumni was so well known, nor was a more effective worker and leader in behalf of the college. He became a member of the board of trustees in January, 1885, being the first one appointed by the governor of the commonwealth under legislation that sprung from his own early suggestion. For several years he was a member of the State Board of Agriculture representing the Worcester Northwest Agricultural Society which is the local society of his boyhood town, and he was a prominent speaker at agricultural meetings and institutes throughout the state. For nearly fifty years his voice was heard in defense of the college he loved, and on almost every anniversary occasion held at the college, at alumni dinners and the dedication of college buildings, he was one of the speakers, and his addresses were marked by great originality of ideas and independence of thought, which with his natural aptness of expression, made them most interesting. During his long term of service on the board of trustees, the longest of any present or former member, he had occasion to express his views on the important policies that had to do with the management of the college, and he was conspicuous in making that period the best in the history of the college that he loved so well.

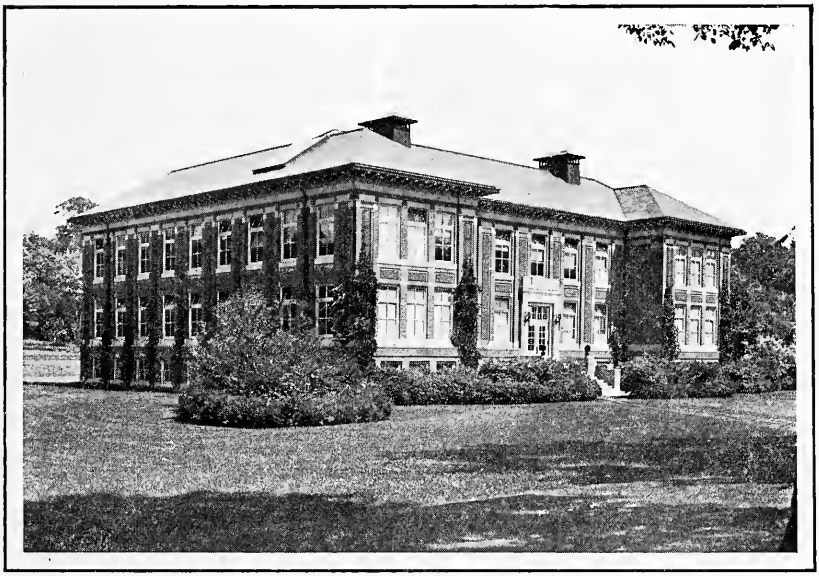
President Butterfield in his annual report which included the year 1916 says: "The Massachusetts Agricultural College stands unique among the sisterhood of public institutions of higher learning established by the Morrill Act of 1862, in that it is not connected with a state university, and that it deals with agriculture alone. It is the only institution of collegiate grade in America which may be called strictly an agricultural college and nothing else." Several changes in the board of trustees were made during 1916. At the close of his administration Governor Walsh appointed Mr. James F. Bacon of Boston to succeed Mr. Arthur G. Pollard of Lowell as trustee of the college. Soon after the death of Wm. H. Bowker, Governor McCall appointed Mr. Arthur G. Pollard of Lowell to fill the vacancy. Also, during the year, owing to the resignation of Dr. David Snedden as Commissioner of Education of Massachusetts, Dr. Payson Smith by virtue of his succession to Dr. Snedden, became a member of the Board of Trustees. There were also several changes in the faculty. Dr.

George E. Stone retired from active service Sept. 30, 1916. Dr. Stone was a graduate of the college in the class of 1886, and received his degree of Ph.D., from Leipsic University, Germany, in 1892. He had been connected with the college and Experiment Station from 1895, having been head of the department of botany and in charge of the research work in this subject. Dr. Stone was possessed of marked natural talent and ability as an observer and investigator. He was one of the most fruitful workers of the institution, and his scientific work was characterized by originality, ingenuity and enthusiasm. Prof. Sidney B. Haskell left the college the last of June to take up work as soil expert with the soil improvement committee of the National Fertilizer Association. He had been connected with the college since his graduation in 1904, first as assistant in the Experiment Station, later as instructor in agronomy, and for five years, head of the department of agronomy. During the summer, Prof. Orion A. Morton accepted a position as agent for the Massachusetts Board of Education, and he was succeeded by Mr. George L. Farley as supervisor of junior extension work. Mr. Ernest D. Waid resigned his position as assistant director of the Extension Service with which he had been connected since September, 1911.

