CHAPTER VI

Expansion and Consolidation, 1911-1920

BAILEY'S ADMINISTRATION: THE CONCLUDING YEARS

"I MUST this spring call up my resignation of a year ago," Bailey announced in March, 1911, adding the hope that his friends would not think it necessary to ask him to reconsider. After Schurman and State Grange Master Godfrey urged just this, Bailey replied: "I very much hope that you will not ask me to remain longer, for this will only increase my difficulties. I am becoming impatient for release, and the time of my deliverance is long overdue." There is every indication that Bailey was completely sincere. His resignation was announced and he refused to make appointments and speaking engagements after the date it was to become effective. However, appeals to remain as director continued to reach him and by May 8 he had indicated the possibility of staying as much as two years longer.

The balance of forces was similar to that which existed during the resignation crisis of the previous year. Again groups outside Cornell favored Raymond Pearson as Bailey's successor while the Faculty of Agriculture was again unalterably opposed. This time the position of Pearson was even stronger, for all five state trustees favored his selection and were prepared to press the matter to a vote if his name was not suggested. It was also evident that Pearson was prepared to advance his candidacy through a systematic canvass of the agricultural interests of the state. "This all emphasizes," Trustee Hiscock wrote to President Schurman, "the desirability of doing if possible what we briefly discussed at your home two weeks ago, namely, providing such relief of Dean Bailey from routine matters as will persuade him to remain longer where he is." On July 4 Schurman asked each member of the Faculty of Agriculture to suggest
possibilities for a director. All strongly favored retaining Bailey, many claiming he could not be replaced. Otherwise the three names most frequently suggested were President Kenyon L. Butterfield and Directors Eugene Davenport and Thomas F. Hunt. It is noteworthy that the members of the faculty did not recommend each other. Professor Craig made by far the most perspicacious statement:

As the situation appeals to me, we are now approaching something in the nature of a crisis in the affairs of the College of Agriculture. Director Bailey's regime has been one characterized by stimulating leadership. He has developed a large number of relatively small departments, all immediately responsible to the Director. He has differentiated more than occasionally at the expense of economical administration. This system has been successful with Director Bailey as leader largely because of his inspiring and pleasant personality. But the system cannot bring maximum possibilities unless there is full and free cooperation between departments, and how far such can be maintained, rests largely upon the influence and animus of the Director.

I make this statement to emphasize the fact that the members of our Faculty worked under the spell of respect for the striking gifts of a leader and loyalty to the institution, rather than as a result of the guidance of a well organized institution. The former may represent an idea, but the practical outcome, is always hazardous and depends upon the one individual in authority.⁵

By September 18 Bailey had definitely agreed to remain until the following June with the understanding that an effort would be made to locate a successor.⁶ Concessions, however, were expected by Bailey from the university authorities, and in this expectation he had the support of most of the faculty and a number of organized alumni. On September 30 a committee of alumni of the College met with the members of the Executive Committee and the Committee on State Colleges and requested the trustees to invite Bailey to present to the board his ideas on the organization and administration of the College of Agriculture.⁷ On the same day twenty-two members of the faculty approached what they called an "epoch making crisis" in the College by pledging their "loyal and undivided support" to Bailey.⁸ Editor Collingwood came to Ithaca and promised Schurman he would open the pages of the Rural New Yorker to an examination of the Univer-
Bailey's statement to the trustees was a rather grandiose declaration of independence from university authority. After stating that he had "no policy to present, no advice to give, and no recommendations to make," he launched into a long statement which former President White called "ideas in advocacy of a complete revolution in the Government of the University." In the relation of the director to the trustees he demanded a large degree of freedom in executive processes. On the relation of the director to the legislature and public he said:

He should be responsible for legislative appropriations, as he is naturally the person who knows best the internal condition of the institution and the needs of the people of the state; and his appeal to the people is direct. The people hold him responsible for the institution, and he should have such freedom as will make his responsibility effective and easy to bear.

The same principle, he argued, should be the basis of internal organization within the College, each department having control over its funds and administration and full freedom to carry on its work.

A committee of the trustees was appointed to consider Bailey's suggestions. Its chairman, Andrew D. White, was not unfriendly to what Bailey desired, and other members of the committee were known to be sympathetic. Another factor in inducing the trustees to grant Bailey's requests were the zealous, if sometimes misguided, efforts of his supporters. This situation was the subject of a letter Bailey wrote to George C. Boldt, chairman of the Board of Trustees, one week after he presented his statement.
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In the requests you made of me last Saturday, you desired that I remain at the University to safeguard the Board of Trustees from criticism by many persons who have been writing to the Trustees. Let me say that if personal criticisms have been made they are not mine and I am not responsible for them. I did not know that any intimation of “graft” had been made against any members of the Board of Trustees, or anybody else, until the matter was mentioned by R. H. Treman in the meeting on Saturday.14

At a special meeting held in New York City on December 16, the Board of Trustees accepted in substance Bailey’s view of agricultural college administration. An agricultural council was established to aid the director in preparing the budget and, after its approval by the full board, to assume responsibility for its presentation to the legislature. Otherwise it took over the functions formerly performed by the Executive Committee except that the director no longer needed prior approval of appointments ranking lower than assistant professor. The state government and agricultural organizations had a preponderance of weight on the eleven-member council, the University being represented only by its president and two members elected by the full Board of Trustees. “I congratulate you and the College,” telegraphed A. D. White at the end of the meeting, “in obtaining thorough self-government beginning a new and better era for both the University and the College.” 15 With the new plan in operation, Bailey felt duty bound to remain until it was in working operation. “I have,” he said, “dropped from my mind for the time being the question of my retirement.”16

As Bailey was securing greater authority within the university framework, his authority as coordinator of agricultural education within the state was becoming increasingly uncertain as events moved toward a disintegration of the existing relationships between institutions engaged in agricultural education. Much of the director’s authority as coordinator depended on his personal relationship to the Governor. Under Governor Hughes, Bailey’s position was particularly strong, for Hughes not only had the greatest confidence in Bailey as an educator but possessed the means for keeping public support to other institutions engaged in agricultural education within the limits Bailey desired.17 As a social reformer with broadly based sources of
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political support, Governor Hughes could afford to veto the plans of various communities that hoped to become the site of a state school of agriculture. Bailey's relation to Hughes' successor, John A. Dix, was equally favorable, but in the state Bailey's position was less secure because of the political instability of the Governor.

In the Dix administration the vehicle which Bailey had used informally for advising Governor Hughes was given legal status with the creation, in 1911, of the State Advisory Board in Relation to Agricultural Education and Country Life Advancement, shortened, at its first meeting on November 24, 1911, to State Agricultural Advisory Board. At this meeting, which comprised the administrative officers of the state institutions engaged in agricultural education, Bailey was elected permanent chairman. A subcommittee was then appointed to act as an executive committee for the next meeting. In addition to Bailey, this committee included Director Jordan, Commissioner Pearson, Dean Cook, and President Boothe Davis of Alfred University. It is clear that under this arrangement the Advisory Board spoke with the voice of Director Bailey and lent additional authority to his plans for the orderly development of agricultural education in the state.

Other aspects of the Dix administration were less favorable to this orderly development. In 1911 the Governor vetoed the Harte bill, designed to prevent the establishment of state-supported agricultural schools by the process of logrolling. Consistent with this veto, the Governor approved bills establishing a state school of agriculture at Cobleskill and a state college of forestry at Syracuse. Neither law contained provision for relating their work to the State College of Agriculture.

Dix's successor, Governor William Sulzer, went further toward disrupting existing relationships. Additional state schools of agriculture were established at Delhi and on Long Island; the composition of the State Agricultural Advisory Board was changed by the addition of Syracuse Chancellor James R. Day; and $250,000 was appropriated for buildings at the State College of Forestry. It was this appropria-

*The Harte bill provided for sharing costs of agricultural schools between groups of counties and the state (Franklin W. Hooper to Bailey, May 27, 1911, Bailey Papers).
tion that led to the final resignation of Bailey as dean of the New York State College of Agriculture.

It was Bailey’s contention that state funds for research and instruction in forestry could be spent to best advantage in connection with the College of Agriculture where related instruction in plant sciences was available. Even if the state chose to establish a separate college of forestry at Syracuse, he insisted that a department of forestry would still be needed at Cornell to handle the farm wood lot situation. This limited objective, however, did not furnish a basis for securing first-rate teachers and investigators. To secure these persons, said Bailey, “we shall be forced in the very nature of the case to give professional work in forestry.”

Once the State College of Forestry was established at Syracuse, the concentration of the state’s investment in forestry education at Cornell could be accomplished only at the expense of open controversy with the Syracuse authorities. This the Cornell trustees were most anxious to avoid. They did, though, agree to Bailey’s plan for the development of a department of forestry at Cornell. The division of state support for forestry education posed a threat to the permanence of such a department, which, in turn, made it especially difficult to obtain an able faculty. That a group of outstanding men was secured was an expression of confidence in Bailey’s leadership.

It was Bailey’s plan to secure a strong faculty, obtain an appropriation for a forestry building, and have the work under way in order to meet the state’s need for forestry education before Syracuse could secure a building appropriation. The plan appeared to be succeeding when the College of Agriculture secured an appropriation of $100,000 for a forestry building in 1912. In 1912-13 the Department of Forestry had a faculty of three with additional courses announced for positions still unfilled. In that year, however, a bill was introduced appropriating $250,000 to house the College of Forestry at

*Professor Filibert Roth, who at one time agreed to head the department at Cornell, wrote Bailey on July 10, 1911, “As I see it now, the most serious blow is not so much the appropriation to Syracuse, as your leaving” (Bailey Papers).

†The appropriation was actually for a forestry section of a plant industry building (Laws of New York, 1912, ch. 530).

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Syracuse and in the maintenance appropriation there was a provision for “instruction in accessory lines.” This the authorities at Cornell interpreted to mean a college of agriculture at Syracuse.25

In preparing for hearings before committees of the legislature regarding the Syracuse appropriation, Maurice C. Burritt, editor of the Tribune Farmer and president of the Students Association of the College of Agriculture, organized opposition to the measure.26 When this opposition did not have the desired effect, Bailey, in a letter to State Trustee Carlisle, made his continuance at Cornell contingent on the Governor's vetoing the Syracuse appropriation. Carlisle replied that he would show Bailey's letter to the Governor, adding, “I know of the strong pressure being brought to bear on the Governor through Louis Marshall and others on personal friendship grounds, and I do not know whether he will stand up or not.”27 Several weeks later Bailey wrote the secretary of the Governor, again stating that he would resign if the Governor approved the Syracuse bill. 28 At Burritt's request, eighty-six men from thirty-three counties attended the Governor's hearing on May 13 to oppose the appropriation to Syracuse as an inefficient expenditure of state money.28 However, the impact of this testimony was weakened by Chancellor Day's use of an ill-advised handbill prepared by the editor of the Cornell Alumni News.29

When Governor Sulzer signed the bill Bailey had little choice but to resign. As a member of the State Agricultural Advisory Board, he wrote Burritt: “I can never bring myself to being a party to foisting upon the people of this state the enterprises that are now gaining foothold. I shall not compromise myself by taking part in such a program . . . It has happened that the situation in the state has forced me to retire this year whether I desired to retire this year or not.”30 After resigning, effective July 31, 1913, he continued with the aid of Burritt and John Dillon of the Rural New Yorker to oppose the Syracuse appropriation by organizing a petition to the attorney general calculated to prevent state support for the College of Forestry on the ground that establishing a separate board of trustees for the institution constituted an illegal evasion of the constitutional prohibition against state aid to denominational institutions.31 Bailey con-

*In this letter Bailey said he had told this only to Carlisle, not even to his family (Bailey to C. C. Platt, May 8, 1913, Bailey Papers).
sidered the contest with Syracuse a personal matter. After his resignation he did not consult or inform officials at Cornell about the controversy; when the attorney general refused to act on the petition, Bailey insisted Burritt leave leadership to John Dillon, since his further participation might involve the University in "a very unpleasant and unprofitable controversy."

Up to the time Bailey's resignation was effective, he continued the policy of broadening the educational framework of the College by creating new departments. In 1911 he tried to persuade E. G. Montgomery to head the Department of Farm Crops by promising sufficient support to make Montgomery feel that he might develop a department of farm crops at Cornell "second to none in the country." In 1913 Montgomery accepted Bailey's offer.* After the death of Professor Craig in 1912, Bailey divided the Department of Horticulture into three separate departments—pomology, floriculture, and vegetable gardening, the latter being the first such department established in the United States. Professor Charles Wilson, who had charge of the subdepartment of pomology under Professor Craig, became head of pomology; Paul Work was appointed superintendent of the Department of Vegetable Gardening; and in the following year E. A. White was made head of the Department of Floriculture.

The financial straits of the University and the desire of the Faculty of Agriculture to secure more adequate instruction in elementary botany than was currently offered in the College of Arts and Sciences made the establishment of a department of botany in the College of Agriculture mutually advantageous. Bailey was anxious to secure as head of the new department someone who would provide the intellectual leadership needed to tie together the work on plants and at the same time the kind of teaching that would give the students a sense of their relationship to the plant kingdom. Bailey had such a man in mind—Karl M. Wiegand. In February, 1913, the Department of Botany was established under his leadership. Since B. M. Duggar had resigned from the faculty the previous year, the work formerly

*Bailey to Stone and Montgomery, Nov. 26, 1912, Bailey Papers. During 1912 the Departments of Farm Crops and Farm Practice had been united.
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carried in the Department of Plant Physiology was placed within the new department. 34

In 1912 Webber also resigned from the Cornell faculty to become director of the Citrus Experiment Station and dean of the Graduate School of Tropical Agriculture at the University of California. At that time Bailey hoped to transform the Department of Plant Breeding into a department of genetics under Vernon K. Kellog, but was frustrated by his inability to offer Dr. Kellog better conditions than he already enjoyed at Stanford University. 35

In the four-year period including 1910 to 1913, the Faculty of Agriculture nearly doubled in numbers while the positions at the rank of full professor increased more than three times. 36 Bailey wished to make more effective use of this talent than the current schedule of the College permitted. Traditionally, resident instruction practically ceased during the summer months—the very time when maintenance costs were lower than at other seasons of the year. For a college of agriculture located in a northern area, the summer months offered the best opportunity for utilizing the outdoors for demonstration and laboratory work. In 1913 the trustees approved Bailey's plan for placing the College on a twelve-month basis with each faculty member serving nine months each year. 37

Many of the plans developed by Bailey, although sound and far-sighted, were coolly received by the university community, yet in spite of this he continued to generate new ideas with unrestrained enthusiasm. From the viewpoint of others, he was often too radical or too impractical. Consider, for example, his plan for bringing freshmen into intellectual and physical contact with the activities and background of the College of Agriculture. He would have had them, in lieu of an orientation course providing instruction by the lecture method, go about the university farms "frequently and painstakingly" making a journal of their observations. 38 While thoroughly sound in terms of educational procedure, this plan emphasized flexibility at a time when educational methods were becoming more structured. To assure that agricultural students would receive basic course work in their first two years which would be sympathetic and relevant to their later studies in the College of Agriculture, he proposed placing instructors in certain departments of the College of Arts and Sciences.
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to teach the agricultural students. Since these instructors would be paid by the College of Agriculture, the plan had the additional advantage of reducing the charge due the University for accessory instruction. Bailey's proposal, however, conflicted with the natural desire of these departments to select their own staff and control their own curriculum. His ideas on the physical plant were equally expansive. In 1910, visualizing the time when the area between Judd Falls Road and Stewart Avenue would be filled with buildings and gardens, he inquired about the possibility of an intercampus trolley system and in 1912 looked forward to the time when the university farms would include all the land between the College and the community of Varna.

Throughout his administration Bailey continued to emphasize freedom of action for the individual departments, refusing even to establish a college purchasing office lest this interfere with the spirit of the faculty. Given this degree of independence, conflict between departments was probably inevitable, especially when so many of them represented new subjects without clearly delimited fields of activity. There was a tendency among departments either to contend for control over a particular investigation or to investigate a problem along with other departments but refuse to exchange information. The Farm Practice Department often put routine farm work ahead of the services it was expected to provide those departments conducting experimental work; yet when this occurred the aggrieved departments had no recourse but to purchase their own equipment or appeal to the director. When such conflicts occurred, it was Bailey's practice to call a conference and secure a settlement based on agreement among the parties involved. In this context his personal prestige and powers of persuasion were central to the successful operation of his organizational structure.

On the other hand, Bailey was not satisfied with the research the College was producing and attributed the isolated and fragmentary research of the departments to the absence of a central organization. In 1911 he told the chairman of the newly organized faculty committee on experiment station work that he would like a real experiment station organization which would pass on the research work of all departments. He later asked this committee if a separate director
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should be appointed for the Experiment Station. The committee concluded that the present method was best because of simplicity and because Bailey's personal direction and final decision were desired. This direction is just what Bailey had not provided and, as administration become increasingly complex, was less and less able to provide. On one of his last days as director, Bailey questioned the wisdom of the committee's position. Developing the "spirit of research" he thought required giving the work of the Experiment Station a sense of direction it currently lacked.

The absence of any organic plan for extension work also concerned Bailey. Acting under the principle of departmental autonomy, departments ignored the coordinating function of the Extension Department and continued to conduct their extension activities as they thought proper. This resulted in duplication of effort and, in some cases, presentation of conflicting information. The latter situation was confusing to farmers and harmful to the reputation of the College, yet the solid front Bailey desired could not be achieved without some sacrifice of departmental autonomy. In 1911 both Bailey and Tuck appeared to accept the desirability of some limitation in this regard when they contemplated the formation of an extension council to plan and coordinate extension work. Bailey's actual proposal, however, provided only for establishing a standing committee of the faculty on extension work. This group, like the committee on experiment station work appointed at the same time, was unfitted by its multiple membership to perform the continuing administrative functions which a unified extension program demanded.

Bailey might possibly have coordinated the experiment station and extension work had he been willing to relinquish direct control over the maintenance operations of the College. Such matters as the relative heating value of coal and coke, the use of Bell telephones versus independent phones, types of plumbing to be used, and the layout of sewers made substantial claims on his time. Bailey retained control over the maintenance functions in order to secure what he regarded as maximum efficiency—there is no question he wanted the state to receive full value for its appropriations—and because he recognized no separation between maintenance and educational
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functions. Papers lying under bushes and disorderly shelves in classrooms and laboratories he considered as harmful to the education of students as sloppy instruction. In 1912 he again ordered new uniforms for each janitor.

Social change made Bailey's method of administration obsolete. The degree of personal control he exercised subjected the institution to increasing strain as pressures from outside the institution, frequently at variance with the values of the director, increased in intensity. The concept of the College of Agriculture as a center for the advancement of Bailey's romantic view of country life found decreasing support as the faculty turned toward developing means for increasing farmers' incomes.

Bailey considered the annual Tompkins County School Picnic one of the big events of the year and set aside appointments and speaking engagements in order to be present. In 1911, however, the field events proved so unsuccessful that the faculty moved to abolish that aspect of the annual event and the following year the school picnic followed the field day into oblivion. Attendance at the college assembly, held on a monthly basis by 1912, fell off so badly that Bailey threatened its abolition unless attendance increased. Thereupon faculty members, in order to preserve what they called "the chief unifying agency in the College," promised to do all they could to secure a satisfactory attendance.

In 1913 Bailey's opposition to materialism was anachronistic in a nation busily calculating success in material terms. His insistence that the high cost of living was due to the cost of high living and his conviction that money corrupted the educational process led him to reject almost indignantly an offer of the Bureau of Plant Industry to take third-year students for a year as assistants in the bureau at a salary of $900. "It would," he insisted, "make a man more impatient than he already is to be earning money at the expense of careful and disinterested training." The development of the farm bureaus perhaps illustrated most clearly the variance of Bailey's values with Bailey's desire to save the state's money extended to the point of prohibiting the use of paper towels in the College buildings (Martha Van Rensselaer to Bailey, Dec. 30, 1912; see also Bailey to John Mason, Jan. 8, 1912, Bailey Papers).
the dominant mood and his inability to implement plans based on these values in the face of external pressure.

The initiative for the first farm bureau in New York State came from private business organizations dependent on the prosperity of agriculture in the area they served. This farm bureau was established in Binghamton through the cooperation of the Binghamton Chamber of Commerce and the Delaware, Lackawanna and Western Railroad. These organizations had earlier considered establishing a demonstration farm for the benefit of local agriculture but by 1910 had become attracted to the idea of a farmer advisory bureau. Doubtless they were motivated in this by the possibility of obtaining financial support from the USDA Office of Farm Management. When these organizations requested the cooperation of the College of Agriculture, Bailey suggested the establishment of an industrial fellowship to study the problem. This suggestion was not acceptable, and by April, 1911, the Farm Bureau of the Binghamton Chamber of Commerce and the DL & W Railroad was established in cooperation with the Office of Farm Management. While the College of Agriculture was listed on the letterhead of the bureau as a cooperating agency, its only obligation was to offer advice and library facilities to the bureau's agent, John Barron, an alumnus of the College.

In February, 1912, a law was drafted by John Carlisle permitting boards of supervisors in New York State to support farm bureaus with county funds. In April, W. J. Spillman of the Office of Farm Management wrote Bailey that Congress had been so generous in its appropriation for his division that he could share the cost of a man to be stationed at the College in charge of the farm bureau agents and also share half the expense of additional agents to be stationed in the counties, with the expectation that the counties would provide the other funds necessary.

In replying, Bailey was decidedly unenthusiastic. Spillman's letter, however, spurred him to appoint special agents in the counties who would have a direct and exclusive relation to the College before the USDA could occupy the ground. Having such agents stationed where they could adapt current information to local conditions was an old idea of Bailey's; early in 1907 he had called it "an opportunity to breed a teacher of a new kind." On April 16, 1912, "ten represen-
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tative farmers" gathered at Westfield, Chautauqua County, at Professor Tuck's request "for the purpose of naming a person who would give special attention to the agricultural needs of the county and assist in connecting the College with those needs at the proper time in the proper way."59 Tuck continued to arrange similar conferences in other counties. By May, 1912, special county agents were appointed in Cattaraugus, Chautauqua, Cortland, Genesee, Jefferson, Orange, and Oswego Counties, and negotiations were under way for agents in Clinton, Dutchess, Herkimer, Otsego, and Washington Counties.60

In May, 1912, the Chemung County Farm Bureau was organized by the Elmira Chamber of Commerce and the DL & W Railroad with the same relation to the USDA and Cornell that existed with the Binghamton Bureau except that, in this case, the county unit was given greater emphasis.61 A month later the Jefferson County Farm Bureau was organized by the Watertown Chamber of Commerce; the Office of Farm Management provided $700, the State Department of Agriculture $600 from Farmers’ Institute funds, the Jefferson County Board of Supervisors $1,000, the Chamber of Commerce office space, and the New York Central Railroad transportation for the agent.62

By August, 1912, Bailey was ready to cooperate when Professor Spillman came to Ithaca for a conference armed with an abundance of federal money, providing such cooperation did not imperil the system of county representatives already established by the College.63 In October, Bailey accepted the desirability of having a single state leader stationed at Cornell to supervise both the College’s representatives and the farm bureau agents associated with the Office of Farm Management. Spillman was relieved to secure Bailey’s assent to this arrangement, for he was under pressure from the New York State Department of Agriculture to appoint the state leader in connection with that Department and have him known as its representative.64 Such an arrangement conflicted with the existing relationship between the USDA and the agricultural colleges and posed a discordant element in preparing the way for cooperation under the Lever bill, then before Congress. This bill, providing for federally aided state extension services, had already been approved by the Association of American Agricultural Colleges and Experiment Stations; Spillman
and other officials of the U.S. Department of Agriculture were anxious to avoid any administrative arrangement not in accord with its provisions.65

The method of organizing farm bureaus by agencies outside the farm communities, aided in some cases by funds provided by Sears-Roebuck and Company, was so antagonistic to Bailey's philosophy of rural life that it is surprising he did not speak out openly against it. Perhaps the reasonableness of Professor Spillman acted as a deterrent, or perhaps the advice from Professor Tuck that the whole farm bureau movement would quite likely blow itself out quickly.66 In any case, it was not until January, 1913, that he wrote to influential people condemning the methods of organizing farm bureaus. To John Carlisle he wrote:

I am very much afraid of the farm bureau work. I think it is one of the most dangerous enterprises that has come before the country in many years. It must be handled with the greatest care not only to avoid making a political machine of it but also to avoid the establishing of local community work by means of overhead or outside agencies which really do not represent the farming interests and which do not develop the very essential quality of self-help on the part of farmers themselves.67

In a later letter to Henry Wallace he called it his "particular function" to save farming people "from being exploited by benevolent agencies, and to try to develop in them the proper intelligence and self respect so that they will not be accepting gratuities." His position toward the farm bureaus was reinforced by Director Jordan, with whom he frequently exchanged views on important matters. Jordan considered the farm bureaus, as conceived by some farmers and businessmen, nothing less than "paternalism run rampant."68

Still Bailey was drawn gradually, if not willingly, into the farm bureau work. On January 3, 1913, he returned a memorandum of understanding for a county farm bureau, prepared by the USDA and sent to him for signature, on the ground that he did not wish to be a party to the choice of county agents. Yet less than two weeks later he signed a memorandum of agreement for establishing a farm bureau in Herkimer County with the reservation that he held himself free to criticize the work at any time. "This condition," replied B. T.
Galloway, "is acceptable to the Bureau." The one factor in making the farm bureau work more acceptable to Bailey was the freedom given him by the USDA in selecting the state leader and the "absolute authority" given that officer in selecting the county agents.

It was under this arrangement that Bailey appointed Lloyd Tenny as state leader. "He has had experience enough to make him cautious," said Bailey, "and he has enthusiasm enough to make him useful." Although Tenny was a member of the college staff, Bailey continued to avoid the appearance of any responsibility for the farm bureaus, insisting that "the College itself has no authority." This untenable position was made necessary by his insistence on protecting the College's direct relations to farmers through its independent agents. On Bailey's retirement the system of independent agents quickly collapsed, and soon thereafter he became a cautious supporter of the farm bureau movement.

Bailey's resistance to the direction of social change in country life was consistent with his earlier but unsuccessful efforts to shape the direction of rural social change. Both activities reflected the intensity of purpose and self-confidence that made Bailey an effective leader of men. His inability to achieve a rural society planned to his liking was a failure made magnificent by the magnitude of the opposing forces. It was, however, the very breadth of his vision that made possible the broad framework within which the College of Agriculture operated in 1913.

In many ways Bailey was the ideal person to be the first dean and director of the expanded College of Agriculture. An institution calculated to educate toward the achievement of his concept of rural society required the broadest definition of its functions. His goal for research, resident instruction, and extension was nothing less than technical education based on a sound understanding of scientific principles and supplemented by sufficient emphasis on aesthetics and political science to make the student a happier individual and more effective citizen. Bailey had the imagination and administrative ability to translate this broad goal into an educational program; he had the

*The "absolute authority" was qualified only by the provision that no person should be selected who was objectionable to the USDA (Spillman to Bailey, Jan. 3, 1913, Bailey Papers).
energy and skill in public relations to secure support for this program in the legislature. During his administration a substantial beginning was made in fundamental research and in developing practical applications for this research in the soils and plant-industry phases of agricultural education; extensive provision was made for studying the processing of dairy products and the production and processing of poultry and poultry products; and the subject of farm management was placed on a scientific basis. A department of rural economy was established to consider the relation of the rural citizen to the larger society and a department of rural art to explore tasteful arrangements of buildings and grounds in the rural environment. The College made a major contribution to secondary education through the nature study program, and by 1913 the way had been opened for the appointment of a professor to make systematic studies of rural education. A department was established to explore the possibilities for the more efficient management of the home, and the basis was laid in animal husbandry for future expansion comparable to that which had occurred in the plant sciences.

The breadth of the curriculum provided Bailey's justification for requesting the University Faculty to grant the Bachelor of Science degree to the graduates of the College of Agriculture. In June, 1911, he reminded the Faculty of Agriculture that the primary aim of the College was not to make farmers. "As a matter of fact," he stated, "the courses in the College of Agriculture are science courses." There was opposition to the change, both in the Faculty of Agriculture and in the University Faculty. Some members of the former, who did not share Bailey's broad definition of the function of the agricultural college, claimed that the state appropriations which supported the broad curriculum had been secured on the basis of misapprehension on the part of the people of the state. Professor Mann later recalled the "bitter struggles" in the University Faculty lest the standing of the B.S. degree be reduced. Bailey, however, was able to secure the change, and since 1912 the degree has been given to graduates
of the College. This step had the double advantage of providing a degree which more accurately reflected the nature of the College's curriculum while serving as an incentive to faculty members to make their work of equal standing with other colleges in the University.

The members of the Faculty of Agriculture who opposed dropping the reference to agriculture from the Bachelor's degree tended to favor greater emphasis on farm practice as part of the educational experience of students. In 1912 there was serious consideration for making a year's farm experience prerequisite to admission. Bailey was in complete disagreement with a policy which restricted enrollment in the four-year program to farm people:

Personally, I am glad that we have many students from the cities. The cities pay the greater share of our bills, and may fairly claim unimpeded access to our courses. Surely it is well that city people are ready for higher education by means of agricultural subjects.

Nor can I see that the presence of some students here attracted by free tuition is occasion for serious concern; for among them are many of our best students, who otherwise could not come at all. I hope the opportunity for a college education for every ambitious youth will come to be a part of the social heritage.

Within the ten-year period Bailey served as director, the physical plant of the College assumed its present shape. In 1912 the concept of an agricultural college quadrangle was adopted when it was decided to abandon plans to enlarge the existing agronomy building (Stone Hall) and house the work in a separate building to be located north of the main buildings and directly east of the home economics building. The period between 1910 and 1913 marked the most rapid expansion of the physical plant that has occurred during the life of the College. When Bailey retired, he could see new construction all about him. At the extreme western end of the agricultural campus an auditorium (Bailey Hall) was under way which would also house three departments, and at the opposite end of the campus an animal husbandry building (Wing Hall) and a stock-judging pavilion were

*The degree of Bachelor of Agriculture was awarded until 1885; Bachelor of Science in Agriculture was awarded from 1886 to 1896 and again from 1907 to 1912; Bachelor of the Science of Agriculture was given from 1897 to 1906.
forming the nucleus of the projected animal industry group. Between these locations, forestry (Fernow Hall) and agronomy (Caldwell Hall) buildings were under construction near the recently occupied poultry (Rice Hall) and home economics (Comstock Hall) buildings. The home economics building was an excellent physical manifestation of change in agricultural education at Cornell. This four-story brick structure housing a department less than ten years old stood on the site of the barn which had given Roberts so much pleasure and which, at the time of its construction in 1879, was regarded as a marvel for miles around.

Several “temporary” buildings were also constructed when state appropriations proved inadequate to meet the pressing need for classroom and laboratory space. In 1912-13 a one-story farm mechanics building measuring 40 by 96 feet was erected on the present site of Mann Library by the staff of the department from lumber formerly part of the old Roberts barn. (Later moved to a site along Judd Falls Road, it was used by the Department of Agricultural Engineering for another half-century.) The same year “Case Hall,” a small building literally constructed around a Case thresher, was located on the north side of this building, and six years later another temporary structure, also measuring 40 by 96 feet, was located to the east. 

The new buildings led to increased need for larger state appropriations. Routine maintenance alone was expensive, and the expanded teaching and research activities carried on within them added greatly to operating costs, but such increases were unavoidable if the buildings were to serve their intended purposes. Bailey was successful in securing a steady increase in the appropriation for operation and maintenance from $35,000 in 1903 to $575,000 in 1913. The increase from 1912 to 1913 alone was $214,000.

Conditions both within and without the College were favorable to the exercise of Bailey’s leadership. The faculty was composed almost entirely of young men, some of whom accepted his leadership uncritically. Others, who did not share his broad concept of the functions of a college of agriculture—and they were many—were in no position to oppose a leader of national reputation as a scientist and educator to whom they were attracted by personal friendship. Agricultural prosperity of nationwide scope contributed to a favorable political
environment for developing a broadly conceived college of agriculture. (In the period before the impact of Keynesian economics, prosperity loosened the strings of the public purse.) Yet widespread prosperity did not mean that funds would be automatically forthcoming for the needs of a new institution which had to compete with those already supported by the state. Securing adequate appropria-
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...tions required the aggressive presentation of the institution's needs to the people and to their representatives.

During Bailey's administration the allocation of the state's financial resources was determined by the legislature, for this was a period before the development of the executive budget and the growth of executive agencies engaged in the planned allocation of state funds. Appropriations were then secured by interest groups contending against other interest groups for the support of members of the legislature. It was a system alien to Bailey's ideas of social order but one admirably suited to his talents as an advocate. The College of Agriculture benefited substantially from his personal impact on the arbiters of appropriations.

In hiring faculty members Bailey enjoyed a freedom not available to his successors, for in launching new departments he could select men without reference to the limitations generated by existing organization. Under the circumstances he should have selected an able faculty. His success in that regard is certainly a basic measure of his success as director, but the lack of accepted criteria for measuring the work of faculty members places an evaluation on shaky ground. There was some criticism of the faculty from within the federal Department of Agriculture but this was apparently a consequence of viewing what was primarily a teaching institution from a researcher's point of view. Certainly Webber and Lyon, both employed purely for research, were unusually competent men. Bailey properly emphasized teaching ability in the faculty members he hired; indeed, he could hardly have justified giving priority to research when so many resident students and farmers in the state had not yet been brought abreast of existing knowledge. It is a credit to Bailey's judgment that many faculty members hired primarily for their ability as teachers also developed into good research scholars. In founding what was, in effect, a new institution he can hardly be criticized for the few who fell along the way.

During Bailey's administration the position of department head evolved to become the key role in the administration of the College. By 1913 the institution had become too large for a single individual to keep in touch with the entire undertaking. Continuing application of leadership came necessarily to depend on the department heads...
who were in direct contact with the work of individual faculty members. The department heads were, in effect, subdirectors, bearing the same relation to the internal administration of departments as the director bore to the entire College. Through personal leadership and control of the departmental budget, they influenced the relative emphasis placed on teaching and research and also affected the methods of teaching and the content and direction of investigation. The position demanded a combination of scholarly and administrative skills. If the department were to have a sense of unity and direction, the department head had to be able to evaluate the teaching and research work of its members in relation to an organic plan and, where indicated, persuade faculty members that different goals or techniques were desirable. Lest the work of the department become parochial, the department head had to keep in touch with similar work in other states and countries and evaluate and direct the work of his department both in relation to work done elsewhere and to the needs of its immediate constituency. The department head also performed a key part in maintaining the morale of the faculty. Tensions are inevitable and desirable in an educational institution, provided they do not become debilitating. Ideally, the department head acted as a tension-reduction device within his department and between the members of his department and the rest of the College so that tensions did not reach the point of reducing the effectiveness of the director or individual faculty members.

Individuals possessing a combination of scholarly and administrative skills desirable in a department head were, and continue to be, difficult to locate, but even when such men are found, it is uncertain that they will retain this combination of skills under the pressure of changing conditions. During the Bailey administration the precedent was established that no limit would be placed on the tenure of the department head. This tradition made the position even more demanding, for its occupant had to adjust continually to new scientific, technological, and personal situations. Agricultural science and technology change rapidly. Work that at one point would give a department a position of leadership could, if pursued too long, place it in the position of beating old straw. Personal relationships were subjected to stresses as new faculty members appeared on the scene.
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and older members changed through the process of aging. The men Bailey appointed as department heads must be judged both by their contribution to developing new fields in agricultural education and by the adequacy of their adjustment to changing conditions in the years that followed.

The greatest single weakness of Bailey as an administrator was his failure to prepare for an orderly transfer of authority to a successor. Conditions were ideal for a recurrence of the crisis which had been forestalled on two previous occasions by persuading Bailey to remain. And even with a successor selected, the problem remained of stabilizing his position, since many of the administrative precedents established by Bailey were too personal to be utilized by another. Bailey accentuated these potential difficulties by concealing from the faculty the part which conflict over the State College of Forestry played in his resignation. It was widely assumed that, as with his previous resignations, difficulties with the university authorities were involved. Professor Rice said he could hardly restrain himself from taking the field “to avenge the inexpressible injustice which the President of the University and the local Trustees have done.”

In July, 1913, William A. Stocking, Jr., was appointed acting director of the College. This appointment was generally popular. Stocking was a quiet and able man whose substantial abilities were sometimes underrated. Chance played an important part in his advancement in college administration. In 1908 Bailey made him head of the Department of Dairy Industry only after a search through other agricultural colleges had not produced an available candidate; yet several years later both Bailey and Commissioner Pearson agreed that he had done an exceptionally competent job. As director, Stocking carried on, in so far as possible, the policies Bailey had laid down, consulting the former director whenever major issues arose. On the last day of Stocking’s administration he thanked Bailey for giving up a trip to Europe in order to remain in Ithaca to advise him.

BEVERLY T. GALLOWAY

The basic issue underlying the selection of a permanent director was Bailey’s policy of making the administration of the College as independent as possible from university authority. A group of col-
lege alumni, including several members of the faculty, were determined to preserve this and other policies of Bailey; the President of the University was equally determined that the college administration should be more closely integrated with that of the University. In the normal processes of institutional administration such differences would be compromised, but in this instance both parties departed from the normal course, propelled by the intensity of their feeling and a misconception of the strength of the adversary. The misconception of the alumni group reflected a combination of misinformation and wishful thinking. Maurice C. Burritt, ordinarily a remarkably astute person, considered the power structure of the University so unstable that the trustees would not dare risk incurring the hostility of a large number of alumni. "It is my personal opinion," he said, "that 90% of the Cornell alumni and I know that at least 95% of the Board of Trustees are opposed to the continuance of President Schurman in the University."84 In addition to Burritt, the active spokesmen for the alumni were the secretary of the Students' Association, Professor Mann, and the Committee of Twenty-five, a group appointed to determine alumni policy.*

The problem for these alumni was to find means for participating in the selection of the new director. The university practice, when major appointments were under consideration, was that interested alumni might urge the selection of particular candidates, with the final choice being a matter of trustee decision. By April, 1913, the alumni group, then under the presidency of C. H. Royce, demanded that this tradition be altered to permit the alumni of the College to pass judgment on a candidate before his final appointment, a procedure which Schurman pointed out would establish a precedent antagonistic to sound university administration.85 After this rebuff the alumni group took the position of recommending that Stocking be appointed acting director for another year.86 By this time, however, President Schurman had a candidate in mind.

This was Assistant Secretary of Agriculture, Beverly T. Galloway, who had been suggested to Schurman by President C. R. Van Hise

*In January, 1914, Mann was replaced as secretary by E. L. D. Seymour, and in February, 1914, C. H. Royce replaced Burritt (Cornell Countryman, March, 1914, p. 223, April, 1914, p. 234).
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of the University of Wisconsin. Dean Russell of Wisconsin agreed that Galloway would be an admirable choice but thought there was little possibility of securing him. Indeed, that appeared to be the case. In March, 1914, Galloway "after carefully considering the Deanship," asked that his name not be presented to the trustees. Schurman, however, persisted. Persuading Galloway to visit Ithaca at the end of March, he told him then that he was his "first and only choice" for the vacant position.

There seemed to be every reason for Schurman's enthusiasm. Galloway was a scholar of established reputation in the field of plant pathology. Under his administration the Bureau of Plant Industry had developed from a small division to a major center for agricultural research and extension. In 1913 he was drafted by the Secretary of Agriculture, David Houston, to fill the position of Assistant Secretary. Galloway's reputation within the USDA was similar to that which Bailey had achieved within the College of Agriculture; he was regarded by Cornell alumni employed in the federal department as the practically indispensable man whose concepts and administrative methods shaped the form of the Bureau of Plant Industry. Indeed, there was some suggestion from these alumni that the College of Agriculture would benefit considerably by a similar application of strong constructive administration oriented toward the concept of the University as a unified institution.

By April, 1914, Galloway was ready to reconsider the position of director. He then saw no insurmountable difficulty in bringing the College into harmonious relation with the University. "You may have to perform a few incidental surgical operations," he wrote Schurman, "but I believe the patient, when it is all over, will feel greatly relieved, and perhaps a little bit surprised at its rapid recovery."

On April 14 a joint meeting of the Faculty of Agriculture and the Agricultural College Council was called by President Schurman to consider the appointment of a director. Seven members of the faculty, evidently spokesmen for the entire faculty group, opposed the appointment of Galloway and favored either retaining Stocking or securing Dean Russell of Wisconsin. According to Professor Rice, the President "made it perfectly clear that he was emphatically opposed to the present method of administering the College of
Agriculture [and] that he proposed to have Dr. Galloway appointed Director if it is within his power to bring it about."* The trustees met on May 2 to fill the position. Schurman's penciled notes indicate that only Pearson and Galloway were considered. The faculty objections to Pearson and Galloway's substantial reputation and gift for leadership were discussed. After the decision was cast in favor of Galloway, Schurman wrote at the bottom of the page: "He will direct the College and cooperate with the University. Solution to our problem. Never more confident of nomination."93 On the same day the Senate of the United States discussed whether it should raise the $5,000 annual salary Galloway received in order to hold him in the federal department. After much wandering and irrelevant discussion the Senate concluded that such a salary increase would create an undesirable precedent.†

Galloway certainly underestimated the difficulties he would face at Cornell. On the day Professor Rice wrote to the president of the alumni association about possible measures to prevent his taking office, Galloway wrote to President Schurman about his pleasure at being part of the institution. "The difficulties are insignificant," he stated, "compared to some of the issues that we have had to face here."94 President Royce of the alumni group and Professor Rice were determined that Galloway should know how matters stood.

*Rice to Royce, April 17, 1914, Rice Papers; Schurman to Members of the Faculty, March 31, 1914, Selection of Director Papers. It may be noted that the contest over what degree of independence the College of Agriculture should possess was not unique to Cornell. In an earlier period such a contest in Mississippi and South Carolina resulted in the separation of the college of agriculture from the state university (John K. Bettersworth, People's College: A History of Mississippi State [University, Ala., 1953], pp. 18-26; Daniel W. Hollis, University of South Carolina [Columbia, S.C., 1956], II, 148-153). At the University of Minnesota, after a separation flurry in the late 1880's, the College of Agriculture was given a large degree of autonomous administration (James Gray, The University of Minnesota [Minneapolis, 1951], pp. 98, 116). Even those states which from the beginning maintained agricultural colleges apart from the state university did not avoid conflict over the division of educational functions and allotment of funds. See Bailey to R. A. Pearson, Jan. 30, 1913; C. S. Potts to Bailey, March 14, 1913, Bailey Papers.

†Congress. Rec., Senate, May 2, 1914, pp. 7607-7613. The director of the New York State College of Agriculture received $6,000.
Late in June, Royce called on him in Washington and warned him not to depart from Bailey's policies. Then, writing to President Schurman, he indicated the alienation the alumni of the College of Agriculture felt toward his administration. "I think we can now disregard ethics and take our stand for our College of Agriculture," Royce wrote Bailey the same day. Meanwhile, a two-column editorial appeared in the American Agriculturist warning Galloway that he must decide whether to be an errand boy for President Schurman or one of the spokesmen for the agricultural interests of the state. "We all know," the editorial said, "that Schurman schemed you in."

The core of opposition to Galloway came from a group of faculty members who used the alumni group as a vehicle for carrying on their dispute with the President. The absence of unity among the alumni themselves was soon evident. In June, 1913, Professor Mann had been faced with the necessity of raising about $800 to finance the campaign against the building appropriation for the State College of Forestry, but the money was secured only when he and Professor Tuck endorsed a loan of $640 to the Students' Association. In the midst of the attempt to secure a voice in the selection of the director only slightly over one-half of the members of the Committee of Twenty-five replied to a letter from Burritt requesting a meeting. In July, 1914, shortly after President Royce warned Schurman and Galloway in the name of a united alumni, Secretary E. L. D. Seymour wrote Royce that he could not see much excuse for the organization's existence. He noted that only 6 per cent of the alumni were members and "the meetings come so rarely that it is hard to remember from one to the next." The following year he wrote to Galloway, suggesting that the Students' Association be dissolved or reorganized "on an active self-supporting basis."

Although Galloway became director under less than auspicious circumstances, he early made a good impression on Professors Stocking and Mann. "You will find Dr. Galloway a very pleasant man to work with," Stocking indicated to Director F. G. Helyar of Morrisville. Mann was very pleased with Galloway after he had been on

*American Agriculturist, May 30, 1914. Almost the entire editorial followed point by point a letter Rice wrote editor Burkett on Oct. 15, 1911. See also Rice to C. W. Burkett, May 26, 29, June 8, 1914, Rice Papers.
the job for a month. "He brings to his work," said Mann, "an unusual experience in administration, and a remarkable grasp of American agriculture in all of its phases." Yet within two years Galloway had returned to the U.S. Department of Agriculture, and Mann himself was dean and director.

Galloway's difficulties did not develop, as might have been anticipated, over the relation of the College to individual farmers and organized agriculture, for in these external relations his objectives and methods of administration were quite similar to Bailey's. They did not develop over the scope of the curriculum, for Galloway wished to extend it even further than Bailey. They did not develop over the relation of the College to the University, for while Galloway tended to relate the interests of the College to those of the University, he was anything but a mouthpiece for the men in Morrill Hall. Rather, the area of contention was the internal administration of the College; therein a conflict with the faculty developed following his attempt to apply administrative techniques he had found successful in the Bureau of Plant Industry to an institution with quite different traditions. Two aspects of administration were involved, the personal relationship of the director to the faculty and the administrative structure of the College of Agriculture.

The faculty found the interposition of a group of clerks between themselves and Galloway a shocking contrast to the open-door relationship they had enjoyed with Bailey. Under Galloway's administration it was difficult for members of the faculty to see the director, since almost invariably they were stopped in the outer office by his private secretary, H. E. Allanson, who was also a student in the College. Questions not involving policy were decided by Allanson; questions involving policy were taken to Allanson, who, in turn, transmitted them to Galloway for decision. In either case, he posed an effective barrier between the faculty and the director. Allanson was a capable administrative aide, but it was galling for some professors to call on a student in resolving important college issues. The college budget was also prepared by conference between department heads and administrative clerks. The faculty was further antagonized by Galloway's unfortunate characteristic of treating faculty members he did not like as something less than his equal.
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Galloway's attempt to separate administrative functions from the faculty's responsibility for determining educational policy contributed to the friction. Under Bailey these functions had been intertwined, with the dean acting as director of educational policy through force of personality and the faculty engaging in administration through committees dealing with the library, the Experiment Station, and extension. At a meeting of the Faculty of Agriculture in February, 1916, Galloway ruled a joint report of the committee on experiment station work and the committee on extension work out of order on the ground that it dealt with administrative matters not within the jurisdiction of the faculty. Galloway quoted from university statutes on the function of the special faculties but was immediately overruled by an overwhelming vote. Later in the meeting a committee was elected to determine if the functions and responsibilities of the faculty "might be cleared up by a frank interchange of opinion or adjusted by faculty vote." When this committee met, instead of discussing the functions of the faculty, it turned to an examination of Galloway's fitness to be director. His method of administering the College through clerks was condemned, and enough examples of arbitrary action were noted to signify a lack of confidence in his leadership. Some of these decisions appear to have been the routine acts of an administrator unused to having his decisions questioned; others, such as the changes in departmental budgets, were forced upon him by outside events, but he was nonetheless blamed. It was his misfortune to become director at a time when a movement for budgetary reform and economy in government struck the state capitol.