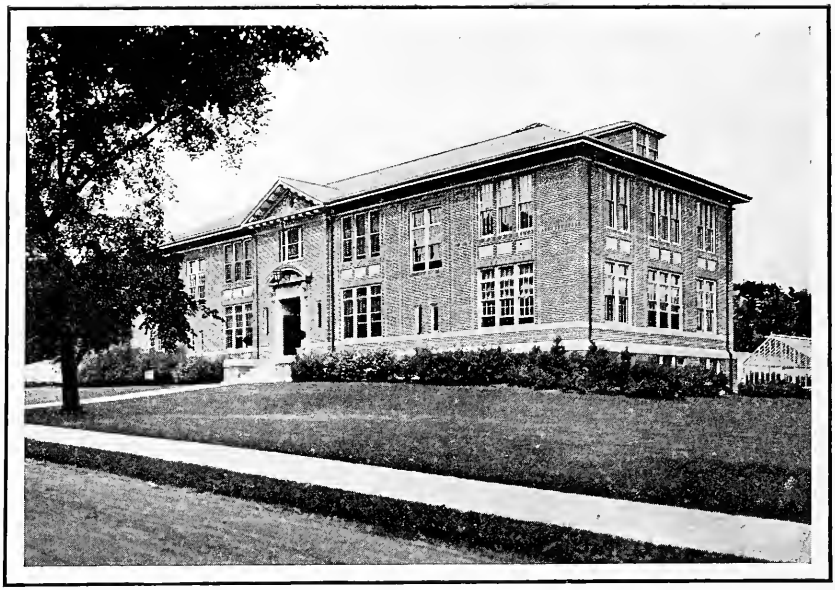
The total enrollment of all students in work of college grade for 1916 was six hundred eighty. By invitation of the Board of Trustees, the graduate Summer School of Agriculture, conducted biennially by the Association of American Agricultural Colleges and Experiment Stations, was held at the Massachusetts Agricultural College, with a total enrollment of one hundred eighty-four. The most notable addition to the buildings of the institution for 1916 was the microbiological laboratory, the contract for which was let in the summer of 1915, and which cost upwards of sixty-two thousand dollars. The building is situated on the road north of the Botanic Museum and is splendidly adapted to the teaching of, and research in, agricultural microbiology, and is probably one of the best arranged and equipped structures of its kind in the country.

The Legislature of 1916 appropriated thirty thousand dollars for the purchase of the Mount Toby tract for a Demonstration Forest. This tract consists of 755 acres of timber land of which 721 acres are in Sunderland, and about 34 acres in Leverett. Every important forest type found from the Berkshire Hills to Cape Cod is found on this tract. Other appropriations granted that year were twenty

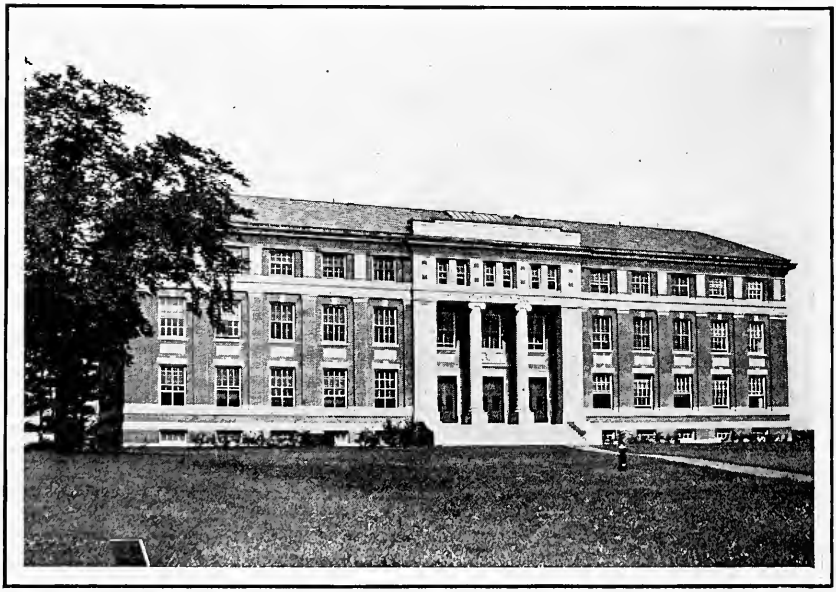
CLARK HALL. 1907.