The state appropriation for operation and maintenance for 1914-15 was $68,000 less than had been available the previous year and represented the first reduction for the College since it became a state institution. In addition, the newly established State Department of Economy and Efficiency classified the budgets of all state institutions into groups for purposes of appropriation. The appropriation for that year provided stated amounts for stated numbers of employees in each category. Stocking protested that a college of agriculture could not work under such a system, for the amount the College would need to pay staff members to hold them against higher offers could
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not be anticipated. In 1915 even less flexibility was permitted when the contingent fund was reduced from the $24,200 available in 1914 to $10,000. When the appropriation for accessory instruction plus the entire contingent fund did not equal the amount due the University for accessory instruction, Galloway was forced to reduce the maintenance funds of the different departments in order to secure this payment. The following year the state adopted a line-item budget which attached a stated salary to every position in the College, and at the same time the state comptroller refused to sanction the existing practice of augmenting state salaries from college income funds. The combination of line-item budget and restrictions on the use of income funds had the effect of transferring a substantial part of the College's administration to Albany. It placed the director in the uncomfortable position of being required by statute to restrict the work of a faculty accustomed to administrative flexibility and expanding budgets.

The personal element plays a large part in the conduct of the state's business. An official of a state institution does not reach maximum efficiency until he has established a reputation as a competent administrator and a "good fellow." In coming before the state's officials as a stranger, Galloway was at a great disadvantage in securing appropriations for the College. His impersonal relationship to the Governor made it necessary to rely on an intermediary to defend the College's budget. In 1915 this intermediary was Franklin Matthews, a trustee of the University and personal friend of the Governor. According to Matthews, he and the Governor were "as close as brothers." "We have," he said, "sat up nights scheming how to advance his political career until he should occupy the place he now does." Unfortunately Matthews used his crucial relationship with the Governor to justify sitting in judgment on the content of the College's budget, a judgment his position in the School of Journalism at Columbia University hardly qualified him to render. His narrow view of agriculture did not encompass the possibility that fish ponds might be a useful addition to New York farms, and, after his strenuous objection, the trustees removed an item for experimental fish ponds from the college budget. This action further postponed
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a project which Bailey and Professor James Needham had planned many years before.

This incident illustrates, perhaps as well as any, a consequence of defending a project on the basis of its value to agriculture when, in fact, an agricultural application was almost incidental to the purpose of the research. As Professor Needham indicated to Galloway, there were excellent reasons why the College should experiment with fish ponds. The College had in its staff and equipment a basis for research in limnology which could place the state’s fourteen fish hatcheries in sound operating condition. Although in actuality a college of science, the institution was trapped by its name. The public and the legislature expected the work of the College to relate to agriculture, and the spokesmen for the College had no choice, in the short run, but to justify its work in terms of the public’s expectation. In the long run, perhaps, the faculty could educate the public to a more realistic understanding of its activities. An immediate consequence of this incident for the Galloway administration was to alienate further the head of the largest department in the College.

The faculty’s demand for his resignation was precipitated by Galloway’s plan to eliminate the departments as administrative units and reorganize the work of the College into eight service units. Galloway had evidently discussed the plan with Schurman before becoming director but did not mention it to the faculty because he found the situation “so delicately balanced” that he did not want to take a step which might create a disturbance. In June, 1915, Galloway prepared a long analysis of the organization of the College in which he developed the thesis that the department, with its frequent changes, was an inefficient administrative unit. Instead, he proposed to group the departments into services dealing with administration, animal industry, plant industry, soils, chemistry, rural technology, the rural community, and extension. “All business of the institution,” he stated, “all accounts, all budgets, and all matters of business are conducted strictly in accordance with this administra-

*Needham to Galloway, Jan. 23, 1915, Galloway-Schurman Correspondence. After being twice rejected by the legislature a $25,000 item for a fish-culture experiment station was secured in 1919 (Mann to Schurman, Oct. 8, 1919, Albert R. Mann Papers).
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tive plan of organization.” By May, 1916, the faculty was aware of this plan. On May 20 the faculty elected a committee of nine which prepared a statement to the President and trustees covering the faculty attitude toward “a matter of organizaion newly injected into the situation.” The statement, which called for Galloway’s resignation, noted that the plan called for reducing the present twenty-six departments to eight and declared that “this would mean the elimination of a large number of the Faculty.” The statement was approved by the Faculty of Agriculture by a vote of seventy-two to zero with two members abstaining.

Some members of the faculty reacted to Galloway with an emotional intensity that affected the soundness of their judgment. In November, 1915, one faculty member reported that Galloway had placed eight of his relatives on the College payroll. In early June, 1916, a department head carried his grievances to the Ithaca Journal by providing “authoritative information” relating to the “Dean’s competence to lead the College.” Several weeks later two younger members of the faculty complained about coercion at the meeting of the faculty where the vote of seventy-two to zero was secured in favor of requesting Galloway’s resignation. In February, 1916, a group of faculty members led by Professor Needham held a night session with a group of arts college professors to consider the agricultural college situation a University matter on the ground that Galloway was endangering the spirit of academic freedom. These and other indications of faculty opposition brought Galloway to the conclusion that his usefulness at Cornell had ended. On June 3, 1916, he sent a second letter of resignation to Schurman with the request that it be accepted; much remained to be done that he would like to see accomplished, but he recognized that “the best interest of all concerned” would be advanced by his leaving.

It was a tragic conclusion for a man who came to Cornell two years earlier to make its College of Agriculture the model in the nation. Perhaps his personality made him essentially unsuited to be director of the College of Agriculture at any time but it was his misfortune to arrive on the scene as successor to Liberty Hyde Bailey. Neverthe-

*Schurman to Franklin Matthews, Nov. 11, 1915, Galloway-Schurman Correspondence. Schurman found no basis for the charge of nepotism.
less, Galloway’s unsuccessful attempt to reorganize the College was not entirely in vain. By absorbing the brunt of faculty opposition he made the way easier for his successor, for his resignation did not end the demand for reorganization. On June 19 the Agricultural College Council expressed confidence in Galloway’s administration and went on record as favoring “the greatest possible consolidation of existing departments in the College.”

The following week President Schurman presided at a special meeting of the Faculty of Agriculture. Conciliation was the keynote, but Schurman held a steel fist in the velvet glove. He presented a statement from the trustees which accepted the resignation of Galloway while strongly approving his policies. Then, at the request of the trustees, he also presented a twenty-one page statement on the relation which ought to exist between the President, the trustees, the dean, and the Faculty of Agriculture. Schurman’s lecture—no other term seems equally appropriate—dwelt at length on the nature and extent of academic freedom in a technical college. The College of Arts and Sciences, he warned, was not be to regarded as a model to justify freedom of action by separate departments in the College of Agriculture. Schurman left the plan for reorganization of the College before the faculty while extending the opportunity for a faculty voice in the administration of the College. The trustees, he announced, had moved to admit two faculty representatives to the Agricultural College Council.

Albert R. Mann was an excellent choice to succeed Galloway as director. He was thoroughly familiar with the administration of the College, and if not personally acquainted with the leading members of the legislature and farm organizations, at least had some knowledge of them. He had maintained good personal relations with Galloway, and, since he was away on sabbatic leave, had avoided involvement in the troubles of 1915-16. Raymond A. Pearson, then President of Iowa State College, considered him an able administrator. Galloway recommended that Mann be made acting dean and director of extension after a conference attended by Mann, Schurman, Galloway, and C. B. Smith of the States Relations Service, USDA.

Although Mann stepped into the same position occupied by Bailey
in 1903, the perimeter of the roles of dean and director were more sharply defined as a result of pressures arising both within and outside the University. It was clearly expected that Mann would direct college operations in a manner consistent with the view that agricultural education was a part, and only a part, of the total field of education encompassed by the University. This expectation came not only from university authorities but from state officials, who had ended the free-wheeling type of administration by placing tight budgetary restrictions on the director's freedom of action. Working within these limits, Mann directed an institution which was undergoing closer alignment to the interests of the farm people of the state. Extension work, in 1910 the weakest of the three divisions of agricultural education, was by 1920 receiving the greatest emphasis. The significance of this change went well beyond the extension work itself; for as the College became more closely associated with farmers and farm organizations, they in turn acquired an increasing influence over the content of agricultural education, not only in extension but also in resident instruction and the work of the Experiment Station.

EXTENSION

While the decade witnessed the development of new forms of extension education and the abandonment of old forms, some extension techniques inherited from the past were carried on throughout the period. Such was the case with the extension schools, which continued to be a useful means for extending information even though from Bailey's point of view they were less effective than formerly. Much to Bailey's regret, they were settling into communication by lecture. In 1911 he warned that they were becoming "talking schools," which he regarded as a departure from the "real teaching" involved in the examination of materials in laboratory periods. In 1912-13 twenty-five extension schools were held; the following year sixty-one. During 1901-1910 the annual attendance at these schools fluctuated between seven hundred and three thousand. Schools of one, two, and three days' duration were also held on such topics as the operation of gas engines and the use of
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milking machines. One school, held in the winter of 1911 at Riverhead, Long Island, lasted seventeen days.120

The farm demonstration train reached the apex of its usefulness about 1912 and by the end of the decade had been abandoned as a major form of extension. In 1911 Professor Warren, on returning from the annual meeting of the Association of American Agricultural Colleges and Experiment Stations, reported an undercurrent of disapproval with extension work in the United States. Many of the extension lecturers, he said, were regarded as little more than windbags. Warren thought the brief and rather superficial lectures from farm trains contributed to that impression and recommended that in New York the farm train immediately be replaced with extension work of a "more solid" character.121 The following year a major effort was made to improve the educational efficiency of the Cornell farm train. Stops were made for a half-day and longer so that depth could be given to the lectures and demonstrations. Attendance averaged one thousand persons at a stop; many farmers drove ten miles over mud roads in order to participate. The train was preceded by an efficient campaign of publicity and was followed by extension schools and reading course bulletins.122 Although this was considered a successful season, the farm train was quickly displaced by a much more efficient extension medium, the county farm bureau association.

By 1914 twenty-five county farm bureaus had been organized in the state. This number increased by about five counties a year until 1917, when wartime emergency funds led to an increase of fifteen counties within a single year. In 1918 the fifty-six counties comprising the area in the state suitable for agriculture had farm bureau organizations.123 Professor Tuck's conclusion that farmers were not interested in these organizations turned out to be unfounded. When F. E. Robertson, the new farm bureau agent in Jefferson County, was offered the position of assistant professor of animal husbandry at Cornell, the farmers of the county, within two days, voluntarily subscribed enough money to meet the offer.124 The change in the sources of county farm bureau funds in New York State between 1913 and 1914 is a measure of the willingness of counties and individual farmers to support the organization; while funds raised

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outside the counties increased about 7 per cent, those raised within the counties increased 61 per cent.\textsuperscript{125}

The Smith-Lever Act, signed by President Wilson on May 8, 1914, clarified the official connection between the county farm bureau agents and the College of Agriculture. Thereafter, these agents were the local representatives of the cooperative federal-state extension service. The Smith-Lever Act provided for the decentralized administration of forms of extension education which had already been developed by the U.S. Department of Agriculture without specific congressional authorization. By 1913 Seaman A. Knapp had developed a highly centralized system of nearly six hundred farm demonstration agents in the South under a loosely drawn appropriation to the Bureau of Plant Industry for breeding cotton resistant to the boll weevil. Dr. Knapp found the best method of fighting the boll weevil to be farm-by-farm demonstrations on the advantages of mixed farming; by decreasing the dependence of southern farmers on a single crop, he made a lasting contribution to American agriculture.\textsuperscript{126} In the northern states the Office of Farm Management, although established as a research agency, engaged in farm demonstration work similar to that of Dr. Knapp. While the agricultural colleges accepted the principle of agricultural agents stationed in the counties, they opposed control by agencies located outside the state. This was also the position of the National Soil Fertility League, a lobbying organization founded by a group of midwestern businessmen to secure federal aid for a system of decentralized agricultural extension work.\textsuperscript{127}

The Smith-Lever Act provided a $10,000 annual grant to each state, with additional funds based on rural population to be matched by the states. Cooperative administration of the extension work financed by Smith-Lever funds was based upon a memorandum of understanding signed by the Secretary of Agriculture and the president of the college receiving these funds. This memorandum, drafted by A. C. True of the Office of Experiment Stations and approved by the executive committee of the Association of American Agricultural Colleges and Experiment Stations, called for the establishment of a distinct division in each cooperating college for the administration of all extension work. In the Department of Agriculture, a States
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Relations Service was established to represent the Secretary of Agriculture in the administration of this law. 128

The reorganization of the extension work in each state to fit within the cooperative structure of the Smith-Lever Act offered numerous opportunities for personal friction between state and federal employees. That the transition was generally smooth is in large part due to the personal qualities of Dr. True, appointed to head the States Relations Service, and his subordinate, C. B. Smith, who was in charge of extension work in the North and West.

The passage of the law had three significant results in New York State. By requiring a separate division of extension in the College, the law made it possible for the director to appoint an administrator to head this division without incurring opposition by the faculty. By associating home economics extension with agricultural extension, the law assured the permanence of home economics education at Cornell. Finally, by emphasizing the relationship between the agricultural colleges and the USDA, the law pointed toward the eventual elimination of the State Department of Agriculture in the conduct of extension work.

As chief of the Bureau of Plant Industry and later as Assistant Secretary of Agriculture, B. T. Galloway played a vital role in the formulation of the Smith-Lever Act. 129 As director of the College of Agriculture, one of his principal tasks was to implement this law by coordinating the extension work of the College with that of the county farm bureaus. The plan he laid down for this coordination established the fundamental relationships within which the Extension Service still operates. Among its provisions were: the county farm bureau to be the local administrative clearing house for extension work; the local community to support the administrative work of the bureau; extension work to be based on the project plan, the projects to be made up at least once a year through cooperation between the professor of farm bureau extension and the various departments; all farm bureau projects to be initiated by county committees in cooperation with the county agent, the professor of farm bureau extension then to present to the departments the needs for assistance from the counties; each college department to have its extension experts and to control the subject matter, the time...
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and place of presentation to be determined by the county farm bureau; and the Lever funds and state extension funds to be used for the salaries and expenses of specialists assigned to the departments. 130

Maurice C. Burritt and Howard E. Babcock had the chief responsibility for implementing this policy. Burritt succeeded to the position formerly held by Lloyd Tenny on January 1, 1914, when he was appointed extension professor in charge of farm bureaus. In October, 1914, Babcock was appointed assistant extension professor and assistant state director of farm bureaus. 131

Galloway's plan of coordination placed considerable emphasis on county committees planning extension work at the local level; indeed, he thought the success of the farm bureau movement would "depend largely on the development of local initiative and local organization." 132 The extension leaders at Cornell placed greater emphasis on local organization than was done in many other states. Burritt was dismayed at the "utter disregard" the great majority of state farm bureau leaders and extension directors, meeting at a conference in Chicago, showed toward the principle of self-help. "Their idea seems to be," he said, "that the success of the work depends almost wholly upon the way it is projected, carried out and administered by the College authorities." 133 While the policy of Burritt and Galloway was clear, the development of local initiative depended, in practice, on farm people with a capacity for leadership and a county agent with ability and willingness to utilize local people in developing a county program. Needless to say, there was often a wide gulf between the ideal and existing situation.

Much of Burritt's time in 1914 and 1915 was devoted to establishing farm bureaus in counties as yet unorganized. In doing this, his first step was to persuade a group of farmers to form a county farm bureau association. This was often a difficult process, for Burritt encountered widespread apathy among farmers and was sometimes faced with opposition generated by earlier farm bureau mistakes. On occasions discouraged, he reminded himself that "to have support one must go out, get it and organize it." At another time he noted in his diary, "N.Y. farmers don't know how to cooperate yet. The $ sign is too big in their eye and they don't know that

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cooperation means *give* as well as *take*. After a farm bureau association was formed, Burritt accompanied the new agent to the county, pointed out for his benefit some of the possibilities in farm bureau work and, for a number of afternoons and evenings, helped him organize "get acquainted" meetings with local farmers. Then, leaving the agent on the job, Burritt returned to Ithaca, to spend evenings in his office "catching up" on correspondence.

On July 1, 1917, the Extension Service was established as an administrative division of the director's office to coordinate the extension work of the subject matter departments with the project plans of the county farm bureaus. Professor Burritt was appointed vice-director of extension. Under this arrangement Director Mann retained the ultimate control of appointments and allocation of funds. It was a relationship that required considerable forbearance on the part of both director and vice-director. Burritt was an able administrator, equally effective in the planning of policy and in the conduct of day-to-day routine. He regularly subjected reports from county agents and departments to careful analysis, which he made the basis for criticisms and suggestions.

Burritt faced a major task in coordinating the extension work of departments that had become used to working independently. Shortly after his appointment he reported that the departments showed little inclination to cooperate with each other or with the farm bureau organization. Accustomed to emphasizing means of work, the departments resisted the transition to concentration on objectives to be attained. The orientation of the local farm bureaus was quite different. They were impressed with the problems to be solved and were relatively unconcerned about what departments accomplished the solution. Demand for solutions to immediate problems in combination with an increasing awareness of the complexity of these problems eventually led to greater cooperation among departments. The tendency during the decade, however, was to preempt rather than share the projects outlined by local farm bureau associations.

The alternative method of organization favored by the USDA was to make all extension personnel directly responsible to the division of extension. While this relationship had the advantage of
emphasizing a problem orientation, it posed the danger that extension personnel isolated from the research activities of departments would soon lack the necessary technical competence. The plan also had the effect of isolating research from the immediate needs of agriculture. Well aware of the imperfections of the Cornell organization, Mann and Burritt felt it superior to that which Washington offered.138

Differences on the matter of extension organization, however, did not weaken the generally pleasant working relationship between the officials of the College and the USDA. By 1911 the Bureau of Soils had abandoned the practice of conducting soil surveys without consulting the College; thereafter the counties to be surveyed were selected by the College of Agriculture.139 In 1912, when a group of grape growers petitioned the Bureau of Plant Industry to establish an experimental vineyard at Hammondsport, Galloway, as chief of the Bureau, replied that the USDA would proceed only with the approval of the College of Agriculture.140 The friction that developed from the independent farm demonstration activities of the Office of Farm Management was ended with the passage of the Smith-Lever Act. Thereafter the federal department agreed to clear all its work in the state through the College.141 The authority vested in the States Relations Service to review Smith-Lever projects planned by the College was not used arbitrarily. Rather, the relationship was cooperative in the best sense. After the review of projects in 1918, Burritt remarked, "Some of Mr. Smith's more detailed criticisms of particular projects were, I think, well taken, and I have tentatively accepted them."142

The system of county farm bureau agents provided the combination of local and centralized organization needed to put the farm demonstration work on an effective basis. In 1911 the Agricultural Experimenters League was still in existence, with several hundred members, but it had not met the expectations of its organizers. The demonstrations had not been sufficiently supervised and in many cases seemed to have little effect in improving farm practices in communities where they were conducted.143 It was possible with agents stationed in the counties to demonstrate improved farm practices as part of a program planned to secure the maximum
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educational value from each demonstration. The realization of these possibilities depended upon the presence of a county farm bureau agent skilled both in agricultural and public relations techniques. Although the demonstrations were frequently conducted with the aid of extension specialists from Cornell, the agent needed sufficient technical knowledge to follow up the demonstration work with the individual farmer. Perhaps of even greater importance, he had to arrange conditions under which the demonstrations were presented for maximum diffusion of the techniques illustrated. Public relations skills were also needed in the organization and conduct of meetings. In 1917 alone, county farm bureau agents in the state addressed over four thousand meetings with an average attendance of fifty-six persons. The most important job of the agent, however, was to develop strong local leadership to plan and support the county extension program. Unquestionably, this task demanded all the sophistication and maturity the county agent possessed, but in those early years some county agents were insufficiently skilled to realize the possibilities in the cooperative extension system. To a degree, however, youth and enthusiasm compensated for a lack of maturity and experience.*

The success of the farm bureau agents in promoting better farming methods depended to a large degree on the extension specialists at the College, for it was these men who made recommendations for the treatment of specific farm problems at meetings arranged by the county agents. College policy required that extension specialists be as well trained and as well paid as other members of the staff. Prior to 1916, when their number was small, their status was substantially equal to that of other members of the Faculty of Agriculture. In that year, however, President Schurman, without consulting the administration or faculty of the College, announced a decision of the trustees limiting membership in the faculty to those

*In 1918 the average age of the county agents was 32 (Burritt to Mann, Aug. 27, 1918, Mann Papers).
engaged in resident instruction.* It was an unfortunate blow to the morale of the extension specialists to be reduced to an inferior status at a time when the Smith-Lever Act offered the promise of greater effectiveness for extension work. Implicit in the action of Schurman and the trustees was the assumption that the educational standards of extension teaching were below those of resident instruction. Support seemed to be given to this assumption by the insistence of farm bureau agents that the primary stress in the training of extension specialists should be on the acquisition of communication skills. This position was condemned by the Faculty of Agriculture, which took a strong stand in favor of emphasizing technical training. In 1920 the faculty requested the inclusion of extension specialists in their membership, lest division develop between the interests of resident and extension teachers.²⁴⁵ Twenty years would pass, however, before the extension specialists were granted faculty status.

The contest over the relative importance of technical proficiency and skills in communication obscured the fact that effective extension specialists needed substantial strength in both areas. The contest was doubly unfortunate, for those who advocated emphasizing communications skills were so thoroughly routed from the field that the element of soundness in their argument was dismissed along with the vacuities. There was a certain pride among faculty members in promoting what they recognized as a transition from the bombast of the farmers' institutes to the unemotional communication of technical up-to-date information. So anxiously did some members of the faculty await the new day that they were prone to suspect the scientific soundness of a man who could speak effectively on an agricultural subject.²⁴⁶ In 1918 the farmers' institutes were transferred from the State Department of Agriculture to the Extension Service, where they were subjected to greater pressure for technical accuracy.²⁴⁷ In 1917, however, communication skills were stressed in the appointment of a special agent to work with non-English-speaking Jewish

*When it was pointed out that this decision also excluded faculty members engaged in full-time research, Schurman secured a modification which admitted them (Mann to Schurman, Nov. 9, 1917, Mann to Farrand, March 20, 1922, Mann Papers; Faculty of Ag. Minutes, IV, 16).
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farmers. "This was," said Mann, "the first definite provision to meet the needs of foreign language farmers in this state."*

With the efficiency of the county agent so completely dependent on the relation he maintained with farmers, it was obviously wise to conduct the work of the College in a way which strengthened this relationship. There was a danger, however, that in strengthening the position of the county agent the work of the College would be compromised in other areas. This consequence was especially likely at a time when the development of extension work was the center of attention. The propagation of new varieties developed by the Department of Plant Breeding is a case in point. Prior to 1920, samples of seed of new varieties were distributed to a large number of farmers who were expected to grow this seed under conditions which maintained its purity and then sell the product to other farmers. The inefficiency of this system was quickly recognized. In 1916, for example, seed was distributed through the Extension Service to 461 farmers, a number far too large to be adequately supervised. In addition, the farmers who received the samples kept the product for their own use rather than offering the seed for sale. The system was a bonanza for farmers with close ties to the Extension Service but did not result in the widespread introduction of new varieties. In 1920 the department proposed to overcome these difficulties by cooperative agreements which would utilize the propagation and distribution facilities of commercial seed companies. This arrangement, however, was questioned by the Agricultural College Council because it would weaken the relationship of the county extension organization to the farmers.148

The kind of farmer on whom the Extension Service should concentrate in order to make its work of maximum effectiveness was examined by a special committee of the faculty in 1920. County farm bureau agents and members of the county farm bureau executive

*26th Ann. Rpt. of Pres. Schurman, 1917-1918, App. VIII. The idea that a locality having a large foreign-language-speaking population should have its own agent was proven false. According to L. R. Simons, who became county agent leader in 1928, "Foreign born farmers preferred to meet with their native born neighbors on an equal basis" rather than in segregated groups (Coll. of Ag. Historical Notes, 1962).

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committees were asked whether or not extension was most effective when conducted with the more successful farmers on the assumption that others would learn from them. The views of the executive committee members differed substantially from those of the county agents, the former stating overwhelmingly that extension personnel should work with the more successful farmers. This position was shared by the faculty. The extension worker, declared the faculty, should be rated by his ability to deal with advanced farmers, particularly those with a college education. In spite of the views they expressed, the county agents found themselves increasingly involved with the more successful farmers, since these men made up the county committees and were the first to ask for the services which the county agent could provide. In addition, as new agricultural techniques became increasingly costly to implement, the county agent found he had less useful advice for the farmer who lacked access to additional capital.

Chart 2. Extension Service chain of communication.

The county farm bureau agent was a public official supported by county, state, and federal funds. As such, his services were available to all people living in the county. At the same time he bore a special relationship to the county farm bureau association and was known to the public as the farm bureau manager or farm bureau agent. As an outgrowth of the philosophy that extension work could be most effective only if based on local membership organizations, the mem-

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bers of the county associations furnished active support for the work of the county agent and paid annual dues, initially usually one dollar a year.\textsuperscript{150} As long as the county farm bureau associations regarded their function as educational, there was no conflict between the agent's role as local representative of the publicly supported Extension Service and manager of a local voluntary association organized to support this educational work. In the Middle West, however, the farm bureau associations quickly became commercial organizations engaged in the cooperative purchasing of farm supplies and marketing of farm produce. While the management of the commercial functions of the associations was presumably conducted by other than extension personnel, the phrase "farm bureau" attached to the title of the manager of the educational arm of these associations caused considerable embarrassment to federal extension officials. From their point of view, the title should not emphasize a connection with commercially oriented private associations.\textsuperscript{151} In New York State, however, the county farm bureau associations were regarded as public organizations without commercial functions.\textsuperscript{*} "They do not," said Professor Burritt, "do things which public organizations may not do, except in a few individual cases."\textsuperscript{152}

While avoidance of direct management of commercial matters remained farm bureau policy in New York, the county associations soon branched out to become spokesmen in matters of political interest to farm bureau members. Two resolutions adopted by county farm bureau agents assembled at Ithaca on November 2, 1916, marked a significant step in the expansion of objectives and the expansion of organization to accomplish these larger objectives:

Resolved: that it is the sentiment of this conference that means should be created to cause public sentiment to look with favor on adequate agricultural appropriations for the State College of Agriculture, Experiment Stations and other agricultural departments . . .

Resolved: that it is the sentiment of the conference that the Presidents of the various Farm Bureau Associations should form a permanent State Federation or Association for the general advancement of farming interests in the state.\textsuperscript{153}

*They are specifically recognized as public organizations in ch. 499, \textit{Laws of New York}, 1919.
At Farmers Week, February, 1917, representatives from thirty-four county farm bureau associations assembled at Ithaca and, following the example of associations in Missouri, Massachusetts, and Illinois, formed the New York State Federation of County Farm Bureau Associations, later called the New York State Farm Bureau Federation. Burritt and Howard E. Babcock, at that time state county agent leader, were primarily responsible for organizing the State Federation. Following the organization meeting Babcock was named general secretary of the State Federation. 

The close articulation of the Extension Service and farm bureau associations, reflected by the joint position held by Babcock, seemed a good policy to Dean Mann in 1918. Burritt wanted to go even further in consolidating the central office of the Farm Bureau Federation with the Extension Service by establishing a joint position of state county agent leader and state farm bureau manager. This, he noted, would parallel the county form of organization and bind the federation so closely to the Extension Service that it could not take independent action harmful to the work of the College. Burritt regarded the strong opposition to his proposal by Dr. True and C. B. Smith of the States Relations Service as "100 percent conservative and standpat." Mann, however, moved away from his earlier enthusiasm for close articulation and by 1920 found considerable merit in the position of the States Relations Service. The trend in the agricultural press toward referring to county agents in a manner which suggested that they were exclusively agents of the farm bureau associations had already given Mann concern. This was accentuated by a report of the educational committee of the New York Farm Bureau Federation which claimed a right to a controlling voice in determining extension policy and stated specifically the desire to be represented

*L. R. Simons, Cornell Ext. Bull. 993, pp. 11-13; Smith, People's Colleges, pp. 461-462. The constitution and by-laws of the State Federation were copied from the Illinois Federation (Burritt to B. F. Crocheron, Aug. 15, 1918, Mann Papers).

†Burritt to Mann, Dec. 31, 1919; Burritt to C. B. Smith, April 6, 1920, Mann Papers. The combined title of state county agent leader and state farm bureau manager was used in 1920 and for a number of years thereafter.
in the allocation of state and federal funds and the employment of specialists. "If there were to be any large amount of this sort of thing," declared Mann, "the situation would become intolerable."156

The American Farm Bureau Federation developed from a preliminary conference held at the College on February 12 and 13, 1919. At this meeting, attended by representatives of twelve state federations, the basis was laid for an organizational meeting held in Chicago that November.157 Prior to the November meeting a proposed constitution was drafted. Dean Mann's comments on this draft indicate that his concept of a national farm bureau organization was vastly different from the agricultural pressure group envisioned therein: "I note that in the statement of objects there is no reference whatever to the educational function which is a primary function of the Farm Bureau movement. The objectives as stated do represent the drift of sentiment, but I think that such an omission would be notable and unfortunate."158 The rapid growth and aggressive leadership of the American Farm Bureau Federation posed a further danger to close association between the New York State Extension Service and a national organization not primarily interested in education.

An effective national federation required substantial financial support. An immediate result of its establishment was a campaign for higher membership dues in New York, part of which would be used to finance the national organization. "Don't you want New York to stand with the other states in a program for aggressive National work for the farmers?" asked the State Federation president, S. L. Strivings, in a letter which pointed out that many middle western states were raising dues to ten dollars.159 To banish any doubt among county agents about their relationship to the national organization, J. R. Howard, president of the national federation, sent each agent a New Year's message:

Show me a weak, listless, ineffective county Farm Bureau and I will show behind it a weak, listless, ineffective county agent—one of those harmless, meek, milk-and-water fellows forever reiterating that "this is your bureau, members, and I am your agent, please tell me what to do." ... The county agent is the strong right arm of the American Farm Bureau Federation ... We intend to make increasing use of the county agent.160
In addition to providing a foundation on which state and national farm bureau federations could be developed, the county agent system brought the College into much closer contact with existing agricultural organizations and fostered the establishment of new organizations, especially in the field of cooperative purchasing of farm supplies and marketing of agricultural products. This was an area of activity that brought endless attacks upon the Extension Service, for private companies engaged in these businesses were unwilling to permit the disruption of commercial relationships they had found profitable. In 1913, members of the Agricultural College Council questioned the wisdom of aiding the formation of agricultural cooperatives. When finally persuaded that this was a desirable course of action for the College, council members suggested that no mention be made in the budget that extension funds were being requested for this purpose.¹⁶¹ The Council was probably more conservative than the general public on the issue of promoting agricultural cooperatives, for the Granger and Populist campaigns of the late nineteenth century had created a national sentiment receptive to programs designed to secure greater economic justice for agriculture. President Wilson eloquently declared equality of opportunity a principal goal of his administration. Furthermore, by 1914 both state and national governments stood behind a policy calling for the instruction of farmers in the establishment of cooperative business organizations.*

The Dairymen's League was one marketing cooperative which received substantial aid from the Extension Service. Organized in Orange County in 1907 by 691 dairymen, it had made little impact on the agriculture of the state five years later; neither Professor Mann nor Professor Stocking had heard of the organization.¹⁶² Membership grew slowly but continuously after 1907; by 1916, 10,000 dairymen were enrolled in the League. Before this enrollment was attained, it had become evident that dairy farmers would not benefit from the

*Chapter 235, Laws of New York, 1913, created a Bureau of Supervision of Cooperative Associations in the State Department of Agriculture and authorized its superintendent to assist agricultural cooperatives “with aid and advice in the management and conduct of their affairs”. Burritt, The County Agent and the Farm Bureau (New York, 1922), p. 98.
high wartime prices for manufactured dairy products unless they bargained collectively through the league organization for a higher price for milk. In September, 1916, a conference was held between representatives of the League and Professor Tuck, Director Galloway, and a representative of the USDA Office of Markets. It was then agreed that the first step toward improving the marketing of milk would be to get "definite and specific facts relative to the cost of production from the standpoint of the farmer and the cost of marketing and distribution from the standpoint of the city dealer." To secure figures on the cost of milk production the League turned to Professor Warren. The result of his research was the so-called Warren formula, which provided a sliding price scale fluctuating with the cost of feed, labor, and other elements making up the cost of milk production. This formula provided a basis for a minimum price which was demanded by the League, effective October 1, 1916. When the milk dealers of New York City refused to meet this price the league members refused to ship their milk and engaged in a certain amount of violence against farmers who did not cooperate in the milk strike. The most significant result of the strike was recognition of the League by the metropolitan milk dealers as the official bargaining agency for its members. The strike also indicated the need for a larger membership so that the League would be able to bargain effectively without recourse to violence against nonmembers.

The position of the College, as drafted by Burritt, stressed the long-term aspects of the milk-pricing problem. Three courses of action were laid down:

1) A state-wide campaign for the removal from the market of the unfair and unnecessary competition of milk produced at a loss.

2) A vigorous effort to put dairymen in a position to do collective bargaining for the product of their cows and labor. This means the local cooperative ownership by farmers of milk shipping stations, creameries, and cheese factories.

3) The cooperative advertising of milk as a food in order to increase consumption of this valuable and wholesome article of diet.

The first goal set a long-term objective which could be attained only by cooperation between the College, regulatory agencies, and
organized dairymen. The second goal, on which the first and third objectives so largely depended, was the point of concentration from 1916 to 1920, with the Extension Service playing a major part in expanding the membership of the Dairymen’s League. A memorandum of agreement between the League and the central office of the farm bureaus provided that county farm bureaus offices were to be used as headquarters by league organizers. County agents were to aid the league organizers but were not to become involved in the actual business of the League. The distinction between organizing and business matters was sometimes hazy to county agents and quite beyond the understanding of many farmers who wanted direct advice from the county farm bureau agents on the marketing of their milk. 167

The element of self-help remained an important part of extension philosophy. Both Galloway and Mann insisted on numerous occasions that the Extension Service should not become involved in performing commercial functions for farmers. 168 “The easy thing at the present time,” said Mann in 1920, “is to lend ourselves freely to the promotion of interests which it is the business of farmers themselves to promote. The hard thing is to hold unswervingly to an unadulterated educational effort.” 169 However, it became increasingly difficult to act in accord with this ideal when the needs of farmers seemed to require more direct action by the College’s personnel than the philosophy of self-help permitted. It was one thing to explain to farmers how to spray an orchard; it was another thing to explain how to organize and manage a cooperative business able to compete with profit-oriented organizations already in the field. There was no planned departure from the philosophy of self-help; rather the departure occurred step by step in situations where the skills required were too complex to be acquired quickly by farmers. When farmers asked for help, extension personnel were not inclined to weigh the fine points of extension philosophy against the all-too-evident needs of the people they were expected to serve. This was especially true of the county agents, who found it difficult to resist appeals from men who were frequently their friends and neighbors. In 1920 the Schuyler County agent was selling wool, and, according to Babcock, other agents were doing everything from distributing seed to selling carloads of maple syrup. 170

The limitations of the self-help philosophy were evident in the
organization of the G.L.F. Exchange. It seems certain that a business of this complexity could not have been organized or managed by men primarily engaged in agriculture. As a general principle successful farmer-managed cooperatives have been limited to a single commodity. The G.L.F., named from the initial letters of the farm organizations which provided the initial support—the State Grange, the Dairymen's League, the State Farm Bureau Federation—was organized in 1920 on a basis sufficiently broad to overcome the weaknesses of previous Grange and Dairymen's League organizations engaged in the purchase of farm supplies. College personnel had a large part in establishing the G.L.F., which assumed in New York State the commercial activities performed in many other states by the farm bureau federation.

The uncertain quality of farm supplies was the principal factor leading to the formation of the G.L.F. Seed furnished by dealers was often not true to name and was all too frequently adulterated with weed seeds. The content of cattle feeds was based on unknown formulas that frequently bore little relation to the nutritional requirements of cattle. Better seed was available by ordering in large lots directly from producers. Before 1916 farmers were pooling their seed orders through better-seed committees of county farm bureau associations.\[171\] The content of better feed for dairy cows had been determined by Professor Elmer Savage of the Department of Animal Husbandry. In 1914 he recommended the production of these rations on an open-formula basis. The concept that the contents of a feed bag should be openly stated on the label was strongly resisted by the feed manufacturers, who were accustomed to concealing a variety of content behind a fancy-sounding brand name. Savage's ideas were given a boost by the public revelations of the Wicks Committee, a joint committee of the New York State Senate and Assembly appointed to investigate phases of agricultural business. The committee said of the feed service then available to farmers: "It is not going too far to assert that many thousands of dollars are yearly paid out by the dairyman of the State of New York for dirt, dust, straw, and rubbish permitted to be sold under some high sounding name as a valuable cattle food sure to increase the production of his dairy."\[172\] The Wicks
Committee report, Babcock noted, greatly increased the aggressiveness of Savage, the county agents, and other public officials.

In 1917 a Dairymen's League plan to distribute feed based on the Savage formulas failed because of inadequate financing and the opposition of manufacturers and dealers. In 1918 the State Grange attempted to achieve the same purpose through the establishment of the Grange Exchange. While this organization met with some success, its capital of $100,000 was insufficient to permit effective competition with existing dealers, who offered such services as keeping stock on hand and, in addition, undersold the Grange Exchange.

The impetus for the necessary unity among farm organizations that made the G.L.F. possible came from John Dillon of the Rural New Yorker. Dillon's position as publisher of the most widely circulated farm paper in New York State and his official capacity as a commissioner of foods and markets made him a powerful figure in New York State agriculture. However, his somewhat erratic qualities alienated other agricultural leaders. Dillon's threat to promote a new organization called the New York Federation of Agriculture until it superseded existing agricultural organizations brought a greater degree of unity among these organizations. In 1919 Babcock and Edward R. Eastman, then editor of the Dairymen's League News, sparked the formation of the New York State Agricultural Conference Board to act as official spokesman for New York agriculture. Formation of policy was to be by unanimous vote of the members—originally the State Grange, the Dairymen's League, the State Farm Bureau Federation, and the Western New York Horticultural Society. It was this Conference Board, meeting at Syracuse on April 28, 1920, that established the G.L.F.

Initial capital for the G.L.F. was set at one million dollars, ten times that of the Grange Exchange. H. E. Babcock resigned as county agent leader to manage the stock-selling campaign. In a farewell letter he called on the county agents to support the stock issue, saying that this "will put it on a par with competing organizations of a private nature; and finally, and most important of all, the company itself constitutes a rallying point for the agriculture of the state." As in the case of the Dairymen's League membership campaign, the county farm bureau offices were used as headquarters
for the stock-selling campaign, the county agents assisting county committees in a clerical capacity and in organizing publicity for the campaign.\textsuperscript{174} Within six months the stock subscription reached \$683,460.\textsuperscript{175}

The timing of the campaign was fortunate, for it was well under way before the advent of the postwar agricultural depression. During those six months Babcock, as secretary and member of the Board of Directors, was a key figure in the management decisions of the G.L.F. Even after becoming professor of marketing at Cornell in September, 1920, he continued to guide the organization, because its success seemed to depend on his managerial skills.\textsuperscript{9} Dean Mann thought this dependence on Babcock most unfortunate. "Personally I feel that the farmers will arise to meet the situation when it is left in their hands," he wrote to Warren. "This must be true or else they are not ready to organize."\textsuperscript{176}

Enthusiasm for the organization of agricultural cooperatives swept into the vegetable-growing area of western New York, where farmers organized, with the encouragement of the Extension Service, to demand from the canning factories a higher price for produce. This resulted in some embarrassment when the growers looked to the College for figures on which a price could be based. The situation contrasted with the organization of milk producers, where marketing research preceded college aid to the membership campaign of the Dairymen's League.\textsuperscript{177} Once the organization of agricultural cooperatives had become a widespread social movement, the extension division of the College, caught up in the momentum generated by the movement, could not hold back while researchers engaged in the lengthy process of collecting and evaluating marketing information.

Other accomplishments of the Extension Service were less dramatic but probably no less important than the promotion of agricultural cooperatives. Hundreds of demonstrations were conducted. By 1915 these were often incorporated into farm tours, an educational technique made possible by farmers' adoption of the automobile. During

\textsuperscript{9}Babcock resigned from his positions in the G.L.F. effective Jan. 1, 1921. However, he continued to take an active part in management from his position at Cornell (Knapp, \textit{Seeds That Crew} [Hinsdale, N.Y., 1960], pp. 46-47).
a single day a number of fields were visited and the results of different practices compared. Method demonstrations were often held in the evening after supper in order to avoid interference with farm work.\textsuperscript{178} Some demonstrations involved new techniques such as the use of power sprayers; others were directed toward encouraging the adoption of practices long familiar to the better farmers such as the application of lime. Thousands of cows were tested for milk and fat production, a process which contributed to breed improvement and, since it was supported by dairymen organized into local testing associations, to cooperation among farmers.\textsuperscript{179} Surveys continued to provide a basis for organizing extension programs and to suggest problems for research. The Department of Plant Pathology alone conducted eight plant disease surveys during the decade 1911-1920.\textsuperscript{180} A survey conducted by the College in 1919 showed farmers overwhelmingly opposed to the continuation of wartime daylight-saving time, and on the basis of these results Burritt worked to force repeal of the measure. (Meanwhile the clock in Roberts Hall was turned to "God's time" when large numbers of farmers were on campus.)\textsuperscript{181} Among the extension activities held on campus was the first Farmers Field Days, held June 20 to July 2, 1920. Exhibitors set up tents, about three thousand people attended, and special interest was shown in the tractor demonstrations. A meeting of greater significance in the long run was held the previous June under the auspices of the Soil Improvement Committee of the National Fertilizer Association. About one hundred executives and salesmen from fertilizer companies attended the conference—thought to be the first such meeting in the nation—where they were acquainted with Cornell recommendations for the manufacture and utilization of fertilizers.\textsuperscript{182} The value of the New York State Extension Service was demonstrated under emergency conditions when the United States became involved in World War I. Food was a critical item in winning the war, every effort turning toward increasing production. The county agent system—expanded by special wartime funds from the federal government—was almost ideally constituted as an instrument for uniting farmers behind a national purpose and providing services for making the individual farm a more efficient production unit. A statewide agricultural survey conducted by the Extension Service with
financial assistance from the New York State Food Supply Commission indicated areas where seed, labor, and other items entering into agricultural production were in short supply. To alleviate these shortages, county farm bureau offices served as farm labor employment bureaus, and the Extension Service distributed seed purchased by the State Food Supply Commission. College personnel operated three traction ditching machines and supervised the allocation of twenty-seven tractors and a number of power sprayers provided by the Food Supply Commission. Twenty-two county agents assisted in organizing farm loan associations to enable farmers to secure operating capital. Home economics specialists gave nearly eight hundred demonstrations on the preservation of food, many of them on the "Victory Special" provided by the United States Railroad Administration. Two members of the New York State Extension Service helped organize the federal food production program. Martha Van Rensselaer served as head of the Home Economics Division of the Federal Food Administration, and Lloyd R. Simons was employed in the States Relations Service to organize farm bureaus with emergency funds in the thirty-three northern and western states.

The decade marked the triumph of the farm management point of view over the country life approach to agriculture. In 1919 Burritt considered one of the most significant aspects of extension work the promotion of the view that farming is a business, a concept he declared to be "an integral part of our approach to most agricultural problems." Dean Mann's interest lay in developing the country life approach but the issues involved were too complex and the objectives too much in conflict with the direction of social change for even a modest degree of success. Rural church work declined after Mann became dean for a variety of reasons, not the least of which was the conflict over whether the rural church was primarily an institution for improving country life or a transcendental medium for the salvation of souls. In 1918 Mann took a position which contrasted with the view of farming as a business when he joined Bailey, Kenyon L. Butterfield, and George Vincent in what was essentially a call to return to a better day. "The tendency of the world is to permit economic considerations to dominate; and so the world over we need an
organized leadership that shall set the world right in its valuations.”

Professor Roberts must have been pleased.

Changes were continually introduced to make the extension work more effective. In 1919 county agents were assembled at the College for one week to bring them up to date on recent experimental work. In 1920 the services of the College were extended to the Indian population of the state with the appointment of Erl Bates as adviser on Indian extension. In the fall of 1919 the New York State Sod Busters’ Association was formed. Consisting of county agents and former agents, it contributed to the maintenance of high morale among the agents by providing an informal atmosphere where extension policies and activities could be discussed and gripes could be aired. High morale was important for its own sake and as a means for retaining agents against the much higher salaries offered by commercial organizations. During this decade implement manufacturers and other makers of farm supplies were developing their own extension services and by 1920 provided aid to farmers in some instances superior to that available from the College.

The decade witnessed the expansion of the work in home economics to the point where, by 1920, university authorities were supporting legislation to make home economics a separate college. The conditions proposed for separation provided home economics a large degree of autonomy in research and resident instruction—that is in the subject matter of the field—while providing for joint administration of the extension work with the College of Agriculture. The dean of the College of Agriculture was to be chief administrative officer of both colleges. The arrangement—a compromise satisfactory to few—was the result of six years of adjustment between the aggressive co-heads of the Department of Home Economics and the administration of the College of Agriculture and was adopted at the time under the pressure of forces generated outside the University.

A number of circumstances combined to make this adjustment difficult. It was a time when women, who had just concluded a long
campaign for the right to vote, were sensitive about their subordina-
tion to men elsewhere. Flora Rose protested against men making
the major decisions regarding the Department of Home Economics.
The department, she said, should be represented on important faculty
committees and the Agricultural College Council. There was, in
addition, a fundamental conflict of interest between the constituency
of home economics and agriculture; where the former represented
the interests of food and fiber consumers, the latter represented the
interests of food and fiber producers. A dairyman who complained
about a favorable comment he had overheard a home economics
instructor make about oleomargarine expressed in a forceful way this
basic conflict of interest. Finally, the public reception accorded
agricultural extension was much more cordial than that which home
economics received. Both agriculture and home economics benefited
from federal wartime emergency funds, but when these funds were
withdrawn in 1919, only slightly over half of the counties having home
demonstration agents were willing to make appropriations for the
continuation of the work. The farm bureau agents, on the other hand,
benefited from the good will generated by the forty years of exten-
sion service initiated in the 1870's by Professors Caldwell, Roberts,
Law, and Lazenby. None of the county appropriations for agricul-
tural extension work were discontinued at the end of the wartime
emergency.

In November, 1916, the state home demonstration agent was made
subordinate for administrative purposes to the state leader of county
agents with a similar relation prevailing in the counties between the
farm bureau and home demonstration agent. This arrangement,
stressing the unity of the county extension organization, was favored
by Mann and Burritt. Professors Rose and Van Rensselaer were
equally concerned about unity, but thought of the concept in terms
of the relation between the Department of Home Economics and its
constituents. "The extension work with women in the State is county-
heavy and college-light," declared Miss Rose in a statement con-
demning what she called "the evils of forced growth." Burritt, too, was
concerned about these evils and thought this was just what the policy
of the Department of Home Economics involved. Commenting on the
department's plans for extension work, he said: "Women must really
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**solve their problems for themselves.** The College can give a little help and leadership... The plan is, in general, too paternal. It either assumes that the solution of all the problems which housekeepers now face is dependent on the College; or it totally ignores what these women are already doing to meet these problems.**105

Burritt's desire to unite the county extension organization and rely on local initiative triumphed at the level of policy formulation. In 1918 and 1919 Babcock, with the aid of Ruby Green Smith, persuaded each farm bureau association to change its name to farm and home bureau association.**196** In 1919 this change was recognized in the Farm and Home Bureau Law which provided for the appropriation of state funds for farm and home bureau extension work to a single county extension association. The provisions of the law were to be administered through the state leader of county agents.** The Department of Home Economics, however, ignored college policy and continued to centralize extension work in the department. Specialists were sent to work with Cornell home study clubs—the successors to the farmers' wives reading clubs—without informing the home demonstration agent in the county. Burritt insisted that in many cases the extension work administered by the Department of Home Economics actually competed with the program of the county home bureaus.**197

The Department of Home Economics was the first headquarters for the junior project work financed under the Smith-Lever Act. As state club leader, Martha Van Rensselaer insisted from the beginning that the junior work be on a more substantial foundation than what she considered the mere propagandist work proposed by O. H. Benson of the States Relations Service.**198** In 1916 this junior project work was transferred to the Department of Rural Education, where it slowly but steadily expanded under the name "4-H"—a term standing for head, hands, heart, and health. In 1920 eight counties had full-time 4-H agents.**199

The publications division of the Extension Service assumed its present form during this decade with the establishment in 1915 of the Office of Publication to edit and distribute experiment station and

**Chapter 499, Laws of New York, 1919, provided that state funds must be matched by appropriations by county boards of supervisors on what amounted to a three-to-one basis.**

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extension publications and to act as a central office for channeling information to the public. It was primarily to improve the public relations activities of the College that the Office of Publication was formed. This function, although earlier assigned to the Extension Department, had not been performed efficiently. The Announcer, which Bailey started in 1911 to inform the public each month about the work of the College, was written in a rather heavy style and reached only about 60,000 people. Galloway, experienced in the techniques of public relations from his work in the Department of Agriculture, recognized that the money invested in the Announcer could be used to reach perhaps a million people a week if invested in an information service distributing news items to the commercial press. He brought Bristow Adams to Cornell to head the Office of Publication. Adams was, in the long run, an excellent choice. Although regarded primarily as a publicity agent by some members of the faculty, Adams was a capable editor and a colorful teacher of journalism.200

The Office of Publication also acted as a service bureau to the county farm bureaus. The Extension Service News was edited in this office, and material was prepared that could be used in county extension publications, often in a form which could be adapted to local conditions by filling blanks in the text. The College refused to send out material completely prepared for publication even though this was frequently requested. To grant such requests, it was believed, would be a disservice to publications presumably concerned about local conditions.201

In 1913 a new series of bulletins called memoirs was issued to serve as a medium of communication between agricultural scientists. Previously, the regular experiment station bulletins had performed this function, sometimes at the expense of repelling readers who could not understand the technical material they contained. Scientific sufficiency, Bailey declared, would be the test for contributions to the new series, rather than the personality or status of the writer. In projecting the series, he intended to appoint a separate committee to judge each manuscript.202

The establishment of the Office of Publication reopened the question of the editor's power to alter manuscripts. This appears to have

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been the principal issue behind an investigation of publication procedures conducted in 1916 by the joint committee on experiment station and extension work. In its report, submitted in April, 1916, the committee laid down lines of demarkation between experiment station bulletins, extension bulletins, and memoirs—a distinction that had not been at all clear previously—and declared that complete responsibility for the content and method of presentation in bulletins should rest with the department of origin. With the approval of Galloway, a standing committee on publications was created to pass judgment on manuscripts, the committee to consist of the dean and the committees on experiment station and extension work. This group was far too large to function effectively and, in addition, soon came under fire from a prominent department head for rejecting a manuscript submitted by a member of his department. This opened the further question of the role of the department head in the publication process. In 1919 Mann declared it was the specific intent of the faculty that manuscripts should be submitted directly by the author to the dean for consideration by the Committee on Publications and that “each author should stand on his own feet with reference to what should be published.” In 1920 the faculty voted to make the dean and vice-directors the Committee on Publications.

**RESEARCH**

Research received increasing emphasis during the second part of the decade. By 1918 monthly research conferences were held to “increase the spirit of research throughout the institution” and improve research techniques. All members of the faculty devoting their major attention to experimental work were expected to attend. At the beginning, faculty members came to these conferences thinking of research from widely different points of view but in time a more common understanding gradually emerged. Scientists were brought from other institutions to speak at these conferences. Director Jordan of the New York State Agricultural Experiment Station at Geneva presented the case for intimate administration of research and a clear separation of research and teaching; several months later Mann asked Dean Davenport if he would come and present a point of view “for the encouragement of thorough going research by other
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means." These conferences were given further structure in 1919 by dividing the entire faculty into four groups, the dean acting as chairman of each group.

During the decade a considerable shift occurred away from research on immediate agricultural problems to that of a more fundamental nature. A large amount of research, of course, remained oriented toward the immediately practical; such was inevitable in an institution having close connections with agricultural organizations. There was an unfortunate tendency at the time among farmers to oppose basic research under the mistaken impression that it had no value for them. "There is the general feeling among farmers," reported Burritt in 1916, "that the College is too far off, too scientific, and too impractical." The Geneva station, relatively free from the pressures of farm organizations, was better able to concentrate on fundamental research.

The split which Bailey felt would develop between the Geneva station and the College of Agriculture did not materialize; rather, by 1920 preparations were well under way to unify the administration of the institutions pending the retirement of Director Jordan. The policy approved by the Cornell trustees in 1920 of appointing certain members of the staff of each institution to the staff of the other, had been worked out with the Geneva station four years earlier by Director Galloway, who also made arrangements for taking over most of the extension work formerly performed at Geneva. The effect of these arrangements was to bring the staffs of the two stations into a more cooperative relationship, with greater coordination in planning and executing related research projects. The two institutions, however, remained competitors for state appropriations. The private arrangement between Director Jordan and Dean Bailey providing that Cornell would not request state support for its experiment station activities was feasible only so long as the College concentrated on resident instruction. As research became a normal activity for faculty members paid on state salaries, the arrangement became increasingly untenable. Organized agriculture's practice of giving support in the legislature to the institutions giving them the greatest practical assistance accentuated the competition between Cornell and
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Geneva. A unified administration for the institutions was probably more important in 1920 than at any time previously.

Research in the Department of Poultry Husbandry during the decade was largely related to immediate problems of poultry management. Feeding and housing were studied, the latter in cooperation with the Department of Rural Engineering. Research on the relationships between body type and productivity provided a basis for instructing poultrymen in culling procedures. A breeding program, started in 1908, and carried on for twenty-six years thereafter, emphasized the improvement of flocks by the selection of higher-producing hens. An early product of this program, Lady Cornell, produced 257 eggs in her first year of laying, a feat Professors Rice and C. A. Rogers enthusiastically termed "startling evidence of human triumph in handling the forces of nature."!

Research in rural engineering was also oriented toward immediate applications. H. W. Riley developed simplified sewage disposal systems and B. B. Robb studied aspects of farm drainage, including the layout of systems, the durability of tile, and the development of instruments for measuring the efficiency of drainage systems. The Department of Plant Pathology studied the nature, cause, and control of plant diseases, in some cases at field stations located where the disease under investigation constituted a serious economic problem. The application of lime sulphur as a fungicide was examined and a special study of disease inheritance in beans was undertaken with the Department of Plant Breeding. The control of insects based on detailed examination of their life histories was the subject of many research projects in entomology. In dairy industry a 1912 study of the bacteria of spoiled canned peas and beans pointed toward increased emphasis on bacteriology and the eventual expansion of the scope of the department to include food science. Research in pomology, which started with Bailey but lapsed when he became dean, was renewed with the appointment of W. H. Chandler as research professor in 1913. He initiated studies of hardiness, and the effects of pruning, of fertilizers, and of irrigation on a number of fruit varieties. As in other departments, some of the best research during the decade was the work of graduate students. In 1916 A. J. Heinicke, later head of the Department of Pomology, completed a study suggested by Chandler.
on the abscission of flowers and the partially developed fruit of the apple. 215

In animal husbandry research, Professor Savage wished to supplement nutrition experiments based exclusively on feeding tests with investigations of the chemical processes occurring inside animals. He was aware of the important contributions to animal nutrition that investigators trained in chemistry were making in other institutions, and on his recommendation a chemical laboratory—the forerunner to the Laboratory of Animal Nutrition—was incorporated into the new animal husbandry building. In 1915 Leonard A. Maynard was appointed to work in this new laboratory. 216 Wing continued to concentrate on testing of dairy cattle and the development of the Cornell dairy herd. By 1908 this long-sustained research resulted in the birth of a Holstein calf named Glista Ernestine, who later established seven, seven-day production records for all breeds. During her lifetime Glista Ernestine produced 202,006 pounds of milk and 7,342 pounds of fat, a yearly average, calculated on the basis of allowing a mature equivalent for the first three years, of 14,878 pounds of milk and 541 pounds of fat. 217

Federal funds for the support of basic research under the Adams Act were assigned to the Departments of Plant Breeding and Soil Technology. In addition to research directed toward the development of high-yielding timothy, corn, and cereals adapted to growing conditions in New York State, studies were undertaken in the Department of Plant Breeding on variation, the laws of inheritance, mutations and their use in breeding, the correlation of plant characteristics, and, especially after R. A. Emerson became department head in 1914, theoretical genetics. In soil technology, three studies of considerable significance were pursued throughout the decade by Thomas L. Lyon and his associate, James A. Bizzell: the influence of soil moisture on the availability and utilization of plant nutrients in soils; the effect of plant growth on soils, especially that relating to the formation of nitrates; and conditions under which lime is removed from soils and changes which accompany its removal. For the latter study lysimetre tanks were constructed on Caldwell Field in 1909. Eventually numbering twenty-four, each tank was .0004 acre in surface area and contained about three and one-half tons of soil. 218
The construction of lysimoters was a step toward the attainment of more rigorous experimental conditions than were possible using field plots subject to soil variability. Their use facilitated greater control over the elements present in experimental situations and also permitted more accurate measurement of results. The desire for more rigorous techniques also led a number of the college faculty to apply statistical methods in their research. Generally, however, agricultural scientists were slow to weigh the implications of statistical methods, although C. B. Davenport's pioneering book, *Statistical Methods with Special Reference to Biological Variation*, had been published in 1899 and, as republished in 1904, included reference to the techniques elaborated by Karl Pearson and his associates. It was not at all unusual for agricultural researchers to attribute to experimental manipulation results which could be equally well explained by normal variation in the subject under investigation. By calling the attention of agricultural scientists to the concept of probable error, members of the Faculty of Agriculture made a substantial contribution to the adoption of more reliable research techniques.

The work of Harry H. Love, who received his Ph.D. at Cornell in 1909 for a study of variation in plants, was of special significance in this connection, for he not only used statistics as a tool in his plant breeding research but also made a number of contributions toward the refinement of statistics as applied to agricultural experimentation. In 1922 Love presented a paper on the concept of probable error in agricultural experimentation at the annual meeting of the Land-Grant College Association. The presentation was quite elementary, for Love assumed that a large part of his audience was unacquainted with the concept. After illustrating the inevitability of error in any series of experiments, he proceeded to show how results from a number of published experiments dealing with plant breeding, animal feeding, and fertilizer application were invalid because the number of items in the experiments or the number of replications were insufficient to demonstrate that the results were due to other than experimental error. His conclusion was not that every agricultural scientist should master statistics but rather that every agricultural experiment station should have on its staff a person trained in biometrics who could assist his colleagues in planning
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experiments and interpreting the results. In performing this function at Cornell, Love gave a course in biometry for graduate students as early as 1911. One of those taking this course was L. A. Maynard, who had been encouraged, while on the staff of the Rhode Island Experiment Station, to take advantage of the training in statistics offered at Cornell. Later, he and W. I. Myers, at that time a graduate student, prepared a bulletin on the application of statistics to the development of more sophisticated methodology in feeding experiments for milk production.

RESIDENT INSTRUCTION

The faculty reexamined some of the perennial problems involved in resident instruction but made few significant changes in policy. The instruction given in the first two years by the College of Arts and Sciences continued to receive criticism. Professor Warren, at a time when he was advising ninety-one undergraduate students, declared he was tired of trying to convince them of the value of what he called “tread mill work.” Much of the dissatisfaction centered around instruction in chemistry. In 1917 the faculty dropped one course in chemistry from the list of required courses. The following year the chairman of the Department of Chemistry was sympathetic to Miss Van Rensselaer when she noted that 50 per cent of the home economics students were failing organic chemistry. There was, in fact, little he could do when members of his department proved unwilling to adapt their teaching to the needs of that part of their class comprising upper campus students.

The orientation of freshman was another area of contention. In 1912 “The Natural History of the Farm” was made a required course for freshmen by a vote of thirteen to twelve in the Faculty of Agriculture, a vote much too close to assure the stability of the decision. The value of residence as an element in education was also debated. Before 1914 able students could complete the requirements for graduation in seven terms; in 1914, however, the faculty decided after considerable discussion that residence was of sufficient educational value to justify requiring eight full terms. Two years later this policy was reversed when the faculty approved a formal system of graduated residence credit based on academic average.
The farm practice requirement remained a warmly contested issue. Professor Comstock thought the best solution lay in abolishing the requirement; others thought the requirement should be made a prerequisite for admission. The opposition to the requirement was so great in four departments that laboratory work was allowed in these cases as a substitute for farm practice, an exception which led Bailey to question the wisdom of any farm practice requirement at all. The requirement apparently was not popular with certain students who, Professor Stone insisted in 1914, were taking fifteen hours in home economics, entomology, forestry, or landscape art in order to escape its application. A considered examination of the requirement was complicated by the difficulty of separating its educational value from its value as a test for eliminating potential arts and science students enrolling in agriculture to escape tuition.

Part of the opposition to the requirement was due to the difficulty the College experienced in placing students on farms where they would get an introduction to the dimensions of a farming operation. In 1911 Bailey appealed to New York farmers to aid the work of the College by taking students for summer apprenticeships. Farm practice, however, was not systematized until 1915, when Asa C. King was hired to supervise the placement of students on farms. He faced a difficult problem since nearly 40 per cent of the student body was then of urban origin, too unskilled to do more than hoe or pick up stones. All too often farmers were so occupied with haying and cultivating that they had no time to teach students the foundation skills of practical farming, with the result that students sometimes returned to college dissatisfied and frustrated after spending the summer at unskilled manual labor. To break this cycle, A. W. Gibson was hired in 1915 to instruct students in such basic skills as driving horses before they attempted to meet their farm practice requirement.

The registration figures for the period 1910-1920 show that enrollment in the regular course increased steadily until 1914-15, when it leveled off.
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<table>
<thead>
<tr>
<th>Year</th>
<th>Four-year</th>
<th>Special</th>
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<th>Summer</th>
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<td>169</td>
<td>477</td>
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<td>806</td>
<td>180</td>
<td>451</td>
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<td>597</td>
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<td>1,142</td>
<td>75</td>
<td>326</td>
<td>215</td>
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By 1912 the College had the largest registration of any unit of the University, thereby bearing out a prediction Roberts had made many years before. The following year the College had by far the largest enrollment of regular and graduate students of any agricultural college in the nation, and the size of its teaching staff was substantially larger than that of Iowa State College, its nearest rival.\textsuperscript{232} “It is looked up to as the foremost institution of its kind in the country,” proudly asserted alumnus P. C. Stark of the nationally famous Stark Bros. Nursery.\textsuperscript{233}

In 1917 resident instruction was disrupted by wartime conditions. Students enrolled in the Student Army Training Corps at Cornell were restricted to courses outside the College with the exception of biology and meteorology.\textsuperscript{234} When the postwar enrollment did not return to prewar levels, there was a tendency to attribute the decline to the high tuition charged out-of-state students.\textsuperscript{235} Study of the sources of enrollment, however, does not support this view. Between 1913 and 1921 nonresident students composed between 19 and 23 per cent of the undergraduate enrollment.\textsuperscript{236}

The psychological effects of a declining enrollment must have been substantial and pervasive in a college accustomed over fifteen years to a rapid and continuous increase in resident students. The feeling of progress is a vital element in the efficient operation of an educational institution, and the increase in student numbers furnished an obvious and acceptable indicator of such progress. After the war
it was necessary to find other measures of success. An immediate result of declining enrollment, however, was to give the faculty more time for research and extension, thereby accelerating a shift in emphasis initiated by the organization of the county agent system.

The conditions for admission to the four-year program received considerable study from the Faculty of Agriculture and the University Faculty. A basic issue throughout the decade was whether the ability to use a foreign language—as measured by the completion of courses at the secondary level or at Cornell—was a fundamental quality of the educated person. Prior to 1910 the language requirements for admission to agriculture were the same as those prevailing for arts and sciences. In that year the Faculty of Agriculture departed from this common standard by lowering the admissions requirement to three units of either French or German at the same time that requirements for admission to the course leading to the A.B. degree were increased to five units of language. 237 An even greater departure occurred in 1914 when students admitted to the College of Agriculture were allowed as many as four entrance units in vocational agriculture. 288

By 1919 the study of agriculture and home economics at the secondary level was sufficiently systematized to be recognized by a standard vocational diploma issued by the State Education Department. The Faculty of Agriculture then debated whether students presenting this diploma should be required to take the equivalent of three entrance units of foreign language at Cornell before receiving the B.S. degree. After coming to three different conclusions in as many months, the faculty decided in April, 1919, to accept the vocational diploma for admission with the provision that applicants not presenting three units of a foreign language must take at least eleven hours from among eight stated liberal arts subjects. This represented a triumph for the views of Dean Mann, who opposed a language requirement for graduation and favored more English and political science. 289 The discussion of admission by vocational diploma was later reopened after the first fourteen students so admitted made a “rather bad showing.” A two-year program for students interested in vocational agriculture was seen as a possible solution to this difficulty. 240

Earlier in the decade the faculty had been closely divided on the
desirability of admitting special students for vocational work. In 1911
the Committee on Educational Policy concluded a long report with
a strong recommendation for the exclusion of special students "of the
present grade" after 1914. Professor Warren dissented and at the next
meeting of the faculty presented a long carefully considered minority
report which pointed out that, in general, the specials did as well
as the regular freshmen and sophomores. "I consider the most impor-
tant duty of this college to be to prepare men for farming, and
consider it our duty to give such preparation to students who wish
to take less than four years' work if they are qualified for work of
college grade." At the end of the meeting continued admission of
special students was supported by a vote of nineteen to fourteen.241
Thereafter requirements for their admission were made more exact-
ing, both in terms of agricultural experience and academic prepara-
tion. Beginning in September, 1912, applicants had to offer two full
years of recent farm experience and fifteen units of entrance credit
or, if twenty-one years old, satisfy the Committee on Petitions of a
real desire for special work.242 During the decade the percentage
of specials in the full-time undergraduate student body declined from
25 per cent in 1910 to 6 per cent in 1920.

Enrollment in the winter courses reached a high point in 1913
after an almost unbroken annual increase from the time these courses
were established in 1892. Thereafter enrollment declined in spite of
the proliferation of winter courses. The precipitous decline after 1915
was due to wartime conditions but after the war the demand for
practical instruction was increasingly met by other institutions, espe-
ically the Extension Service and secondary schools. Winter courses
offered in 1915-16 included work in general agriculture, dairy
industry, poultry husbandry, fruitgrowing, home economics, vege-
table gardening, and flower culture; several years later an additional
course was offered in the production of wild game. Almost half of the
winter course students enrolled in general agriculture.243 When
enrollment hit a low point in 1918, Dean Mann, though ready to dis-
continue the courses, found there was substantial support in the
state for their continuance. By 1920, when enrollment had again
climbed to nearly four hundred, it appeared that a continuing demand
existed. At that point the dean launched an extensive advertising
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campaign promoting the winter course work. The demand, however, was more apparent than real, and the advertising campaign failed even to maintain the enrollment of 1920. 244

By imperceptible degrees the relations between students and faculty became more formal during the decade, a result of increasing student numbers and changing social values. Close association with adults no longer had the attraction for students it once possessed. Close association with students no longer seemed as vital a part of the teacher's duty. The college assemblies, already faltering while Bailey was dean as meeting places for students and faculty members, evolved under Galloway into purely social gatherings of students, with dancing the principal form of entertainment. In 1916 Mann hoped to revive the assemblies as an informal meeting place for students and faculty; at a meeting of the faculty in November, 1916, he stressed the importance of this institution in the life of the College. 245 Nevertheless an attempt to revive the assemblies resulted in failure, for most of the faculty did not attend and the students indicated that if they could not meet their teachers they preferred not to attend or to entertain themselves while there by dancing. "We feel," wrote Professor Glenn Herrick on behalf of a special committee appointed to investigate the possibility of reviving the assemblies, "that the assemblies can be made to serve their former and original function if and only if the Faculty will do its part." 246

In 1919 the first fall assembly featured Professors Bristow Adams and Cornelius Betten debating the question, "Are Professors People?" As would be expected, the hall was filled, and many students were turned away. The faculty, however, did not repeat this performance, which was as much a perversion of the assembly's original function as the student dancing it replaced. 247 By 1920 the assemblies had again become entirely informal student gatherings. In a report on a recent assembly, Professor Rice implied why some members of the faculty did not attend these meetings, thereby contributing by their absence to the very conditions they found offensive. "While dancing was in progress in the Home Economics Assembly Room and Hallway," he noted, "four students lighted cigarettes in the presence of others. Cheek to cheek dancing was conspicuously in evidence during the evening." 248 Mann was less concerned about the moral aspects of
dancing than with the students' preoccupation with dancing as their only form of sociability and the adults' apparent lack of interest in student affairs. In 1920 Mann appointed a committee to look into the social activities of students but in doing so he carefully avoided infringing on the field of the Women's Self Government Association and other student organizations. By this time supervision of such student activities on the agriculture campus had been largely abandoned by the adults, as students vigorously insisted that they could manage their own affairs.

In athletics the students seemed to manage successfully. In 1916 the Agricultural College basketball team won all its six games and even succeeded in holding the varsity to a two-point lead. A college crew was then in training. Trophies were displayed in a special room set aside for students by Dean Bailey (and smoking was outlawed there by student vote after Bailey declared, "I see no reason why a young man with a clear conscience and good digestion should need to calm his nerves by building a fire in his mouth."). In the interest of athletics, agricultural students raised $740 by 1915 for the purchase of a college gig and medals to be awarded athletes.

The mechanism for the maintenance of academic integrity followed a course rather parallel to that of the college assemblies. Bailey had been instrumental in instituting the honor system in 1907 and thought it worked well at the beginning when "everything was new and enthusiasm ran high," but by 1911 he saw that it was practically defunct as an effective force in the College. In 1913 the honor system was reorganized on a basis which eliminated faculty participation in its organization and administration. This reorganized system also proved unable to cope with dishonor; in 1917, when the honor system had been in effect ten years, not a single case had been reported to the honor committee by a student. A vote on the continuance of the honor system in 1918 showed a significant difference of opinion between faculty and students, with the faculty much less confident that it could be effective in the future.

Financial aid available for undergraduates was thoroughly inadequate for the size of the student body. In 1913 Professor Tuck promoted the philosophy of self-help by urging students to contribute to a student loan fund; under his direction $500 was added
to the small loan fund already existing. After 1913 the single fellowship formerly shared with the Veterinary College was awarded each year within the College of Agriculture. The industrial fellowship remained the principal source of financial aid for graduate students; by 1920 over fifty of these fellowships had been granted.

“The Eastman Stage is now coming to be one of the most prized events in the University year,” declared Bailey in 1913; Sibley Dome, at that time the largest auditorium in the University, “was full of visitors, University students, agricultural students, and others.”

The event, which featured formal speeches by students, was first held during Farmers Week, 1908, under the name “Agricultural Stage”; in 1910 it was named in honor of A. R. Eastman, a farmers institute lecturer and a state trustee of the University, who gave annual prizes to encourage students to learn to speak before large audiences. The Eastman Stage was emphasized by Bailey, who was thoroughly in sympathy with the purposes of its founder. Each year he secured a prominent person, often former President White, to preside over the event.

The annual banquet was another major event of the college year. In 1912 the banquet was held in the University Armory. Fully six hundred guests heard a battery of speakers which included “Uncle” Henry Wallace and “numerous popular airs” played by a professional orchestra. At the banquet in 1920 Dean Mann revealed a bit of college tradition connected with Roberts’ stovepipe hat which theretofore had been unknown to the students. It seems that this hat had been given to Roberts so that he might be properly attired for formal affairs. Roberts had considered it an emblem of office and had passed it on to Bailey with due solemnity in 1903. Thereafter each dean, in turn, came into possession of Roberts’ hat.

The alumni organization was put on a sounder basis by the end of the decade. In February, 1917, its name was changed from Students Association to Alumni Association of the New York State College of Agriculture. By October, 1918, it had some five hundred members of which 150 were active. The Cornell Countryman, placed on a straight business basis by Galloway, was slanted toward alumni; in 1920, $1.50 purchased an annual subscription and paid the annual dues of the Alumni Association. The association was used to bolster
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the student enrollment, each alumnus being encouraged "to interview at least one farm boy in regard to attending the regular or short course in agriculture the coming season."262

RELATIONS WITH OTHER COLLEGES

Events at other educational institutions had an intense effect on the development of the College during the decade. Competition with other institutions for graduate students and the services of faculty members was much keener than in the previous decade, when Cornell had both a recognized lead in many areas of agricultural education and the blessings of rapidly increasing state appropriations. In 1911 Bailey tried to dissuade the trustees from charging tuition to graduate students majoring in agricultural subjects. The reputation of the College depended on these students, whom, he feared, would be attracted elsewhere by free tuition.263 Although tuition was not charged graduate students at that time, the decline in their numbers after the war was almost certainly related to the excellence of graduate instruction available in other institutions.

Each time a college of agriculture was reorganized on an expanded basis it disturbed the equilibrium of other colleges having strong faculties. In 1912 a former Cornell professor, Thomas F. Hunt, became dean of the College of Agriculture at the University of California and soon thereafter came to Cornell to offer professorships to George F. Warren and C. S. Wilson at salaries "much in excess" of what they were receiving at Cornell.264 Several months later, Webber left for California to become director of the Citrus Experiment Station, where he received a salary and had the use of facilities superior to what Cornell could afford.265 Soon after arriving in California, he asked Whetzel to take charge of pathological investigations there at a substantial increase in salary. In order to retain Whetzel, Bailey had to increase his department budget from $15,000 in 1912-13 to $20,000 the following year, thereby affecting the budgets of other departments.266 Offers from other institutions not only led to individual increases but resulted in higher salary levels at Cornell. In 1912 Stocking was offered $4,500 at the University of Illinois, with a possibility of increase to $5,000, at a time when he was receiving $3,500 at Cornell. Schurman and Bailey were anxious to retain him
but recognized that increasing his salary would mean increasing the salaries of other men. Like Professors Warren and Wilson, Stocking decided to remain at Cornell but not because of an increased salary. Competition for staff members was so keen at the time that three men were promoted to assistant professor while still graduate students in order to hold them.

"During the last five years," Mann noted in 1919, "the State College of Agriculture has lost about 150 teachers from its staff. Records of 110, for whom data are available show that these persons left at an average increase of $882 per annum." The impact of this loss extended beyond the work that was disrupted to affect the morale of the staff that remained. Salary is a measure of the worth society places on the efforts of a man; as the decade progressed it became increasingly difficult for the staff to find satisfaction in work the public was so reluctant to recognize by compensation equivalent to that provided in many other states.

Of all educational institutions, Syracuse University probably had the most significant effect on the College of Agriculture. In 1912 a division of agriculture, later named the Joseph Slocum College of Agriculture, was established at Syracuse University. Those responsible for the development of this institution faced two major challenges: establishing an effective program in resident instruction and extension, fields already covered by the College of Agriculture at Cornell, and securing adequate public support, for, like their counterparts at Cornell, Syracuse authorities early experienced the difficulty of maintaining a college of agriculture on an endowed basis. A situation was thus established which made conflict with those responsible for the administration of the State College of Agriculture practically inevitable. It was in the context of this conflict that Dean Mann learned of a plan to establish a state college of home economics at Syracuse. Immediately he moved to have the status of the Department of Home Economics at Cornell elevated to that of a state college.

Even the athletic relations between Syracuse and Cornell affected the College of Agriculture. In March, 1919, Cornell Trustee Frank Hiscock learned from the chairman of the Assembly Ways and Means Committee that "notice has been given Cornell that its
prospects for appropriations by the legislature will be somewhat endangered if it does not resume athletic relations with Syracuse.”

A few days later Mann had a long talk with Chairman H. E. Machold, who assured him that the adjustment of athletic relations with Syracuse had its bearing on the College’s appropriations. “I feel confident,” Mann stated after the interview with Machold, “that it has cost us this year the appropriation for our plant industry building. The matter has therefore become very serious and I believe that we should give it our most earnest attention.”

The attractive or cooperative forces between educational institutions, however, were apparently stronger than the competitive forces. The Association of American Agricultural Colleges and Experiment Stations, reorganized in 1920 as the Association of Land-Grant Colleges, continued to develop as a useful medium for the discussion of common problems and as a pressure group for appealing to Congress and dealing with the federal Department of Agriculture. Perhaps of most importance, the organization provided a vehicle for the wider application of leadership. Cornell and other institutions benefited from the ideas and energy of Dean Davenport of Illinois; Illinois and other institutions benefited from the leadership of Dean Bailey and Dean Mann. In 1919 Mann was elected to the executive committee of the association at the suggestion of Director Jordan of Geneva, the chairman of the nominating committee. The association also served as a nucleus for the organization of college administrative officers along professional lines; the Association of Agricultural College Editors was formed in 1911, and the Association of University and College Business Officers was organized by 1921. Other forms of cooperation included exchanging professors and inviting scientists from other institutions to spend two or three days at the College discussing research problems. In 1918 the third faculty exchange was made with the University of California, the first having been with the University of Wisconsin.

RELATIONS WITH THE STATE

At the beginning of the decade 1911-1920, the ten-year plan served as a check on special legislation requiring appropriations for the physical plant. It did not, however, serve to check special legis-
In 1911 Bailey was surprised when $1,000 was appropriated for the investigation of diseases in gladioli. The following year the item was increased to $2,000 and placed in the regular supply bill without his knowledge. In 1917 a bill was introduced at the request of the American Game Protective and Propagation Association establishing a game-breeding experiment station at Cornell. Since this bill would force the College into an area of activity it had not planned to enter, Mann sought the opinion of the University Committee on General Administration, which supported his view that the University should take no action on bills making appropriations for the College of Agriculture which it did not originate. The bill, however, passed the legislature without support from the University; in 1917, $15,000 was appropriated to start research in game breeding at Cornell.

In 1919 a similar game-breeding experiment station was established at the New York State College of Forestry; and in 1920 the state appropriated $15,000 to support work at this station, this at a time when the legislature was sufficiently concerned about duplication of effort by state agencies to pass a concurrent resolution calling for a conference of representatives from the State College of Agriculture, the State College of Forestry, the State Conservation Commission, the state botanist, and the state geologist for the purpose of delimiting the functions of these institutions. As might have been anticipated, the conference did not get beyond the point of discussing the separation of educational and regulatory functions, for none of those in attendance was willing to give up any ground.

The College maintained good working relations with the two state agencies having the greatest impact on its work—the State Education Department and the State Department of Agriculture. The occasional departures from these good relationships, which occurred in the operating divisions of these institutions, were resolved without becoming causes for conflict at the top level of administration. In the case of the Department of Agriculture, a good relationship was facilitated by the commissioner's familiarity with the work of the College. During most of the decade two former professors occupied the position, R. A. Pearson until 1912 and C. S. Wilson from 1915 to 1920. Wilson secured the position with the blessing of Dean Galloway and there-
after worked closely with Galloway in preparing changes in the agricultural law which, in 1917, placed the work of the Department of Agriculture in a newly instituted Department of Farms and Markets. The sound relationship with the State Education Department was laid in Bailey's efforts to cooperate with the department in improving the work in the rural schools and in placing the program for secondary agriculture on a sound basis. This cooperative relationship continued at the top administrative level. In 1919 the commissioner of education, John H. Finley, sent Mann a memorandum, prepared by one of his subordinate officers, opposing the bill to establish a college of home economics at Cornell on the ground that its activities might possibly conflict with the work of the State Education Department. To the memorandum Finley attached the comment, "Our relations have been so cordial and above-board that I think I may frankly send you this memorandum and ask your advice."

A principal goal of college administrators after 1915 was to secure relief from the rigidity of the line-item budget which established maximum salaries for all positions in the institution. Early in 1916 Galloway joined with Director Moore of the Veterinary College and Director Jordan of Geneva in a protest to Governor Charles S. Whitman concerning the form of the budget. The conditions anticipated in the protest quickly followed. Galloway's budget was cut arbitrarily by men in Albany who decided even such minor matters as how many janitors were needed at the College and how much they should be paid. In 1919 Mann devoted three pages of his report to President Schurman to the evils of the fixed-item budget. After listing examples of how the state's attempt at efficiency resulted in waste at the College, he indicated the long-run consequences of this administrative technique:

Economy is the claim. It is not economical. It will in time make the State the most inefficient employer of labor. The competent persons will be drawn off and the less competent left behind. This is now taking place . . . In this institution we have gathered our present staff from men who have been trained in from forty to fifty institutions throughout the country — wherever we could get the best for the money and opportunity available. Such men are not easily engaged nor easily replaced. Woe betide these institutions if they are gradually to become manned by the kind of per-
sons that other institutions do not want—the kind who are not picked out and therefore will stand without hitching beside a segregated appropriation act. 285

By the time this report appeared in print Mann had achieved, in large degree, the relief he desired because of the confidence in his administration of Senator H. M. Sage, chairman of the Senate Finance Committee, and H. E. Machold, chairman of the Assembly Ways and Means Committee. By January, 1919, Mann had achieved a personal understanding with Sage which enabled him to hold certain key faculty members against higher offers from other institutions. At Mann's request, Senator Sage introduced a bill, later passed and signed by Governor Alfred E. Smith, which released educational and research institutions from the provisions of the appropriation act prohibiting administrators from filling vacancies at increased salaries. 286

Mann also developed good working relationships with the Governor and with the Governor's secretary—a key official in state administration who was frequently a confidant of the Governor. In Governors Whitman and Smith, Mann faced a major challenge, for the experience of these men in business and politics in New York City and Albany was quite outside the field of agriculture. 287 To establish a basis for communicating the needs of the College, Mann had, in effect, to fill a gap in their education. He also had to educate William Orr, secretary to Governor Whitman, who in 1916 thought that the College was largely patronizing Jewish students, that it was not the function of the College to train teachers of secondary agriculture, that salaries at the College were “liberal,” that college income funds should revert to the state treasury, and that appropriations for the Drill Hall (Barton Hall) and the College of Agriculture should be considered together since “both fundamentally are Cornell University.” Orr was anything but cordial to Mann at first but became more so as his contact with the Dean increased. 288

The relationship to the state comptroller—an official elected independently of the Governor—was not satisfactory. All requests for out-of-state travel by faculty members had to be approved by this official. In spite of appeals from Mann stressing the importance of such travel, the comptroller’s usual practice was rejection. In addition he strongly

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opposed the independence the College enjoyed in the administration of its income funds. 289

The increase in the state appropriation for operation and maintenance from $212,000 in 1910-11 to $1,330,000 in 1920-21 provides one measure of the development of the College during the decade. This measurement is somewhat misleading, for the latter appropriation, while six times as large as that in 1910, would by no means purchase six times the goods and services. The increase from 1919 to 1920 of $378,000—the largest increase to that date in the history of the College—allowed the establishment of only several new positions, almost the entire amount being used to raise salaries until they were comparable to those of other major agricultural colleges. 290 It was necessary to increase the research budget each year, even if no new lines of investigation were projected, since the increasing complexity of research techniques required more expensive equipment.

The increase in appropriations was by no means constant. During the four years between 1913 and 1917 appropriations remained at practically the same level except for 1914, when they were substantially reduced. S. J. Lowell, Master of the State Grange, thought the College had brought on this condition by requesting in previous years amounts in excess of what might have been sufficient, “a fact,” he said, “which is well known to quite a large number of people through the state.” 291 Whatever the explanation, static or reduced appropriations for colleges of agriculture were not peculiar to New York State. “It was expected that there would be a reaction against the granting of large appropriations to the colleges of agriculture,” wrote Mann, “but the reaction has been so great that it is throttling the usefulness of some of the institutions.” 292 Letters from other agricultural colleges reported losses of outstanding men through inability to increase salaries. 293

RELATIONS WITH CORNELL UNIVERSITY

The period of conflict between college personnel and university authorities that reached a climax under Galloway quickly passed away; in November, 1916, Mann noted a “real desire to reestablish good relations with the College so as to clear away the difficulties of last year.” 294 The College received considerable benefit during the
latter half of the decade from the work of university trustees who had political contacts in Albany, especially that of former Governor Horace White in the Whitman administration and former Governor John A. Dix in the Smith administration. To White's conference with Governor Whitman, Mann attributed the sudden transformation of Mr. Orr, who thereafter was most cordial in his treatment of the Dean. "Never before in my opinion," declared Schurman, "has our board had such an efficient Chairman of its Committee on Legislative Appropriations." During the Smith administration the presence on the Board of Trustees of the prominent Democrat, Charles E. Treman, was a help to Mann in acquainting the Governor with the needs of the College.

Association with the University continued to serve as an incentive to high-quality work in the College. Both Bailey and Mann were sensitive to criticism coming from elsewhere in the University and worked to maintain educational standards which would be above reproach. While much of this criticism undoubtedly was based on prejudice or ignorance of what the College was accomplishing, it nevertheless served the healthy purpose of forcing the members of the faculty to examine and defend the work which they were doing.

Association with the University also permitted the College—with university approval—to use its income funds without authorization by state officials, a privilege allowed no other state institution except the Veterinary College. This was a matter of great importance, since income funds at that time represented as much as 40 per cent of the annual income of the College and could be increased during periods of retrenchment at Albany to give some relief in the operation of the College. Under a ruling of the state comptroller, however, the income funds could not be used to augment salaries paid from state funds. It was in this connection that the $5,700 annual appropriation from the University, required by the legislation establishing the College of Agriculture as a state institution, assumed some importance. In 1920 Mann was able to grant a petition from janitors requesting a wage increase by mortgaging this university appropriation.

On occasion, university authorities served as a check on what proved to be unwise proposals. A case in point was Bailey's request to purchase a farm for the demonstration of farm management princi-
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pies. Such a farm, declared Bailey in 1911, would return to the University its regular rate of interest while demonstrating good farm techniques in the hilly part of the state. Fifteen years later, when the Cornell work in farm management had acquired an international reputation, Warren saw the 1911 recommendation in different light: "Departments of Farm Management put their money into employees. I once proposed that the Department of Farm Management have a farm. Had this mistaken recommendation been approved we would doubtless be putting money into the operation of a farm rather than into people."801

The University acted in other ways which restricted the development of the College. It was the practice of the trustees to bring the college budget into accord with what they thought could be secured from the legislature, but this, while galling to the departments, was a necessary act of responsible administration.802 The Drill Hall (Barton Hall), which cost the state $350,000 by 1917, was a somewhat different matter. Unquestionably, it was more than coincidence that the four years when the College secured no more than a token increase in appropriations coincided with the construction of this building.803 There were excellent reasons why the state should support the University in carrying out the provision of the Morrill Act requiring military training at institutions receiving the land grant. At the time, however, Professor Rice's protest that the trustees would never have dared to push the Drill Hall had Bailey been director, probably reflected the thinking of many of his colleagues.804 The trustees' decision to risk reduced appropriations for the College of Agriculture in order to obtain the Drill Hall reopened the question of how well the trustees understood the needs of the College. Like the Governors, they tended to be men without acquaintance with agriculture. To Burritt, the need was apparent to "have some real, genuine farmers and more of them, on the Board of Trustees and the Agricultural Council."*

*Burritt to Mann, Oct. 16, 20, 1919, Mann Papers. The interests of agriculture were, of course, already represented on the Board of Trustees by the commissioner of agriculture and the president of the New York State Agricultural Society. In addition the Governor appointed T. B. Wilson, who was an active farmer and member of the Agricultural College Council.

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The maintenance of the physical plant, an aspect of college administration which had occupied so much of Bailey's time, was taken over in 1914 by the University. This change offered the possibility of greater efficiency through centralized control over the maintenance of the existing plant and the planning of new facilities. The price of increased efficiency, however, was a narrower concept of the educational function of the College. Conditions affecting the working environment of faculty and students became someone else's responsibility.

The legal relation of the College to the University was examined in two opinions by the state attorney general and in two court cases during the decade. In a 1915 opinion involving the use of income funds, the attorney general ruled that "absolute control" of the affairs of the College was vested in Cornell University, an opinion which was reaffirmed in 1920. The court cases, Hamburger v. Cornell University and Green v. State of New York, held, in accord with the attorney general's opinion, that the University and not the state was legally responsible for the acts of the employees of the College of Agriculture.

Agricultural education at Cornell continued to be affected, but to a diminishing degree, by the presumption of some faculty members and students in the College of Arts and Sciences that their area of education was inherently superior to that represented by the College of Agriculture. This presumption was based on a complex of assumptions and traditions including recall of the not-distant time when the liberal arts held the center of the educational stage without serious contest, the belief that the values associated with the study of liberal arts were superior to the materialism associated with professional education, and the conviction that the educational standards of the liberal arts somehow approached educational fundamentalism. The colleges of engineering at Cornell, while also under the onus of professionalism, were not burdened with the weight of the fantastic and ludicrous image of the farmer which was widely held. To become an engineer was to enter a profession embodying high prestige. Agriculture, as understood by a large element in the public and also by some members of the University Faculty, meant farming, and farming was thought to be an undesirable occupation. This sadly uninformed view must have colored their relationship to the students.
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and faculty in agriculture. Students in the College were frequently not welcomed in the student activities of the University. The continuation of this discrimination, based in many instances on incorrect information, was encouraged by the tendency to use men uninformed about agriculture in key positions affecting the administration of Cornell and other universities. In 1915, for example, the Carnegie Institution of Washington elected four trustees. Andrew D. White proposed L. H. Bailey, who received only three votes. In spite of his national reputation in agricultural education he was, according to President White, "evidently unknown to our board."

The two state colleges at Cornell operated during the decade without any mechanism for coordinating their activities. What coordination existed occurred at the personal level. Deans Moore and Mann were excellent cooperators, frequently consulting each other on matters of mutual interest. Dean Mann was careful, when supporting appropriations in the legislature, not to contravene the interests of the Veterinary College. In 1920 Dean Moore promised, at Mann's request, to continue a course for animal husbandry students even after Professor Wing withdrew a course he had been giving for veterinary students. Only at the end of the decade was the first step taken toward creating a coordinating mechanism when the dean of the College of Agriculture was made a member of the Veterinary College Council, and vice versa.

RELATIONS WITH AGRICULTURAL ORGANIZATIONS

Relationships with agricultural organizations were characterized by a desire of college personnel to advance the work of these organizations and to receive their support, both directly and in terms of assistance in securing appropriations in the legislature, without permitting a situation to develop where these organizations controlled the educational activities of the College. As early as 1909 the American Peony Society and the New York State Ginseng Growers were providing financial support for research. In 1913 an assistant professor of plant pathology was appointed on a basis that most of his salary would be provided by nurserymen. The major source of direct support from private associations during the decade, however, came in the form of industrial fellowships. By 1920 there was some feeling
that the acceptance of so many fellowships was affecting the institution's independence of operation, but a committee appointed by Dean Mann to investigate this possibility concluded that the agreements under which fellowships were established adequately protected the independence of the College. 313

One of the difficult challenges to college administration was to maintain an intermediate position between the staff of the College and interest groups in the state desiring the services of the staff. It was necessary to check the tendency of individual staff members and departments to appeal directly to interest groups to secure special legislation supporting their work. Such a relation between the college staff and interest groups in the state was a natural and healthy outcome of a strong extension program but which, in bypassing the coordinating function of administration, tended to reduce the overall efficiency of the College. The same result ensued when interest groups on their own initiative secured special legislation supporting college activities of benefit to them. The difficulty experienced in coordinating the activities of the College was part of the dilemma facing college administrators who considered order the essence of educational efficiency but who, as public officials, could not turn aside demands placed upon their institution by the public.

Soon after becoming dean, Mann started a personal correspondence with the executive officers of forty-five agricultural organizations in the state in order to acquaint them with the work and development of the College. This correspondence he thought should be maintained "whether or not these organizations are ever needed in support of our appropriations." 314 This action established no new policy; it simply put on a more organized basis a procedure followed by Roberts and Bailey. Three years later, however, the College called on these organizations for support of its appropriations.

The occasion was the formulation of a plan for expansion similar to that conceived in 1910. As had been the case at that time, the College's facilities were badly overcrowded, especially in the departments related to plant science. A procedure was established calling for a series of planning conferences at the department level during November, 1919, to be followed by the development of a semipermanent organization to coordinate and implement the recommendations of these
departmental conferences. With Dean Mann hospitalized during most of November and December, leadership in organizing these conferences was performed most successfully by Professor Elmer S. Savage.