ENTOMOLOGY BUILDING. 1910.



FRENCH HALL. 1908.



STOCKBRIDGE HALL. 1915.

thousand dollars for equipment and improvements, four thousand two hundred dollars for a retaining wall at the power plant, and twelve thousand dollars for the extension of the rural engineering shops. The Legislature of 1916 authorized a commission to investigate the work of the college and other agricultural State agencies, and Governor McCall appointed the following as members of the commission: Dr. L. Clark Seelye of Northampton, Mr. Warren C. Jewett of Worcester, and Mr. William L. Whiting of Holyoke; the two ex-officio members were Dr. Payson Smith, Commissioner of Education, and Mr. Charles E. Burbank, Supervisor of Administration. The year was one of unusual activity in the library, the number of books added being 4,517, the largest annual increase in the history of the library which now has 52,928 volumes.

With the beginning of the European War, the work of the College assumed a new importance not only in relation to furnishing men trained in military science but also in crop production. This function was at once recognized by the College which early in April pledged its fullest support to the Nation in the crisis. This was followed by increasing the amount of military training given at the College and by action excusing from further attendance during the year any students who desired to enlist for any form of mobilization work either military or agricultural, and granting them credit for this work under suitable restrictions.

This opportunity the students quickly availed themselves of and the exodus began about the last of April and a month later ninety-seven per cent had entered upon some form of mobilization work. The members of the faculty also turned their attention to this service as rapidly as their duties permitted, and, by the end of May, forty-one were giving all their time to it and four had resigned to enter larger fields of activity in this line. Thirty-four bulletins and many other briefer publications giving information on agricultural topics of immediate importance had been issued by the middle of June and many others were in preparation to be published as the proper season arrived. Arrangements were also made to begin late in the fall in order that the services of as many of the students as possible should be available during the harvest season.

CHAPTER VII

EXPERIMENT STATIONS

NO history of the college would be complete without including an account of the Experiment Stations, so closely connected have they been. The history of the Experiment Station as a regularly organized institution begins in 1882, when the Legislature framed an act establishing the Massachusetts Agricultural Experiment Station, but in a real sense, the Experiment Station in Amherst is as old as the college, for it was during the earliest years of the college that some of the most important experiments and investigations were made. President Clark's investigations into some of the phenomena of plant life, including his studies on the causes of the circulation of sap: Professor Stockbridge's experiments which led to the perfection of his system of special complete fertilizers: his experiments on the benefits of the "dust mulch," the sources of soil moisture and the origin of dew: and Dr. Goessmann's experiments with the sugar beet and his work on commercial fertilizers, were all made during the early days of the college from 1870 to 1880. Among the men most influential in promoting the passage of the act establishing the Station was Dr. Goessmann, who was made the first Director, which office he continued to hold throughout the entire period of the independent existence of the Station, which continued until 1895.

The staff which first assisted Dr. Goessmann in the early days of the Station was Manly Miles, Professor of Agriculture, and Professor S. T. Maynard of the Horticultural department, with Joseph L. Hill, Charles H. Preston, H. J. Wheeler, W. E. Stone and J. B. Lindsey.

The act establishing the Station provided for its independent management and support. Naturally, the Station was located in Amherst where so much experimental work had been done, and the needed

land and buildings were secured by a lease from the college for a nominal consideration.