Preliminary conferences in October arranged for this series of meetings and provided for the coordination of publicity through the agricultural and rural press, the county agents, farm bureau officials, and officers of other agricultural organizations. Groups of prominent farmers were invited to examine the work of each department and to make recommendations for improvement. Each group was asked to elect its own chairman and secretary so that the meetings in each department were "theoretically under the control of the visitors." When these groups arrived at the College, they found statements of how the work of each department compared with that at other major agricultural colleges and, where building plans were involved, what facilities were available in other institutions. The outcome of these carefully planned conferences was that the visitors made the recommendations which the college staff desired. This result was a tribute to the skilled use of public relations techniques which focused the visitors' attention on the needs of the College. It was not technique alone, however, which secured this result, for its application required a background of good work to justify additional facilities.

On December 5, 1919, delegates from each department conference formed the Permanent Conference for the Promotion of Agriculture and Home Economics at the New York State College of Agriculture at Cornell University. Recommendations were made for the construction of a plant industry building, a rural engineering building, and a dairy industry building in that order; a higher salary scale was recommended for the College; new positions of vice-dean and vice-director of research were recommended; further expansion of the work of the College was favored; and the placement of these recommendations before the Agricultural Conference Board was discussed.

The major problem of securing money for immediate publicity was

*Conference folders, box 8, 9, Mann Papers. An unanticipated outcome of this preliminary work was the indication that the agricultural press and the Grange officers were not up to date in their contacts with farmers. Burritt called many of the names on the list of prominent farmers they submitted "dead wood" (Burritt to Mann, Oct. 21, 1919, Mann Papers).
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solved by the decision to borrow funds from the State Farm Bureau Federation until contributions could also be secured from other farm organizations.317

William A. Mather, a farmer of Adams, New York, and Edward R. Eastman, editor of the Dairymen's League News, were the most active in presenting the conclusions of the permanent committee to the legislature and the public. Their work was greatly aided by support from Senator Sage and Mr. Machold. Both these men visited the College in the spring of 1920. Sage was sufficiently impressed by his inspection to declare that the state had neglected the requirements of the College long enough. Anticipating his retirement from the Senate, he promised Mann after his visit that he would try to write the initial building appropriation so as to commit future sessions of the legislature to the entire building program.318 The formula adopted by Sage was to authorize three million dollars, with an immediate appropriation to commence work on "a plan to be approved by the trustees of said Cornell University." After this formula was signed into law by Governor Smith on April 12, 1920, Mather indicated the key role played by Machold. "He has constantly followed it up with Senator Sage and Governor Smith," Mather noted. "Had his attitude been passive rather than aggressive we would have had an uphill fight."319

An incident in the work of the committee, quite unimportant in itself, pointed up the difficulty of securing the support of farm organizations while maintaining the independence necessary for an effective educational institution. The broader scope adopted by the committee in January, 1920, under the title Farmers' Joint Committee for the Promotion of Education in Agriculture and Home Economics, State of New York, brought the Geneva station within its purview. However, there was some reluctance about giving wholehearted support to the appropriations for Geneva. "Just between you and me," Eastman wrote to Mann, "some of us here feel that Dr. Jordan is somewhat out of touch with things, and did not render the service that he might have when he had the opportunity to place the milk situation properly before the New York public. Therefore we are not keenly enthusiastic about helping him out."320 It was probably inevitable that farm organizations would tend to put support for appropriations
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on a *quid pro quo* basis. To a degree this was desirable, for it kept the work of the College closely related to the needs of New York agriculture. At the same time it posed a threat to the substantial part of the College's activities having no immediate relation to agriculture. As the support of agricultural interests expressed through the medium of the Agricultural Conference Board became a routine part of securing appropriations for the College, the officers of agricultural organizations acquired a position from which they could affect the content of the educational program. That this has not resulted in serious restrictions on the freedom of college personnel to determine educational activities has been due, largely, to the wisdom and forbearance of the members of the Agricultural Conference Board.

SEMI-CENTENNIAL REVIEW

Earlier in 1919, in connection with the observation of the semi-centennial of the University, the activities and educational objectives of the College were given the most searching examination that they had yet received. In the latter connection, well-known alumni in the field of education, such as A. Ross Hill and J. E. Russell, along with prominent farmers in the state, made the research, extension, and resident instruction of the College the subject of a critical review.* Their report dealt with the balance desirable among professional instruction, basic course work, and liberal education; the importance of the faculty's possessing adequate teaching skills; the consequences of department competition; the consequences of the departmental courtesy whereby teachers in one department avoided measuring their work against that of men in other departments; the desirable balance among extension, research, and resident instruction; and the quality of the work of specific departments. The reports, largely based on questionnaires to alumni, revealed a wide disparity of opinion on what the objectives of the College should be and how particular objectives should be accomplished. There was, however, a large area of agreement that the College was generally doing good work, that most of

*A. Ross Hill was President of the University of Missouri, and J. E. Russell was professor of education at Teachers College, Columbia University.
the basic courses given in the College of Arts and Sciences were not useful to students in the College of Agriculture, and that the Departments of Farm Crops and Rural Economy were producing work inferior to that of the widely approved Department of Farm Management. 321

INTERNAL ADMINISTRATION

The end of the war was marked by a certain nostalgia among the staff—a desire to return to a better day before membership became so large and relationships so impersonal. At the end of May, 1919, the staff held a party. Everyone was expected to attend. Provision was made for entertaining and feeding the youngsters and cots were even provided for the babies. Good natured memoranda passed back and forth among committees, all of which were trying to get ahead of the energetic "Jimmie" Rice. "It is my hope," wrote Dean Mann in a letter to the staff, "that through this evening together we shall come to know each other better and promote acquaintanceship such as existed in the old days when our Staff numbered considerably less than three hundred." 322 The relationships Mann idealized could not be recovered. Moreover, pressures generated in the business community that impinged on the College tended to make relationships even more impersonal. By 1920 the efficiency techniques of Frederick W. Taylor had invaded the University and Mann was caught up in a resolution of the full Board of Trustees providing that the deans of each college make an annual evaluation of members of their faculty regarding teaching capacity, productivity, and personality, for transmission to the President and as a basis for promotion. 323

The organization adopted by the faculty for the conduct of its business varied with the relation of that body to the dean, but by 1920 it had settled into the form which presently prevails. When Bailey was dean, he appointed the members of the faculty committees and kept in close touch with their deliberations. After Galloway's first year this practice was reversed, the faculty then electing all its committees and making clear that the dean had no responsibility for matters relating to educational policies or practices. 324 In 1917 the faculty considered returning to the former practice but left the matter in abeyance by asking Dean Mann to make appointments for that
year only. The following year the faculty adopted a system which took the best from each previous method. By electing a committee to nominate members of standing committees, the principle of faculty election was combined with an efficient electoral mechanism; by making the dean chairman of the nominating committee, a link was preserved between administration and the continuing business of the faculty.\textsuperscript{325}

In 1920 the faculty was still a relatively young group. About half the heads of departments had been appointed during the decade and most of these were in their thirties. Nevertheless, many members of the faculty remembered Professor Roberts, and these memories served as a link with the past. An additional link was established by naming buildings after faculty members who had made important contributions to the College. In 1914 the main building was named after Roberts and the auditorium after Bailey; in 1915 the new agronomy building was named in honor of Caldwell, and in 1919 the old agronomy building after Stone.\textsuperscript{326} At the end of the decade the College had only three emeritus professors, Roberts who retired in 1903, Comstock who retired in 1914, and Stone who retired in 1919.*

The centrifugal tendencies of departments continued during the decade. There was considerable resistance to concentrating a larger element of planning and control in the office of the dean and director, especially among the department heads who had been most active in opposing Galloway. Professor Needham, for example, complained bitterly about the red tape and "fiscal domination" emanating from the dean's office and thought he was quite justified in breaking administrative regulations in order to advance the interests of his department. Professor George Works condemned the "steady trend toward the elimination of departmental influence" and insisted that his was by no means an isolated opinion. One indication of the increased authority residing in the dean is afforded by correspondence concerning the issuance of publications under the name of the department instead of the name of the College. In 1914, while acting director, Stocking asked the department heads not to send out

*When Bailey resigned from the University he severed all connections. It was not until 1921 that he accepted the title of emeritus professor (\textit{Trustee Proc.}, June 21, 1921, pp. 240-242).
departmental notices about Farmers Week as they had planned, "since this might give the impression that the College was being administered by individual departments rather than as one institution." In 1920 the situation was reversed when a department head sought the dean's permission to issue the rural school leaflet under the name of the department.

Interdepartmental coordination lagged behind the coordination between departments and the central administration of the College. The Department of Plant Breeding, for example, discounted a breed of corn while the Department of Farm Corps urged its introduction. Another consequence of inadequate coordination was a rising salary level for the clerical staff brought about by departmental competition for services. A more serious problem was the duplication of instruction among the departments. In 1920 the faculty expressed its concern and agreed that arrangements "should" be made to avoid duplication and specifically that departments working in the area of applied science should not give courses in pure science unless departments dealing in pure science refused to do so. However, since each department determined what it would teach, no immediate steps were possible beyond discussion. A most hopeful note was struck in 1919 when Professor Needham, perhaps the extreme exponent of departmental freedom on the faculty, proposed with Professor Whetzel to create a new cooperative position, supervisor of field assistants in plant pathology and entomology.

The faculty was so thoroughly committed to the idea of departmental independence that steps at variance with the concept were usually taken only under pressure from outside its membership. The caution with which the possibility of greater uniformity in departmental administration was examined is indicated by the events following a resolution passed at a meeting of the faculty in June, 1917. This resolution asked the dean to appoint a nine-member committee to study the question of the theory and practice of the organization and management of departments in this and other institutions. In complying with the resolution Dean Mann anticipated an argument of those opposing the committee by assuring the faculty that it "is not an administrative adjunct for the purpose of bringing departments and men into line." Although the committee dealt with what its
EDUCATION AND AGRICULTURE

chairman called "the most momentous questions now before the College of Agriculture," it met resistance when it started to examine the methods of department organization, budget making, and other aspects of departmental operation. By the end of 1918 the committee was practically defunct due to resignation of key members. Such a committee, said Professor Whetzel, is not "necessary or warranted." 334

In actuality, theory had much less relation to the operation of departments than the personality of the department head. Methods of administration varied widely, ranging from a laissez-faire relationship between department head and faculty in farm management through a cooperative relationship in plant breeding to the somewhat paternal relationship in plant pathology. It was the method of administration as much as other factors that led to the crisis in plant pathology in 1918, which was resolved only by transferring a member of the department to the Department of Botany. 335 Other forms of administration were, of course, open to different objections. A likely consequence of a laissez-faire relationship was lack of coordination among the members of the department; a likely consequence of a cooperative relationship was the extension through the entire department of disrupting fears which should have been absorbed by the department head. 335

Following Bailey's administration two new departments were created and an existing department was abolished. The Department of Rural Social Organization grew out of the interests of Mann and Galloway in the scientific study of social aspects of rural life. 336 In May, 1915, Mann was named professor of rural social organization. During the following year he worked with Galloway in developing plans for rural recreation and for surveys of rural conditions based on

*J. DuPratt White to Mann, May 8, 1918; Mann to Schurman, Dec. 9, 1918; also contents of plant pathology folder, box 1, Mann Papers. In assessing Professor Whetzel's contribution to Cornell, his impact as a teacher must be weighed along with his difficulties as an administrator. He was a person of great energy and contagious enthusiasm, deeply interested in teaching methods, who tried to be helpful to all students, be they winter course or graduate. He kept his door open to students, invited them to his home to discuss their plans and aspirations, and, when they needed financial assistance, solicited employment for them from his neighbors (M. F. Barrus, Cornell Countryman, Jan., 1945, pp. 3-4; F. G. Marcham, H. H. Whetzel essay, MS).
EXPANSION AND CONSOLIDATION, 1911-1920

the project method. On learning that Galloway was leaving Cornell, Mann asked him to secure the Department of Rural Social Organization, for "the beginnings of which I have you to thank." In 1917 Mann himself brought Dwight Sanderson to Cornell to head the new department.

The Department of Rural Education expanded rapidly under the leadership of George A. Works, who became head of the department on July 1, 1914. The following year an experimental program for secondary agricultural teachers was started. When, in 1917, the Smith-Hughes Act provided federal aid for secondary school agriculture, home economics, and vocational education, the department was in a position to utilize effectively the $19,800 available to train agricultural teachers. In 1918 Mann wrote to Works, "We have now perhaps the best beginning in teacher training of any agricultural college in the country; the time for advanced professional work in rural education is setting in this direction and we must look to you largely for the continuance of this fortunate situation."

In 1917 the head of the Department of Drawing recommended the dissolution of the department and the division of its work between the Departments of Landscape Art and Rural Engineering. The disposition followed this recommendation.

The work in home economics was marked by continuous expansion during the decade. By 1919 seventeen faculty members taught courses which were divided into six major areas: food and nutrition; clothing and textiles; housing and design; women in household, industrial, and political life; household management; and institutional management. The courses in institutional management formed a basis for the later development of the School of Hotel Administration.

The relationship between the Department of Home Economics and the College of Agriculture was, in many ways, similar to that previously existing between the College of Agriculture and the University, with Dean Mann in the position of applying restraint. In 1919 he took issue with the tremendous expansion of courses in home economics, pointing out in a seven-page letter that many of the courses were duplications which could well be consolidated. Miss Rose, however, continued to stress expansion. "Mere standing still," she insisted, "would be fatal."
EDUCATION AND AGRICULTURE

Her allusion to fatality referred to the possibility that a state college of home economics would be established at Syracuse University unless the work at Cornell was quickly placed on a college basis. Dean Mann, anxious above all else to avoid a repetition of the conflict over the College of Forestry, supported the aspirations of the Home Economics Department to become a college—a step he regarded as poor internal administration—in order to avoid the greater difficulty of renewed conflict with Syracuse.\textsuperscript{343} In September, 1919, the department was designated the School of Home Economics by the trustees, and in 1920, at Mann's request, a bill was introduced in the legislature to transform the school into a college.\textsuperscript{344} Martha Van Rensselaer and Flora Rose proceeded to gather representatives of women's organizations at luncheons about the state to win their support.\textsuperscript{345} By March, 1920, however, they learned that both the Governor and chairman of the Senate Finance Committee were opposed to any new state activities and furthermore questioned the wisdom of giving free instruction in home economics. The bill passed the Assembly in the closing hours of the legislature but did not pass the Senate.\textsuperscript{346}

Each new activity established in the College complicated the process of administration, since it invariably required some adjustment between existing activities. Sometimes only a mechanical adjustment was required, as when the duck ponds of the new game farm polluted the water of the fish culture experiment station downstream, or when the use of automobiles was adopted by the departments. (In 1910 the College had no automobiles; in 1920 Mann wrote to the departments to determine how many vehicles they controlled and learned that the Department of Plant Pathology alone had eleven.)\textsuperscript{347} Cases which involved the nature of the educational program or the relation between educational and maintenance aspects of college operation were more difficult, since they fell within the province of both faculty and administration—a situation in which neither party could entirely avoid responsibility or, in many cases, assume sufficient responsibility to secure effective decisions.\textsuperscript{*}

\textsuperscript{*}A number of frozen radiators is a case in point. Members of the faculty insisted it was the janitor's job to close windows and check radiators, but the salary schedule made it impossible to retain janitors for all the hours rooms were in use (Mann to Weigand, Feb. 8, 20, Weigand to Mann, Feb. 6, 1920, Mann Papers).
EXPANSION AND CONSOLIDATION, 1911-1920

necessity for adjusting burgeoning activities to available funds put further burdens on administration. In 1916, for example, budgetary restrictions required dropping thirty-seven people from the maintenance and clerical force, with administrators having to determine where these cuts were to occur. Since salary advances after 1916 were secured from the legislature only on an individual basis, it became a common administrative procedure to encourage the staff to engage in the demoralizing practice of getting offers from other institutions in order to prepare the way for a salary advance in the College.

During the decade George Parker was head of the business office of the College. Mann frequently called on him for advice and authorized him to secure departmental compliance with the business regulations of the College. This was no small task, for some of the older department heads were unwilling to abide by regulations when their concept of departmental efficiency was threatened. In 1912 a public accountant was brought in for the first time to audit the financial records. While he discovered few errors, he found the record system "cumbersome and antiquated" and recommended a new plan.

By 1919 one man no longer had sufficient time or knowledge to cope with the issues facing the occupant of the roles of dean and director. At this date Mann reopened the question of appointing two vice-directors, one for research, the other for resident instruction. "Our institution has become so large and the problems so varied that I find great difficulty in giving anything like adequate attention to the problems that arise," Mann wrote to A. Ross Hill in preparing for the semicentennial study of college activities. "Traditionally, the College has been opposed to these sub-divisions, but I think this is somewhat passing." Mann carefully prepared for faculty acceptance of the new positions. It seems probable that he considered the inter-departmental research conferences a step in this direction. The positions were approved in 1919 by two groups from outside the College—the farmer committees and the alumni connected with the semicentennial evaluation. In December, 1919, Mann consulted the departments heads on the advisability of the positions and received a unanimous recommendation for their establishment. Several days
later he asked each professor and assistant professor to submit names of possible appointees. Cornelius Betten received the greatest support for vice-dean (later changed to vice-director) of resident instruction and Professor William A. Chandler for vice-director of research. Following the establishment of the two positions by the legislature in 1920, the two men were so appointed.

Betten had long been considered a desirable person to add to the faculty. In 1913, when he was teaching biology in Lake Forest College, Bailey offered him the professorship in rural education, but Betten could not afford to take a year to gain the necessary professional qualifications. In April, 1915, however, he succeeded Mann as secretary of the College. Betten brought considerable energy and great ability to the position of vice-director of resident instruction. At the same time, he managed to preserve sufficient detachment to view with a degree of humor the sometimes irrational behavior of the faculty.

Chandler came to the College in 1913 as professor of research in the Department of Pomology and became the head of the department in 1915 when C. S. Wilson was appointed commissioner of agriculture. By 1919 he had become an advocate of the view that effective teaching required experience in research. On the contrasting position that good teaching requires experience with the practical aspects of a subject he commented: "Practical details should be taught only when a knowledge of them is necessary for an understanding of other problems. We think teaching such routine details may do the student harm by making him satisfied to use his mind on superficial things."

Dean Mann thought that the success of Burritt's appointment as vice-director of extension, more than anything else, gave the staff courage to approve the appointment of additional vice-directors. During the two years before 1919, Burritt established a reputation for usefulness while exercising sufficient patience to avoid antagonizing department heads unwilling to depart from their former privilege of direct contact with the dean on extension matters. In November, 1919, however, Burritt asked Mann to give his position sufficient power to place him in "a real position of leadership." This Mann did the following month by requesting department heads to arrange
salary adjustments and the selection of extension personnel with the vice-director of extension "in advance" of consulting him, thereby establishing a policy which has been continued by his successors. By the following year the position was so well established that Burritt found his interest lagging and asked for a leave of absence. He was interested, he said, in the beginnings of things, not "oiling the machinery."

In 1919 Mann faced the question of discontinuing the summer term, initiated in 1913. A departure from academic tradition and at variance with procedure elsewhere in the University, the summer term was not accepted by either students or faculty. It achieved the greatest enrollment from 1914 to 1916, when the Galloway administration imposed a large degree of centralized control.

The summer term was discontinued in 1922. At that time the six-week summer school, established in 1911 for teachers and social workers, was expanded to include much of the instruction previously available during the summer term. The summer term enrollment for 1914-1922 was as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Undergraduate</th>
<th>Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1913-14</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>1914-15</td>
<td>108</td>
<td>86</td>
</tr>
<tr>
<td>1915-16</td>
<td>140</td>
<td>122</td>
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<tr>
<td>1916-17</td>
<td>43</td>
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<td>1917-18</td>
<td>54</td>
<td>40</td>
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<tr>
<td>1918-19</td>
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<td>1919-20</td>
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<td>1920-21</td>
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<td>76</td>
</tr>
<tr>
<td>1921-22</td>
<td>39</td>
<td>85</td>
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The library, during the decade, suffered from a combination of

*Mann to G. A. Works, Nov. 19, 1919, Mann Papers; Cornell University Official Publications, XIV, No. 7 (1923). A proposal to operate the University for three full terms a year was considered by the Faculty of Agriculture in January, 1952. It was opposed "with only a few dissenting votes" (Faculty of Ag. Minutes, XIV, 146). See also ibid, V, 204. The summer term was open only to students who had completed the freshman and sophomore years (22d. Ann. Rpt. of Pres. Schurman, 1913-1914, App. VIII).
inadequate appropriations, committee administration, and departmental intransigency. In 1910 its staff consisted of A. J. Lamoureux. Although commended by Bailey for "efficiency and faithfulness," he served more in the capacity of caretaker than professional librarian. The total appropriation, limited in 1911 to $1,400, meant that the Library Committee had to perform many of the functions of librarian. Consequently, these functions were performed with varying degrees of skill. No foreign periodicals were exchanged between 1907 and 1911 because the professor who promised to develop a new exchange list failed to carry out his commitment. The exchange of periodicals was further complicated by what the chairman of the Library Committee called the "discourteous and inconsiderate" actions of departments which maintained their own exchanges to the detriment of the library. Books were ordered by the chairman of the Library Committee who took requests from departments, checked to see if the books were already in the library, and then prepared a list for purchase through the university library.

In 1913 the appropriation for the library was increased to $4,400, an amount which provided a $1,500 salary for a librarian, $900 for Mr. Lamoureux and $2,000 for maintenance. Over two years passed before the librarian was appointed, a lag which was apparently related to the unresolved conflict over the extent to which books purchased on department funds should be centralized in the college library. During Galloway's administration, W. W. Ellis was appointed librarian; thereafter the Library Committee became advisory. Department libraries were continued, and in 1917 their relation to the college library remained, in the view of the faculty, "a serious problem." Effective steps were taken, however, to integrate the library more closely with the university library system.

The location of the library was no less serious. In 1911 plans were prepared to convert the heating plant located beneath the auditorium on the north side of Roberts Hall into a two-story library. When it proved impossible to secure an appropriation for this renovation, the library was moved to the basement of Stone Hall in 1915, after the Department of Soil Technology moved into new quarters. The inadequacy of this location was all too apparent. In 1919 the faculty moved to solve the problems of both library housing and administra-
tion when it asked the Board of Trustees to establish a library of the New York State College of Agriculture to be housed and administered as an integral part of the university library. This step was consistent with sound principles of library administration.

Improving the appearance of the agricultural campus also depended on obtaining a state appropriation; in its absence the campus remained in much the same condition as the building contractors left it. Weeds stood among holes in the agricultural quadrangle until that part of the campus was graded in 1918. Four years earlier, however, a step was taken which required little money when a floricultural garden, later named after Lua A. Minns, was established adjacent to the campus on Garden Avenue near its present juncture with Tower Road. The location was regarded as temporary since the site was soon to be used for building purposes. Until moved to a location adjacent to the Plant Science Building forty-six years later, the garden stood near that busy campus intersection, a burst of color too delightful to be missed by those passing by.

As part of his efforts to relate maintenance to education, Bailey secured from the University the administration of six dwelling houses on the university farms which were thereafter to be rented to college workmen and landscaped by the Department of Rural Art. By 1914 the College managed 916 acres of farm land, of which 766 acres were owned by the University. Most of this land lay south and east of the campus with a small area situated north of Forest Home. Most of the arable land, which constituted about one-half of that available, was assigned to departments conducting experimental work, leaving 286 acres for the regular farm operations. In 1919 Mann acted to end the unprofitable controversy over the administration of the farm. After surveying the practice at six other agricultural colleges, he recommended the abolition of the Department of Farm Practice and the transfer of responsibility for administration of the farms to a newly created Office of Farm Practice and Farm Superintendence, an administrative office directly responsible to the dean.

The acquisition of large farm areas by the University affected the taxation structure east and north of Ithaca. In 1915 Galloway agreed to pay the school districts involved the equivalent of taxes on the university land provided that the Department of Rural Education
EDUCATION AND AGRICULTURE

could use their schools for experimental purposes, thereby accomplishing for that department much of what Bailey had desired eight years earlier. The commercial sales of departments also caused some difficulty in the Ithaca area. Such sales were closely related to resident instruction, provided information useful for research, and were a means for disposing of food and flowers which would otherwise be wasted. After a committee investigated the matter in 1920, a level of prices was established for products produced at the College sufficiently high to discourage charges of unfair competition from local producers.

ALBERT R. MANN AND GEORGE F. WARREN

By 1920 Mann had been dean four years, a time perhaps sufficient to attain optimum effectiveness in the role. By then he had secured the confidence of legislative leaders, earned the respect of officers of most farm organizations, and attained a position of leadership in the Land-Grant College Association. Moreover, he had taken steps toward successfully bridging the gap between the University's administration and the faction of his faculty which had rebelled against Galloway. President Schurman relied on Mann to draft his speeches and essays dealing with agriculture and signed letters to the dean "very fraternally yours." On trips to Washington Mann frequently stopped for a friendly talk with Galloway. In the College he maintained the friendship of Galloway's opponents while insisting on a more centralized administration than had existed during Bailey's tenure.

Part of Mann's efficiency as an administrator resulted from a marvelous sense of timing. Well aware that considerable energy could be dissipated to little effect, he awaited the opportune moment to introduce changes. He seems to have calculated, in every major decision where a variation in timing was possible, the intensity and direction of the relevant social forces. As an example, and there are many, consider his statement in transmitting resolutions he had drawn in the name of the Board of Trustees calling for relief from the inflexible form of budget:

I believe this is the psychological moment to bring about the changes which we so desperately need . . . The time to make the change is while
both political parties will be concerned and it is clear to me that both sides
feel that their hands will be strengthened if there is a popular demand that
changes be made.\textsuperscript{380}

The most significant example, however, was the preparation of the
campaign for the expansion of the College of Agriculture and the
follow-up in the legislature. The faculty called the legislature's
approval of the building program and the substantial salary increases
"a brilliant achievement"; Stocking, who had some experience with
the legislature, called Mann's success in Albany "nothing short of
phenomenal"; and President Pearson of Iowa State considered it "a
new record, not only at Cornell, but in the United States."\textsuperscript{381}

Another important quality of Mann as administrator was integrity,
a quality noted both by his supporters and those who had frequent
occasion to differ with him.\textsuperscript{382} He avoided the deviousness which
sometimes leads administrators into saying one thing and doing
another. Forthrightness marked his approach to problems. In 1920,
for example, he wrote Governor Smith that he considered the appro­
priation to the State College of Forestry for wildlife conservation poor
state policy even though, as he noted in the letter, it was somewhat
unusual for an official of one state institution openly to oppose appro­
priations for another state institution.\textsuperscript{383} Within the College he
insisted on strict compliance with policies; faculty members deviating
were quickly and firmly set straight.\textsuperscript{384}

Another factor basic to Mann's success as an administrator was that he headed an institution which was considered by farmers to
be rendering substantial services to the agriculture of the state. Prob­
ably no man played a more important part in establishing this situa­
tion than Professor Warren. He was, said Babcock in 1922, "the
leading agricultural economist in the United States. His word on
agricultural matters carries more weight with New York State farmers
than any other man."\textsuperscript{385} Warren's rise to prominence during the
decade was related both to the help he gave farmers in applying
business principles to their operations and his constructive but cau­
tious support of the movement for agricultural cooperatives. More
than anyone else, Warren was responsible for elevating the study of
farm management to the level of a highly respected discipline. At the
time of the appointment making him the first professor of farm management in the United States, Warren was a "young Turk," highly critical of the theorizing which then passed for farm management. His approach was to get facts by which farm management could come to grips with the realities of farm life. Many of these findings he incorporated into the textbook, _Farm Management_, published in 1913. Over thirty years later, Professor Van Hart declared that the book "has never been equalled or even approached."

In 1911 Warren recognized the future significance of cooperative purchasing and marketing in agriculture. After attending the annual meeting of the Association of American Agricultural Colleges and Experiment Stations he said:

I believe that secondary agricultural education is the next big subject that is to be attacked . . . I believe that the next great movement after high school agriculture has had its day will be a movement for agricultural cooperation in buying, selling, etc. This subject is not really up among college men. It was mentioned by Germany's agricultural representative to the United States at one of the meetings but did not create any enthusiasm or interest. I believe, however, that this subject will in the near future, be one of the most prominent subjects before the agricultural colleges.

By acting on this assessment of events, he was prepared in 1915 to provide cost of production figures on which a milk price could be based. Warren's practice of anticipating events did not always, of course, lead to such accurate conclusions; in 1912, for example, he doubted that an engine could ever be invented which would be as cheap for light work as horses. However, his insistence on continually checking predictions against new data, minimized the adverse effect of error. Prediction for Warren was simply a useful planning device, to be confirmed or invalidated by additional data.

The ability to communicate with farmers was one of Warren's greatest assets. A terse and direct style and the effective use of the vivid illustration were skills of the able teacher, supplemented in Warren's case by a broad knowledge of agricultural problems gained from managing his own farm near Ithaca, from his agricultural survey work, and his frequent contacts with farmers. Warren's capacity for stating his views strongly and directly must have appealed immensely
to farmers. It certainly did to Director Jordan, whom Mann occasionally asked to calculate the effect on the public of some of Warren's writing. "It did my soul good to read some of Warren's statements," Jordan commented. "The bulletin is pregnant with truths of which many people are ignorant, that deal with facts concerning which there is much misunderstanding. I would not call the bulletin caustic but rather incisive. It is Warrenesque." While Warren spoke strongly where he was confident of his ground, he was commendably cautious where he lacked data to support his position. Asked in 1918 by producers and dealers to indicate a bargaining price for milk, he justified his refusal with the statement, "My judgement is wrong in so many instances that I hesitate to take the responsibility of suggesting the price that farmers should receive for their labor."

Perhaps Warren's most significant success resulted from the relationship he maintained with his colleagues and graduate students. Among the latter, during the decade 1911-1921, were two future deans of the College. Both later recalled Warren's unfailing courtesy and the encouragement they received from him as graduate students and later as his colleagues in the department. Professor Frank A. Pearson, another of Warren's students who became a member of the department, considered Warren's Tuesday-afternoon seminar, conducted without class credit, examinations, or assignments, the scene of his most effective teaching.

Agricultural economics and marketing actually fell within the field assigned to Professor Lauman but was taken up by Warren when Lauman proved constitutionally unable to give the kind of leadership which farmers demanded. The concept of extension was alien to Lauman, who wanted to wait until all the facts were in before making a decision. Even during the emergency period of 1917, he was incapacitated from giving any advice on what the College might do to help farmers because he feared "the danger of forcing a situation." As Warren moved into agricultural economics, Lauman moved toward the more congenial field of agricultural history, a field of study in which Mann was also interested. He thought that Lauman's writing, when completed, "will represent one of the best contributions this institution has ever made to the literature of agriculture."
Cornell University in the fall of 1868. Above, Cascadilla Hall. Below, South University, later renamed Morrill Hall.
A prize Shorthorn of Ezra Cornell.

THE AGRICULTURAL COLLEGE OF CORNELL UNIVERSITY.

This College is now fully organized, with the following Professors and Instructors:

I. P. ROBERTS, .................Practical and Experimental Agriculture.

JOHN STANTON GOULD, ..........Lecturer on Mechanics applied to Agriculture.

A. N. PRENTISS, ..................Botany and Horticulture.

JAMES LAW, .........................Veterinary Science & Practice.

G. C. CALDWELL, ............Agricultural Chemistry.

J. H. COMSTOCK, ..........Agricultural Entomology.

C. FRED. HARRIT, ..........General and Agr't Geology.

B. G. WILDER, ..................Physiology, etc.

E. H. FUERTES, .................Surveying.

C. HABOOG, .........................Architecture.

J. L. MORRIS, .................Mechanical Engineering.

J. E. SWEET, .......................Practical Mechanics & Sup't of Machine Shops.

E. C. CLEAVES, .................Free-hand Drawing and Mechanical Draughting.

Besides these, other University Professors give full instruction to this College, in MATHEMATICS, MODERN LANGUAGES, NATURAL PHILOSOPHY, HISTORY, POLITICAL ECONOMY and MORAL PHILOSOPHY.

The college farm is now in condition to give useful illustration, both of processes and experiments.

The University LIBRARY and LABORATORIES, and the extensive illustrative collections of machinery, implements, models, apparatus, drawings and specimens are freely opened to students.

By a recent resolution of the Board of Trustees, all Students in the Department of Agriculture are to be educated.

FREE OF ANY CHARGES FOR TUITION,

And ample opportunity will be afforded to such Students to pay for their room rent in the University buildings, and part of their other expenses, by labor on the farm, if they desire to do so.

The next entrance Examinations will begin September 8th.

For Catalogue giving full particulars, apply to

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Secretary of the Faculty, Ithaca, N. Y.

Advertisement of the College of Agriculture in the Cultivator and Country Gentleman, July 30, 1874.
The North Barn (Roberts Barn), designed by Professor Roberts and erected in 1879 on the present site of Comstock Hall.
The original dairy building, located near the present site of Bailey Hall. Note laboratory at left, steam engine at right.
Interior of second dairy building. Constructed with a state appropriation in 1893, it is now the north wing of Goldwin Smith Hall.
Nature Study School in front of Sage Hall (about 1898). Professor Roberts is third from left in first row (holding hat); "Uncle John" Spencer is in center of first row (between children); immediately behind Spencer and to the right are Professors Comstock and Bailey; immediately behind Bailey and to the right is Anna Botsford Comstock.
Map of the campus, 1900. The Comstocks lived in the house numbered 1, President Schurman in 2, Roberts in 4, Wing in 6, Law in 11, former President White in 14, and Craig in 22. Craig's home was formerly occupied by Bailey.
A stave sile as shown on cover of Bulletin 167. Note the woven wire fence binding the staves together.
Agricultural students constructing foundations about 1900. John L. Stone is in foreground, Roberts in center at rear. Note coed in front, center.
Dean Bailey examines a sandwich at the first Tompkins County School Picnic, May, 1905.
The animal industry float in the student parade at Cornell following Governor Odell’s approval of the bill establishing the College of Agriculture as a state institution.

The first poultry building, erected by students under the direction of Professor Rice and later used for instruction in landscape art and marketing.
Former President White and Dean Bailey at the ground-breaking ceremony for the new agricultural buildings, May, 1905.
John Spencer talks to school teachers and children aboard the Farming Special, 1910.
Professor Whetzel answers inquiries from farmers. Agnes MacAllister, for many years secretary to the Department of Plant Pathology, stands at the right.

Roberts Hall in the summer of 1905.
The buildings of the New York State College of Agriculture about 1910, then called, from left to right, Agronomy Building (Stone Hall), Main Building (Roberts Hall), Dairy Building (East Roberts), and Judging Pavilion. The cupola on the Roberts Barn may be seen over the center of the Dairy Building.
FARMERS WEEK

AT THE
NEW YORK STATE
COLLEGE OF AGRICULTURE
AT CORNELL UNIVERSITY
ITHACA, NEW YORK

FEBRUARY 22 TO 27, 1909
L. H. BAILEY, Director

Practical Discussions and
Demonstrations in Farming

Different phases taken up in detail every day from 8 A.M. to 5 P.M., with
evening meetings at 7:30

Addresses by
Pres. Schurman and Dean Bailey

Wednesday and Friday

Reduced Railroad Rates

This Week is for you and your neighbors. Board and room
convenient and cheap. Ask about it.

Farmers Week poster, 1909.

Demonstration of a home water-supply system arranged
by H. W. Riley
Letterhead of the first farm bureau in northern United States, April, 1911.

Menu cover for the dinner honoring Bailey in 1912. The road connects Cornell University on the left with the state capitol on the right. Note the faculty in lower left corner.
Parade prior to the cattle auction held at the end of Farmers Week, about 1920.
G. P. Scoville taking a farm management survey in Nassau County, 1915.

Glista Ernestine, 1908-1924.
A county farm bureau agent talks potatoes, about 1920.
The proposed development of the College of Agriculture (architect's drawing), 1920.
Dean Mann examines the steer which he donated for the College barbecue, 1926.

Dean Ladd and Seymour Bridge, potato grower, at the Empire State Potato Field Day, August, 1932.

Farm practice. A student from India learns how to use a milking machine on a New York State dairy farm, 1955.

A farm tour. Professor L. C. Cunningham, second from left, Dean C. E. Palm and Directors W. K. Kennedy and M. C. Bond, at right, examine grass silage on the Fassett farm at East Springfield, 1961.
CHAPTER VII

The Examination of Objectives, 1921-1930

EXTENSION

THE close connection between the Extension Service and the New York Farm Bureau Federation was subject to serious strain throughout the decade. While generally acceptable to extension personnel, who found in working committees of county farm bureau organizations a convenient instrument for the implementation and diffusion of their ideas, the link was embarrassing to Dean Mann, particularly in his relations to the States Relations Service of the USDA. It is evident, however, that the Dean's opposition went beyond questions of expediency to the view that providing direct leadership to farmers was outside the educational function of the College. In January, 1922, Mann stressed the current attack in Congress on the extension service—farm bureau relationship in an unsuccessful attempt to persuade Burritt and County Agent Leader Jay Coryell to support his position for changing the title of the farm bureau manager to county agricultural agent, as recommended by the States Relations Service.* Several months later Mann favored moving the office of the secretary of the State Federation of Farm Bureaus from Roberts Hall to Syracuse. "As long as he [Secretary E. V. Underwood] is here we will be open legitimately to the criticism that the College is mothering, housing, and directing the whole enterprise. This will not only weaken the cooperative movement with farmers, but involve us in ways that would be unjust."1

Mann's position found considerable support outside New York State. More than half of the state extension directors, noted Burritt,

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were having difficulty with farm bureau relationships and wished to cut loose from the organization. At the national level the Department of Agriculture, while not reaching the point of advocating separation, acted to clarify the relationship between the publicly supported extension work and the privately supported farm bureau organizations by the so-called True-Howard Agreement, signed in April, 1921, by the director of the States Relations Service and the president of the American Farm Bureau Association and, in August, 1922, by a statement from the Secretary of Agriculture, Henry C. Wallace. Extension teachers are public teachers, stated Wallace. "They may not properly act as organizers for farmers' associations; conduct membership campaigns; solicit membership; edit organization publications; manage cooperative business enterprises; [or] engage in commercial activities."

Burritt felt that the desire among extension workers in other states for separation from farm bureaus was "all due to not understanding farm bureaus and making a mess of their development." By providing strong leadership, he felt the state extension services could hold farm bureau associations to the educational work he considered their proper function. Although he shared Mann's conviction that the national farm bureau organization was a harmful influence on the New York Farm Bureau Federation, he favored a diametrically opposite adjustment to this influence:

While I recognize that we may at times be embarrassed and possibly the Federation may be handicapped, I think this is the lesser of two evils . . . On the other hand, the more the College divorces itself from the Federation, the greater are the chances for friction and that the Federation will get out of the educational field to which I think it should chiefly confine its efforts . . . I am not enthusiastic about the change and I do not think the Federation is. Not long ago the matter came up in the Executive Committee and it was rejected as not even worthy of discussion at the time.

The work of the New York State Extension Service, which unquestionably had benefited by the rapid increase in farm bureau membership prior to 1920, was affected adversely by the decline in this membership, which coincided with the postwar agricultural depression and increased membership dues. By 1924 the average number
THE EXAMINATION OF OBJECTIVES, 1921-1930

Of contacts of the extension specialists had fallen off substantially, while general meetings of the institute type not related to farm bureau sponsorship were holding up better. There was no question on the part of Mann, Burritt, or Coryell that farm bureau sponsorship of extension meetings was keeping nonmembers away, a situation that was certainly accentuated by the use of extension meetings to recruit farm bureau members. Mann's solution to this dilemma was to emphasize the public character of these meetings by dropping references to farm bureau sponsorship. The alternative to the separation Mann advocated was recruitment of the larger farm bureau membership needed to make the work of the extension specialists effective and to convince county boards of supervisors that the county extension organizations were of substantial value to farmers.

In 1922 officers of the College and of the New York State Farm Bureau Federation planned to secure an increase in membership while acting within the spirit of the True-Howard Agreement. To accomplish this, solicitors were employed by the State Federation to canvass for membership under its direction, thereby relieving county agents of a function they had often been performing sub rosa up to that time. The plan was anything but successful; membership continued to decline, and recruitment costs ran from one to two dollars a member. This costly solicitation impressed Mann as "serious and dangerous for the future"; the following year he used the word "fearful" as the membership fee in several counties reached five dollars. Moreover the reputation of the farm bureau was injured by the irresponsibility of paid solicitors who sometimes promised services which could not be given. From a high of 67,618 members in 1919, farm bureau enrollment declined to 28,398 members in 1924.

In January, 1925, Carl Ladd, director of extension, and Coryell decided that the lagging membership had reached the crucial point. Regional conferences were organized by telegraph and assistant state leaders employed on a temporary basis were stationed in each region to work with county agents in training volunteer farm leaders in methods of membership recruitment. By May the membership roll had been brought close to the total for the previous year and by the end of 1925 showed an increase of nearly one thousand. Thereafter,
until the 1950's, the director of extension assumed responsibility for membership recruitment.  

It may well be asked why Mann permitted his subordinate officers to reinforce relationships so variant with his own views. In fact, he had no alternative, for a close connection between the Extension Service and the New York State Farm Bureau Federation was too strongly established and too promising of future usefulness to be quickly dissolved. In addition, Mann could not afford to alienate the State Farm Bureau Federation, for in the process of securing College appropriations he depended on its support. Attacks on the activities of the Farm Bureau Federation did, however, lead Mann to foster a closer relationship between the College and the Grange. Each year he tried to spend a day at the State Grange meeting in order to allay suspicion concerning the connection between the College and the farm bureau organization in the state. 

The relationship of the College to the G.L.F. was part and parcel of the relationship of the Extension Service to the farm bureaus in New York State. To Babcock, who was involved in the major decisions in the G.L.F. during this period, the organization was not only the commercial arm of the State Farm Bureau Federation, but also the rallying point for New York agriculture. As the organization's manager, he claimed to be a spokesman for New York agriculture and expected the officers of the College to respond to his leadership. When, in 1920, Babcock accepted a professorship in agricultural economics as "specialist on problems of cooperation," Mann insisted that he withdraw from the active management of G.L.F. Shortly after this withdrawal was accomplished, Mann wrote Babcock a letter clearly intended to set the tone for Babcock's future relations with the College:

We must rid ourselves of any feeling that unless we take the leadership in promulgating cooperative activities we are not measuring up to our responsibilities. In the long run a sane conservatism in these matters, based on accurate knowledge of the fundamentals of cooperative activity will best serve the interests of the farmers of the State as a whole.

Babcock continued to have a voice in the management of the G.L.F. from his position at Cornell but management from a distance
THE EXAMINATION OF OBJECTIVES, 1921-1930

did not prove sufficient. In 1921 S. J. Lowell of the Grange withdrew
in discouragement from the organization and by 1922 the G.L.F.
faced a fight for survival.\textsuperscript{12} In that year Babcock returned to direct
management. Insisting upon unity within the organization, he insti-
tuted an aggressive campaign to expand the volume of business.
In this campaign for larger volume, Babcock called on the extension
workers for help. The G.L.F., he reminded them, was stable and
adequately financed, but its success depended on the support of
farmers who in many cases must be educated.\textsuperscript{13} Mann, however,
continued to insist that it was not the function of the College to single
out any organization for special support and that the services of the
College were equally available to all organizations, cooperative or
profit-oriented.\textsuperscript{14} In June, 1928, the issue was joined between the
two men, one insisting on a degree of independence as dean of the
College, the other insisting that his position as spokesman for New
York agriculture gave him the right to have his recommendations
accepted. “I have been accumulating the feeling,” wrote Babcock,
“that you thought I was someone who had to be handled.” “You must
have your mind wholly at rest,” replied Mann, “with respect to my
personal feeling. I have unbounded admiration for you personally
\ldots We are not going to have any trouble.”\textsuperscript{15}

In practice, it was impossible to implement the college policy of
strict impartiality toward businesses dealing in farm supplies in the
face of extension workers’ enthusiasm for the methods and objectives
of the G.L.F. County agents gave Burritt considerable anxiety by
their support of the organization and extension specialists found it
humanly impossible to treat companies which continued to give the
farmer poor value for his money in the same way as the G.L.F., which
implemented their recommendations.\textsuperscript{16}

Mann did exercise some degree of control over extension work
through his review of vouchers. In 1922, for example, he refused to
permit the payment of state funds to Babcock’s assistants for trips to
Utica to discuss with Dairymen’s League management “the possibili-
ties of eliminating useless and duplicate plants.”\textsuperscript{17} The frank offered
a means for controlling the circular correspondence of county agents.
In one case, a county was presented with a bill for a letter addressed,
“Dear Member.” County farm bureau organizations tended to resent
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this control; Orange County, in one case, returned the franked envelopes.18

Most of the operating funds for the county farm bureaus were raised in the counties from membership dues and appropriations by boards of supervisors. In 1922 and 1923, local support amounted to about 84 per cent of the total budget of the county farm bureau associations, and of this about one-half was appropriated by county boards of supervisors. Throughout the decade over 80 per cent of the funds available in the counties were raised locally.19 In the national Department of Agriculture, however, there was widespread opposition to the College's policy of emphasizing local support of county associations and using federal funds to support the work of the extension specialists. In 1924 Burritt testified before the House Agricultural Committee in opposition to legislation then before Congress requiring the states to allocate at least 75 per cent of the Smith-Lever funds for the support of county organizations.*

Only once during the decade did a board of supervisors in the fifty-five counties supporting farm bureau organizations withdraw the appropriation for this work. When this occurred in Niagara County in 1922, the farmers and businessmen who considered agricultural extension programs too valuable to be lost on this account maintained the work by voluntary contributions, and, in 1923, even increased the budget although no public funds—federal, state, or local—were allocated for the work of the Niagara County Farm Bureau at that time.20

Bristow Adams and some of his colleagues in the Office of Publication thought extension work would be more successful if an element of humor were injected into it. A higher entertainment content, Adams insisted, was also desired by many county agents. As a step in this direction "agrigraphs" were prepared for distribution to

*Burritt to Mann, March 4, 1924, Mann Papers; Burritt Diaries, March 10, 11, 1924. This was a continuing problem. In 1940 the director of extension, L. R. Simons, called "arbitrary" a USDA decision limiting federal cooperative funds paid to extension specialists to one-third of the total. Refusing to bow to this pressure, Simons said the College was already complying fully with all legal requirements (Simons to M. L. Wilson, Oct. 16, 1940, Carl E. Ladd Papers).
local newspapers. The following must have appealed to prohibition sentiment.

How dry I am, said Tom Seed-Corn,
From noon to night, from night to morn.
John Farmer plucked me ere the frost
In which my many friends were lost.
My state of perfect dessication
Is guarantee of germination;
I couldn't freeze if I should try
Oh, ain't I glad I am so dry?²¹

Adams, however, was a minority voice. The trend, as perceived by Lloyd R. Simons, assistant county agent leader, was toward more definite specialized service based on the project approach and carried out by men of substantial technical competence.²² Where specialized skills were needed in a county over a period of time, specially trained agents were provided. In 1923, for example, special assistant agents were stationed for six months in the fruit and potato areas to provide spray service to growers.²³ Regular agents attended training sessions to prepare them to meet the demand for specialized service. The first marketing school for agents, held in June, 1930, dealt with how agents could teach farmers to market their produce cooperatively.²⁴

A new form of communication—the radio—was used to establish direct contact between the extension specialist and the farmer. In 1924 the College, in cooperation with the State Farm Bureau Federation, started broadcasting twice a month over WGY, Schenectady. At first this medium was very discouraging, for the number of farmers possessing radios was unknown and there was little tangible evidence that the programs were heard or appreciated. Radio, however, rapidly progressed from being a novelty to becoming a necessity. By August, 1929, when the College started broadcasting agricultural information for one hour each noon over the Cornell University station, it was evident that radio was an effective extension medium.²⁵

Farm study courses, started on a tentative and experimental basis by several departments in 1914, received greater emphasis in the 1920's. In 1921 the faculty recognized the educational significance of these courses by rescinding an action of 1916 which opposed granting certificates for their completion.²⁶ In 1923, 598 persons were
enrolled in a total of ten courses. This enrollment gradually increased, especially in areas of the state where county agents organized study groups or otherwise made effective use of the courses. Participation was limited to those who could make practical application of what they had learned, a requirement which undoubtedly contributed to the success of the courses.

The junior extension work attained maturity. In 1928 the total enrollment in 4-H clubs reached 18,797, and twenty counties employed full-time 4-H agents. As would be expected, enrollment increased most rapidly where strong leadership was present, a situation indicated by the large enrollment in several counties having low population density. In its early development the junior extension work had been conducted primarily by the employees of the College or county associations; but by the 1920's the emphasis had changed to the operation of 4-H clubs by voluntary leaders. By 1928 systematic training had been organized for these volunteers. In 1924 an amendment to the Farm and Home Bureau law placed the county 4-H club work on an equal rank with agricultural and home economics extension.

The distaff side was accommodated with a new name for Farmers Week in 1928. Registered attendance that year at Farm and Home Week was only slightly below the 1927 record of 5,157. The young people had their own annual event at the College in the Junior Field Days, established in 1921. Held after school was out, this event in 1928 attracted over 2,100 youngsters.

Effective July 1, 1923, Burritt's title was changed to director of extension, with his relation to the dean remaining unmodified. The following June, at his request, he was relieved of his position so that he might devote more time to his farms at Hilton. His successor, Carl

As high as 50 per cent of those enrolling completed the work (Ann. Rpt. of the N. Y. State Coll. of Ag., 1924, p. 54; 1929, p. 51).

The counties having over seven hundred members in 1928 were Chautauqua, Chenango, Delaware, Jefferson, Nassau, Onondaga, Oswego, Otsego, and Wyoming (Ann. Rpt. of the N. Y. State Coll. of Ag., 1928, pp. 122-123). The state made $600 available annually for each division, providing it was matched by $2,500 from the county (Laws of New York, 1924, ch. 248).

Mann to E. R. Eastman, June 18, 1923, Mann Papers. The prefix "vice" was dropped from the titles of the other directors at the same time.
E. Ladd, had been, like Mann and Burritt, an outstanding student while an undergraduate at the College. Although Ladd was untrained in engineering, Professor H. W. Riley considered him such an able teacher and person of vast general competence in agriculture that he recommended his appointment to the extension staff in agricultural engineering in 1918. By 1924 Ladd had a wide range of administrative and teaching experience, having served three years as director of the state schools of agriculture at Delhi and at Alfred, two years as specialist in agricultural education in the State Education Department, and four years as extension professor of farm management at Cornell.

The status of extension workers received considerable attention at this time. When it was suggested in 1921 that Mann use the occasion of President Schurman's retirement to press for the inclusion of extension specialists in the faculty, he indicated that opposition in the University was so strong that the selection of the new president might be prejudiced by requiring candidates to commit themselves on the issue. In 1930 Director Ladd reopened the matter with his report that the extension staff was "pretty badly stirred up" about its continued exclusion from the faculty. Mann then thought there was some possibility of securing a favorable decision and asked Ladd to procure statistics comparing the number of doctors' degrees on the extension staff with those of other faculties. Ten years were to pass, however, before extension specialists were admitted to the Faculty of Agriculture.

County agents were more fortunate. In accord with USDA policy, a step was taken toward the elevation of their professional status when the Cornell trustees decided in April, 1921, to permit agents sabbatic leave for purposes of professional improvement. This USDA policy was a result of more than ten years of agitation by county agents, working through their organization, the National Association of County Agricultural Agents, to secure means for their professional improvement.

Among the most encouraging developments in extension was the planned adjustment to agricultural change at the county level, based
on cooperation between local people and specialists from the College.
By 1925 enough data had been collected through soil and farm
management surveys to predict with a fair degree of assurance the
likelihood of success in a particular agricultural area. It was recog-
nized that wise public policy should not encourage the maintenance
of agriculture in areas ill-suited to compete for a share of the limited
market for agricultural produce. Large parts of the state then being
farmed, especially in the southern tier, were recognized as suitable
only for reforestation or pasture. Other parts of the state could support
agriculture only under a favorable combination of circumstances.
The maintenance of schools and highways and the introduction of
utilities like rural electric lines were frequently economically unsound
in these marginal areas. An alternative to the cycle of mortgage,
failure, forced sale, or abandonment of farms and of local businesses
dependent on the patronage of farmers, lay in land use planning.
In counties with a more favorable combination of soil, climate, and
access to markets, land use planning offered the possibility of greater
social stability.

The rapidly declining market for timothy hay, consequent to the
decline in the use of horses, forced an agricultural readjustment in
large areas of the state producing for this market. In Seneca County,
farmers and businessmen dependent on the prosperity of agriculture
decided that the options available to farmers in the area should be
studied as a basis for planned adjustment to economic pressures. "We
believe Seneca County has taken the leadership in the United States,"
stated L. R. Simons in 1928, "in attempting on a county-wide basis
to study present agricultural conditions and to recommend long-term
adjustments." Professor W. I. Myers and six other professors from
the College selected by the County Farm Bureau Executive Commit-
tee prepared recommendations for this adjustment and, at a mass
meeting attended by over three hundred people, presented their
report. With a few minor changes, it was accepted by the County
Farm Bureau as the basis for a long-range agricultural program. The
implementation and continuing adaptation of these recom-
mendations to changing conditions was entrusted to a county confer-
ence board consisting of selected farmers and businessmen. By the
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spring of 1931, similar conference boards were established in four other counties.\(^3\)

An extension contribution to New York agriculture of a quite different nature was the emergency instruction in increasing milk production given New York State dairymen in the autumn of 1927, 1928, and 1929, to enable them to meet the fluid milk requirements of New York City and thereby avoid an extension of the boundaries of the New York milkshed. Bringing more producers into the New York market would have threatened the gains made by the Dairymen’s League over the past decade. The possibility that such an extension might be necessary was so great in the fall of 1929, stated Director Ladd, that “the entire energy of the extension force in the State was diverted to a program of securing enough milk to meet city needs.”\(^4\)

Another outstanding extension activity was the assistance given to the work of the Committee of Twenty-One. This committee originated at Farmers Week in 1920, in a conference on rural education, where a resolution was passed calling for the formation of a committee to develop a program for the improvement of rural schools in the state. The following day a similar resolution was passed by the Conference Board of Farm Organizations providing for a committee representing private and public organizations interested in the condition of the state’s rural schools: the Grange, the Home Bureau Federation, the Farm Bureau Federation, the Dairymen’s League, the State Teachers’ Association, the State Department of Education, and the College of Agriculture. George Works served as chairman of this twenty-one-member group. A survey of rural schools was conducted with financial assistance from the Commonwealth Fund, technical questions involving the centralization of rural schools were studied, and, perhaps of greatest importance, the committee helped prepare rural people for the change in what many regarded, however erroneously, as the backbone of the American educational system.\(^5\)

Assistance given New York farmers in the production and marketing of quality seeds also ranks high among the accomplishments of Cornell extension work. Prior to 1916 the College had assisted in forming the New York Potato Association and in that year began the inspection of members’ fields with the aim of securing quality seed which could be labeled as “certified” by the association.\(^6\) However,
the effectiveness of the certification program was limited by the looseness with which some growers interpreted the reports of field examinations by Cornell inspectors and by the weakness of the New York Potato Association, which was beset by a controversy between members desiring to market their seed under a pooling contract and individualists who considered themselves "non-poolers." By 1923 the need was evident for an organization which could control the sales of its members and certify seed grains as well as potatoes. In that year the New York Seed Improvement Cooperative Association, Inc., the forerunner to the present Certified Seed Growers Cooperative, Inc., was formed, and the following year its office was established at the College. From the beginning, this organization was able to enforce the standards for certification established by the College.

The establishment of fairly amicable relationships between the county farm and home bureaus was another important accomplishment, due less to planning at the College than to pressures generated within the counties where people working in close physical proximity found it important to get along well with each other. About twenty states attempted to assure coordination of extension programs at the county level by placing the farm bureau agent in general charge of the home demonstration and 4-H activities. In New York the opposite philosophy prevailed at this time, the work of these agents being almost completely separate. A strong case could have been made early in the decade for the desirability of greater centralized control of extension programs at the county level, but by 1930 relations between the agricultural, home demonstration, and 4-H agents in New York State were generally based on a willingness to consult and cooperate.

Farmers and businessmen who accepted the desirability or inevitability of agricultural change tended to support the Extension Service; those dedicated to the maintenance of the status quo tended to oppose. Among the latter were dealers who not only refused to supply feeds mixed to formulas which would meet the requirements of farmers but who also discouraged farmers from obtaining these feeds from other sources. The Rural New Yorker seemed determined to prevent change in rural society throughout the decade. It attacked the G.L.F., opposed the consolidation of rural schools advocated by
the Committee of Twenty-One, and, in the crucial period of declining farm bureau membership, mounted a strong attack on the farm bureaus and their relationship to the Extension Service.\textsuperscript{42} Much of the energy of the county agent leader and his assistants in 1924 and 1925 was devoted to countering these attacks. Although the \textit{Rural New Yorker}'s criticisms were rarely cast in a constructive form, they nonetheless served a useful purpose by forcing those attacked to evaluate their programs and make clear to farmers what they hoped to accomplish.\textsuperscript{43}

\section*{RELATIONS WITH THE STATE}

The $500,000 initial appropriation of the three million dollars allocated by the state for the College's building program was used to construct a new dairy industry building, a change in priority from the plans of the previous year, following the decision to locate the plant science building on the site of the existing dairy industry building. The new dairy industry building, later named Stocking Hall, was constructed and largely equipped within the initial appropriation. It was occupied in the summer of 1923.\textsuperscript{44}

An over-all plan for the physical development of the College was started in 1920 in such detail that two years were required for its completion. L. F. Pilcher, the state architect, entered into this planning with enthusiasm. The final plans, which included a new library and rural engineering building, resulted from a cooperative study by Pilcher, the Committee on Buildings and Grounds of the Board of Trustees, the Dean and members of the Faculty of Agriculture, and the consulting architect, A. L. Brockway. "It is confidently believed," said Brockway, "that it represents practically the first attempt to develop a completely comprehensive group plan for all the activities involved in Agricultural Education."\textsuperscript{45} Political changes consequent to the election of 1920, however, made the implementation of this plan highly uncertain, and for the next several years it was difficult even to maintain the existing activities of the College.

Governor Nathan Miller (1921-1923) favored rigid state economy, which he equated with slashing expenditures for public services. On one of E. R. Eastman's several trips to Albany to talk with the Governor on behalf of the Farmers Joint Committee, the Governor
broke into Eastman's description of the cramped working conditions at the College. "Take a look over there," he said, pointing to the crowded conditions of his office as if to justify the crowded conditions of an educational institution. The Governor relieved the state of its commitment to the three-million-dollar building program at the College by declaring illegal the legislature's practice of permitting contracts in advance of appropriations. An equally unfortunate situation existed in the legislature, where the view that the College should confine itself strictly to the education of farmers—a position that always had numerous supporters—become dominant. The new chairman of the Senate Finance Committee, Charles J. Hewitt, was strongly inclined toward this view and used his key role in the Senate to narrow the scope of agricultural education at Cornell.

In 1921 the total state appropriation for operation and maintenance was reduced by $110,000 from the previous year, and all state support for the game farm was ended. Senator Hewitt believed this work should be concentrated at Syracuse and was adamant in his refusal to consider a deficiency appropriation to continue the work. At one point in the spring of 1920, he warned Dean Mann that any further attempt to come to Albany to reopen the issue would be regarded as "a waste of funds and a reflection on the institution." The College had no recourse but to dismiss the staff, distribute the breeding stock to other institutions, and notify the 130 persons who had expressed interest in game breeding that the work would not be available. On the return to power of the Smith administration in 1923, the College had a more favorable political climate for the restoration of the game-breeding work but faced a tactical dilemma. To press for the reestablishment of the game farm was thought to endanger the three-million-dollar building program; yet failure to put the matter before the legislature might be used to support the claim that Cornell was no longer interested.

Meanwhile, Mann was under considerable pressure to abolish other activities understood by members of the legislature to be unrelated to farming. In 1921 Mann asked the head of the Department of Floriculture, E. A. White, for help in justifying the existence of the department, saying at the time that if he could hold it one more year the College would be over the hump. Landscape art was
also under considerable criticism. Erl Bates, who kept in close touch with legislative developments, reported that many legislators considered landscape art in a farmers' college something of a joke. In April, 1922, the trustees amalgamated the work of this department with floriculture under the new name Department of Floriculture and Ornamental Horticulture. In view of these restrictions on the work of the College, Senator Seymour Lowman's threat of embarrassing consequences unless college employees voted to return the state administration to office seems nothing less than incredible.

The operations of the College came under increasingly close scrutiny by the Board of Estimate and Control, which was determined to prevent duplication of activity by state institutions. The objective was of questionable application to educational institutions, where a certain amount of duplication was and continues to be inevitable and desirable, especially in research. Furthermore, the work of the board was colored by an element of the professional administrator's contempt for the academician. "Hypothesis [sic] may be all right for an institution of learning," stated Research Director Joseph Wilson to Director Betten, who was well aware that hypotheses did not obviate basic figures in considering the cost to the state of a college of home economics. On the other hand, the work of the board also had the occasional effect of reinforcing the Dean's hand, thereby making possible accomplishments which had been resisted within the College as invasions on academic freedom. Witness an entry in the Minutes of the Faculty of Agriculture for 1926 dealing with a matter which had long concerned the Dean: "Attention was called to the fact that authors' corrections were adding greatly to the cost of the printing of bulletins and that the State Board of Estimate and Control had announced its intention to deal drastically with this situation."

Systematic administrative supervision of the College by a division of the state government was established in 1926 as part of the reorganization of state government advocated by Governor Smith. This step had been under consideration since the beginning of the Smith administration; as early as 1919 the Governor's Reconstruction Commission had recommended placing the state colleges under the

*Seymour Lowman to Mann, Oct. 16, 1922, Mann Papers. Lowman was Senator from Tompkins County.
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administrative direction of the State Education Department. In 1926 that department was given "general supervision over the requests for appropriations, budgets, estimates, and expenditures of the College." This legislation clearly represented an infringement on the authority already granted Cornell University. The resolution of this conflict from the University's point of view was described in a memorandum prepared by the University's treasurer, George Rogalsky:

From the first the Education Department insisted it was supreme—the writer had a long three page letter from the Commissioner of Education himself, ordering us to take directions and follow the procedures as from time to time set forth by his deputy in charge of all financial matters. We said we were willing to cooperate, but did not concede Education's jurisdiction. Finally, with each side submitting briefs to the State Attorney General on the disputed question, we got a rather sweeping opinion in our favor. However, the Education Department still refuses to concede our semi-independent status. We flatly refused to comply with its request that we have no dealings directly with any other departments in Albany—but we went so far as to agree to tell Education about any direct negotiations we did have with the Comptroller, Budget Office, etc., and the results thereof . . . It simply does not work to have the employees of the Education Department try to represent Cornell before the other departments or agencies of the State at Albany. Such employees inevitably color the orders, directions, etc., with their own viewpoints and procedures, concede their applicability to the University, and in that way whittle away our liberties.57

The budget director and chairmen of the appropriations committees of the two houses of the legislature made their own interpretation of the law. After 1926 they refused to admit any representative of the University to the budget hearings, thereby making it necessary for the commissioner of education to represent the state colleges at Cornell.58

It was fortunate for the College of Agriculture that Frank P. Graves was commissioner of education. Graves had acquired some knowledge of agricultural education while director of the Experiment Station and president of the University of Wyoming and was personally on excellent terms with Dean Mann. Some of his subordinates, however, were less well informed. Assistant Commissioner James Sullivan, for example, showed a gross ignorance of the variations in
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the research and extension activities among the state colleges at Cornell when he presumed to compare the cost per student on the basis of dividing the total budget of each college by the number of students. It became evident late in 1927 that financial authorities in Albany believed there was waste and inefficiency at the College even though they had no specific knowledge on which to base such a criticism. Late in 1927, Commissioner Graves stated that this feeling could be dissipated only by a thorough and complete survey of the College's activities. After a session with the finance committees, he reported numerous suspicions concerning the efficiency of the College. "I am quite certain," he added, "it is at the root of their unwillingness to increase salaries. I do not believe that, in the long run, you will ever get the College on the right basis by jamming through your program by political influence." When Mann took exception to this reference to political influence, Graves replied, "I am inclined to believe that there are some things which have been practiced and which are open to legitimate criticism, and that rightly or wrongly, the financial authorities think that they have been obliged to swallow them in the past through political pressure."

The survey was conducted in the spring and early summer of 1928 by a team of well-known educators selected by the University and State Education Department. Perhaps the most significant among the survey reports was that on research prepared by E. W. Allen, chief of the Office of Experiment Stations, and the one on resident teaching prepared by Harlan Updegraff, a professor of educational administration. The effects of the survey seem to have been almost entirely beneficial. Within the College the reports served as points of departure from which members of the faculty examined their work; in Albany the survey informed the state's officials and had the effect of restoring their confidence in the work of the College. By classifying college expenditures into the categories of teaching, extension, and research, the survey made clear to the budgetary officials for the first time how large a part of the budget was used to support the latter activities.

On January 8, 1921, the trustees met to decide if their action of the previous year asking the legislature to establish a state college of
home economics at Cornell should stand or be revoked. A member of the board had prepared a statement setting forth the position that the University should not oppose state appropriations for a college of home economics elsewhere, a point of view which Mann claimed showed "a complete lack of appreciation of the history of divided institutions in other states."63 Having already negotiated with university authorities on the timing of announcements indicating that the enrollment of women students would be restricted to available dormitory space, Mann prepared a twenty-two page statement for presentation to the trustees at the January 8 meeting. The trustees' responsibility for causing the state to act wisely by concentrating at Cornell advanced instruction in home economics while it was yet the only institution in the field was the nexus of his argument.64 At least a majority of the trustees accepted Mann's position, and the struggle in the legislature was renewed.

The bill establishing a state college of home economics at Cornell was again defeated in 1921. When the legislative session ended in 1923, the bill had been defeated four years in a row. In 1924, when the bill had passed the Assembly and seemed certain of passage in the Senate, Senator George Fearon objected in a parliamentary situation where this was sufficient to defeat the measure.65 Mann was incensed and made references to the distasteful possibility of fighting fire with fire. In his published report to the President of the University, he took the unusual step of laying the blame for the failure of the bill squarely on "the Senator from Onondaga."66 It is probable that negotiations occurred between the authorities of Cornell and Syracuse Universities before the next session of the legislature, when the bill to establish the New York State College of Home Economics at Cornell University passed into law. At any event, President Livingston Farrand of Cornell later referred to promises made Syracuse regarding a state college of education which Syracuse was known to desire. Cornell would not, he said, press for the establishment of such a state college at Ithaca or oppose such a college at Syracuse providing Syracuse did not attack the state facilities at Cornell.67

These promises were recalled in 1929 when Commissioner Graves insisted upon expansion of facilities at Cornell for training secondary teachers as the price of state support for work in child development in
Flora Rose had long been interested in this field and in 1925 secured an annual appropriation of $10,000 from the General Education Board, although she was cautioned at the time that it might be difficult to persuade the state to take over the work when the grant terminated five years later. By December, 1929, Commissioner Graves went even further and made the continuance of his support for work in rural education contingent on this expansion. Dean Mann was anxious to meet Graves' wishes by establishing a graduate school of education, but President Farrand then felt bound by promises given Syracuse.

The status of Cornell research and extension work on Long Island was a crucial question settled during the decade. One group on the Island wanted to upgrade the State Institute of Applied Agriculture at Farmingdale into a state agriculture college with its own extension division. Another group wanted to encourage Cornell extension work there and make special research facilities available to the College of Agriculture for vegetable crops investigation. In 1921 Robert Seaman and other Long Island poultrymen persuaded Governor Miller to permit Cornell poultry extension work there, and special legislation was passed the following year appropriating $38,000 to establish a vegetable investigations laboratory on Long Island, a piece of legislation which must have had remarkable guidance to pass during the administration of Governor Miller. The supporters of Farmingdale were not completely routed, however; in 1926 they mustered enough strength to prevent Governor Smith from closing the institution and from using the buildings in connection with the state hospitals on Long Island.

*Laws of New York*, 1922, ch. 406; Mann to Schurman, March 21, 1922, Mann Papers. This is one of the few letters in the Mann Papers written to Schurman after he retired in 1920. Its scope and tone indicate that the relationship of the College to Farmingdale had been a matter of serious concern during Schurman's administration. As early as 1895 a bill was introduced in the Assembly establishing a station for horticultural experimentation on Long Island to be administered by Cornell University (*Cultivator and Country Gentleman*, Mar. 14, 1895, p. 211).

†The plant industry building was again postponed by the Governor in order to secure funds for hospital construction on Long Island after the plan to take over the Farmingdale buildings was rejected by the legislature. (Mann to Betten, May 17, 1926, Mann Papers).
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Throughout most of the decade, state appropriations were inadequate to carry on effectively many aspects of agricultural education at Cornell. Salaries for clerks and stenographers were lower in the College than in the endowed division of the University; for this reason many positions were vacant for months at a time. The inadequacy of appropriations for maintenance sometimes reduced the value which could be obtained from more adequate appropriations in other areas. Through lack of available funds for wiring in 1921, the Department of Dairy Industry was unable to install a new electric pasteurizing machine which had been donated. For several years the department secured its milk supplies only by persuading the Dairymen’s League to provide milk at a price which in effect required its members to subsidize the department. The budgetary process also failed to keep pace with changes in agricultural education. Research in agricultural economics required travel funds rather than material equipment, yet by 1927 the budget officers were not prepared to make this substitution. After the salary adjustment of 1920, no substantial additions were made to salaries until 1925, when the salary scale had declined to about eighth place among the agricultural colleges of the country. After 1925 the process was repeated, with the next salary increase coming in 1929. One major breakthrough occurred in 1928, however, when the legislature appropriated $1,100,000 from a state bond issue for the long-deferred plant industry building. This was to house the Departments of Botany, Plant Breeding, Pomology, Plant Pathology, and Floriculture and Ornamental Horticulture, thereby relieving the pressure of these departments on the existing facilities.

In 1929 Governor Smith was succeeded in the Executive Mansion by Franklin D. Roosevelt. For once the long process of educating a new governor concerning the needs of agricultural education was unnecessary. Governor Roosevelt had frequently visited the State Experiment Station at Geneva, and Mrs. Roosevelt had taken a keen interest in the work of the Colleges of Agriculture and Home Economics during the Smith administration. In 1928 Mrs. Roosevelt persuaded the state architect to draft plans for a home economics building, and the following year the Governor counseled Miss Van Rensselaer on how to get a bill for this building through the legisla-
"I can't help but feel very optimistic about our Albany situation for the next few years," Ladd wrote Dean Mann shortly after Roosevelt took office. "I believe that we have turned the corner and that your burdens will be much easier with the new attitudes toward agriculture and toward the Colleges."

The College made impressive advances during the Roosevelt administration. Not only were salary increases granted in 1929 but, of even more importance, a salary schedule was obtained which provided maximum and minimum salaries at each academic level and recognized as an ultimate goal a salary of $10,000 for the unusual man. Over $150,000 was appropriated that year for new activities. In 1929 Mann pressed for the inclusion of the college staff in the State Employees' Retirement System, having overcome his earlier fear that the security this system provided would tend to assure the permanency of the staff's less able members. The following year the Civil Service law was amended to admit staff members to the retirement system; by increasing their economic security in a period of economic uncertainty, this made the College of Agriculture a more attractive place to present and potential members of the staff. In 1928 and 1929 the legislature appropriated a total of nearly one million dollars for a new home economics building and in 1930 authorized the trustees to proceed with construction of a building to cost $650,000 to house the Department of Agricultural Economics and Farm Management and the Department of Rural Social Organization. Dean Mann was even more delighted by the Governor's assurance, given during his visit to Farm and Home Week in 1930, that he intended to secure $500,000 each year for construction until the building needs of the College were satisfied.

Governor Roosevelt's appointment of the Agricultural Advisory Commission, under the chairmanship of his friend, Henry Morgenthau, Jr., brought college and state personnel into closer contact. Unlike some commissions appointed to delay coping with problems, this commission was appointed to promote one of the Governor's personal interests - the effective utilization of soil resources. Conditions were now favorable for the implementation of findings growing out of research conducted at the College over the past twenty years, especially those that related to soils, farm management, and agricul-
tural economics. The time was also opportune for the kind of thoroughgoing survey of the state's agricultural resources which Galloway had projected in 1915.\textsuperscript{81} As college representative on the commission, Director Ladd came into frequent contact with Morgenthau and F.D.R.; during 1929 and 1930 they came increasingly to rely on his judgment. In December, 1930, Roosevelt appointed Morgenthau state commissioner of conservation, and Ladd was asked to serve as deputy commissioner. In spite of the difficulty of filling his position at the College, Mann saw no alternative to granting him a leave of absence, since the reforestation aspect of the land utilization program was so close to the Governor's heart and Warren and Ladd had played such a critical part in laying out this program.\textsuperscript{82}

Roosevelt was a dynamic leader, who was able, with the strong support of farmers' and women's organizations, to secure the passage of legislation favorable to agricultural education and home economics at Cornell. There was, however, no move during his administration toward expanding the educational scope of the College of Agriculture. Mann's hopeful recommendation for utilizing the administrative machinery of the Extension Service for broad cultural subjects like music and art appreciation fell on deaf ears.\textsuperscript{83} Instead of broadening the scope of the College, Albany officials ferreted out state-supported activities they considered more properly chargeable to Cornell University.

In 1929, at their request, the work in zoology, which had developed gradually within the Department of Entomology since the Bailey administration, was returned to the College of Arts and Sciences. Much more criticism had attached to placing zoology in the College than occurred in the case of botany, and the sequel to the initial step was quite different. Support for the Department of Botany in the College of Arts and Sciences was gradually reduced until, in 1920, the department was eliminated; support for zoology continued so that by 1929 there appeared to be considerable duplication in the areas of zoology and biology between the state and endowed divisions of
the University.\textsuperscript{84} In 1930 the Senate Finance Committee refused to bring Professor R. A. Emerson’s salary to $7,500 while he was dean of the Graduate School on the ground that it was a scheme to transfer to the state expenses which legitimately belonged to the University.\textsuperscript{84} That year the appropriation committees also withdrew the semifluid budget permitted the College since 1919. In explaining the return to the rigidly itemized appropriation act, Dean Mann noted that “certain quarters” in the state had objected to the degree of freedom the College enjoyed, since the state budget had generally remained rigidly itemized.\textsuperscript{85}

**INTERNAL ADMINISTRATION**

The College adjusted to external pressure for instruction in “practical” agriculture by strengthening technical training as well as by transferring to the endowed divisions of the University activities considered by Albany officials to fall outside the scope of agricultural education. As early as 1921, Betten was visiting other agricultural colleges, examining the organization of two-year vocational programs and noting the degree to which they were oriented toward training students to become farmers.\textsuperscript{86} In January, 1927, Mann presented a statement to the Faculty of Agriculture recommending the development of vocational courses of less than four years’ duration and a reexamination of the plan and scope of the winter courses. Unless the duty to serve agriculture directly was recognized, he warned:

We are in danger of jeopardizing our ability, if not our right, to seek public funds from a State which has specifically excluded from its support the general fields of higher education... As long as this state policy continues, this College will be judged by the financial authorities of the State and by no inconsiderable proportion of the population in part by its immediate usefulness to the farming industries. The most common test applied by persons thus minded is the proportion of students who go into farming and the measure of their success. It is futile to ignore or attempt to resist this fact.

\textsuperscript{*}The pressure to return most of the work in zoology to the College of Arts and Sciences was a consequence of the survey of college activities made the previous year (Mann to Farrand, March 7, Farrand to Mann, June 29, 1929, Mann Papers).
Mann concluded by indicating the desirability of a larger enrollment of farm boys and the necessity for developing courses to meet their needs.87 Betten met with the faculty in each department to encourage the development of special curricula for students interested in farming. Progress was slow, for he had to overcome natural inertia and a reluctance to give up engrossing problems in order to take on new duties. Unquestionably his work was aided by the report of the survey committee recommending greater emphasis on vocational agriculture and because of pressure from a number of alumni with the same objective.87 Two-year programs were announced for September, 1929, in dairy farming, poultry farming, fruitgrowing, and vegetable gardening. The following year additional curricula were announced in marketing fruits and vegetables, manufacturing and marketing dairy products, commercial floriculture, and nursery landscape service. Although the new curricula were composed of existing courses, Dean Mann anticipated that from this beginning a separate program for the vocationally oriented student would eventually develop.88 It was a questionable policy for the state's officials to put the College in a position where it seemed necessary to compete with the six state secondary schools of agriculture at a time when the demand for instruction in vocational agriculture was no longer increasing. The number of farms in the state had declined steadily since 1880, and the economic forces contributing to this decline were too pervasive to be halted, as some hoped, merely by providing more opportunities for vocational training in agriculture. In 1929 A. W. Gibson prepared to enlist the help of over three thousand alumni in recruiting students for the two-year program; yet this ambitious program, supplemented by some help from the Extension Service, did not achieve a large enrollment.89 The faculty was ready to drop the winter courses in 1926-1927.

87 Betten to Mann, Nov. 10, 1927, Mann to Betten, June 30, 1928, Mann Papers. The president of the alumni association appointed a committee of alumni in February, 1929, to come to the College and work with the Educational Policy Committee on the subject (A. W. Gibson, Coll. of Ag. Historical Notes, 1962).
when enrollment declined to seventy-nine students, but the same logic that supported the development of the two-year curricula required that they be maintained. In 1927 Mann urged the faculty not to count on the abolition of the winter courses; in 1928 he transferred their administration to the Extension Service, where it was hoped that Professor Charles A. Taylor could publicize the courses and make them serve the needs of farm people.  

In spite of adaptation to external pressures, the trend in resident instruction was away from vocational agriculture toward the study of basic and applied science, teacher training, and business management, all of which had only partial relevance to agriculture. The students, who were largely free to take the work most attractive to them, showed a steadily decreasing interest in the courses related to the production phases of agriculture. The tendency of faculty members was to broaden the scope of agricultural education by introducing new courses which presented the product of new areas of research while serving the needs of groups looking to the College for assistance. In 1921, for example, a new course in green-keeping on golf courses was introduced. In 1923 a group of faculty members pressed for special courses to train Boy Scout executive officers; this Mann opposed as an unsupportable departure from technical agriculture. In addition, during the decade, some departments moved away from the production phases of agriculture toward basic science. This was especially true in entomology, where economic applications were minimized so much that it proved difficult to justify the department budget to state authorities. By 1930 a broad education in agricul-

*The percentage of total student hours taught by a group of departments which were primarily (but by no means exclusively) concerned with the production phases of agriculture, including animal husbandry, poultry husbandry, dairy industry, agronomy, farm crops, pomology, and vegetable gardening, declined from 38 per cent in 1910, 29 per cent in 1915, 27 per cent in 1920, to 15 per cent in 1927 (Faculty of Ag. Minutes, VII, 199).

†The problem was so serious that Mann took the unusual step of writing directly to members of the department to encourage greater stress on economic entomology (Mann to J. C. Bradley, Jan. 17, to Robert Matheson, Jan. 18, to G. W. Herrick, Feb. 6, 1928; Anna B. Comstock to Mann, Oct. 16, 1927, Mann Papers).
tural science and agricultural business was available in the College to the student who would meet the farm practice requirement, maintained in part to justify the budget of the College to those who insisted that the function of the institution was to train students to produce crops and animals.92

The pressures of public officials toward this end were, in the long run, countered by the faculty, which was itself under pressures from other directions. The long-term trend toward development of general education in the College of Agriculture was not altered during the decade, for the transfer of activities to the endowed divisions of the University was more than matched by the announcement of new courses by the remaining departments.

Although there was considerable evidence of interdepartmental cooperation before 1924, Dean Mann believed that the dominant tendency was still toward the departments "becoming strictly water-tight compartments of instruction," so self-contained and self-centered as to constitute "one of the chief dangers in our whole development at the College."93 Centralized planning and coordination had been attempted unsuccessfully in the Galloway administration. To a large degree Dean Mann held the same objectives in the 1920's; but in this instance reliance was placed on the slower process of educating the faculty. Over the decade increasing coordination of departments was achieved by imperceptible degrees through pressures generated by administration and by the growing awareness that particular problems, both in research and extension, were too complex to fall within the range of skills and knowledge available within a single department.

The desirable balance between the freedom and initiative of the individual faculty member and centralized planning was probably most difficult to achieve in the administration of research. Faculty paid with federal funds had long been accustomed to organizing their research in project form with the objectives, methods, and relation to similar research indicated. Coordination was provided by a review of these projects at the station level by the director and at the national level by a representative of the States Relations Service. However, no project plans were required for research financed on state funds unless made a matter of departmental policy. Faculty
opinion was widely divided on the amount of coordination which was desirable; some faculty members favoring strict supervision, a much larger number preferring to rely on individual responsibility. On December 7, 1921, those present at the meeting of the Faculty of Agriculture adopted a resolution calling for consultation with the vice-director of research on all research projects; but, significantly,
With the exception of federally supported research, the Cornell University Agricultural Experiment Station was an organization in name only, having neither a budget nor a director who could exercise authority. The majority of the faculty thoroughly opposed any sharp line between the research and teaching functions of the College. The reaction to administrative proposals for creating such a division, Betten declared in 1921, “has been so strong that we have never felt it was wise to force the situation.”

Many faculty members felt that decreased support for research in basic science would be the price paid for greater coordination at the administrative level, and, at the time, this was not an unreasonable view. Administration was necessarily responsive to diffuse social pressures resulting from the public’s preoccupation with the practical applications of science and its relative unconcern about the basic research underlying these applications. In addition, administration was directly responsible to agricultural and business organizations which looked to the College for aid in coping with pressing economic problems. In 1923 Mann and Burritt agreed that research should be “guided and directed” and research problems chosen “from the viewpoint of their value to the state.” “This has been in my mind since the beginning,” said Mann, “and was at the bottom of my recommendation for the creation of the position of Vice-Director of Research.”

In 1922 Professor Chandler and Roscoe W. Thatcher, who succeeded Jordan as director of the Geneva station in 1921, agreed that a memoir on insects that infested cattails was of no economic value and put “the agricultural experiment stations as a group in the wrong light before the farmers of the state.” In 1926 Ladd wished to bring the research in the Department of Dairy Industry into line with current economic conditions by eliminating specialists on making cheese and ice cream and concentrating on fluid milk, a position, seemingly sound at the time, which was certainly unwise in terms of later developments.

Legislation to place the State Experiment Station at Geneva under the authority of Cornell University was passed in 1923 after Governor Smith threw the weight of his position behind the measure.
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merger came none too soon, for the problems of coordinating the activities of two independent research organizations were immense, and serious difficulties were already developing over control of horticultural research at the Vegetable Research Farm on Long Island.*

When Professor Chandler resigned in 1923 as vice-director of research to accept a position at the University of California, Thatcher was appointed director of both the Geneva and Cornell experiment stations.† It was Thatcher's intention to apply in the College of Agriculture methods for coordinating research which had long been routine at the Geneva station. The faculty, however, offered considerable resistance to his attempt to evaluate research and his efforts to secure annual research programs from each department, several departments dismissing his request for these plans in 1927 with a condemnation of administrative interference. 100 Thatcher's resignation in 1927 to become president of Massachusetts Agricultural College was viewed with mixed feelings. Many of the faculty were unquestionably relieved.

Dean Mann, on the other hand, was faced with the difficult problem of finding a successor who would be as effective in emphasizing the relationship of research to practical problems of agriculture while preserving some emphasis on fundamental problems, the views of some faculty members to the contrary. His choice was Frank B. Morrison, professor of animal husbandry and assistant director of the Experiment Station at the University of Wisconsin. Morrison became director of the Geneva and Cornell experiment stations in

* Mann to Thatcher, Oct. 27, June 8, 1922, Mann Papers. Although the land and facilities of the Vegetable Research Farm were placed under the administration of the College, Geneva was authorized by the legislation establishing the farm to maintain an entomologist and plant pathologist there (Ann. Rpt. of the N. Y. State Coll. of Ag., 1922, Pt. i, p. 20). Control of the entomological and pathological work was placed in the departments at Cornell several years later.

† Ibid., 1923, Pt. 1, p. 15. Thatcher had already demonstrated administrative ability at Geneva and in his previous position as dean of the Department of Agriculture and director of the Experiment Station at the University of Minnesota. After his appointment as director of the Cornell University Agricultural Experiment Station, the title of director of research was no longer used.

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Soon after he arrived, a program was initiated that illustrated the possibilities in interdepartmental research. Extensive borer damage in New York cornfields was the immediate stimulus. Little was then known about controlling the ravages of this pest. In January, 1928, Dean Mann called a conference at which a total of ten departments at Geneva and Cornell were represented in order to select a committee to be charged with developing a corn borer research program. An additional conference was also planned with members of the legislature and the Department of Farm and Markets, since an effective control program would require funds and regulatory authority.

A parallel situation existed in the reorganization of the potato improvement program. In September, 1928, Director Ladd found the program suffering from overspecialization of subject matter and an unwillingness of any department to be responsible or to permit any other department to be responsible. A master at securing a compromise of conflicting positions, Ladd organized a committee composed of representatives of interested departments to plan a statewide program and secured the release of Professor E. V. Hardenburg from other activities so that he could devote full time for a year to the extension program in potato growing and marketing. Securing potatoes which could compete in price and quality with those from other states required the participation of a large number of growers in the program. By the end of 1929, 270 growers in the leading potato-producing counties had been persuaded to enroll.

As dean of a faculty numbering over 160, Mann had little knowledge of what each individual was doing. A record of the time distribution of each faculty member seemed important to him, not only to protect the College from outside criticism, but also to prevent anyone from carrying a light teaching load presumably in order to do research unless, in fact, he was actually engaged in research. Four years were required to convince the faculty that they should make these data available to the administration. Mann's efforts to improve teaching on a college-wide basis was another departure from the reliance formerly placed on departments. In 1924 Professor Works gave a course in college teaching for staff members, and Betten met with small groups to discuss such fundamental questions
as the meaning of grades. Mann was anxious to use faculty meetings to discuss educational problems common to all departments but found this a poor medium because of low faculty attendance, "a reflection," Mann concluded, "of the lack of interest in such discussions."106

The survey reports made in 1928, and studies conducted immediately thereafter by faculty groups in order to clear up any inaccuracies in the reports, presented for the first time an accurate picture of the distribution of faculty time among the activities of the College. This distribution varied widely among departments. For example, the Department of Agricultural Economics and Farm Management, with the largest appropriation in the College for staff salaries, ranked in the first position among departments in the proportion of salaries allotted to research and sixteenth in the proportion allotted to administration; the Department of Floriculture and Ornamental Horticulture, ranking tenth in total salaries, ranked eleventh in research but first in the proportion of salaries devoted to administration.107

E. W. Allen's report on research in the College generally had the effect of reinforcing positions already taken by the college administration. The authority of the director of the Experiment Station was so limited, it noted, that only with difficulty was he able to maintain a list of current research projects and their status. The development of research in general science blurred the lines between investigations undertaken for the benefit of agriculture and those of a more general nature. The former at least, said Allen, required supervision of a closer order than had been permitted, but all research, he insisted, should be based on definite and specific projects with the division of work between the Geneva station and the College being a matter of administrative decision.108

The expectation by the State Department of Education that the recommendations in the Allen report would be implemented made it possible to achieve a degree of coordination that Mann had been unable to accomplish by persuasion alone. In October, 1928, the Board of Regents requested a list of current research projects with a critical analysis of each. Soon after this, the faculty voted to approve the project method for all research.109 Professor Love, who was one of the most productive researchers on the faculty, considered this
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decision overdue. "Personally, I do not fear anything under a project system," he said; "a close study has convinced me that the sooner we can rid our minds of the wonderful freedom we enjoy and revamp our investigations in such a way that they will stand scrutiny, the sooner will our research be on a more sound basis and our results of more lasting value."110

While accepting a change in the organization of research, the faculty insisted that there be no change in emphasis. At the beginning of its analysis of Allen's report, the Committee on Experiment Station Work stated that it recognized research done in the basic sciences "of equal value" with that pertaining more obviously to agriculture.111

The Updegraff report noted that administrative power was divided between the dean and the department heads, with little real power available to the dean's subordinate officers. Updegraff seemed to desire a transfer of authority from the department heads to these administrative officers.112 However desirable it may have been in terms of administrative theory, it was far too radical a departure from existing practice to find acceptance. It is doubtful in any case if administration would have functioned more effectively by this reallocation of authority. Many of the activities of the directors were essentially unrelated to the possession of independent authority. One of their principal functions was to assist the decision-making process of the dean by providing expert judgment unbiased by pressures arising within particular departments. This source of independent information was of great value where an analysis of the work of a department was required or a question of interdepartmental relationships was involved. Through a continuing review of departmental activities falling within their particular sphere, the directors were able to give the dean a basis for supporting existing work or suggesting a change in direction at the time department budgets were arranged or department heads appointed. The directors also met as a group to consider problems of college-wide significance.113

Besides acting as a channel of communication between the resident and extension students and the dean, the directors also carried a large responsibility for exchanging information with other institutions and joining with their counterparts in these institutions in
collective action where that seemed desirable. By 1920 the section on agriculture in the Association of Land-Grant Colleges was divided into three subsections: resident teaching, experiment station work, and extension work. By taking an active part in the activities of these sections, the directors gained perspective on problems common to agricultural colleges and gave others the benefit of their experience at Cornell.\textsuperscript{114}

Professor W. I. Myers stated in 1930 that, along with Warren and Babcock, Director Ladd was one of the most important of the key men in New York agriculture.\textsuperscript{116} From his position as director of extension, Ladd kept in close touch with leading farmers and farm organizations and at every opportunity got out on the land to see for himself what was happening. It is evident, however, that he disagreed with Dean Mann about the importance of his position. Ladd considered the Extension Service the vehicle for transmitting the needs of agriculture to the College and an agency which should participate in formulating a research program directed toward meeting these needs. An agricultural experiment station, Ladd insisted in 1928, does not contribute to the development of science unless closely checked by and combined with practical agriculture.\textsuperscript{116} As the occupant of the position at the apex of the Extension Service, Ladd considered himself more valuable to the College than any single professor. Mann was less concerned about the source of motivation for research, although his support of the library and his interest in history suggests that he considered the record of human
experience a likely starting point. Ladd justified research directed toward the solution of immediate agricultural problems as a matter of fundamental conviction; Mann viewed it as a necessary adjustment to external pressures placed upon the College. For him the vital factor was having outstanding men on the faculty. "The greatest possession an institution can have is the professor of extraordinary capacity," he declared. "In any field there are only a few great minds and an institution can afford to pay almost anything that may be necessary to attract one of them."

When Stocking resigned as head of the Department of Dairy Industry, Mann brought bacteriologist James M. Sherman from the USDA to head the department. The consequences of this appointment were contrary to the relationship Ladd predicted between research and extension; for while the research of the department became stronger, it gradually lost contact with the dairy-processing industry of the state.

A variety of methods were used by Dean Mann to secure the excellence he desired in the faculty. Generally, however, a degree of control over faculty action was involved in their success, and Mann either lacked or was unwilling to use authority to make this control effective. For example, it was made clear that sabbatic leaves were to be used for professional improvement; but Mann never enforced his plan to have faculty members submit programs before taking this leave. His plan to contravene the narrowness of outlook which accompanied the departmentalization of agricultural knowledge by discussing basic educational problems at faculty meetings was frustrated by lack of attendance. The effectiveness of Betten's discussions of these matters with small groups was reduced by the reluctance of faculty members to give them priority over other activities. Mann's inability to develop a college-wide program for the continuing development of faculty members as educators pointed to a vacuum which could be filled only by the department heads taking a broad view of their responsibilities.

The idea of planning was attractive to Mann, as it had been to

*Burritt and Mann originally suggested and helped secure authorization for A. C. True's three volumes on the history of agricultural education (Mann to Burritt, March 8, to Henry C. Wallace, March 8, 1923; True to Mann, March 30, 1923, Mann Papers).
Deans Bailey and Galloway. Like them, he desired to rise above the interplay of contending forces and create a plan within which the various college activities could be coordinated. At the state level also, he told Warren in 1923, he had long been interested in developing an educational policy and program. At a meeting of the Association of Land-Grant Colleges in 1922, he outlined a complex system for determining the aims and organization of courses of study in colleges of agriculture that was reminiscent of Galloway’s plan to create eight administrative units and Bailey’s plan to bring order to agricultural education in New York. His success in implementing his plan was not appreciably greater than theirs, for the time had not yet come when the persons involved in these plans would admit that there was a wisdom greater than their own.

During the decade Mann’s reputation as an able administrator, deeply concerned about broad educational problems, extended beyond the University to other institutions. In 1921 he was offered the position of state commissioner of agriculture; in 1924, the deanship of the College of Agriculture at the University of California as successor to Dean Hunt; and in 1927, the presidency of the University of Arizona. In that year also, President Pearson assured Mann that the way was open to succeed him at Iowa State College. In 1924 Mann was asked by the International Education Board to serve as director of its work in Europe, and for that purpose he was given a two-year leave of absence by the University. During that time the College was administered by a committee of the directors, with Director Betten acting as its executive officer.