On February 25, 1887, Congress passed an act to establish Experiment Stations in connection with the Agricultural Colleges which had been organized in the several states under the provisions of the Morrill land grant, and the sum of fifteen thousand dollars per annum was appropriated to each state from the United States treasury for the expenses of this Station. By an act approved April 20, 1887, Massachusetts accepted the provisions of this grant. At a meeting of the Agricultural College trustees held March 2, 1888, it was voted to establish a department to be called the Experiment Department of the Massachusetts Agricultural College, which name was subsequently changed to the Hatch Experiment Station of the Massachusetts Agricultural College. Henry H. Goodell was made director, which position he held until his death in 1905. Other officers chosen were: William P. Brooks, agriculturist; Samuel T. Maynard, horticulturist; Charles H. Fernald, entomologist; C. D. Warner, meteorologist; F. C. Paige, treasurer, and J. H. Demond, auditor. Work was begun at the Hatch Experiment Station in April, 1888. The name Hatch was given because it was thought that it would be an appropriate act to honor Representative Hatch, the author of the bill under which the Stations were organized, by naming the Massachusetts Station after him; no other state had designated its Station "Hatch," the uniform custom throughout the Union being to apply the name of the state to the Experiment Station. The old Massachusetts Agricultural Station was united with the Hatch Experiment Station in 1895, the combined Stations taking the name of Hatch Experiment Station, which was changed to the Massachusetts Agricultural Experiment Station in 1907. Dr. Goessmann was made honorary director in 1906. When President Goodell became ill in 1905 William P. Brooks was appointed acting director, and was made director in 1906, which position he now holds.

William Penn Brooks, who has been Professor of Agriculture or Director of the Experiment Station for nearly forty years, was born in South Scituate, Mass., Nov. 19, 1851. He was graduated from the Massachusetts Agricultural College with the class of 1875, was a graduate student of chemistry and botany in the Massachusetts Agricultural College for a year and a half, and received the degree of Ph. D., from Halle in 1897. In 1877, he went to Japan where he was

professor of agriculture in the Imperial College of Japan from 1877 to 1888 and acting president from 1880 to 1883 and from 1886 to 1887. In 1888, he was decorated with the 4th Order of the Rising Sun. He was elected professor of agriculture at the Massachusetts Agricultural College and commenced his duties January 1, 1889, which position he held until 1908 and still retains the position of lecturer on agriculture. He was acting president from January, 1903, to April of the same year, and from January, 1905, to July, 1906. Since January, 1906, he has been director of the Experiment Station. He is a member of various agricultural organizations, has been a contributor to the transactions of the Massachusetts Horticultural Society, and to the reports of the Secretary of the State Board of Agriculture, and is the author of several books on agriculture. He was made a Fellow of the American Association for the Advancement of Science in 1916.

The Experiment Station is a department of the college and numbers on its working staff forty-six men, besides eight clerks and stenographers. Of these men, twenty-three give their entire attention to the Station and four are graduate assistants, while the others serve on the teaching force of the college as well. The Station makes use of certain portions of the college estate in its various lines of work. Its buildings have been provided, in most cases, by direct and special appropriations from the State, and it is supported by both State and National appropriations.

The Experiment Station work is carried on in almost every building on the campus, and is not confined to those buildings which are exclusively station buildings. The principal station buildings are the Chemical Laboratory which was built in 1886 and has been remodeled at several different times, and the Administration building which was erected in 1890 as a laboratory of the old State Experiment Station. It is now used exclusively for the work of the director's office and the department of agriculture. The Hatch Experiment Station barn was burned April 5, 1891, and a new barn was immediately begun upon an enlarged plan designed by Prof. Brooks. The principal feature of this was the construction of two stables, identical in dimensions and general plan. Steam heat was introduced in one of these for the purpose of determining whether artificial warming of a cow stable is, from a financial point of view, advisable. Experiments conducted in these stables showed that the cows in the warm stable produced consider-

able more milk than those in the one without artificial heat, but the per centage of fat was lower so that the butter production was not appreciably increased, and the conclusion was that heat in stables would not pay.