The criticism has been made that Dean Mann was somewhat inflexible, at least by comparison with his successor. Inflexibility seen from a different perspective may be called determination to stand for what seems right and important against powerful opposition. This quality was involved in pressing for the establishment of a separate college of home economics against the opposition of members of the Board of Trustees and of the New York State legislature. It was also involved in pressing for the establishment of courses in hotel management at a time when the state administration was committed to a program of economy. Mann’s contribution in this connection...
EDUCATION AND AGRICULTURE

was of vital importance in the development of the School of Hotel Administration at Cornell.

The initiative came from John M. Howie, coproprietor of the Hotel Touraine in Buffalo, who, in 1914, suggested the desirability, of a course in hotel management at Cornell. As a result of his activities in the American Hotel Association, the way was opened for Miss Rose to appear before the association in 1920 with the objective of securing funds to support a projected course in hotel management at Cornell. By June of 1921 funds and faculty approval of the course had been secured but the trustees moved to table the question of cooperation with the American Hotel Association because of opposition to the course and to the principle of private endowments for work in the state colleges. As in the case of home economics six months earlier, Mann appeared before the full board and obtained a favorable decision which left the way open for further private endowments. The ultimate object, however, was to secure a state appropriation for the work in hotel management which would stamp it as a recognized part of the state's responsibility to education. In this attempt, said Dean Mann, "I am anxious that we shall not fail."

In 1922 the refusal of the state's officers to permit this appropriation for what clearly fell within the class of professional education led to considerable resentment in the American Hotel Association. Amid mutterings about the taxes paid by the hotel industry, members discussed the possibility of establishing the course at Columbia University, which was known to be anxious to cooperate with the association. However, the chairman of the association's education committee, who favored establishing the course at Cornell, managed to secure a subsidy from the association, pending further efforts in the legislature. The subsidy covered only the costs of professional instruction in hotel management; the faculty and equipment in other courses already organized were provided by the College of Agriculture with the understanding that no objection would be raised by state authorities. There was, in fact, little the state officials could do when Mann presented them with a fait accompli. However, he did not escape unscathed. "Speaker McGinnies was present," Mann later told President Farrand, "when Governor Miller, at the suggestion of Senator Hewitt, I think, rather thoroughly disciplined me for our
having accepted the work in hotel administration in the College of Agriculture." 125

Renewed effort by the American Hotel Association did not secure the appropriation desired. Throughout the decade the course in hotel management was supported with an indirect subsidy by the state and direct support by the association. Continuation of the course under these circumstances was uncertain, for financial support depended on changing policies and personnel in the association; each year the course had to be justified anew. 126 In 1923 the work was conducted on an overdraft of $5,200, and the following year there were more applicants for the course than the association would support. 127 In 1927 the agreement with the American Hotel Association terminated. Thereafter the necessity for financing the work entirely from tuition income added to the overdraft. Throughout those years, Dean Mann encouraged the expansion of the work in hotel management. Even in 1930, when the large overdraft and the uncertainties of financial support indicated caution, he did not recommend standing still. 128

Although unable to secure a state appropriation, the American Hotel Association was able to muster sufficient strength in Albany to prevent the state from withdrawing the use of the facilities of the College of Agriculture and, after 1925, of the College of Home Economics. Large and well-organized constituencies were also helpful in securing the home economics and agricultural economics buildings. No such group was available to support an appropriation for a new library. "Positively atrocious" was the phrase Mann used to describe the facilities of the college library in 1923. 129 Only a single small room in Stone Hall was available for student study, and many books could not be used because shelf space was insufficient to permit efficient circulation of the library holdings. This already frustrating situation was further aggravated when the state architect, doubting that the structure of Stone Hall could safely support the weight, ordered books removed from the second floor. Three thousand five hundred volumes then joined an equal number piled in the old farm management building, a decrepit structure unsafe for either books or people. 130

The Faculty of Agriculture's recommendation for integrating the
college library with the university library was not adopted by the trustees, which seemed fortunate when, in 1923, there seemed a possibility of securing an appropriation for a college library. Early in 1924, prior to the expected appropriation by the legislature, the existing plans were hastily revised to meet the desires of faculty members. Haste proved to be unnecessary, however. No building appropriation for the library was to be forthcoming for over twenty years.

Some of the pressure on the existing facilities was removed by the inclusion of a department library in the new agricultural economics building. Meanwhile, Mann maintained what he called "the educational center" of the College with the limited resources available. When it was necessary to reduce department budgets in 1921, Mann favored the library by making a smaller cut in its budget than in those of the departments. In 1928 he supplemented the $6,500 budget of the library—a sum which left less than $1,000 for the purchase of books and periodicals—by shifting small funds to it during the year. Although thoroughly inadequate for the needs of the College, the library offered educational opportunity to foreign students unaccustomed to even these meager library facilities. "To the Cornell Agriculture Library," wrote a Turkish student under the cover of a volume he gave the library, "I am always the servant of him who teaches me even a single word." Finally in 1930 hope for an adequate agricultural library was restored by Governor Roosevelt's promise to recommend $500,000 annually for the College's building program.

A source of continuing difficulty was eliminated in 1921 with the abolition of the Department of Farm Crops. Over the years, its activities increasingly overlapped the work in plant breeding and soil technology without developing a research or extension program of sufficient soundness to justify such duplication. In 1921 the crop production work was transferred to the Department of Soil Technology, which was renamed the Department of Agronomy. The variety testing and crop improvement work was transferred to the Department of Plant Breeding. At the same time the Department of Vegetable Gardening, which had been consolidated with farm crops at the beginning of the war, was reestablished as a separate department. In June, 1923, the transfer of the work in agricultural chemistry
to the Chemistry Department of the College of Arts and Sciences was consummated. In 1930 the Department of Vegetable Gardening was renamed the Department of Vegetable Crops, rural engineering was changed to agricultural engineering, and meteorology was abolished as a separate department to become part of the Department of Agronomy.\textsuperscript{135}

The farm lands and outdoor laboratories of the College increased substantially during the decade, with most of the additions occurring in areas away from Ithaca. However, in 1923, almost one hundred acres of arable land was added to the university farms.\textsuperscript{136} Parenthetically, it may be noted that the increased mobility given farm workers by the automobile made it possible in 1929 for the College to close the boarding house it had operated for these workers since 1913.\textsuperscript{137} The special appropriation secured in 1922 for a vegetable research farm on Long Island was used to purchase a farm near Riverhead containing thirty acres of land almost ideally suited to vegetable research.\textsuperscript{138} Under an appropriation of 1923, five tracts of land were acquired in Columbia and Dutchess Counties for horticultural investigations under conditions typical of the Hudson Valley.\textsuperscript{*} In 1927 the heirs of Matthias Arnot gave the University a forested tract of 1,750 acres some eighteen miles southwest of Ithaca to serve as a demonstration area for the Department of Forestry. This gift marked the culmination of hopes long entertained by the department; as early as 1914 Professor Ralph Hosmer had secured an option on the tract but had been unable to secure the funds to complete the purchase.\textsuperscript{139} Substantial aid was given by the Charles Lathrop Pack Forestry Trust in making this long-neglected area suitable for the purposes of the College. In 1927 this foundation also gave a capital fund of $130,000 to establish a research professorship in forest soils, a gift which created the first endowed chair in the state colleges at Cornell.\textsuperscript{140}

It is difficult to measure the contribution of an individual in an institution which is constantly responding to external pressures exerted with varying degrees of immediacy. A decision seen from one

\textsuperscript{*}In addition, experimental vineyards were leased at Fredonia and Urbana, and fields for agronomy research were maintained at Alfred and Churchville.
point of view as an exercise of leadership may appear from another perspective as an expeditious reaction to pressures which could not be avoided. Still, some individuals stand out with sufficient clarity from the pressures impinging on their disciplinary area that the word “leadership” seems appropriate for them. These men had the quality of setting long-term goals and then, with a blend of aggressive persuasion and personal magnetism, enlisting others into pursuit of the goals they projected. George Works, George Warren, and F. B. Morrison were such men. There were others, like E. S. Savage, L. A. Maynard, R. A. Emerson, and W. I. Myers, who possessed this capacity for leadership, and they by no means exhaust the list. These men, however, had an additional quality especially vital to the concept of leadership in education—the encouragement of diversity of opinion. Without this quality a form of leadership may be engendered which can, with confidence, take its followers down a dead-end street.

George Works viewed the Department of Rural Education as a nucleus that would be expanded with state support into an institution which “will compare favorably with other leading institutions in the field of education.” He strengthened the department by collecting a strong research-oriented staff, which he attempted to make the impetus for improvement of teaching in the College. Outside the College, he served as chairman of the Committee of Twenty-One. By 1925 he was the highest-paid member of the Faculty of Agriculture, and his department staff received by far the highest average pay in the College. Conditions in the state, however, made it impossible to maintain this momentum. Professor Works could not stand still; when continued expansion proved impossible he began negotiations with the University of Chicago and in 1927 became dean of its newly established Library School.

Warren also became discouraged but at no time, apparently, did he seriously consider leaving Cornell. In 1930 the work of his department was housed in four separate buildings. Farm management was located in the old judging pavilion, converted in 1915 for “temporary” use after being condemned as unsafe by the state architect. In 1928 Professor W. I. Myers emphasized the danger to the health of the staff from poor ventilation, escaping steam, and rotting floors. Working conditions in the old poultry feed house, where the marketing work
was located, were little better.\textsuperscript{143} Throughout the decade Warren was overburdened by administrative duties. The policy of not increasing the number of departments resulted in the administrative consolidation of business administration, marketing, agricultural economics, and farm management, fields of study that in many institutions were separate departments. What relief Warren gained by giving his subordinates in these divisions considerable freedom—a policy possible because Warren had known many of them since they were graduate students—was partially negated by the effort of defending Professor James Boyle against the friends of the department who resented his exposures of the weaknesses of particular cooperatives.\textsuperscript{144}

Furthermore, the staff of the department found itself in a seller's market as other institutions upgraded their work in fields related to agricultural economics. In 1920 Warren turned down an offer of $10,000; in 1927 Professor W. I. Myers counted the support given him at Cornell by Warren more valuable than the headship of the Department of Agricultural Economics at the University of Minnesota.\textsuperscript{145}

By 1924 the department was being criticized for failure to keep its research abreast of the needs of agricultural cooperatives, although the fault, in fact, lay primarily with the legislature. In that year Babcock, working through the Agricultural Conference Board, secured relief for the department through special legislation providing an initial appropriation of $45,000 to initiate an expanded program in marketing and agricultural business.\textsuperscript{146} Toward the end of the decade the graduate work, which Warren considered the greatest inducement to the staff, began to taper off as other institutions entered the field.\textsuperscript{*} In 1930 Warren admitted that he was discouraged by the cramped physical conditions for instructing graduates and the competition from business organizations and other educational institutions—especially the University of California—for the services of the staff.\textsuperscript{147} The speed with which relief was provided is a measure of the esteem that organized agriculture had for Warren. In 1929 the Governor's Agricultural Advisory Commission thought that "Warren's

\*In 1927, 46 per cent of the 83 Ph.D. candidates in agricultural economics and farm management in the United States were at Cornell; the following year the number had dropped slightly to 33 per cent of 102 candidates (W. I. Myers to H. Updegraff, June 19, 1928, Mann Papers).
is perhaps the most productive department in the state." Only a request from the University, said commission member M. C. Burritt, was needed to obtain its support for Warren's building. \(^{148}\) When this request was made in 1930, the combined support of the commission and organized agriculture quickly secured the necessary appropriation.

The development of agricultural economics at Cornell bore Warren's personal stamp. A thoroughgoing knowledge of the problems of farm management he considered the only proper groundwork for the study of agricultural economics. The Wisconsin point of view, with its presumption that "scientific agriculture is unnecessary, that economics is the only fundamental" appeared to Warren as essentially unsound. \(^{149}\)

In 1928 Henry Hiram Wing retired as head of the Department of Animal Husbandry after nearly forty years of service to Cornell University. During his last years as department head the work in animal husbandry at Cornell had fallen behind that at other institutions, most notably, the University of Wisconsin. Along with other older faculty members, Professor Wing remembered a time when the essential information for improving the feeding and breeding of livestock had been the possession of a fortunate few. Like Professor Rice in the Poultry Department, he was determined to give the widest possible circulation to these basic principles of livestock improvement. This emphasis was desirable until the backward farmers caught up or went out of business; thereafter information based on new research techniques was required if New York livestock producers were to maintain a competitive advantage over those of other states.

With respect to livestock judging, however, Professor Wing deserves considerable credit for de-emphasizing an activity of questionable educational value which many agricultural colleges stressed to the point where students neglected other studies while competing for the judging teams. Moreover, much judging instruction was worthless in terms of livestock management, for the judges' concept of an ideal animal was frequently irrelevant to the production of milk and meat. Although Wing did not entirely neglect judging — in 1910 a team he trained were champions at the National Dairy Show in Chicago — his interest lay in developing reliable measures for livestock selection.
as evidenced by his contribution to instituting advanced registry testing.\textsuperscript{150}

In 1928 Dean Mann and others looked to F. B. Morrison, then newly appointed director of experiment stations, to "put animal husbandry on its feet."\textsuperscript{151} Morrison had been professor of animal husbandry at the University of Wisconsin and in that capacity had achieved an international reputation as an expert in animal nutrition. His book, \textit{Feeds and Feeding}, with Dean W. A. Henry as coauthor, was the standard text and reference on livestock feeding in the United States and Canada. Financial support and offers of cooperation were made by livestock interests in the state to induce Morrison to accept the headship of the department. Special legislation was secured in 1928 to permit paying him $7,500 as department head.\textsuperscript{152} An additional $2,500 toward his salary was contributed by the New York Farmers, an organization of New York City businessmen, at the urging of Oakleigh Thorne, owner of Briarcliff Farms at Pine Plains. Members of this organization, said Thorne, were all of the opinion that the state should adequately support the work in animal husbandry and agreed that this "was simply a matter of proper organization and information."\textsuperscript{153}

If much was given to Morrison, much was expected. In 1929 he met this expectation by developing a plan for the reorganization of the department. He also took the leadership in forming a committee representing the livestock interests of the state which acted in an advisory capacity to the department. Appropriations for work in animal husbandry were increased 60 per cent within a year, and soon thereafter additional appropriations were secured for purchasing livestock, erecting new barns and remodeling existing structures, and purchasing a large farm for the use of the Department of Animal Husbandry.\textsuperscript{154}

The price paid for transferring Morrison from director of experiment stations to head of the Department of Animal Husbandry was higher than expected in terms of the coordination of research between Geneva and Cornell. A group at Geneva had continued to oppose coordination after 1923 and was insistent in claiming that the University was subordinating the station to its own interests. It was hoped that Morrison would allay this fear and irritation.\textsuperscript{155} After his resig-
nation, no person of comparable stature was available to succeed him. Moreover, U. P. Hedrick of the Geneva staff enjoyed widespread support for the directorship among farm organizations in the state, and after twice bringing in outsiders to fill the position, Dean Mann had little choice but to appoint him to the directorship of the Geneva Station. Unfortunately, Hedrick's administration was not characterized by close cooperation with Cornell. At the College, the position of director of experiment stations was added to the duties of the dean.

RESEARCH

Agricultural research entered a new phase during the decade as previously developed experimental techniques were applied with increasing sophistication. In the field of poultry nutrition, investigators who had adapted the chick to controlled experiments under laboratory conditions had set the stage for a thorough study of the effects on this animal of mysterious nutrition-related substances then called “vitamines.” In the late 1920's Leo C. Norris, who had received his Ph.D. in 1924 for research conducted in the Laboratory of Animal Nutrition with L. A. Maynard, joined with G. F. Heuser in establishing a research unit in poultry nutrition within the Department of Poultry Husbandry. In 1930 Norris and his associates reported a “nutritional leg paralysis” caused by a vitamin deficiency, which led them to the further conclusion that vitamin B was not a single vitamin as formerly believed but a vitamin group forming the B complex.156

Within the Department of Animal Husbandry's Laboratory of Animal Nutrition fundamental studies on the metabolism of protein established the relative efficiency for growth and milk production of a number of animal feeds. The metabolism of calcium and phosphorous was also investigated and the relationship between the presence of these elements and bone changes in animals determined.157

Utilizing the techniques of the chemist and microbiologist, the Department of Agronomy continued its investigations in soil properties and plant nutrition. Researches on the transformation of nitrogenous compounds in soils by legumes were continued from the previous decade as were lysimeter studies on the addition and

*In 1921 the State Federation of Farm Bureaus had recommended Hedrick to succeed Jordan (Mann to Burritt, March 3, 1921, Mann Papers).
removal of plant nutrients from soils. Toward the perfection of methods for reducing experimental error in field experiments, artificial plats or "frames" were constructed, each of which was isolated from adjacent plats by walls formed of concrete. In addition to these fundamental studies, a number of investigations were directed toward determining the productivity of muck and other soils. Crop surveys were undertaken in connection with soil surveys to determine the areas best suited for particular crops; among these, a pasture survey was given special emphasis.\(^{158}\)

The Department of Plant Breeding perfected the rod-row system for testing on a large scale the varieties and strains of small grains. By 1927 this technique was widely used in other states and was being introduced in other countries. Research on the genetics of corn developed under R. A. Emerson to reveal more about its genetic behavior than was known of anything else except the fruit fly, *Drosophila*.\(^{159}\)

In botanical research, Karl Wiegand and Arthur Eames' *Flora of the Cayuga Lake Basin* was an important contribution to taxonomy and also aided the work of teachers and investigators in other fields who wished to utilize the botanical resources of the Cayuga Lake region. In plant physiology, Lewis Knudson's investigations on the culture of orchid seedlings yielded valuable information on the utilization of organic nutrients by green plants.\(^{160}\)

Carefully controlled experiments frequently had the effect of demonstrating the wisdom of farm practices which had evolved over long periods of time, but investigation in the Departments of Vegetable Gardening and Pomology had the opposite effect by laying to rest the old idea that cultivation preserves soil moisture. Both Roberts and Bailey had advocated cultivation during the summer on the theory that this broke up soil capillaries through which moisture escaped to the surface. H. C. Thompson, head of the Department of Vegetable Gardening, found, and these findings were confirmed at the Long Island Vegetable Research Farm, that the principal function of cultivation was weed control and that in the process soil moisture was frequently lost. The Department of Pomology in cooperation with the Department of Agronomy clearly demonstrated that the principal value of cultivation in orchards was to increase
the nitrogen available to trees. It was recognized that the lack of nitrogen rather than a low level of moisture in the soil was the principal factor limiting tree growth under New York conditions.\textsuperscript{161}

In the Department of Agricultural Economics and Farm Management, statistical techniques developed in connection with the study of farm management were applied to the marketing of agricultural produce. In studies of the relationships between prices, supply, and demand, the effect which particular changes in prices could be expected to have on supply and demand were determined for a number of commodities. One important application of these studies was in connection with efforts to prevent expansion of the New York milkshed in the late 1920's. Toward establishing a price for milk—a subject given to partisan controversy—the department was able to provide producer organizations and public officials with some basic working figures.\textsuperscript{162}

Rural social organization, a term the department head, Dwight Sanderson, preferred to the more conventional rural sociology, was a new subject which had to build up a body of information on which resident instruction and extension could be based. Under Sanderson's direction, a technique was developed for delineating the geographical basis of rural society by neighborhood and community units. This technique, first applied in a survey of Otsego County published in 1923, had a practical application in the work of the Committee of Twenty-One, which selected the community as the basic unit for school administration. Another study, also published in 1923, dealt with the farmer's standard of living in Livingston County. The first study of its kind, it was a significant step toward developing measures for standards of living which could be used for comparing communities or groups of people.\textsuperscript{163}

These studies and the cost accounting work in farm management were conducted in cooperation with the USDA's Bureau of Agricultural Economics. This relationship was advantageous, not only in terms of financial support, but also in maintaining the quality of research. In 1926 Professor Rice took the position that cost of production investigations belonged in the departments concerned with the production of crops and livestock, and was well on his way toward securing control of investigations of costs of poultry production when
Warren pointed out that this would not only be illogical, since poultry was usually only one part of a farm operation, but also "would bring to a stop the fifteen years of cooperative work that we have had with the Bureau of Agricultural Economics." There are, Warren added, "many other states which desire to cooperate with them." There the matter ended.164

During the decade, counties and the state were supplemented by a larger region as a unit for the organization and administration of research. This long-overdue development was not the result of a sudden awareness that scientific problems do not follow political boundaries; rather, this awareness made it possible gradually to overcome the limitations consequent to dependence on political units for financial support. By 1926 the Conference of Northeastern Experiment Station Directors was meeting regularly to coordinate agricultural research in the region. These conferences featured "referees"—experts in particular disciplines who made recommendations for the allocation and coordination of projected federally supported research among the stations represented. The conference also assumed responsibility in the significant area of cataloguing past research.165

In 1925 the agricultural colleges and experiment stations, acting through the Association of Land-Grant Colleges, were once again successful in securing federal funds for research without the increased federal controls which had been anticipated as the price of this legislation. The Purnell Act granted $20,000 to each state in 1925 with annual increments of $10,000 until the maximum annual payment of $60,000 was attained. These funds were made available for all research within the scope of colleges of agriculture and home economics, but the law made specific reference to "economic and sociological investigations."166 At Cornell the Purnell funds were concentrated in these areas.167

RESIDENT INSTRUCTION

With the exception of a slight increase in 1925, the number of regular students declined continuously from 1919 to 1928. Although this phenomenon was part of a national pattern of declining college enrollments, the impact of the decline on authorities responsible for
the state budget was no less serious. The College's administration, already concerned about the need to recruit farm boys to satisfy the forces demanding emphasis on technical agriculture, was advised in 1928 that the greater part of its difficulties in Albany was due to the shrinkage in enrollment of regular students.\textsuperscript{168} Student enrollment, 1921-1930, was as follows:\textsuperscript{169}

<table>
<thead>
<tr>
<th>Year</th>
<th>Regular</th>
<th>Special</th>
<th>Winter</th>
<th>Graduate</th>
<th>Summer</th>
<th>Two-Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1921-22</td>
<td>852</td>
<td>55</td>
<td>329</td>
<td>250</td>
<td>930</td>
<td></td>
</tr>
<tr>
<td>1922-23</td>
<td>806</td>
<td>29</td>
<td>254</td>
<td>189</td>
<td>992</td>
<td></td>
</tr>
<tr>
<td>1923-24</td>
<td>748</td>
<td>25</td>
<td>240</td>
<td>202</td>
<td>584</td>
<td></td>
</tr>
<tr>
<td>1924-25</td>
<td>731</td>
<td>22</td>
<td>180</td>
<td>231</td>
<td>621</td>
<td></td>
</tr>
<tr>
<td>1925-26</td>
<td>765</td>
<td>47</td>
<td>139</td>
<td>257</td>
<td>528</td>
<td></td>
</tr>
<tr>
<td>1926-27</td>
<td>708</td>
<td>31</td>
<td>79</td>
<td>254</td>
<td>648</td>
<td></td>
</tr>
<tr>
<td>1927-28</td>
<td>691</td>
<td>24</td>
<td>142</td>
<td>286</td>
<td>725</td>
<td></td>
</tr>
<tr>
<td>1928-29</td>
<td>652</td>
<td>31</td>
<td>157</td>
<td>259</td>
<td>676</td>
<td></td>
</tr>
<tr>
<td>1929-30</td>
<td>709</td>
<td>26</td>
<td>106</td>
<td>311</td>
<td>782</td>
<td>14</td>
</tr>
<tr>
<td>1930-31</td>
<td>753</td>
<td>33</td>
<td>131</td>
<td>387</td>
<td>771</td>
<td>43</td>
</tr>
</tbody>
</table>

The suggestion that active publicity and organized recruitment was desirable appealed to Mann's reason but offended his sense of the proper duties of educational institutions. Good work, he thought, would be duly recognized without advertising. By December, 1928, however, he had been persuaded by trustees and members of his staff that this view was unduly conservative and somewhat unrealistic when other colleges were engaged in the process of formulating favorable public images.\textsuperscript{170}

In 1929 A. W. Gibson and Eric Peabody were given responsibility for increasing student enrollment. A number of communication media were utilized including county agents, Granges, and secondary schools. In the latter instance the recruitment campaign fortuitously coincided with the increasing concern for vocational guidance in the public schools. Work of lasting value was accomplished between 1929 and 1931 when high school students and teachers were informed about opportunities in professions related to agriculture.\textsuperscript{171}

The effect of this campaign on the enrollment of students is uncertain. True, enrollment increased rapidly after 1928, with 1929 alone
THE EXAMINATION OF OBJECTIVES, 1921-1930

witnessing a 40 per cent increase in undergraduate admissions, but this development was probably due primarily to the effect of the business depression. The enrollment of graduate students, presumably unaffected by the recruiting effort, increased by 128 students in two years while the enrollment of regular undergraduate students increased only by 101. However, there was a relationship between the recruitment campaign and the proportion of students enrolling who had some farm experience. The proportion arriving with virtually no farm experience dropped from an average of 47 per cent for the period 1919-1928 to 35 per cent in 1929 due to increased recruitment in rural areas and the stress placed on acquiring some farm experience before coming to Cornell.172

The two-year courses initiated in 1929 were of substantial value for students who had studied vocational agriculture in high school. Two years prior to the establishment of these courses 101 former vocational agricultural students were enrolled in the four-year program, and generally they had the lowest grades in the College, an outcome largely due to their inadequate preparation for courses taken during their freshman year in the College of Arts and Sciences.173 An analysis of student records showed that 46 per cent of those enrolled in the four-year course since the beginning of the College of Agriculture did not graduate, yet 35 per cent of these went into professions in which the College gave some training.174 The two-year courses were planned to meet the educational needs of students who were unprepared by education or motivation for the demands of the four-year program.

The four-year program was a recognizable descendant from the days of Professor Roberts. Although foreign language was no longer required, the freshman year still had heavy emphasis on English and the basic physical and biological sciences. In 1922 an orientation course was organized to instruct students in methods of study, acquaint them with the history and resources of the University, and discuss vocational interests.175 Most of the agricultural student’s program was composed of electives selected with the assistance of a faculty adviser. As much as seventy-five hours could be elected, with up to twenty of these permitted outside the College. The system of graduated residence credit was maintained in spite of a pro-
nounced trend toward higher grades. Nearly 7 per cent of the graduates completed their work in less than four years.\textsuperscript{176}

The summer school had a substantial increase in enrollment of students interested in agricultural subjects. A decline of about four hundred students from 1922 to 1923 was due to transferring to the Cortland State Normal School work in physical education previously given at the request of the State Education Department. A summer school in biology which drew on the faculty of other colleges of the University was established in 1923.\textsuperscript{177}

Financial aid available to students increased only slightly. In 1929-30 fifteen scholarships were available for full-time undergraduate students; five of these were financed from the Roberts’ fund, and ten were tuition scholarships for out-of-state residents. Twenty-one scholarships were available for students enrolled in the winter course. Industrial fellowships continued to be a principal source of aid for graduate students. In 1927-28 fifteen of these grants were received, making a total of sixty-one to that date. Twelve departments at various times had benefited, but a majority of the grants were for research in plant pathology.\textsuperscript{178}

The old problem of the impersonal relationship between students and faculty remained. The solution Mann envisioned to what he called “our greatest need” was for faculty members to entertain students in their homes at particular times.\textsuperscript{179} While this idea was not widely adopted, a number of departments did have active clubs which met in faculty homes, of which Plant Breeding’s Synapsis Club was one. For some faculty members this problem did not seem to exist. Professor Wing was a notable example. He was regarded as a friend by students, many of whom were on a first-name basis with him; he had, in the words of one student, “a certain irreplaceable spirit of leadership and helpfulness.”\textsuperscript{180} This was also true of Professor George Everett. In teaching the fundamentals of public speaking he bolstered the confidence of thousands of students; even when on occasion deflating pomposity, he was regarded by students as their friend.\textsuperscript{181}

Under changing student-teacher relationships and in accord with the trend toward specialized functions, the college assemblies, then attended by only a handful of the faithful, came to an end in 1925.
Even an appearance by Dean Bailey and his rousing address informing students that their interest in thrills was an attempt to escape the group-learning processes of the time did not alter the trend. To secure greater attendance the request of students to conclude the assemblies with a dance was granted in 1925 and before the year was over the attraction had swallowed the main event. The annual college banquet persisted for several years, but in 1928 this too came to an end.

Dean Mann was anxious to preserve at least one college-wide social event attended by both faculty and students. When it became evident that the annual banquet would not continue, he initiated a college barbecue in 1926 and in that year personally donated the steer which served as the principal attraction. A second barbecue was held in 1928, but apparently the event lapsed at that time until renewed in 1944 under the sponsorship of Ho-Nun-De-Kah, the senior men’s honorary society.

Disintegration of the core of common interest in college assemblies, banquets, and athletic teams made it difficult for the Agricultural Association to secure the support of the student body. Maintaining an organization for all students had proved difficult earlier when assemblies and the annual banquet provided for the release of student energy and organizing talents. When these activities ended, no adequate substitutes were found; an annual dance initiated in 1926 called the “Barnyard Ball” did not become established. In 1927 the Agricultural Association was reorganized in order to coordinate student activities in the Colleges of Agriculture and Home Economics, but two years later it was again defunct. Again it was reorganized, this time as the Agriculture-Home Economics Association, but reorganization could not substitute for objectives that would interest the student body.

On the other hand, groups organized around specialized activities continued successfully. Jugatae, for example, held its thousandth meeting on March 28, 1927. The forestry students especially were a tightly knit group, due in part to the summer forestry camp, where they initiated new members in hunting “snipe,” put dead animals under their colleague’s blankets, and otherwise combined good fellowship with education.

In 1929 Ho-Nun-De-Kah was formed in a merger of two senior
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men's honorary organizations, Heb-sa, founded in 1910, and Helios, established several years later. Guided by Erl Bates, the Indian extension agent, the new group decided to depart from Greek tradition and have a thoroughly American name and ritual. Ho-Nun-De-Kah was named for a secret society among the Iroquois and the ritual adopted was also of Iroquois origin.\textsuperscript{189}

The most thorough study to date of what happens to students after graduation was completed in 1923 by A. W. Gibson in preparation for a college alumni directory. The study showed about 25 per cent of those graduating from the College engaged in farming, a slightly larger percentage in work not related to agriculture, and the largest group, about 40 per cent of the graduates, in activities related to agriculture—agricultural business, teaching, or research.\textsuperscript{190} At that time fifty-five of the sixty-six farm bureau agents in the state were graduates of the College, and four years later, eighty-two graduates were teaching secondary agriculture in the ninety high schools offering the subject and in the six state schools of agriculture.\textsuperscript{191}

After completing the alumni directory, Gibson undertook to determine why many of the students who started the four-year program failed to graduate. On the basis of over one thousand replies to his questionnaire, Gibson noted that about 35 per cent of those not graduating indicated economic difficulties as the principal reason. About 25 per cent stressed a change of vocational objectives during the course. Most surprising was that 11 per cent indicated poor health as the principal reason for dropping out. Additional confirmation regarding the significance of poor health was found by an analysis of college records which showed that more than twice as large a proportion of nongraduates had died since leaving college as graduates. Scholastic difficulties appeared to have been relatively unimportant.\textsuperscript{192}

After Roberts retired in 1903, members of the college staff, especially Bailey, Mann, and Rice, along with Jared Van Wagenen, Jr., and other alumni, tried to keep alive his memory as a link with a period when the College of Agriculture was a small group of students and faculty struggling for its place in higher education. After leaving Ithaca, Roberts maintained his interest in Cornell and was always glad to see students or old friends. His former associate, L. A. Clinton, found him at eighty-three "as keen and vigorous as most
men are at fifty." On Roberts' ninetieth birthday the American Agriculturist devoted an issue to his work, and at Cornell, President Farrand and the faculty and students of the College of Agriculture signed a scroll in appreciation of his contributions to agricultural education. The nearly 1,300 signatures reassured Roberts that, "after an absence of twenty years, my efforts are not forgotten." "Those who contributed to the scroll," wrote Roberts' daughter, "cannot possibly realize what joy it has given him." Nearly five years later, on March 17, 1928, the first builder of the College of Agriculture was gone.

RELATIONS WITH CORNELL UNIVERSITY

The trend toward closer cooperation between the College and the University continued. The day-to-day working relations between college and university officers were much more cordial during the administration of President Farrand than during the time of the remote and somewhat olympian President Schurman. Again, as in the time of President Adams, the members of the Faculty of Agriculture found a sympathetic hearing in Morrill Hall. The appointment of R. A. Emerson as dean of the Graduate School was a radical and welcome departure from Schurman's practice of not appointing the college faculty to University offices. The President's wife, Daisy Farrand, even registered as a special student in the College, taking courses in home economics and floriculture.

In 1921 the trustees and state architect cooperated in developing a plan for the construction of a single university heating plant at East Ithaca which would sell heat to the state colleges on a metered basis, thus bringing to a conclusion the series of temporary boilers and costly inefficient heating plants that had plagued the College of Agriculture since 1907. Another physical link was established in 1929 when an all-weather road was laid between the university library and the dairy industry building, passing through the College of Agriculture between a double row of red oaks planted in 1918. An administrative link was forged in 1921 with the establishment of a university purchasing office. Conceived with the object of saving on purchases and eliminating much clerical labor at the department level, its benefits quickly compensated for any loss of departmental autonomy.
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When Home Economics was established in 1925 as the third state college at Cornell, the trustees replaced the separate college councils with the single State College Council. With this change the council was transformed from the informed group of supporters and advisers that Bailey had desired into an agency primarily concerned with state college-university relationships. Probably the expanding number of state institutions at Cornell made such a coordinating agency necessary at either the trustee or administrative level. The former was more acceptable at the time.

The College of Agriculture played a significant part in the development of sociology courses in the College of Arts and Sciences. Prior to 1926, general sociology was taught only in the College of Agriculture because Dean Robert Ogden of the College of Arts and Sciences and Professor Walter Willecox of the Department of Economics took the position that the science of sociology was as yet so poorly developed that there was no need to introduce courses in the field, but finally, in 1926, they agreed to have one man in the Department of Economics teach introductory sociology on a temporary basis. When after one year this course was withdrawn, Dean Mann immediately announced that a similar course would be given in the College of Agriculture. When this action was protested, Mann replied that the course, "tentatively included in our program," would be withdrawn "as soon as the work is established elsewhere." It was under these conditions that introductory sociology was continued in the College of Arts and Sciences.

Dissatisfaction over the basic courses in chemistry was not subject to so simple a solution. In response to requests from the Department of Chemistry for criticism of its courses, the Faculty of Agriculture recommended that either a special course in organic chemistry be offered for agricultural students or that illustrative material in the general course be of a more biological nature. The financial stringencies under which the College of Arts and Sciences operated made a separate course impossible; the second suggestion posed again the old question of how to make a general course meet the needs of specializing students. The professionally oriented students in forestry and hotel administration were especially insistent that general chemistry was a waste of time, an attitude they made so apparent
to an instructor in chemistry that he asked Director Betten if there were not some way he could get rid of them. To break this unfortunate cycle, Betten suggested, faculty members might well work toward an improved attitude on the part of the professionally oriented student. 202

INTERNATIONAL SERVICE

The activities of the faculty after the First World War were not in accord with what has been called America’s retreat into isolationism. Contacts with professional colleagues in other countries and personal experience with conditions in other countries became more common. In May of 1924 alone, Professor Stocking was in Europe attending the World’s Dairy Congress, Professor Reddick was conducting research in Europe, and Professor Emerson was returning from a five months’ scientific expedition to South America financed by the USDA. 203

A beginning was made in what later came to be called foreign assistance programs, although the term suggests a greater degree of organization than sometimes existed in the early efforts. In the spring of 1925 the College received a request from the Argentine government asking that someone be sent to aid in the development of a sanitary milk supply in Buenos Aires. Harold E. Ross of the Department of Dairy Industry accepted the opportunity, spending most of the following year in Argentina. On arriving he found that no plans had been made for the work he was expected to do, but once it was agreed to establish a laboratory to develop modified milk for feeding infants, he was given generous support. 204

Professor A. M. Goodman of the Department of Rural Engineering worked in Puerto Rico between 1927 and 1929 with the International Health Division of the Rockefeller Foundation in coordinating drainage programs for malaria control and the more efficient use of land for agricultural purposes. 205

From 1925 to 1931 the Department of Plant Breeding cooperated with the University of Nanking and the International Education Board in a pioneering project in the agricultural improvement of underdeveloped areas. The project aimed to develop improved crop varieties which might alleviate the famines that then reoccurred
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almost annually in China. Three members of the Department of Plant Breeding, H. H. Love, C. H. Myers, and R. G. Wiggans, each spent nearly two years at the University of Nanking directing the project, which was remarkably successful in spite of the political disturbances raging in China. A number of Chinese students were trained in genetics and plant breeding so they could carry on the crop improvement program for northeastern China which was established at the University of Nanking. Based on a small number of American technical experts working with a maximum number of Chinese, the project was an excellent model for later foreign assistance programs. At its conclusion a second project was established at the University of Nanking to train experts for plant breeding work in other areas of China, and H. H. Love was granted a three-year leave of absence from Cornell to act as its technical director. These projects were heartily supported by President Farrand, who insisted that the boundaries of Cornell were subject to no geographical limitations.208

The development of international contacts in the relatively new field of agricultural economics was aided by Leonard K. Elmhirst of Devon, England. This good friend and fellow classmate of Director Ladd financed the first International Agricultural Economics Conference held in Devon in 1929. In supporting a second conference, held at Cornell in August, 1930, Elmhirst was aided by a $5,000 grant from the Carnegie Foundation for International Peace.207

The Graduate School of Tropical Agriculture was among the most promising of these ventures in international education. Established in Puerto Rico in 1928 by the territorial government, the school was expected to become, under the auspices of Cornell, a training center for teaching improved agricultural techniques to Spanish-speaking students from other Latin American countries. After visiting Puerto Rico in March, 1928, President Farrand, Dean Mann, and Professor Lewis Knudson were impressed with the educational opportunities and the strong support the project was receiving from a group of influential Cornellians on the island. However, the necessary funds could not be raised. Neither the United States government nor private foundations were willing to provide assistance during the
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financial uncertainties of the 1930's. The project continued at the proposal level until it became a victim of World War II.\textsuperscript{208}

MEASURES OF SUCCESS

It remains to be asked how successful was the College of Agriculture during the decade. As to its impact on agriculture, the three criteria of success for the College accepted by Mann in 1921 were effectiveness in raising the farmers' standard of living, in making agricultural production more efficient, and in increasing the fertility of the soil.\textsuperscript{209} It need hardly be stated that, by these standards, the College was indeed successful. The selection of candidates for the award of Master Farmer by the \textit{American Agriculturist} also gives some clues on what might be considered success in agriculture. In 1930 the principal bases for selection were net worth of farm operation (several applicants were rejected on this ground), size of operation, and degree of cooperativeness with others.\textsuperscript{210} By these standards also the College was successful, for much resident and extension teaching was directed toward helping farmers in these respects.

The attractiveness of the institution to faculty and graduate students is a further measure of success. Some faculty members came to Cornell's College of Agriculture although offered a higher salary elsewhere, while many chose to remain at the College under the same circumstances.\textsuperscript{211} One of the most notable features of student enrollment during the decade was the substantial increase in graduate students at a time when undergraduate enrollment was declining. About one-third of those enrolled in the Graduate School of Cornell University were taking their major work in the College of Agriculture.\textsuperscript{212}

The experience of these graduate students after leaving Cornell provides some indication of the quality of their instruction. According to E. W. Allen, almost 85 per cent of those receiving the Ph.D. degree between 1908 and 1927 went on to important positions in colleges, experiment stations, and the U.S. Department of Agriculture.\textsuperscript{213} Among those who later attained important positions in science and education were Eugene C. Auchter, Ph.D. '23, head of the Department of Pomology at the University of Maryland and
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Assistant Secretary of Agriculture during World War II; John Franklin Booth, Ph.D. '26, director of the economic division, Canadian Department of Agriculture; Howard C. Jackson, Ph.D. '20, head of the Dairy Industry Department, University of Wisconsin; W. E. Loomis, Ph.D. '26, the first with a major in the Department of Vegetable Crops, professor of botany at Iowa State University of Science and Technology and an outstanding plant physiologist; Julian C. Miller, Ph.D. '28, in charge of horticultural research in Louisiana since 1929; Keith A. H. Murray, Ph.D. '29, rector of Lincoln College, Oxford University, and since 1953 chairman of the University Grants Committee for the United Kingdom; Clarence V. Noble, Ph.D. '20, dean of the College of Agriculture, University of Florida; E. L. Overholser, Ph.D. '26, head of the Department of Pomology at Washington State University and later at Virginia Polytechnic Institute; A. L. Teodoro, who in 1928 received what was probably the first Ph.D. in agricultural engineering in this country, dean of engineering at Far Eastern University, Manila; and Ernest C. Young, Ph.D. '21, head of the Department of Agricultural Economics at Purdue University. The list could be long extended.

A large element in the success of these and other graduates was, of course, personal qualities which, with the guidance of outstanding professors, were channeled toward the exploration of specific problems. The role George Warren played in graduate education has already been described. In the plant sciences a comparable role was played by R. A. Emerson. According to Marcus M. Rhoades, Ph.D. '32, and later professor of botany and head of the department at the University of Indiana, "Emerson was the spiritual father of his students and the impress of his personality was left in part upon all who studied with him. His contagious enthusiasm, his prodigious energy, his absolute integrity and objectivity were such that all who were intimately associated with him caught in some measure these attributes of the man." The reputation of the College was further enhanced by three international congresses held at Cornell between 1926 and 1932: the International Congress of Plant Sciences in 1926, the Fourth International Congress of Entomology in 1928, and the Sixth International...
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Congress of Genetics in 1932. The International Congress of Entomology, the first held this side of the Atlantic, had a registration of nearly seven hundred, one hundred and twenty from foreign countries. Thirty-eight countries were represented. Positions of responsibility in these and other scientific organizations were held by many members of the Faculty of Agriculture.

The testimony of informed persons may also provide a measure of success. Former deans of the Cornell University Graduate School, J. E. Creighton and Ralph Keniston, and Dean Frank Thilly of the College of Arts and Sciences stated that the best scientific work in the University was being done in the College of Agriculture. Henry A. Wallace, soon to become Secretary of Agriculture, was impressed by the quality of the extension work he observed on a visit in 1927, and thought the spirit of farmers toward the College was much better than that in many Western states.
NEW YORK agriculture escaped the full force of the nationwide depression until late in 1931; thereafter, until preparation for war brought about an upswing in the economy, practically every activity in the state was affected. Industry in New York had already received its impact; inventories had accumulated and laborers had been laid off. The College benefited from this industrial stagnation when construction of the agricultural economics and home economics buildings was speeded up by the need to provide work for the unemployed.\footnote{1} Otherwise, the depression had a disrupting effect on the College because of budgetary uncertainties. The newly established agencies of the New Deal also altered relationships the College had established with New York farmers over many decades.

CARL E. LADD

The extension work was affected most immediately by the federal agricultural programs. Dean Ladd and Lloyd R. Simons, who succeeded Ladd as director of extension in 1932, played a major part in protecting the Extension Service against encroachment by New Deal agencies, both in the state and, working through the Land-Grant College Association, in the nation. Dean Ladd's position in this contest was strengthened by his interpretation of the role of dean. Unlike Mann, who tried to maintain a substantial degree of independence from the pressures of organized agriculture, Ladd believed in providing active leadership, not only in education but in all spheres where he could advance the interests of the New York or northeastern farmer.

In August, 1931, Mann became provost of Cornell University.
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While this new position had been under consideration for some time, the appointment was precipitated when Mann planned to accept the presidency of Bucknell University. Dean Mann's easy working relationship with President Farrand and his interest in all matters pertaining to Cornell University made him well suited for the new position. The obvious candidates to succeed him as dean were Ladd and Cornelius Betten. Both men had great ability, but Ladd had the advantage of being known and well liked by officers of farm organizations and by authorities in Albany and Washington. For the several months between Mann's resignation and Ladd's return from service with the State Department of Conservation in October, 1931, Betten served as acting dean.

The differences between the administrative methods of Mann and Ladd stemmed in part from differences in personality. Where Mann tended to be reserved, Ladd was "hail fellow well met," a person who attended shipboard Rotary meetings on a trip to England and ran into friends while sight-seeing in Westminster Abbey. Mann found relaxation difficult; Ladd was able to relax while supervising work on his farm near Freeville and joining with Editor Eastman of the American Agriculturist in writing articles about "the horse and buggy days." He shared Mann's view of the importance of agricultural history, but his own efforts at historical writing were fictional expressions of an inherent optimism that found farm life in the past more rewarding than many writers indicated. This optimism helped sustain him through the depression; in 1940 he confessed to greater confidence in the future of American agriculture than he thoughtsome prophets of doom in the USDA possessed.

Mann considered publicity techniques an unfortunate necessity; Ladd delighted in the phenomena of public relations and frequently corresponded with his Cornell classmate, Edward L. Bernays, often called the founder of the public relations profession. Ladd used the technique of providing "background material" to the Gannett press when he wanted to place views before the public without having them attributed to the College, and he was adept at calculating the effect his decisions might have on groups outside the College. Ladd tried to avoid controversy and emphasized a positive constructive approach in all material presented to the public. When contro-
versy proved unavoidable, he was careful not to assume a defensive position.

Diametrically opposite methods of handling conflicts characterized the two deans. Ladd was a master of conciliation, reducing tension by bringing conflicting parties together, talking over the differences, and securing more comfortable relationships based on understanding an opponent's problems and points of view. Ladd's talents as a conciliator were in demand outside the University both by the State Conservation Department and the USDA's Extension Service. He helped clarify and strengthen the relations between the federal Extension Service and the Bureau of Agricultural Economics. Mann's method was to depersonalize conflict. Concentrating on the issues, he sought the best solution by a careful analysis of the points of view involved and, with this solution established, required all parties to respect the decision. Each method had its advantages. Fortunately, neither man was so completely committed to one approach that the other was excluded. Ladd, however, tended to smooth over fundamental conflicts that perhaps should have been pressed to a solution. Mann's method put administration in the position of having the final word on what were, in part, academic matters.

Mann's contacts with politicians were largely limited to the period after they had attained public office. Ladd worked through both major political parties to promote public policies of benefit to New York agriculture and to place men in office who would carry out these policies. While more politically oriented than his predecessors, Ladd avoided any public appearance of political involvement. His frequent trips to Washington and Albany were not publicized and his strong opinions on major public issues were not generally known. After Roosevelt's election to the presidency, Ladd sent many letters to promote the appointment of Morgenthau as Secretary of Agriculture but found considerable opposition in the South and West to a New York Jew's occupying the position. Later he tried with no greater success

*After reviewing a 48-page booklet about the G.L.F. which Babcock had prepared to counter attacks by the Rural New Yorker, Ladd said, "I have challenged the statements sharply in my own mind to see whether you are putting yourself on the defensive in any way. I don't believe that you are" (Ladd to Babcock, Feb. 22, 1936, Ladd to Charles A. Taylor, June 10, 1937, Ladd Papers).
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to promote Robert Treman as Morgenthalau's successor as State Conservation Commissioner. These failures, nevertheless, strengthened his contacts with men in a position to aid the College. Late in December, 1933, Ladd, as chairman of Governor Lehman's Agricultural Advisory Board, led a group of New Yorkers to Washington, where they expedited several projects involving federal aid to New York agriculture. He corresponded with Mrs. Roosevelt about federal agricultural policies and, among the Republicans, had close contacts with publisher Frank Gannett and H. E. Babcock, who served as a GOP agricultural adviser.