The sum of thirty-five thousand dollars was received from the State the present year (1917), and the National appropriation was thirty thousand dollars.

The work of the Station is of three distinct classes: control work, dissemination of information and investigation. The farmers owe to the Station: better knowledge of methods of feeding stock; more definite information as to the nature and special adaptation of feed stuffs; better knowledge of the methods of feeding the crops of the field, garden, and orchard; and more accurate information as to the nature of manure and fertilizers, and also, the introduction of two crops of national importance, namely Japanese Millet and the Medium Green Soy Bean, both of which Prof. Brooks brought from Japan and gave to the Station, when he took up work as its agriculturist.

CHAPTER VIII

EXTENSION WORK

Extension work is now recognized as of far-reaching importance, and one of the primary functions of the agricultural colleges of the country. It has been organized in all of these colleges.

"Extension teaching in agriculture embraces those forms of instruction in subjects having to do with improved methods of agricultural production, and with the general welfare of the rural population, that are offered to people not enrolled as resident pupils in educational institutions."

President Butterfield most truly pictures its benefits when he says: "The great work of extension teaching is to benefit men and women; and the benefit is not to be confined to the increase of the production of crops, nor the securing of larger profits from the business of farming. They are legitimate and even fundamental, but our task is a far larger and more significant one than this. It is nothing less than the carrying on of a great campaign for rural progress which shall affect the intellectual culture, the social prerogatives, and the moral welfare of all individuals who live upon the land."

The Summer School of Agriculture at the Massachusetts Agricultural College grew out of a legislative enactment providing for a normal department for the purpose of giving instruction to teachers desiring to teach elementary agriculture, to clergymen and other rural social workers. The first session was held in the summer of 1907, commencing July 8 and continuing four weeks. The courses offered were: plant structure and life, plant culture, animal life, teaching methods, lectures, etc. The total enrollment was two hundred twelve, practically all Massachusetts teachers. In 1908, a considerably larger number of courses was given, and the length of the session extended from four to six weeks with an attendance of one hundred and sixty-eight; and in 1909, the registration was one hundred and seventy-six. At the Summer School of 1910, there was a registration

of two hundred and twenty-nine. In connection with the school that year, there was held a gathering which was unique in the history of agricultural progress,—a "Conference of Rural Social Workers" which continued four days, from August 9-12 inclusive, and which was attended by three hundred and thirty-eight who registered during the sessions.

The Summer Schools have been eminently successful and have attracted attention not only in this country, but in foreign lands. They are notable in that they were the first summer schools in which courses intended to cover the whole sphere of country life were offered, and instead of being, as originally intended, for teachers principally, all interested in the country life movement are received. A popular branch of the Extension Service is the ten weeks' winter course which was started in 1897, the courses in which are now given by twenty-eight members of the faculty. The attendance, from 1909 and 1910, was about sixty-four each year. William D. Hurd was appointed director of short courses in 1909, and the Legislature of that year appropriated seven thousand five hundred dollars for the development of short courses. During the nine months prior to October 1, 1910, twelve hundred persons came to the college and registered in the several courses offered by the Extension Department. Other short courses given at the college are: the Short Poultry Course, Farmers' Week, and the Bee Keepers' course. Among some of the features of Farmers' Week were the "Corn Show," "Fruit Show," and the "Dairy Show," all of which have created much interest throughout the State. The 1911 Dairy Show had a larger number of entries of market milk than any show held in New England up to that time. Also, in 1911, a Bee Keepers' Convention was held, to which there came seventy-five from all parts of the State. The Polish Farmers' Days have had a large attendance of the Polish farmers of the Connecticut Valley, and have attracted much notice, not only from other colleges and organizations, but from the press of Poland.

The courses which are known as short courses are not strictly Extension Work, but were placed in the hands of Director Hurd for convenience of administration. The Extension Work done away from the college has become so extensive and embraces so many different agencies and organizations, with so many forms of instruction, that it will be impossible to mention all of them in the space at our disposal.