Ladd prided himself on his knowledge of farmer opinion. In a letter to E. L. Bernays he once referred to his position at Cornell as "the crossroads of national agricultural sentiment." In the same letter he stated, "We are in very close touch with all the agricultural groups in all the states of the Union." One of the few angry replies in Ladd's correspondence is addressed to a writer who suggested that the Dean's knowledge of agriculture came from an ivory-tower approach to the subject.

The exercise of leadership in agriculture in the 1930's required close relations with the agencies affecting agricultural credit. Access to credit at interest rates which farm businesses could afford was, of course, a traditional problem of American agriculture. In the past, economic depressions had adjusted agricultural production to demand by eliminating those farm businesses with overextended credit. A function of agricultural educators was to teach farmers, bankers, and other businessmen to estimate the credit carrying capacity of a farm business and to encourage communication between borrowers and lenders. Prior to 1933, the College had performed this task well.* The educational process, however, worked too imperfectly to enable the mass of farmers to adjust their business operations to the rapidly

*Since Bailey's administration, the College had been promoting greater understanding between farmers and bankers. Often bankers were invited to the College during Farmers Week to discuss rural credit. The annual farm inventory and credit statements prepared by the College were recognized by the State Farm Bureau Federation as a sound basis for the negotiation of loans. In 1930 the Federation recommended that all banks require these statements from farmer borrowers (President's Rpt. for 1929-1930, App. VIII).
changing economic conditions; many farmers were faced with foreclosures as the full depression hit rural New York.

One objective of the New Deal was to supplement the stabilizing process of education with economic planning by government. A number of newly established federal agencies engaged in the stabilization of agriculture without, in many cases, clear lines of demarkation between them. Of these, the most important to agricultural credit was the Farm Credit Administration (FCA), established during the first month of the Roosevelt administration as an independent agency, with its governor directly responsible to the President. To this position Roosevelt appointed Henry Morgenthau, Jr. When, in November, 1933, Morgenthau became Secretary of the Treasury, Professor William I. Myers succeeded him as governor of the Farm Credit Administration. Cornell men were closely associated with the Farm Credit Administration in the Northeast. Ladd became a district director in 1936 at the request of E. H. Thomson, general agent of the northeastern district and a former staff member in Agricultural Economics. George F. Warren and E. R. Eastman, editor of the American Agriculturist, were fellow directors. Professor Van B. Hart of the Department of Agricultural Economics served as first president of the Production Credit Corporation of Springfield, a division of the FCA.

The Roosevelt administration moved rapidly to hammer out a program which would provide relief for agriculture by establishing a mechanism for adjusting agricultural production to the requirements of the available markets. The result was the Agricultural Adjustment Administration (AAA) established by Congress on May 12, 1933. This legislation provided a production allotment to each farmer which he was induced to accept by benefit payments financed through taxes on the primary processors of agricultural products. Beyond this, the Department of Agriculture was given broad authority within which it could exercise discretion in selecting means for stabilizing agriculture.

In his attitude toward the AAA, Ladd followed Warren's view that the fundamental cause of the depression was not overproduction but a breakdown in distribution or exchange. "I do not think there is a particle of doubt as to the cause of the present business depression," stated Warren, adding that it was due to a world-wide demand
for gold following the nation's adjustment to a high price level during World War I. Although the logic of drawing this conclusion from Warren's statistics was questioned by other economists, Ladd was confident about Warren's explanation; in a moment of enthusiasm he declared that Warren and his colleague, Frank Pearson, "are the first men to have developed the laws of prices just as previous scientists have developed the laws of physics and chemistry." Ladd suggested to Republican policy-maker Frank Gannett that "if our monetary ills are corrected, this in itself will correct most of our agricultural ills and possibly all of them." He believed that, in spite of its failure to provide a sound remedy for the nation's monetary ills, the AAA as a temporary measure might alleviate some agricultural distress; emphasis on production controls, however, made it unsuitable as a permanent program.

Toward economic problems Ladd took an ambivalent view; he was too much the humanitarian to accept the social consequences of an economy based on unrestricted competition and too much the believer in laissez-faire economics to accept the degree of central planning proposed by some New Dealers. "There is something between the two extremes," he wrote to Eleanor Roosevelt in 1936, "that is more efficient, more democratic, more effective and vastly more valuable in terms of human development." Ladd hopefully anticipated the time when the New Deal experiment should have run its course. "I believe and hope that there will ultimately be a reaction against this over-centralization," he wrote a friend in the New York Senate in 1935. His principles of "progressive liberalism," which he felt the Republicans must adopt if they were again to become a strong national party, illustrate his blend of economic security with old-fashioned virtue:

1) A balanced development of urban and rural enterprises in such a way as to stabilize business against disastrous depressions.
2) Preservation of a maximum of individual initiative and freedom and a minimum of regimentation and government control.
3) Application of government planning to meet our economic problems... with many people participating in the planning.
4) [Administration by competent persons.]
5) Security against sickness, unemployment, and old age without
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destroying individual freedom and initiative and without breaking
down the habits of frugality and thrift so essential to democracy. 20

RELATIONS WITH FEDERAL AGENCIES

In the attempt to stabilize agriculture, the AAA needed continuing
contact with the commercial farmers in the nation. There was in the
Extension Service a trained staff of field personnel; thus, although the
Assistant Secretary of Agriculture, Rexford Tugwell, objected that
these men were too closely tied to the agricultural status quo, the
urgency of the need made it necessary to utilize them in regulating
agricultural production. 21

The Executive Committee of the Land-Grant College Association
was not consulted on the domestic allotment plan, and, as far as its
members knew, others connected with the land-grant colleges were
also ignored by the Washington planners. 22 The state extension
directors heard rumors from Washington about using county agents
in the regulatory processes, but they were unable to agree on how to
meet this situation. Southern directors generally favored assigning
the county agent regulatory as well as educational functions. Northern
directors wished to preserve separation between these functions but
did concede that the agent might act as secretary to a county regu­
latory committee overseeing the individual farmer’s compliance with
his AAA contract. 23 This was Ladd’s position. Although regarding
the AAA program as economically unsound, he thought the colleges
should cooperate wholeheartedly, both to alleviate the farmers’ imme­
diate distress and to preserve good relations with the Secretary of
Agriculture, Henry A. Wallace, and Assistant Secretary Tugwell. 24

Before the Roosevelt administration had been in power a month,
Ladd had drawn on his relationship with these officials to preserve
the strength of the Extension Service. At that time a strong group in
the Roosevelt administration, led by the Budget Director, Lewis
Douglas, believed the essence of a sound economy was a balanced
national budget. Roosevelt himself had traditional Tory views toward
the subject. But to balance the budget required substantial cuts in
government services, including the appropriations for extension. It
was believed that Douglas proposed to lop off 50 per cent of these
funds. After helping organize a campaign which placed some 40,000

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letters and telegrams in the White House protesting the proposed cuts in the Extension Service, Ladd, on behalf of the Extension Organization and Policy Committee of the Land-Grant College Association, conferred with Wallace and Tugwell, obtaining their promise to defend the extension appropriation. Roosevelt's interest in the Extension Service was well known, but Ladd feared, not without cause, that in the frantic activity of the "hundred days" the appropriation cut might be made without Roosevelt's knowledge. 25

Once the initial process of accommodation was completed, the AAA and the Extension Service worked well together until 1936, an accomplishment undoubtedly due to the emphasis placed upon decentralized administration following the acceptance of M. L. Wilson's suggestion for making the state extension directors the state AAA administrators. 26 In New York the county agents provided continuing training and supervision of local committees which carried out the various AAA programs and, at the same time, contributed to the effectiveness of the Farm Credit Administration, giving about a month each year to advising potential borrowers. 27 However, the dominance of the local units of the Extension Service in field operations of the AAA was contrary to the concept of central planning advanced by a group of Wallace's close advisers, including H. R. Tolley, A. G. Black, Hugh Bennett, and Tugwell. When Tolley took over the administration of the AAA in 1936, he set out to establish a direct line of administration from the federal agency to the American farmer. 28

The Soil Conservation and Domestic Allotment Act of 1936, while differing in method, was similar in objective to the Agricultural Adjustment Act of 1933, which had been declared unconstitutional by the Supreme Court in 1935. Acting under the new legislation, the Agricultural Adjustment Administration aimed to raise farm income by inducing farmers to plant soil-conserving crops—principally legumes—which did not form commercially burdensome surpluses. The inducement in this act was in the form of compliance payments made directly from the federal treasury. Although soil conservation was a secondary purpose attached to the act in order to take advantage of sentiment generated by the enthusiastic propagandizing of Hugh Bennett and the public reaction to the eastern skies, dust laden
with sweepings from the western prairie, it opened the way for greater emphasis on land use planning. The machinery for coordinating the work of experts at the national and state levels with the interests of the farmers immediately concerned remained to be worked out. 29

Several years were required to hire and organize a corps of county conservation agents to carry out the new AAA programs. During 1936 the satisfactory arrangements of previous years were continued. At the beginning of 1937, as newly appointed AAA agents were placed as assistants to the county agents, it appeared that the responsibility for the AAA programs would remain with the state extension services. 30 At that time Tolley was willing to work out a different administrative arrangement for each state. In the arrangement for New York, the College, in cooperation with organized agriculture, controlled the AAA program. State AAA policies and programs were formulated by a five-member agricultural conservation committee paid from federal funds but appointed by the director of extension from lists furnished by the Conference Board of Farm Organizations. 31 Professor Van Hart for several months acted as administrator of the program outlined by this committee. In the state, compliance payments were limited to practices which had long been recommended by the College and were felt to be entirely sound. Many farmers, Ladd noted, who had previously resisted a purely educational approach were induced to adopt these practices by the stimulus of cash payments. 32

Meanwhile, rivalry had developed at the national level between the AAA and the Soil Conservation Service (SCS), recently placed in the USDA with Hugh Bennett as chief. At the state level, considerable conflict developed between the land-grant colleges and the Soil Conservation Service, because that federal agency initiated research in the states without consulting the experiment stations and provided direct services to farmers without consulting the state extension services. 33 In New York, SCS pressed forward its research in much the same manner as had the Bureau of Plant Industry in Bailey’s administration. Like Bailey, Ladd was in a sufficiently strong position to secure an agreement with SCS to clear all research projects with the State Committee on Soil Conservation Research, a special coor-
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dinating group which Ladd appointed from the staff of the Cornell and Geneva stations. County conference committees, however, were the ultimate hope for protecting the county extension organizations against competition from the federal agencies. In 1937 each farm management specialist was working closely with the conference committees of two counties, and other departmental specialists cooperated as needed. Director Simons hoped to extend this work to all agricultural counties in four or five years.

As the 1938 federal programs for conservation and agricultural stabilization came up for examination in the summer and fall of 1937, it became evident that the Department of Agriculture intended to place greater reliance on the local and regional administrators of AAA and SCS in carrying out the national programs. “We will need very close coordination, both in the College and in the field,” stated the county agent leader, Earl Flansburgh, “to ride the storm which I feel is already upon us.” Clearly, compromise between the federal agencies and the extension services in New York and other states was necessary, for an open clash would disrupt agricultural programs and endanger appropriations in Congress and in state legislatures. The compromise, called the Mount Weather Agreement, was arranged in July, 1938, at a conference at Mount Weather, Virginia, attended by two committees on relationships, one representing the USDA, the other the land-grant colleges. As chairman of the latter committee, Ladd received numerous compliments for his part in arranging the compromise but confessed in the midst of this praise to a sense of tragedy that a committee on relationships was necessary. The trouble could have been avoided he said, if Wallace, Tolley, Bennett, and Black had accepted the land-grant colleges as the responsible agents for the USDA work with farmers.

The essence of the Mount Weather Agreement involved the establishment of land use planning committees at the county and state levels, which would advise the administrators of the USDA action programs. At the county level, these committees included the county agent, who acted as secretary, at least ten farmers, and representatives of each federal agency working on agricultural matters in the county. Unlike the county conference committees,
which worked with the College primarily on planning the farm management phase of land utilization, the land use planning committees were set up to make recommendations for local administration of the federal programs. These committees offered an opportunity for the farmer, the administrator, and the technical expert to work cooperatively in spite of past antagonisms. 89

"In all states farmer-thinking should dominate the work" was Ladd's concept of ideal committee operation. 40 USDA officials wished to give at least equal voice to the expert and the administrator. 41 Although the land use planning committees at both local and state levels were strictly advisory, Ladd insisted that in New York State the farmer members be given a weighted vote. "From the days of Liberty Hyde Bailey," he asserted, "it has been part of our guiding philosophy that decisions concerning matters of public welfare and decisions which affect the financial welfare of groups of farmers should be made by farmers themselves and not by scientists and others who are on public salaries." 42

In the USDA, responsibility for land use planning was assigned to the Bureau of Agricultural Economics. Under the aggressive leadership of H. R. Tolley, who was transferred from the AAA to become chief of the bureau, land use planning expanded rapidly. By 1940, 1,900 counties in the United States had adopted planning committees. In most states this work declined after 1940, a result of preoccupation with wartime activities, opposition by the American Farm Bureau Federation which feared that these committees would form the basis for a competing organization, and state opposition to the regional offices of the Bureau of Agricultural Economics. 43 New York, however, was an exception. Relations with both the State Farm Bureau Federation and the Bureau of Agricultural Economics were generally excellent. Farmer members of the planning committees acquired new interest as they realized that problems of land use extended beyond farm management to schools, roads, communications, and the conservation of nonagricultural resources. For a brief period after the war enthusiasm for land use planning flourished in the state. 44

The generally excellent relations between the College and the USDA, following the Mount Weather Agreement, were occasionally
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marred by the old issue of federal incursion on what the College regarded as its territory. In an exchange of correspondence in 1939, Bureau Chief Tolley insisted that agreement to clear work through state and county planning committees did not exclude cooperation with agencies in the state not connected with the College of Agriculture. The following year Ladd protested against a research agreement between a USDA bureau and the School of Living located at Suffern as a precedent opening the door to cooperation between the Department of Agriculture and private organizations in the state. A result of this position was to keep federally supported research and extension in the state within conservative bounds. Some administrators in the Department of Agriculture tended to be much more receptive to radical ideas—Ralph Borsodi’s School of Living was an example—than the commercial farmers who dominated the extension and research program of the College of Agriculture.

Another source of conflict between the land-grant colleges, especially those in the Northeast, and the USDA turned on whether federal agencies should work with farmers in meeting their immediate needs or whether the work of these agencies should be coordinated at the farm level through a long-term plan for the individual farm. For example, it was the policy of the SCS to confine farm forestry demonstrations conducted under the Norris-Doxey Cooperative Farm Forestry Act to those farmers willing to comply with a five-year plan for the development of their farms. The College agreed that these demonstrations should be conducted to illustrate improved forestry practices in relation to other farm practices, but objected to the requirement for an over-all farm plan. At one point in 1939, Director Simons found Milton Eisenhower, land use coordinator at the USDA, willing to compromise to the extent of recommending a straight forestry program in the Lake Champlain area of New York State. However, this gain proved to be more apparent than real when it became evident that Eisenhower’s deviation from SCS policy would not be supported by other USDA officials. It was through dealing with these federal officials from a

*Borsodi’s part in the subsistence homestead movement of the 1920’s and 1930’s is described in A. Schlesinger, Jr., The Coming of the New Deal (Boston, 1959), p. 362.
position of strength established through the agency of the Association of Land-Grant Colleges and, within the state, by support from the Farm Bureau and other farm organizations, that the policy of forcing complete farm planning on New York State farmers as the price of federal aid was successfully resisted. 47 The refusal of the SCS to give personnel of the New York State Extension Service access to these farm plans where they were developed is an indication of the gap then existing between this USDA bureau and the College.48

In June, 1939, a reorganization of federal agricultural programs placed the Farm Credit Administration within the Department of Agriculture. The previous September, Professor Myers had returned to Cornell to become head of the Department of Agricultural Economics, to be succeeded as governor of the FCA by Forrest F. Hill, a colleague from Warren's department who had already served as deputy governor. Hill continued Myers' policies of decentralized administration and operation without specific reference to other federal agricultural programs. However, his administration was not in accord with the ideas of Secretary Wallace; increasing friction between the two men led to Hill's resignation in December, 1939.49

At Cornell it was feared that this move foreshadowed new policies which would destroy the effectiveness of local cooperative credit associations by tying government-financed farm credit to compliance with the USDA action programs. "I am convinced your fears are unfounded," President Roosevelt replied to Ladd's protest, adding that the objective of soundly financed agricultural credit would be secured to a greater degree through FCA coordination with other activities designed to improve the economic position of farmers.50 That A. G. Black did not use his position as Hill's successor to implement his views on the coordination of federal action programs at the local level may be due as much to the strength of the existing FCA policies as to the counter pressure Cornell and the national agricultural organizations were able to apply. Governor Black did try his strength in Congress and found it wanting.51

Competition between the action agencies and the College was the price paid for placing strong men in positions of overlapping authority. To dwell on the areas of conflict, however, minimizes the
flexibility of generally dedicated technical experts and administrators, who normally worked together in the pursuit of common goals. This cooperation was especially evident in emergencies. The severe drought that affected most of New York State in 1939 tested the capacity of national and state organizations to cooperate in common cause. The core of the problem was to secure the distribution of available feed supplies so farmers could carry animals through the drought and to restore the farmers' capacity to produce feed the following year by replacing drought-destroyed seedlings. A survey of the condition of corn and hay crops and the state of new seedlings was made through the offices of the county agents. The amount of hay for sale in each county and the price at which it was moving was determined. The AAA furnished free seed to over 15,000 farmers, and the Extension Service distributed information explaining seeding procedure under drought conditions. Special instructions were issued through county agents on emergency feeding, and application was made to the Farm Security Administration for emergency credit. 52

Milk marketing became perhaps the most significant area of cooperation with the AAA. In early 1933 the price to producers of this most important farm product reached a low ebb. Milk strikes occurred in several sections of the state, and farmers were presented with conflicting counsel by the agricultural press. In this crisis the legislature created the New York State Milk Control Board, which temporarily succeeded in raising the price to producers by establishing minimum prices for both consumers and producers. At the College this was recognized as a temporary expedient, for the milk supply of metropolitan New York came from several states and was beyond the control of an organization lacking interstate authority. In 1933 college personnel, working with a committee of eighteen representatives of milk producers, prepared a milk-marketing agreement which was submitted to AAA officials as the basis for federal control of the metropolitan milk market. 53 At that time, however, AAA lawyers insisted upon a greater degree of centralized authority than New York producers would accept.

In January, 1934, Ladd felt the effectiveness of the Milk Control Board was breaking down through inability to control out-of-state supplies. Hurrying to Washington, he secured a promise from AAA
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authorities to release a milk-marketing agreement quickly so that hearings could be held. While this AAA agreement was not completely acceptable to New York producers, Ladd was optimistic about the possibilities of compromise. "We will take some steps," he declared, "to rally the constructive groups around the proposed license and to crystallize opinion in such a way that we get a few desirable changes in that proposed license." These changes were not immediately forthcoming, yet each year the AAA officials and the groups of producers associated with the College moved closer together. Finally in September, 1938, a federal milk order brought stability to the New York market. With this order, pooling was initiated which guaranteed each producer a share of the fluid milk market. Thereafter college and AAA officials cooperated effectively in stabilizing milk prices in New York.

The Bankhead-Jones Act of 1935 was the most important national legislation relating to the land-grant colleges since the passage of the Smith-Lever Act. Not only were large appropriations involved—in 1935-36 federal appropriations for the College of Agriculture increased 36 per cent—but the scope of the legislation was broad. The largest part of the appropriation was allocated to the further development of extension work, but research and resident instruction also benefited. The phrase "to provide for research into basic laws and principles relating to agriculture" appears in the title of the act and indicates a growing awareness of the importance of fundamental research. Forty per cent of the total amount appropriated by Congress was designated a "special research fund" under the control of the Secretary of Agriculture. One-half of this was to be used for establishing and maintaining regional research laboratories. It was under this latter provision of the Bankhead-Jones Act that the United States Plant, Soil, and Nutrition Laboratory was established at Cornell.

To meet the requirements of the act, a memorandum of understanding was arranged with the directors of the twelve northeastern experiment stations and the USDA. However, the actual basis for operating the laboratory was a personal understanding between Eugene Auchter, chief of the Bureau of Plant Industry, which administered the laboratory on behalf of the USDA, and L. A. May-
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nard of the Department of Animal Husbandry, who was appointed director. Within the framework of its objectives—to find ways for making food crops more nutritious to man—the laboratory was national in scope. Procedures were based on recommendations of an advisory committee of leading researchers in nutrition, many of whom had no connection with the land-grant colleges. The USDA gave Maynard practically a free hand.58

The Mount Pleasant facilities for experimental study of pasture improvement were developed by the Bureau of Agricultural Economics in 1938 and later turned over to Cornell University. Consisting of abandoned hill land rather typical of the southern tier area of the state, it provided a convenient site for studies in the utilization of this type of land for livestock production. To reclaim this area for productive grazing, large quantities of phosphate were needed. This was supplied by the Tennessee Valley Authority in carload lots in the form of calcium metaphosphate, a new and more concentrated source of available phosphate than that currently in use.59

Whatever the difficulties of the moment with USDA officials, agreement was likely in the long run. Outside the platoon of lawyers who staffed the lower divisions of the AAA, the staff of the College and the personnel of the USDA shared an element of experience as workers in the common cause of agricultural education. Many of the members of the national department had arrived there by way of the land-grant colleges. Many were associated in professional organizations with colleagues in the colleges. Ladd, for example, had great respect for Wallace's knowledge of agriculture and his abilities as an agricultural economist. Even when pressures on their organizations forced them to clash on matters of public policy, Wallace and Ladd still maintained friendly personal relations through the exchange of long letters on such favorite subjects as crossbreeding cattle and solving the problems of agriculture through the education of businessmen.60 In the relations of the College to state and university officials this rapport was less in evidence.

RELATIONS WITH THE STATE

Ladd was fortunate, however, with respect to key personnel in the state government. Governor Lehman was deeply interested in
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education and gave it high priority in allocating the state's resources. Harlan H. Horner, appointed director of state college education in December, 1930, represented the State Education Department in its relations to the College of Agriculture. Dr. Horner was an informed and conscientious official who faced the problems of conflicting authority between his department and the Cornell trustees with considerable ability. During his first months in office he took a number of strong positions which protected the University's authority over the state colleges under its jurisdiction. However, Governor Lehman and Director Horner were controlled to a considerable degree by the bureaucracies they headed. A large element in the State Education Department insisted that the state colleges at Cornell should comply with the regulations affecting other state colleges. In the office of the budget director there was increasing pressure for requiring all state colleges to purchase supplies through the centralized State Purchasing Agency. "In a general way," said Mann in 1931, "I may say that we have largely retained our freedom, but that the battles to retain it increase in frequency and that the pressure toward centralization steadily grows." The determination of the farm organizations to prevent the College from being unduly hampered was its best counter weight to the centralizing forces.

Frequently officials of the state were more concerned with manipulation of figures than with understanding what these figures represented. In 1934 assistants in the office of the budget director created what Ladd called a "serious situation" by reducing the appropriation for accessory instruction after noting that the tuition charged by Cornell was higher than that which Syracuse charged the College of Forestry or Alfred charged the College of Ceramics. An article in the February, 1937, issue of *New York State Education* repeated the old error of exaggerating the cost of instruction in the College of Agriculture by failing to consider that much of the state appropriation went for research and extension. In 1939 Ladd noted that the whole situation was further complicated by the unfriendliness of certain members of the Board of Regents.

Regent Owen D. Young was not among this number. In 1936 he proposed to reorganize two of the state schools of agriculture, then having great difficulty attracting enough students to justify the con-
Continuation of state support. At Young's request, Ladd agreed to support a proposal for making the school at Cobleskill a junior college of agriculture and the Canton institution a junior college of home economics. Although not without reservations concerning this proposal, Ladd thought that if these junior colleges were established they must be under the control of Cornell. In this frame of mind he drew up budgets for the proposed institutions and drafted changes in the education law for placing them under the authority of Cornell. The matter was then placed before the Board of Trustees. In 1937 the board was unwilling to accept responsibility for the two junior colleges although, according to a statement made by Regent Young three years later, "I felt sure that such a proposal would receive the unanimous support of the Board of Regents." By 1940 the attitude of the trustees had changed to being "thoroughly receptive" to an early move to place all the state agricultural schools under Cornell University administration. Now it was the regents who were unwilling to act, for by this time the schools had experienced a revival through a broader curriculum and greater interest from their localities.

During the decade, the State Department of Education assumed responsibility for rationalizing the state's support of forestry and conservation education. In the spring of 1930, members of the Department of Forestry at Cornell realized that state policy was moving toward concentrating forestry education at Syracuse. Caught in the consequences of an institutional rivalry not of their making, with the continuation of their academic work in doubt and with their stake in the University community jeopardized, they set out to prove that continuation of professional forestry instruction at Cornell was a good investment for the state. Supporters attested to the high quality of the work done in the department; indeed, no less an authority than Dean Henry S. Graves of the Yale School of Forestry recommended establishing a research institute of forestry at Cornell which would permit concentration on research and instruction of graduate students. This was substantially the arrangement adopted by the State Education Department and the Cornell Board of Trustees in February, 1933, although Horner, at the conclusion of a two-year study of the historical, political, and educational factors
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involved, had recommended that all instruction in professional forestry be immediately discontinued at Cornell. Research and graduate instruction continued, but without the official title which would stamp it as a permanent undertaking of the state. Undergraduates enrolled in the professional courses were permitted to complete their work, with the final class scheduled for 1935-36. Homer explained why this decision was taken at the dedication of the forestry building at Syracuse, named to honor Louis Marshall, friend of former Governor Sulzer and trustee of the College of Forestry. Cornell, he said then and in his report to the Board of Regents, had resumed teaching professional forestry only after the work was already under way at Syracuse.

In the spring of 1934 the Joseph Slocum College of Agriculture closed its doors. In a letter to Ladd, its dean said he had been told that ending agriculture at Syracuse was connected with ending professional forestry at Cornell.

In a second report Homer dealt with the duplication of instruction and research in wildlife conservation between the College of Forestry and the College of Agriculture. He concluded that Cornell's conservation work had been more productive and that facilities for the work were superior to those at Syracuse. However, in this report, submitted May 15, 1936, he tied his recommendation for concentrating conservation education at Cornell to the implementation of his previous recommendation calling for concentrating all work in professional forestry at Syracuse. These recommendations were accepted as policy by the Board of Regents and by the trustees of the institutions involved, effective June 30, 1937. Extension forestry and courses in farm forestry—recognized by Homer as a legitimate part of the activities of the College of Agriculture—were continued by the Department of Forestry at Cornell.

The organization of the Graduate School of Education, established in 1931 as an agency for coordinating the education departments in the College of Agriculture and the College of Arts and Sciences, was also directly affected by the relation of Cornell University to other educational institutions in the state. The need for such coordination had long been recognized, and in 1926 a Division of Education was formed in the University. Its lack of administrative authority, how-
ever, made this unit virtually ineffective. In 1930 the University tried to secure state support for a school of education, but the bill to accomplish this did not pass the legislature. The usual strategy of introducing the bill again the following year was abandoned when Syracuse indicated an intention of seeking such a school from the state. Consequently the Graduate School of Education was formed within the University in April, 1931, by associating the Department of Rural Education in the College of Agriculture with the Department of Education in the College of Arts and Sciences. Julian E. Butterworth was named director. Integration, however, was slight, for both departments retained their own administrative identities. Coordination on a day-to-day basis was achieved through Professor Butterworth, who served as administrative head of these units. In 1937, six years after its establishment, he noted that the Graduate School of Education was still a long way from being an effective professional organization. It was not until 1940 that the College of Arts and Sciences transferred the budget of its Department of Education to the Graduate School of Education, in that year renamed the School of Education. The term “graduate,” attached in 1931 to assure the state teachers colleges that Cornell was not looking toward securing state funds for training secondary teachers, was no longer thought necessary.

State appropriations during the depression decade were not adequate for the work the College had undertaken. Not until 1942 did appropriations again reach the level of 1931. Moreover, activities were further reduced by adherence to a line-item budget. Dean Ladd estimated that 20 per cent more could be accomplished with lump-sum appropriations; in 1938 he listed greater flexibility in budgetary procedures as one of the three greatest needs of the College. Instead, the tendency was toward more rather than fewer restrictions on the College. The approval of state budgetary authorities was required before positions could be filled and before any lump sums in the budget could be segregated by the college administration. One area of flexibility, however, was provided by the salary classification system prepared for all the state colleges by Director Horner in 1931. In the College of Agriculture maximum and minimum salaries were established for all employees; the annual increment for profes-
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sors, assistant professors, and instructors was set at $250 and addi­tional salary was permitted for professors of unusual distinction. 80

After securing appropriations in 1930 and 1931 for an agricultural economics building at Cornell and a horticultural building and greenhouses at Geneva, the University found state authorities unwill­ing to make further major appropriations to enlarge the physical facilities for agricultural education. In 1931 Horner foresaw that if an appropriation for the library were to be obtained in the near future it would have to be secured in 1932, for conditions in the state were rapidly moving toward a situation which would preclude securing the building for another four or five years. Acting on this advice, Mann set out to obtain the library appropriation and then, if conditions were still favorable, go after the agricultural engineer­ing building. 81 This effort was in vain, for no additional buildings were authorized during the decade. Meanwhile the condition of the library deteriorated. In 1938 the budget for the college library was lower than it had been in 1920, although in the intervening years the graduate enrollment had more than doubled and the under­graduate enrollment had increased substantially. Library resources in the departmental libraries financed by departmental funds tended to be superior to the central library in Stone Hall. 82.

However inadequate the state appropriations from the viewpoint of the College or farm organizations, they were sufficient to permit salaries and facilities superior to those in the endowed colleges. University authorities, in attempting to balance appropriations be­tween the state and endowed divisions, had restricted the activities of the College under Dean Bailey and were to do so again under Dean Ladd through refusal to allow the budget requests of the College. To secure funds for the programs worked out by the depart­ments in cooperation with farm organizations, Ladd, with the support of the Conference Board of Farm Organizations, had recourse to

*The College also fared well in comparison to colleges of agriculture in other states. The state appropriation for Iowa State College was cut 27 per cent for the biennium 1933-1935. The state appropriation for Michigan State College in 1933 was 40 per cent less than that of two years before (Earle D. Ross, A History of Iowa State College of Agriculture and Mechanic Arts [Ames, Iowa, 1942], p. 363; Madison Kuhn, Michigan State: The First Hundred Years, 1855-1955 [East Lansing, 1955], p. 341).
special bills which provided appropriations outside the regular college budget.\textsuperscript{83} Once the door of the legislature was opened to special appropriations, a number of bills were introduced which did not originate with the College or with major farm organizations. Each year Governor Lehman or Director Horner consulted Ladd on special bills relating to agricultural education; rarely did they become law without Ladd’s approval.\textsuperscript{84} A 1935 appropriation of $5,000 for research at Geneva on the diseases of hops was an exception. A small group, anxious to revive the disease-stricken hops industry in the state, had sufficient authority in Albany to secure appropriations for research which both Ladd and Director Hedrick felt was useless. The yield of hops on the West Coast was so much greater that eliminating disease would not restore the industry in New York.\textsuperscript{85}

The excellent relations previously maintained with the State Department of Agriculture and Markets continued. In regulating the movement of agricultural produce, the department had increasingly used standards of quality established by the College. In seed certification, this relationship was established by law in 1932. Since 1924 it had been college policy to make all inspections for seed certification through the New York Seed Improvement Cooperative Association as a means of protecting growers prepared to produce quality seed and engage in honest merchandising.\textsuperscript{86} A 1932 amendment to the Farms and Markets Law placed the authority of the state behind this arrangement by authorizing the commissioner of agriculture to promulgate certified seed grades after consultation with the College and to designate an agency which would certify on behalf of the Department of Agriculture and Markets that seed met these grades. The agency officially designated was the New York Seed Improvement Cooperative Association.\textsuperscript{87}

\textbf{RELATIONS WITH CORNELL UNIVERSITY}

During the 1930’s there was a question of the willingness of some members of the Cornell Board of Trustees to cope with the increasingly crucial relations of the College of Agriculture with the state and federal governments. Some of the few trustees who had taken a special interest in the College of Agriculture were handicapped by
having attained maturity at a time when the relation of the federal government to agriculture was relatively remote and insignificant. Trustee Frank Hiscock, for example, attended Cornell when Professor Caldwell was dean of the College of Agriculture, and J. DuPratt White graduated in the Class of 1890. It was natural that the dangers of federal control would loom larger to these men than the possibilities for useful technological and social change implicit in much of the complex research which could be financed most effectively by the federal government. These two trustees strongly opposed the principle of locating the federal nutrition laboratory at Cornell and were not prepared to authorize Ladd to negotiate for its acceptance by the University. It was President Edmund E. Day’s strong support for the laboratory which probably proved crucial in securing the consent of the board. 88

Throughout most of the decade agriculture had two strong representatives on the board, M. C. Burritt and H. E. Babcock. Burritt was elected an alumni trustee in 1934 through the efforts of college alumni to secure a spokesman for the College. Sparked by Professor Rice and A. W. Gibson, an alumni committee succeeded in its second attempt to secure Burritt’s election 89. Babcock served as Grange trustee throughout the decade. Unlike the usual Grange trustee, who served for only a short term and never became thoroughly familiar with trustee procedures, Babcock took an active part in decision making. In 1939 he became acting chairman, and in 1940 chairman of the Board of Trustees, after which he became a regular member. 90 During the time he served as trustee, Babcock was perhaps the most important figure in New York agriculture.

Since its establishment, Babcock had worked through the Conference Board of Farm Organizations to coordinate the activities of the College of Agriculture, the Veterinary College, and the Department of Agriculture and Markets for the purpose of eradicating mastitis, Bang’s disease, and bovine tuberculosis, a long-term effort given public recognition in 1936 by his appointment as chairman of the Governor’s Commission to Study the Problems of Bang’s Disease and Mastitis. 91 He consistently used the power of his position in the G.L.F. and his contacts with the farm bureaus to advance the interests of northeastern agriculture. He tried out new ideas on his
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farm, Sunnygables, which he publicized in a regular column in the *American Agriculturist*. He was an early and vigorous advocate of the home freezer, grass silage, rubber tires on farm equipment, and other innovations in agriculture. But when it came to the relationship of the federal government to the College of Agriculture, Babcock shared the blind spot of fellow trustees White and Hiscock.

In December, 1937, Babcock reported to the New York State Grange that the College of Agriculture was under "constant pressure from the Federal government" to give it greater control of agricultural research and extension. Pledging himself to work toward keeping the College free from direct and indirect federal influence, he concluded, "If necessary I am willing to see the State Colleges sacrifice federal funds and to curtail their work in order to maintain their position of independence." The dramatic treatment given Babcock’s Grange report by the Associated Press caused Ladd considerable embarrassment, for he had no desire to alienate either Babcock or federal officials. Among what he referred to as "certain steps to protect the good name of the institution," Ladd wrote Governor Lehman assuring him that in the opinion of the administrative group at the College, "the federal Government had never attempted in any way to bring pressure on the research or teaching activities of the College." Babcock’s view that power to influence research in the hands of the G.L.F. was somehow more benign than in the hands of federal authorities was a paradox not entirely overlooked at the College. Although in his public statements Babcock was rarely in accord with what he considered the Middle West-dominated Department of Agriculture, he was not completely inflexible in specific situations involving the department. At first opposed to locating the federal nutrition laboratory at Cornell, he eventually yielded to the arguments of Dean Ladd and President Day.

The Cornell Arboretum, later renamed the Cornell Plantations at Bailey’s suggestion, also greatly benefited by assistance from a federal agency. The arboretum project began in 1924 with a gift by Henry W. Sackett for making the gorges adjacent to the campus accessible while preserving their natural beauty. Since the Faculty of Agriculture was most directly interested in developing an arboretum, Dean Mann appointed a faculty committee of four in 1928 to prepare plans.
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Little was accomplished until 1935, when a Civilian Conservation Corps (CCC) camp was located adjacent to the campus. By 1939 approximately 8,000 trees and 1,350 shrubs had been planted and 2.3 miles of road and 2.6 miles of trails constructed by the CCC unit on the 650 acres then comprising the arboretum, with an investment in labor and material by the federal government of approximately $200,000. When the CCC unit was withdrawn in April, 1941, a basis had been laid for unifying the University's lands at Ithaca into "a definite, coherent, long-continuing educational program to the end that every field shall be accessible to students and the public."96

In 1940 the Board of Trustees was reorganized to secure greater efficiency in the administration of the state colleges. A permanent Public Relations Committee was appointed to deal with the general problem of university relationships to the state and national government. The State College Council, which had been long bogged down in administrative detail to the detriment of discussion of fundamental problems, was abolished, to be replaced by separate advisory councils for each college. The new Agricultural College Council included the President of Cornell, the commissioner of agriculture, the commissioner of education, the Grange trustee, the State Agricultural Society trustee, the chairman of the Public Relations Committee of the Board of Trustees, two members elected by the board, the dean of the College, two faculty members, the dean of the Veterinary College, the director of the Geneva station, one representative from each member organization of the Conference Board of Farm Organizations, and three members at large.97

Within the University, the relations with the College of Arts and Sciences were the most complicated. By 1934 the annual payment for accessory instruction had reached $95,000, yet the faculty of the College of Agriculture had little opportunity to know what instruction their students were receiving for this payment. Many students were dissatisfied with particular courses, indicating that the College of Arts and Sciences was not meeting the needs of these students. "It seems to me," said Dean Ladd in 1934, "that the whole situation must inevitably result in the State Colleges building up more and more of the essential services for themselves."98 Indeed, this was already occurring with the establishment of an introductory
course in general psychology in 1930 and courses in elementary accounting in 1923. In part the problem was one of communication, for, even within the available finances and considering the diversity of objectives, greater accommodation might have been possible if the Faculties of Agriculture and of Arts and Sciences could have understood each other's needs and points of view. Toward this end the Faculty of Agriculture in 1938 considered asking the trustees to permit the election to its membership of members of other faculties which offered courses taken by substantial numbers of agricultural students. In 1941 this policy was actually adopted, and by June four professors in the College of Arts and Sciences had been added to the Faculty of Agriculture.

The 1939 decision that zoology would be supported by both the College of Agriculture and the College of Arts and Sciences was a compromise largely dictated by the availability of funds. The problems of coordinating university activities in biology were similar to those involved in coordinating the work in professional education. Like the Division of Education, the Division of Biology, created by President Farrand in 1925, was never an effective administrative unit and by 1933 had largely broken down as a coordinating agency.

Within the College of Agriculture it was Dean Ladd's plan to form a school of conservation around the nucleus of zoologists in the Department of Entomology and Limnology, which included Professors A. H. Wright, W. J. Hamilton, J. G. Needham, G. C. Embody, and A. A. Allen. Part of this group, however, opposed the subordination of basic work in zoology to the more popularly oriented aspects of conservation. In 1937 the possibility was considered of transferring all zoology in the University to the College of Agriculture, as entomology had earlier been transferred, but funds were not available for this. Under the arrangement adopted in 1939 a Department of Zoology was supported by each college and housed in Stimson Hall, a building made available by the demise of the Ithaca Division of the Medical College. The members of the department supported by Agriculture were transferred from the Department of Entomology and Limnology.

The College of Agriculture also became more closely coordinated with other divisions of the University. In 1933 the University Faculty
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adopted a uniform numerical system for reporting student grades which made statistical comparison readily possible. In 1935 the Faculty of Agriculture made possible advanced standing for entering students similar to that granted in the College of Arts and Sciences. University student loan funds were awarded to students in the College; in 1938-39 over 11 per cent of the agricultural students secured loans averaging nearly $120. In 1931 the University adopted group insurance for all permanent employees, paying the cost above the individual's contribution. Finally, in 1940, the long banishment of the extension staff from the Faculty of Agriculture was ended when the extension professors and Geneva staff were made voting members of the Faculty of Agriculture and nonvoting members of the University faculty.

INTERNAL ADMINISTRATION

During the decade five department heads selected by Dean Bailey retired. Professor Warren's successor, W. I. Myers, had been unofficially agreed upon at least five years in advance; but for Professors Lyon, Needham, Rice, and White, no such obvious successors were at hand. The department heads who followed these men were certain to find their task difficult, for policies and methods of operation long established would not be easy to change. Those who had built up a constituency in the state left behind an element inclined to criticize departures from long-established policies. Dean Ladd had to locate suitable successors and persuade them to take up a task involving the coordination of research, extension, and resident instruction and the establishment of teamwork among diverse personalities while living in the shadow of a famed predecessor, sometimes in a building carrying his name. Ladd's problem of selection was complicated by the rapid changes in agricultural science. Such techniques as judging fowl, however worthy in the past, were no longer likely to advance agricultural science. Chemistry and statistics were increasingly vital tools, a situation which favored the selection of younger men. However, the immediate pressures on the Dean from within the departments and from their constituencies were likely to favor a senior member of the department whose personality was known and whose reputation in the department and in the state was established.
In offering advice, Professor Warren recommended selecting men who were already at Cornell. He recalled for Dean Ladd the administration of Director Thatcher, which he thought rather typical of a USDA or a corporation manager’s point of view which ignored the Cornell tradition of professorial independence. “It is really a different institution from most of the agricultural colleges,” insisted Warren, “because we operate on a basis of the independence of each professor.” Babcock later stressed public relations skills as necessary for effective teachers and department heads. “We need,” he counseled Ladd, “three to four headliners who are also good showmen.”

Finding a successor to James Rice, who retired in 1934, was especially difficult. Professor Rice’s tremendous enthusiasm for sharing his knowledge with others made him one of the founders of professional poultry husbandry in the United States. His ability to withstand skeptics like Dean Roberts, who before 1890 questioned giving poultry a place in the College of Agriculture, stood him to good advantage in early years but perhaps later made him somewhat deaf to suggestions that his department would benefit from greater emphasis on research. His breezy contagious optimism and personal generosity disarmed critics but did not diminish the need for exploring genetics and chemical techniques as approaches to improving the poultry industry. Ladd wrote numerous letters of inquiry about a successor to Rice and received recommendations ranging from advocating a scholar skilled in research to avoiding placing a Ph.D. degree above personality and practical experience with poultry. In selecting F. B. Hutt, a young expert in animal genetics from the University of Minnesota, Ladd chose to emphasize skill in organizing research. In 1936 James Needham retired as head of the Department of Entomology and Limnology. The problem of selecting a long-term successor was postponed by elevating a senior member of the department, Oskar A. Johannsen, a man of considerable talent who began his career at Cornell teaching structural engineering from 1899 to 1909. In the two years before Johannsen’s retirement Ladd sought a suitable successor. Under Professor Comstock the Department of Entomology had enjoyed a national and international reputation, but in recent years, so Ladd was advised, the department’s prestige had declined, largely because departments elsewhere were newer and
more modern. It was generally felt that a strong appointment would be required if Cornell were to regain lost momentum. This appointment, wrote California entomologist A. M. Boyce, is “without doubt the chief subject for gossip among entomologists in the whole country.” In selecting Assistant Professor Charles E. Palm, Ladd made an unexpected choice. Although Palm had already attained great success in organizing field work in Oswego County to prevent the spread of a snout beetle that threatened the alfalfa crop of the state, his reputation in entomology was not comparable to that of other possible choices. However, his enthusiasm, his talents as a conciliator, and his ability to get to the core of research proposals, were recognized by Ladd, who chose in the conditions prevailing in the department in 1938 to give these qualities greater emphasis than seniority or established reputation. Palm’s appointment was also a move in the direction of greater emphasis on the economic aspects of entomology.

Professor Lyon retired in June, 1937. “I have been studying the agronomy field for two years and have obtained suggestions from all sorts of sources,” Ladd stated in early May, 1937. “It is astonishing to find the small number of first class men available.” This comment was prompted by Ladd’s disappointment at failing to secure Dr. Richard Bradfield, whom he considered a “most excellent young scientist” and a real find for Cornell. Ladd, however, ultimately succeeded. Although Ohio State made every effort to retain Bradfield, he became head of the department on July 1, 1937, bringing with him an established reputation in the field of soil science.

The selection of a successor to Professor E. A. White, who retired in June, 1939, was complicated by the range of activities in the Department of Floriculture and Ornamental Horticulture and differences of opinion on the emphasis these activities should receive. As in the Poultry Department, research had been somewhat subordinated to the diffusion of information, and this unbalance Ladd was determined to correct. His solution was to move L. H. MacDaniels, who was broadly trained in botany and horticulture, from the Department of Pomology to head the Department of Floriculture and Ornamental Horticulture.

Long before his retirement approached, Warren had been concerned about the reduced efficiency of departments due to the aging
of department heads. In 1929 he proposed that the University adopt the policy that department heads retire from administrative duties at sixty unless reelected annually by the trustees. In 1933 he was prepared to apply this recommendation to his own situation, but the demand from Washington for the services of Professor Myers made this step impracticable. Warren continued to head the department under trying conditions. Younger faculty members frequently had to assume the responsibilities of senior members on temporary duty with government agencies. As a result, the department was unable to provide graduate instruction of the quality Warren desired. As Myers was preparing to take over as department head the tragedy of fatal illness struck Professor Warren. He died May 24, 1938.

Of the many tributes to Warren which dealt with his contributions to agriculture and agricultural education, that of C. W. Kitchen, acting chief of the Bureau of Agricultural Economics, best stands the test of time:

It is always difficult, especially when a career has just ended, to judge adequately the work of anyone whose influence was as extensive as that of Professor Warren . . . Yet when the passing of the years will have afforded opportunity to appraise more clearly the economic thought and events of the past several decades, it is possible that his greatest work will be adjudged to lie in his contributions as a teacher, especially through those who had the opportunity of personal contact with him in his classes and as he conducted their graduate work.

Many in the Bureau of Agricultural Economics had studied with Warren and many others, added Kitchen, had been influenced by his writings. A group of Warren’s former students in the Genesee County Farm Forum—an organization of leading farmers with a common interest in agricultural economics and farm management—presented the portrait that was placed in the building bearing his name.