The Extension Service as organized at the Massachusetts Agricultural College has, perhaps, the best system of extension teaching to be found in the country. This service, which is under the charge

of William D. Hurd as director, with a staff of some twenty experts giving full time and some twenty-five experts giving part time, and a clerical staff of eleven, is disseminating information throughout the State on such topics as poultry husbandry, animal husbandry, home economics, farm accounting and management, fruit growing, local community organization, dairying, bee-keeping, marketing, library work, Junior Extension Club work, rural civic planning, and educational exhibits at fairs. Other activities of the Extension Service are, correspondence courses, educational trains both steam and trolley, demonstration orchards and plots, lecture courses and demonstration publications and information by correspondence, etc.

The work accomplished through the boys' and girls' clubs has been phenomenal. In 1913, boys' and girls' corn and potato clubs had been organized in two hundred and eight towns with a total membership of over fifteen thousand. In 1914, the organizations were increased to two hundred and sixty-nine towns with a total membership of over forty-two thousand, and in 1917, in cooperation with other agencies, some seventy-five thousand boys and girls are organized into potato clubs, corn clubs, pig clubs, poultry clubs, canning clubs, etc.

The Extension Work by means of demonstration farms, of which there are two in the State, viz., the Faunce farm in Sandwich on Cape Cod, and the Paige demonstration farm at Hardwick in Worcester County, is doing much for the farmers of those sections of the State, and the community development.

The establishment of close cooperative relationship between the County Farm Bureaus and the Extension Service, through which funds appropriated by the Smith-Lever Act are made available to the Bureaus, has been one of the notable advances in the work. For the support of all this work, the State of Massachusetts makes an annual appropriation of fifty thousand dollars. In May, 1914, Congress passed the Smith-Lever Bill giving to the State an initial appropriation of ten thousand dollars for cooperative demonstration work in agriculture and home economics, for the year beginning July 1, 1914, and additional funds based on the proportion which the rural population of Massachusetts bears to the total rural population of the United States for a succeeding period of nine years. The total amount which Massachusetts will receive at the end of ten years will be thirty thousand dollars. Certain other funds assigned to the State are also appropriated direct from the United States Department of Agriculture.

APPENDIX

ADDITIONS TO THE COLLEGE REAL ESTATE

During the last twenty-five years, additions have been made to the original real estate of the college from time to time until, at the present day (1917), the total area amounts to about one thousand three hundred twenty-five acres. In 1892, the William Bangs house and lot were purchased; in 1896, the President Clark property of about twenty acres; and, in 1909, the Baker land of about five acres on the Plainville road. The additions made in 1910 consisted of the Harlow farm of thirty acres; the old creamery lot and buildings, where the college apiary now stands; the Nash land of sixty acres lying south of the Durfee lot; and the Kellogg farm on the west end of which a large part of the athletic field is located, including about eighteen acres; while a considerable number of small lots, situated to the south of the athletic field, and intended to be used for recreation or athletic purposes, were successively acquired between 1910 and 1917. The Owen orchard and the portion of the Owen property west of East Pleasant Street, having an area of about twenty-seven acres was purchased in 1915. Several real estate acquisitions outside of Amherst have been made, the first of which was an experimental cranberry bog and surrounding uplands with sheds and pumping plant having an area of about fifteen acres and located in the town of Wareham, purchased in 1910; also, land for a Market Garden Field Station, located in Lexington, including about twelve acres acquired in 1917. The Legislature of 1916 appropriated thirty thousand dollars for the purchase of the Mount Toby tract in Sunderland and Leverett, which contains seven hundred and fifty-five acres, and is the largest tract of land acquired by the college. In spite of the increase in area, the development of the work of the institution has required the use of additional land, and several tracts have been rented. An orchard of about seven acres, situated in the town of Amherst on the Bay Road, was rented in 1907; about eighteen acres known as the Tux-

bury land, adjoining the college estate on the north, were also rented for orchard experiments in 1912; and about three acres in the town of Concord were rented in 1906 for experiments in connection with asparagus growing; while the Tillson farm on East Pleasant Street, containing seventy acres, was rented in 1915 with option of purchase.