After the new department heads were appointed, it was necessary to make them known to the people of the state. This was accomplished through the Extension Service by scheduling them to speak before farm groups and over the radio. As a former director of extension, Ladd knew the importance of putting department heads in touch
with farm people, since theirs was the final responsibility for coordinating research, resident instruction, and extension in each field. As dean, he was also concerned lest the extension phase of their duties loom so large that they would be unable to maintain or increase their prestige among fellow scientists.\[121\]

In 1931 the misleading name of Department of Vegetable Gardening was changed to Department of Vegetable Crops; in 1934 meteorology was transferred from agronomy to pomology, and in 1939 the name of the Department of Rural Social Organization was changed to Department of Rural Sociology in anticipation of the establishment of a department of sociology in the College of Arts and Sciences.\[122\]

There were two major administrative appointments. In December, 1935, Ladd recommended the appointment of C. E. F. Guterman as professor of plant pathology and assistant director of experiment stations. Guterman had then been assisting Ladd for several years in evaluating and coordinating research projects. Previous to this appointment Ladd had traveled widely, visiting other experiment stations and talking to their directors; Guterman was, he thought, the best man among them.\[123\] In 1940 Betten resigned as director of resident instruction to give full time to his post as dean of the University Faculty, which he had held since 1931. He was succeeded by Anson Wright Gibson, who previously had been associated with Betten as professor of personnel administration.\[124\]

By 1940 cooperation among departments was becoming as normal as competition had previously been. The retirement of some of the extreme individualists and the growing awareness that complex problems could be solved through interdepartmental cooperation contributed to this changed attitude. The potato project, which was calculated to preserve a share of the potato market for New York producers, was the first major exercise in cooperation. The general problem was attacked through disease control by breeding and manipulation of field conditions, through study of other conditions affecting production, and by the study of harvesting procedures, marketing procedures, and the taste and nutrition of the final product. "For the first time in our history," said Ladd in 1936, "we seem to have the best of generous whole-hearted cooperation between departments to attack the whole problem."\[125\] Cooperation by de-
partment heads made possible a degree of flexibility in the internal administration of the College which had not been possible since Bailey's administration. There were, of course, occasional vestiges of competition which were most evident when a new and desirable position was to be fitted within the existing departmental structure.\footnote{128}

The major interdepartmental controversy did not involve competition for funds or position; rather it centered around the conflicting views of Professor Warren and Professor Morrison of the Department of Animal Husbandry over whether farmers in New York could profitably produce meat animals. Since the 1920's it had been the policy of the college administration, following the recommendations of Warren, to discourage correspondents desiring the College to give more emphasis to meat animal production on the ground that there was no likelihood that this industry would be profitable in New York State.\footnote{127} Morrison was not convinced by Warren's evidence and took the position that the meat animal industry could be profitable, especially in the better hill areas of the state. By 1937 Governor Lehman was under considerable pressure from the Producer's Cooperative Commission Association of Buffalo and other beef and sheep enthusiasts to support an appropriation to Cornell for the purchase of a hill area demonstration farm and for research and extension information on beef and sheep production. Ladd was adamant in insisting that the financial data collected by the College showed that livestock production in these areas could not be profitable. "Even if an appropriation were offered," he wrote Governor Lehman, "I should not want the State College to accept funds to establish a demonstration farm in these poor land areas."\footnote{128} In this instance a compromise was arranged in cooperation with Kenmore Mills of Albany, New York. This corporation set up and operated an experimental sheep farm at Springwater, New York, on low-cost land secured from the Federal Land Bank.\footnote{129} Ultimately this experiment failed to confirm Morrison's conviction about profitably redeeming abandoned hill lands for livestock production, but since its scope was limited to sheep production on abandoned hill land, it did not quiet the demands of livestock producers for further extension work with meat animals. In 1943, at the urging of Dutchess County livestock...
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breeders, the legislature set aside $10,000 for extension work with meat animals and horses.\textsuperscript{130}

Morrison was a strong leader. Like Warren, he developed in the department a carefully considered combination of research, resident instruction, and extension. In the state he stressed working with farm groups; with the aid of a farmer advisory committee under the chairmanship of H. L. Creal, the appropriations for additional livestock and new barns were secured. Within the College his emphasis on effective classroom teaching contributed to increasing class enrollment in the Department of Animal Husbandry.\textsuperscript{*} Also, like Warren, he established among the staff a strong feeling of identification with the department.\textsuperscript{181}

The administration of research was greatly facilitated by adopting a standardized format for outlining research projects. By 1935 it was possible for the director of the Cornell University Agricultural Experiment Station to know what was being done in each department and to exercise, on the basis of this information, a degree of coordination that had been denied Director Thatcher.\textsuperscript{132} Where information was desired beyond that in the research project, or assistance was required in analyzing information, Ladd often consulted several members of the faculty. Dean Mann had also followed this practice, relying especially on Professors Lyon and Emerson, as Ladd later did on F. B. Hutt and Charles Palm.

Formal and informal lines of communication to and within the College made possible quick recognition, in the state's rapidly changing agriculture, of problem areas which were not being aided by the research program of the College. Yet the administration's capacity to make adjustments was limited by the rigid state budgetary practices. "One of the great needs of the College," Dean Ladd declared in 1934, "is for a fluid sum of considerable amount that can be reallocated at the beginning of each fiscal year."\textsuperscript{183}

Coordination of research between Cornell and Geneva was another area where much improvement was possible. Since the resignation of Director Morrison, the inclination toward independence on the part of the Geneva station had again become predominant. There was

\textsuperscript{*}Credit hours taught by the department increased from 1,403 in 1929-30 to 4,226 in 1935-36 (Morrison to Ladd, Oct. 2, 1936, Ladd Papers).
little that Dean Ladd could do to secure greater coordination. As Director Hedrick noted in his last report to the President of the University in 1937, almost all the increases in the station's budget during his administration had come through special appropriations by the legislature. Much to Ladd's dismay, these appropriations were written in a way which required their direct assignment to Geneva. Temporary fellowships and grants of aid from commercial companies and funds from the USDA for cooperative research projects were additional sources of support. Although the receipt of funds in these cases was based on memoranda of understanding which Ladd had to approve, his approval was almost a formality; failure to do so would have affected the morale of the staff who had worked to secure the agreements and would have prevented research of benefit to New York agriculture.

The elevation of Percival Parrott, professor of entomology, from vice-director to director of the Geneva station in January, 1938, was a step toward coordination of the two institutions. The appointment of this senior staff member—his service at Geneva began in 1900—was popular both with members of the Geneva staff and with growers in the state. Unlike his predecessor, Parrott set out to work closely with Ladd and to encourage his staff to comply with college policies, a long-term project among scholars who had become accustomed to operating independently.

EXTENSION

By the 1930's the recommendations of the Extension Service were accepted with what Ladd called "almost embarrassing confidence." Farm organizations like the Dairymen's League and the Empire State Potato Club worked closely with the College. Many individual farmers consulted the county agent or college extension specialists about their farm plans almost as a matter of course. Farm organizations sometimes took the aid of the College for granted. When, for example, the Dairymen's League appointed an escrow committee in the early 1930's as part of a membership drive, they simply informed Professor Leland Spencer that he was a member along with his colleagues, Dean Ladd and Professor Warren. In 1935 Ladd found great difficulty in ending the agreement with the Holstein-Friesian
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Association under which an extension professor served as secretary of the association on a split salary. Although the agreement impressed Ladd as poor administrative procedure and contrary to college policy, he responded favorably to association appeals for renewal of the agreement. The Empire State Potato Club also tended to disregard the independence of the College; in 1923 Dean Mann had protested the plans of its general manager to place extension personnel on an organization committee to enlarge the organization. However, the close relation of this organization to the College proved useful in securing appropriations from the legislature to support the potato project and also facilitated the research and extension activities involved in the project.

Although the predominant orientation of farmers and farm organizations was toward utilizing the help of the Extension Service, there were pockets of disaffection in the state. In some cases this was expressed through local Granges. In 1932 the Pomona Grange of Yates County opposed continued county appropriations for the Extension Service, and in Wayne County, Grange leaders signed a document addressed to the supervisors questioning the work in agricultural extension. Alienation was widespread in the North Country, where many farmers were located on poorly drained land, far from markets, without adequate transportation, and with little access to capital. The College had little to offer farmers operating under such conditions; indeed it was college policy that the public interest would be served by the removal from agriculture of farms which would not provide their operator a decent living. Many of these farmers joined the Dairy Farmers Union, founded in 1936 at Ogdensburg through the activities of Archie Wright. This organization blamed what it called “The Old Farm Gang”—a foursome which included the Dairymen’s League, the G.L.F., the American Agriculturist, and the College of Agriculture—for most of the economic difficulties of its members. The charge contained an element of truth, for these organizations did encourage an efficiency these farmers could not hope to achieve but which further handicapped them when achieved by others. The Dairy Farmers Union found a powerful ally in John Dillon of the Rural New Yorker. While Dillon rarely attacked the College of Agriculture directly, he did
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attack the G.L.F., the Dairymen's League, and the farm bureau-extension service relationship, all of which, from the point of view of the College, were of vital importance to the prosperity of New York agriculture.143

Other attacks came from the opposite flank occupied by those who insisted that the College did not do enough to help them. This was the position of the meat animal producers, who denounced the College for not pushing meat animal production. It was also the position of farmers wanting help in the control of animal diseases. In this the Extension Service was particularly weak, since such help seemed to fall within the responsibility of the Veterinary College, which had not been anxious to cooperate with extension in doing what seemed an infringement on the work of the professional veterinarian. However, incidents like the formation of a “Knockers Club” among Dutchess County poultrymen to condemn the Veterinary College and the Poultry Department for not helping control poultry disease unquestionably led to greater cooperation between the Veterinary College and the animal industry departments of the College of Agriculture.144

In spite of the efforts of John Dillon, the link between the farm bureaus and the Extension Service was not in jeopardy in New York State during the decade. There was within the state some dissatisfaction with national farm bureau policies, but, instead of fostering reaction against the farm bureau-extension link, this resulted in dissension within the farm bureau organization itself. When, in 1938, St. Lawrence County withheld its dues of fifty cents per member from the national organization, national President Edward O'Neal asked Dean Ladd to adjust the situation as best he could.145 By 1940 American Farm Bureau Federation policies were so out of step with the interests of northeastern agriculture that Ladd anticipated that the State Federation might withdraw from the national organization. At that time he wrote to another agricultural college administrator about the possibility of forming a northeastern federation, should the withdrawal of the New York Farm Bureau Federation be consummated.146

One result of the depression was public pressure on county boards of supervisors to reduce taxes, a desirable step which unfortunately
required the reduction of public services. In view of this pressure, it was a tribute to the agricultural extension work that so few counties chose to discontinue the county agricultural agent. Only four counties dropped the agricultural agent, and by 1937 an appropriation for farm bureau work had been restored in each. The home economics organization in the counties was less fortunate. Appropriations for home demonstration agents, which were dropped by eight counties between 1931 and 1933, were not restored in all these counties until 1951. 147

The method of program planning at the county level underwent a major change during the decade from the project type of planning to the commodity or type-of-farming approach. The former emphasized farm improvement techniques of wide applicability such as those dealing with use of lime, culling chickens, and production of alfalfa; the latter emphasized a farm management approach by concentrating on the relationship between production factors on the individual farm. Following this approach, county programs were developed by commodity committees composed of leading farmers who concentrated on the production of a particular commodity working in cooperation with subject matter specialists from the College. 148 More efficient education resulted as farmers, county agents, and extension specialists approached individual farm problems in relation to the total operation of each farm.

The change in method of programming was an accommodation to increasing specialization. Farmers concentrating on particular commodities wanted the information they received from Cornell channeled toward the production and marketing of those commodities. Meetings of a general type were no longer useful to them. Also involved was a growing awareness of the value of a management approach to the farm business. Efficient farmers anxious to maintain their competitive position recognized the importance of evaluating production options in relation to marketing forecasts made available through Cornell and the USDA. This awareness had been developing gradually. The commodity committees organized in the 1930's were institutionalized forms of what already existed in some counties. 149 It was on the basis of demonstrated value that the program was established on a statewide basis.
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In some counties the new method of programming was slow in developing, because of a lack of leadership among farmers and because some county agents found it difficult to adjust to the requirements of the new approach. Under the project method the county agent could, and sometimes did, run a one-man show. Although it was desirable for the agent to consult with county committeemen in order to enlarge his own point of view and make local people part of the planning process, it was not vital for carrying out the extension objectives of the departments at the College. The use of lime and other improved practices could be demonstrated whether or not local farmers took part in planning the project. This was not possible under the commodity approach to the county program, for here teaching began with the condition of the farmer.

Earl Flansburgh, county agent leader, contributed to the adoption of the new program approach by stressing a capacity for leadership in the selection of new agents and, of equal importance, providing on-the-job training for the present agents. Much of this was done informally. Flansburgh had an excellent knowledge of conditions in the counties, and agents understood that his door was always open and that he was there to help them. Agent education of a more formal nature occurred through conferences at the College, scheduled increasingly on a regional basis, which brought together agents with common problems. Within the college extension organization, Professor Montgomery Robinson served as a liaison officer to coordinate the activities of the extension subject matter specialists with the program requirements of the counties. He played a key role in encouraging and facilitating the transition from a highly specialized departmental form of extension to the commodity approach.

College policy required extension specialists to work through the county agents. This arrangement strengthened the position of the agent in the counties and was a workable procedure for most of the departments. The Department of Rural Social Organization was an exception. The members of that department received few calls from county agricultural agents, who as a group were not aware of the possibilities of improving rural living through other means than increasing farm income. The efforts of the department’s extension specialist to work directly with Granges and parent-teacher organi-
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zations were opposed by college administration as a departure from generally sound policy.\textsuperscript{151} This impasse was broken in 1932 when the recently appointed department extension specialist, R. A. Polson, worked with county agricultural agents in improving rural fire protection through the formation of fire districts. In the long run, improvement in the relations between the department and the county agricultural agents came about as county agents acquired a broader understanding of their educational function and as organizations desiring the services of the department's extension specialists learned to schedule these services through the county agents.\textsuperscript{152}

The number of serial publications issued by the College increased during the decade with the number of extension bulletins keeping pace approximately with the issue of experiment station bulletins. This increase dated from the time Ladd became dean and may well reflect Professor Warren's philosophy, expressed at a moment when he had just received a "vigorous complaint" from the Bureau of Agricultural Economics charging that his department published material piecemeal: "Apparently they would like to hold everything until the world is completed," Warren commented. "We like to use the material quickly and widely."\textsuperscript{153} Even this speed was insufficient to satisfy producers who kept in close touch with experiments in progress and who frequently urged researchers to make recommendations before they were ready to do so. A vegetable grower, asked by the Dean if he paid any attention to published results, replied that by the time the publications were available, the growers had the recommendation in practice for two or three years as a result of seeing the experiments and discussing them with members of the staff.\textsuperscript{154}

The faculty required little persuasion to prepare experiment station bulletins, although E. W. Allen had earlier noted a "frequent tendency" among individual workers to delay summing up research for digestion and publication.\textsuperscript{155} Extension bulletins were another matter, for the extension staff was often occupied giving talks, which the farmers preferred to have and the extension staff preferred to give. The efficiency of extension work could be greatly improved, Professor Van Hart suggested in 1932 while serving as acting director of extension, if farmers were trained to read research bulletins while they were undergraduates in college.\textsuperscript{156}
Membership in 4-H clubs increased from about 20,000 in 1930 to over 31,000 in 1940, while the number of 4-H agents increased from thirty-five to sixty-two, and the volunteer club leaders from about 1,700 to over 3,300. Unlike many other states where the agricultural agent supervised 4-H clubs, it was the policy in New York to carry on the work with separate agents, and in 1934, nearly 23 per cent of all the 4-H agents in the United States were located in New York. About twelve counties employed two 4-H agents, one trained in agriculture, and the other in home economics. The proportion of time the extension staff (including 4-H agents, agricultural agents, home demonstration agents, college specialists, and extension administrators) devoted to 4-H in 1935-36 was about 27 per cent, a figure close to the national average.157

Farm and Home Week during Dean Ladd's administration was an elaborate presentation designed to acquaint farm people with the work of the Colleges of Agriculture and Home Economics. By 1934 the number of events exceeded five hundred and in 1940 the program, of regular bulletin size, contained fifty-six pages describing the week's events.158 Some effort was made to entertain visitors with contests, motion pictures, musical programs, and travelogues—in 1938, 3,000 people watched Archie Lobdell win the wood-chopping championship of New York State by severing a ten-inch beech log in 38.3 seconds—but the core of the week's activities was solidly agricultural education. It was this emphasis, Ladd believed, which attracted increasing numbers of visitors to Farm and Home Week.159 In 1938 registered attendance reached a high point of 14,111. In that year also, the Veterinary College, which had had a small part in Farm and Home Week since the event was established in 1908, set up its own program, and in 1940 the Veterinary College events were listed in the regular Farm and Home Week announcement.160

Other meetings of a more specialized nature were held yearly at the College. Training conferences were sponsored by departments for county agents and others interested in particular topics. Other meetings involved interdepartmental or intercollege cooperation and frequently lasted several days. Perhaps the most significant of these were the school for town highway superintendents and the nutrition school for feed manufacturers and distributors. The former
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grew out of studies of local government by Professors M. P. Cather­
wood and T. N. Hurd in the Department of Agricultural Economics
and Farm Management. First offered as a four-day course in 1938
by the Colleges of Agriculture and Engineering, the initial effort was
so successful that the New York State Association of Town Super­
intendents of Highways requested another school the following year.
Thereafter the school became an annual event.161 By providing
instruction in technical skills which few town superintendents of
highways brought with them to their elective positions, the school
met a need Bailey had noted in 1904. The nutrition school for feed
manufacturers and distributors, first held October 26-28, 1937, pro­
vided an opportunity for the Cornell staff engaged in the study of
animal nutrition to present research results useful to feed manufac­
turers. This replaced a nutrition school started by the Department
of Poultry Husbandry in 1934 for farmers and feed manufacturers.
It had become evident that the interests of these groups were too
diverse for joint instruction and that the manufacturers were also
interested in larger animals. As established in 1937, the school was
under the joint sponsorship of the Departments of Animal and
Poultry Husbandry.162

A similar conference bringing together the manufacturers of spray
materials with staff members from the Departments of Plant Path­
ology and Entomology was started in 1938 through the initiative of
Professors Palm and L. M. Massey. Like the nutrition school for feed
manufacturers, this conference proved so valuable that it became
an annual event. In view of the past animosity of some members of
these groups toward the College, these conferences were a remarkable
achievement and indicated that the manufacturers recognized the
soundness of college recommendations.163 The cooperation between
manufacturers and college researchers led in turn to further changes
in the extension work of the College. As manufacturers accepted col­
lege recommendations in formulating their products, the college
recommendations for use of these products were carried to the con­
sumer by the manufacturer’s salesmen. Thus extension personnel in
the counties, gradually released from the need to keep up to date on
rapidly changing technical information, were able to concentrate on
a business management approach to the needs of their constituents.
Meetings at the College also served to promote communication and cooperation between farmers and business interests supplying what the farmer consumed. This was an area in which Ladd was deeply interested. In 1938 he sent out numerous personal invitations to the second conference in the nation between farmers and the Agricultural Committee of the National Association of Manufacturers, held at the College, March 16-17. At the conference of the previous year at Ames, Iowa, farmers had been so antagonistic to the manufacturers that the secretary of the Agricultural Committee found it difficult to adjust to his reception at Ithaca. Ladd was pleased with the outcome of the conference in spite of the insistence by this official that the farmers of New York must be concealing their hostility toward the manufacturers. The previous week a similar conference had been held at the College between executives of utility companies and leaders of New York farm organizations.

The Extension Service played a key role in introducing the artificial breeding of dairy cattle, a technique that has been called “perhaps the most revolutionary of all developments in the history of dairy cattle breeding.” By 1930 the selection of superior bulls by dairymen was based upon the quality of the bulls’ offspring rather than the entries in their pedigrees. An important part of the work in animal husbandry had been assisting farmers in keeping production records, which furnished a means by which sires of proved transmitting ability could be located. After 1930 the formation of associations for the cooperative ownership of bulls was encouraged by the Extension Service so that maximum use could be made of these proven sires. The speed with which dairy herds could be improved was limited of course by the nature of the reproductive process.

Artificial insemination offered the possibility of increasing the rate of dairy herd improvement. In December, 1935, Professors Maynard and Sydney A. Asdell attended a conference on artificial insemination at Chicago where English and Russian methods were discussed. The techniques were regarded as primitive by the Cornell professors, yet the possibilities for improving the dairy industry through the use of artificial insemination were so great that extensive research quickly led to the development of effective and somewhat standard-
ized methods. On September 16, 1939, the Pioneer Cooperative Dairy Breeding Association was formed at a meeting held at the College. This, the second artificial breeding association in the country, resulted from the careful field work of Professor S. J. Brownell and the county agents in Tompkins, Seneca, Cortland, Broome, Tioga, and Cayuga counties. Forty-one dairymen pledged over three hundred cows. By 1940 fifteen more breeding associations had been formed in the state. That year these associations combined into a state-wide association which maintained all the sires on a central farm near Syracuse. By the following spring over 14,000 cows were served through this association.

The artificial breeding associations offered a means for increasing farm income through soundly demonstrated techniques. Another agency which the Extension Service supported had neither accepted techniques nor an immediate relationship to incomes. It functioned primarily on hope and dedication and by 1940 was defunct. This was the Tompkins County Development Association, founded in July, 1934, as a planning and action agency designed to make "this county the best possible place to live." The initial support for the association came from the New York State Temporary Emergency Relief Administration (TERA), which designed work projects to take labor from the relief rolls. The seven-member Agricultural Advisory Committee of TERA, of which Dean Ladd was chairman and L. R. Simons and George Warren fellow members, gave the project a broader scope from the beginning. By June of 1935, seventy citizens of the county were working through an executive committee and sixteen separate subcommittees to develop an integrated plan for land use, highway systems, electric lines, school districts, health units, and recreational groups. When emergency relief funds were cut off in October, 1935, the project was financed by the County Board of Supervisors and the Extension Service. This cooperation continued until 1938, when the Board of Supervisors refused to make further appropriations. Thus the board responded to widespread local opposition to social planning. But, in spite of its ignominious end, the experiment marked a significant effort in directing the resources of the College to surveying, planning, and relating various aspects of social activity within a defined political area.
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RESEARCH

Increasing efficiency in agriculture through lowering the cost of each unit of production continued to be the principal object of research. Although the disposal of agricultural surpluses was a pervasive national problem, it was to the economic advantage of the individual producer to contribute to that surplus as long as he could do so at a profit. As the margin of profit became narrower, the efficient producer was induced to adopt new techniques for increasing production in order to maintain income while the inefficient producer was forced out of agriculture. Thus agricultural research at Cornell and Geneva contributed, as it had since the 1880's, to a situation where a declining number of farmers produced an increasing agricultural output. A solution to the problem of agricultural surpluses was thought to lie either in national planning and controls or in expanding the internal market for agricultural products.

Toward this latter objective, increasing the consumption of food, much new research at Geneva and Cornell was directed. New forms for packaging food, particularly freezing and dehydration, were developed to be commercially feasible, and new containers were created to preserve these foods and make them attractive to the customer. Ladd pushed the development of the frozen food industry in the state. In 1933 and 1934 he encouraged representatives of the somewhat reluctant canning industry to explore the possibility of developing the freezing process in their factories. "We should be glad through the College of Agriculture to cooperate with any group of businessmen in doing this," he wrote the secretary of the Association of New York State Canners. 173

Research at this time was characterized by interdepartmental cooperation; only by this means could problems be approached that demanded a variety of specialized skills. Artificial breeding research for example, involved at least eleven staff members from the Departments of Animal Husbandry, Dairy Industry, and the Veterinary College. Research on crop improvement required cooperation between the Departments of Agronomy, Botany, Plant Breeding, Plant Pathology, and Vegetable Crops.

Unlike the early part of the century, when farmers could directly
apply college recommendations in mixing their own spray materials, feeds, and fertilizers, or, to take a somewhat different example, build their own milk coolers, the nature of these products had become so complex that farmers could no longer assemble them. Moreover, there was no need for them to do so, thanks to the G.L.F. and other distributors that provided farm supplies based on the recommendations of the agricultural experiment stations and the USDA. Consequently, much of the research during the 1930's was directed toward the manufacturers of farm equipment, feeds, insecticides, and fungicides and toward artificial breeding associations, poultry breeders, and others who supplied services to producers.

In raising the efficiency of the poultry industry, the major problem was no longer improving the management skills of the producer but rather developing stock to stand up under the strain of high production, itself the result of earlier research in nutrition, artificial illumination, poultry house construction, breed selection, and incubation procedures. F. B. Hutt's work in genetics gave the Department of Poultry Husbandry a world-wide reputation in the field. His success in breeding for resistance to leukosis, a malignant type of growth in laying hens and the largest single cause of mortality, was especially significant.\textsuperscript{174}

Under the leadership of G. W. Salisbury, now head of the Department of Dairy Science at the University of Illinois, Cornell led institutions in the United States in the investigation of artificial breeding. It contributed an improved method for diluting semen and investigations on the best way of storing semen. The use of artificial breeding techniques, in turn, called attention to the problem of sterility in dairy cattle. With carefully controlled experiments, S. A. Asdell demonstrated the need for caution in the use of hormones in treating dairy cattle sterility.\textsuperscript{175}

A study of longevity in animals under the direction of Clive McKay, L. A. Maynard, and S. A. Asdell challenged the concept of a fixed life span and the view that a rapid increase in size and weight in the early stages of development contributed to longevity. This series of experiments showed the advantage of certain restricted rations and laid a basis for determining the optimum nutritional requirements for longevity and physical well-being. Asdell was less fortunate in
RESPONSE TO NATIONAL STRESSES, 1931-1940
determining how varying levels of reproductive rate affect longevity;
on the 667th day of the experiment with rats, as the critical stage
approached, the air-conditioning plant delivered live steam, all but
wiping out the colony. It was twenty-five years later before he had
the opportunity to continue this work.\textsuperscript{176}

The difficulty under which another phase of his research was con­
ducted has been described by Professor Asdell:

During the depression the small amount of money available for large
animal work, entirely derived from federal funds and a grant from Swift &
Co., had to be put into animals. When work was in progress on the basic
reproductive phenomena in dairy cattle no funds for labor were available
and the college abattoir could only be used by the research staff at night.
It was usual to slaughter the experimental animals in the evening. The
graduate student would immediately take the reproductive tract to the
laboratory in another building for study while it was fresh. The professor
skinned and cut up the carcasses and carried out the offal. All-night sessions
were frequent.\textsuperscript{177}

Methods for improving the quality and reducing the cost of pro­
duction of orchard and field crops were studied in the principal soil
and climatic regions of the state. An effort was made to breed crops
for disease resistance, special attention being paid to developing
potato stocks immune or resistant to the blight. Development of
controls for insects harmful to agriculture was greatly increased after
1937. Studies on the relation of soils to success in fruitgrowing in the
state were important for farmers about to plant orchards. Orchard
planting, in contrast to field crops, was a costly process which did not
permit mistakes. Among feed crops, bird’s-foot trefoil received much
attention. It was found that this legume, under certain growing condi­
tions, was a more efficient source of animal nutrients than alfalfa. Field
balers and hay crushers were then new implements; although they are
accepted as commonplace today, at some point researchers had to
determine if farmers were paying for the increased efficiency in han­
dling hay with a final product that was less palatable or nutritious.\textsuperscript{178}

Beginning in Tompkins County, the utilization of land was exam­
ined on a county basis during the decade. By 1940 the land in four­
teen other counties had been classified as to present and potential
uses; five classes were employed, the lowest numbered being con­
sidered the poorest for agricultural purposes. These detailed studies, accompanied by maps, were useful not only to farmers but to public agencies and private businesses. Utility companies, bankers, and other businesses extending credit as well as agencies involved in allocating public resources for school and highway construction were informed that investments in land classes one and two were poor risks when this land was to be used for agricultural purposes. Another series of studies indicated what management practices were related to success in the major types of farming in the state, and a third series investigated the transportation and marketing of milk and other agricultural products produced in the state.179

The mobility of farm people, especially of farm youth to urban areas, had been viewed with concern since the late nineteenth century; the hope that agricultural extension would contribute to social stability in rural areas was involved in early state appropriations for this work at Cornell. However, the significance attached to the problem declined during the period of urban prosperity preceding 1930. In the face of renewed urban unemployment, the capacity of rural areas to support rural youth again became a matter of concern. By the 1930's techniques in rural sociology had so developed that accurate information could be obtained on the activities of farm people. Studies by W. A. Anderson provided information on the residential and occupational mobility of farm people in New York, on the interests and activities of rural youth, on the transmission of farming as an occupation, and on the characteristics of farm people on relief.180

Funds for agricultural research at the College included appropriations to the states under acts of Congress plus federal moneys appropriated on the basis of memoranda of understanding between the College and agencies of the federal government. About one-third of the total state appropriation for operation and maintenance was allocated to research throughout the decade.181 In addition, farm and corporate interests supported research, either through short-term grants in aid or fellowships or through research agreements extending over a number of years. During the mid-1930's the Empire State Gas and Electric Association supported a Cornell research program in rural electrification by assessing each of its member companies ten

Other studies were supported by the Rockefeller Foundation. A grant of $5,000 in 1934 supported Professor R. A. Emerson's work in the genetics of maize, and in 1936 an additional grant of $42,500 extending over six years supported studies by Professors C. M. McKay, L. A. Maynard, and S. A. Asdell on the longevity of animals.

Facilities for research in the plant sciences at the College were substantially augmented by Liberty Hyde Bailey's donation of his herbarium to the University in 1935. A gift mutually advantageous to the donor and the recipient, it made possible increased financial support from the College for Bailey's scientific work, and for the College it meant receiving over 125,000 mounted sheets of plants and over 3,000 books that Bailey had collected over his lifetime. Since this was a new type of scientific undertaking dealing with the systematic classification of cultivated plants, Bailey coined the word "hortorium" to describe this collection of domesticated plants. The establishment of the Liberty Hyde Bailey Hortorium at Cornell had the additional effect of renewing Bailey's contacts with the faculty, which had been rather few since he retired as dean. He had not over the years lost the ability to dramatize problems in education. Many faculty members were stimulated by his breadth of vision after he resumed a closer connection with the University.


†Mann had tried many times previously to persuade Bailey to take an active part in college activities. "My course here has run," Bailey replied in 1920. The following year he stated: "Of itself my life took a different course. I am now far on the other journey; I cannot turn back; the years are too few to be retraced" (Bailey to Mann, May 20, 1920, Aug. 31, 1921, Mann Papers).
EDUCATION AND AGRICULTURE

RESIDENT INSTRUCTION

The enrollment of regular and two-year students increased steadily from 1931 until 1940, when the establishment of stiffer entrance requirements and the operation of the Selective Service Act combined to effect a decline in enrollment. Graduate enrollment in the College followed the course of graduate enrollment in the University, declining from 1931 to 1934, then increasing from 1935 to 1939.\(^{186}\) Enrollment figures for 1931-1940 show these changes:

<table>
<thead>
<tr>
<th>Year</th>
<th>Regular</th>
<th>Special</th>
<th>Winter</th>
<th>Graduate</th>
<th>Summer</th>
<th>Two-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1931-32</td>
<td>840</td>
<td>49</td>
<td>126</td>
<td>487</td>
<td>880</td>
<td>63</td>
</tr>
<tr>
<td>1932-33</td>
<td>881</td>
<td>31</td>
<td>101</td>
<td>439</td>
<td>782</td>
<td>56</td>
</tr>
<tr>
<td>1933-34</td>
<td>954</td>
<td>31</td>
<td>123</td>
<td>368</td>
<td>691</td>
<td>79</td>
</tr>
<tr>
<td>1934-35</td>
<td>1,003</td>
<td>41</td>
<td>115</td>
<td>329</td>
<td>816</td>
<td>137</td>
</tr>
<tr>
<td>1935-36</td>
<td>1,051</td>
<td>37</td>
<td>128</td>
<td>373</td>
<td>780</td>
<td>169</td>
</tr>
<tr>
<td>1936-37</td>
<td>1,105</td>
<td>47</td>
<td>123</td>
<td>445</td>
<td>920</td>
<td>211</td>
</tr>
<tr>
<td>1937-38</td>
<td>1,236</td>
<td>43</td>
<td>96</td>
<td>468</td>
<td>878</td>
<td>234</td>
</tr>
<tr>
<td>1938-39</td>
<td>1,320</td>
<td>33</td>
<td>126</td>
<td>510</td>
<td>929</td>
<td>261</td>
</tr>
<tr>
<td>1939-40</td>
<td>1,368</td>
<td>31</td>
<td>124</td>
<td>488</td>
<td>935</td>
<td>252</td>
</tr>
<tr>
<td>1940-41</td>
<td>1,324</td>
<td>32</td>
<td>103</td>
<td>439</td>
<td>1,038</td>
<td>212</td>
</tr>
</tbody>
</table>

Dean Ladd viewed resident instruction, as he did other parts of the college operation, in terms of its service to agriculture. Students with a farm background and a sincere interest in agricultural training were rarely refused admission, at least to the two-year course, while city students were rejected in large numbers as the decade progressed unless their records indicated a sincere desire for agricultural education. City students could demonstrate this interest by working on farms or in other jobs related to their proposed curriculum before applying for admission. About one year of such experience was required for admission to the two-year program.\(^{187}\) Ladd had little sympathy with Bailey's position that the College should be open to all qualified students seeking education through agricultural subjects. He was not prepared to welcome those enrolling to take advantage of free tuition even when their vocational aim was a public-service-oriented profession like teaching science at the secondary level.\(^{188}\)

At the beginning of the decade the need to increase enrollment
RESPONSE TO NATIONAL STRESSES, 1931-1940

took precedence over maintaining admissions requirements with the result that a number of students were admitted who ranked substantially lower in mental ability tests than the student body of the University. In courses with students from other colleges, they received lower grades.\textsuperscript{189} Since many faculty members in the University, understandably enough, were more interested in maintaining “standards” than in accommodating their teaching to the level that could be assimilated by their students, the drop-out rate was high. It was, admitted Dean Ladd, “a rather serious situation.”\textsuperscript{190} However, as the decade progressed an increase in applications made greater selectivity possible. In 1934 only 15 per cent of those applying for the four-year program were rejected; each year this percentage increased until it reached 36 per cent in 1939. Some of those rejected who had farm experience were admitted to the two-year course, which explains the sudden increase in the two-year enrollment in 1934-35.\textsuperscript{191}

The academic qualifications of students entering the four-year program increased steadily after 1934, when only 69 per cent of those admitted were in the upper two-fifths of their high school class. Each year the proportion of the entering class falling within that range increased until, in 1939, 84 per cent were in the upper two-fifths.\textsuperscript{192} In that year a faculty request for a further increase in admissions requirements for the four-year program included the rejection of all applicants ranking below the third fifth of their high school class. Without making further changes in admissions policy, the faculty at that time laid down clearer guidelines for admissions officers. Since college records supported the conclusion that students from farms desiring preparation in technical agriculture did better in their courses than city students concentrating on these fields of instruction, greater academic preparation was expected from city students planning to enter the courses in technical agriculture. Students wishing to concentrate in the basic sciences were expected to be in the upper two-fifths of their high school classes. The difficulty of placing graduates was also recognized as a factor to be considered by admissions officers.\textsuperscript{193}

The proportion of students entering the College with substantial farm experience increased through the decade, as farm families became aware that college education in agriculture not only con-
EDUCATION AND AGRICULTURE

tributed to success in farming but also opened numerous opportunities in occupations related to agriculture. In 1931, according to a study conducted by Professor R. M. Stewart, relatively few farm boys then in high school were preparing to enter college. Thereafter vocational guidance by parents and counselors and the school visits of Professors Gibson and Peabody laid the basis for increased enrollment of students with farm backgrounds. In 1936, 40 per cent of the students entering the College for the two-year or four-year programs were farm reared, a higher proportion than at any previous time.

Resident instruction remained the most loosely organized of the major activities of the College. Shortly before leaving the directorship of resident instruction, Betten reflected that the organization of the College, while strong on other counts, was weak in that there was no staff on which the director could count as mainly interested in teaching. Furthermore, except for the small Bankhead-Jones teaching fund, the director of resident instruction had no control over money that could be used as an inducement to more effective instruction. Only when faculty members came to him for Bankhead-Jones funds, Betten noted, could he learn specifically what they proposed to do in resident teaching. This loose organization, permitting a maximum degree of freedom for each teacher in his classroom work, was justified by the assumption, traditional at Cornell University, that he would use his freedom wisely. There were cases, however, where the improvement of teaching lay outside the control of the individual staff member. As in research and extension, coordination was needed between members of various departments in solving particular educational problems. In resident instruction the chief problems concerned the vocational objectives of students. "A most insistent need," declared Betten in June, 1940, "is that of defining the purposes of the College in terms of the types of students it means to train." Science teachers and farmers presumably required different curricula; farm practice was of questionable relevance to all vocational objectives.

In 1927 Directors Ladd and Betten had recommended that departmental practice fitting into the vocational objectives of students be substituted for the general farm practice requirement. In 1931 the Educational Policy Committee included this recommendation in a report which was approved by the Faculty of Agriculture. Groups of
staff members whose work was related to the vocational aims of the students were to be appointed by the director of resident instruction to "have power to determine the nature and amount of practice required of students taking the major portion of their work in the area in which the staff group functions." These groups were also to develop curricula which would meet the specific vocational objectives of students. Although thoroughly sound as educational theory and a parallel development to what was occurring in research and extension, the coordination of faculty groups across departmental lines for resident instruction was not aided, as was coordination in research and extension, by pressures outside the College. Betten began by calling together members of departments having some relation to a possible curriculum in dairy farming but after several meetings found it impossible to persuade these strong-willed individuals to function as a group. A similar attempt to develop a curriculum in poultry farming was unsuccessful. Thereafter Betten concentrated on the faculty advisers chiefly to develop more rational student programs.

Although the original justification for the large number of electives in the four-year program had been based on a strong advisory system which would assist the student in choosing wisely from the broad offerings of the College, advising students had become over the years a generally undesirable chore, often shifted to someone else by capable advisers. Student programs with no central objective were a result of the unskilled and sometimes disinterested advising. By concentrating on teachers who were interested and competent in advising students, Betten and his colleague, Professor Gibson, did secure greater stability in the role of adviser. These advisers were encouraged to consult colleagues in their departments.

Except for a brief decline between 1933 and 1935, the enrollment of graduate students remained stable throughout the decade. Faculty members who had established a national reputation for the quality of their research and graduate teaching attracted outstanding graduate students from all parts of the country. During the 1930's Dwight

*Also included in the recommendations of the Educational Policy Committee was a statement highly critical of the existing farm practice requirement. This recommendation was not accepted by the Faculty of Agriculture (Faculty of Ag. Minutes, VII, 28-32).
EDUCATION AND AGRICULTURE

Sanderson's work in rural sociology placed him in this category. Among his students were Howard Beers, Ph.D. '35, at present head of the Departments of Sociology and Rural Sociology at the University of Kentucky, who helped in introducing the study of rural sociology into India and Southeastern Asia; William G. Mather, Jr., Ph.D. '36, an outstanding teacher who became head of rural sociology at the Pennsylvania State College; Mark Rich, Ph.D. '37, head of the rural activities of the Baptist Church and leader in the movement to consolidate rural churches in the United States; and Irwin T. Sanders, Ph.D. '37, head of the Department of Sociology at Boston University and consultant on the organization of rural development programs overseas. Other outstanding students who received their doctorates during the decade include: Emil Chroboczek, Ph.D. '32, chairman of the Department of Vegetable Crops at the College of Agriculture, Skierniewice, Poland, described by Professor H. C. Thompson as "the leading vegetable scientist in Poland"; Thomas K. Cowden, Ph.D. '37, dean of the College of Agriculture at Michigan State University; Earle Crampton, Ph.D. '37, professor of nutrition at McGill University, who contributed to the refinement of statistical methods as applied to nutrition; George K. Davis, Ph.D. '37, director of nuclear sciences at the University of Florida, who was the first to carry out studies on farm animals with radioactive isotopes; John T. Emlen, Ph.D. '34, professor of zoology at the University of Wisconsin and a leader in the study of animal behavior; James E. Kraus, Ph.D. '40, dean of the College of Agriculture at the University of Idaho; Harold H. Williams, Ph.D. '33, head of the Department of Biochemistry at Cornell University; and Harold G. Wilm, Ph.D. '34, commissioner of conservation for New York State and formerly associate dean of the New York State College of Forestry.
CHAPTER IX

Old Concepts
and New, 1941-1960

THE COLLEGE IN WORLD WAR II

COLLEGE involvement in the national defense and war effort from 1940 to 1945 was far greater than in World War I. Director Lloyd R. Simons, determined to avoid the confusion he had witnessed in Washington in 1917 in connection with federal efforts to mobilize food production, took the lead in the spring of 1940 to prepare New York farm organizations for wartime conditions. Acting on his initiative, the Executive Committee of the Conference Board of Farm Organizations, meeting in Ithaca, June 22, 1940, formed the New York State Emergency Agricultural Defense Committee.¹ Similar organizations were formed by farmers at the county level. Unlike the USDA action agencies, which found it difficult to shift from limiting food production to increasing output, the New York State Extension Service was well suited by experience and emergency organization to respond to the national call for increased productivity.

Farm labor became the most crucial factor in agricultural production, as full-time farm workers were drafted into the armed services and the seasonal labor supply on which much of New York agriculture depended was reduced by competition from war factories and the armed services. Efforts to overcome the labor shortage took several forms—the importation of foreign labor, primarily from the Caribbean area, and the maximum utilization of machinery. Almost full responsibility for operating the federally financed farm labor program within the state fell on the extension personnel.² Housing for the farm laborers had to be located, food supplies arranged, and schedules prepared for allotting their services to farmers. Farm machinery clinics were held where tools were repaired and farmers
instructed in proper maintenance. In addition, extension carried on its regular service of transmitting information to farmers, in some cases using short "how to do it" booklets, which explained the use of substitutes for items made scarce by wartime conditions. In addition to their regular duties, the county agricultural agents served as secretaries to the USDA war boards and aided in the administration of the selective service system as it affected agriculture. This latter responsibility was particularly demanding; much time was involved in investigating each request for deferment and much soul-searching in recommending who should remain outside military service.

In World War I it was college policy to protect current research, especially that of a fundamental nature, from wartime pressures, and to the end of the war research was carried on virtually without disruption. This was not possible in World War II. By 1943 almost all research was directed toward finding means for maintaining agricultural production. New recommendations for feeding, fertilizing, and controlling disease and insects had to be developed as military requirements affected the availability of materials currently in use. In 1943, for example, several research groups were trying to find substitute sources for protein in livestock rations.

As new problems arose, groups from the staff were brought together with representatives of manufacturers and others interested in finding solutions; the urgency of helping the producer adjust to new situations did much to bring together research and extension staff members across departmental boundaries. One of the most dramatic of these problems was to locate a domestic source for natural rubber, formerly obtained from tropical countries. Milkweed was regarded as a possibility, so Boy Scouts and 4-H members were sent out to collect the weed, and a large part of the research staff spent several hopeful months considering the problem. In the end, however, no commercially feasible process was developed through this research.

The number of students enrolled held up surprisingly well until the last two years of the war, when enrollments dropped to about half of those registered in the fall of 1942. As in World War I, the armed services assigned students to the College for instruction in
OLD CONCEPTS AND NEW, 1941-1960

particular subjects having military application. Members of the Department of Floriculture and Ornamental Horticulture, for example, gave courses in military camouflage.

As the end of the war approached, college officials planned to avoid a repetition of the 1918 fiasco, when discharged veterans occupied abandoned farm lands during what turned out to be the last flush of agricultural prosperity. By 1945 a Farm Location Service was in operation to help discharged veterans and released war plant workers find farms offering the possibility of successful operation.

NEW YORK AGRICULTURE

From the perspective of long-term trends, there was little that was new about postwar agriculture. In terms of the rate of movement along existing dimensions, the postwar period was marked by considerable change. The number of farms in the state continued to decrease (to about half the prewar total by 1959), and the remaining farms continued to increase in acreage. Significant changes also occurred in the types of farms remaining, as is shown by the number of farms of selected types in New York State during these years:

<table>
<thead>
<tr>
<th>Type of farm</th>
<th>1939</th>
<th>1944</th>
<th>1949</th>
<th>1954</th>
<th>1959</th>
</tr>
</thead>
<tbody>
<tr>
<td>General farms</td>
<td>17,700</td>
<td>10,900</td>
<td>5,900</td>
<td>4,700</td>
<td>2,400</td>
</tr>
<tr>
<td>Dairy farms</td>
<td>57,900</td>
<td>56,400</td>
<td>55,400</td>
<td>49,200</td>
<td>39,100</td>
</tr>
<tr>
<td>Poultry farms</td>
<td>13,000</td>
<td>13,700</td>
<td>9,200</td>
<td>7,000</td>
<td>3,700</td>
</tr>
<tr>
<td>Vegetable farms</td>
<td>5,200</td>
<td>6,300</td>
<td>3,500</td>
<td>2,300</td>
<td>1,700</td>
</tr>
</tbody>
</table>

Specialization was the keynote of New York agriculture in the twenty years after 1939. General farms in that period decreased from 15 per cent of all farms classified by the U.S. census in 1939 to 4 per cent in 1959. Dairy farms during the same period increased from 49 per cent to 71 per cent of the total farms classified.* A fifty year study of farms in the Town of Dryden in Tompkins County illustrates the relation between specialization, mechanization, and the capital

* A general farm was defined by the U.S. census as one where no single group of products accounted for as much as 50 per cent of the total sales; 1939 data is used as reclassified in the 1945 census of agriculture. I am indebted to Professor S. W. Warren for tabulating this data.

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required for a farm business. Although limited to a single township, the trends illustrated were fairly typical of New York agriculture:

<table>
<thead>
<tr>
<th>Year</th>
<th>Farms</th>
<th>Total Acres</th>
<th>Milk Receipts</th>
<th>Milk Pounds</th>
<th>Cows</th>
<th>Capital Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1907</td>
<td>206</td>
<td>132</td>
<td>46</td>
<td>1,914</td>
<td>11</td>
<td>$6,400</td>
</tr>
<tr>
<td>1917</td>
<td>159</td>
<td>148</td>
<td>52</td>
<td>4,412</td>
<td>10</td>
<td>10,300</td>
</tr>
<tr>
<td>1927</td>
<td>118</td>
<td>152</td>
<td>57</td>
<td>5,716</td>
<td>10</td>
<td>10,700</td>
</tr>
<tr>
<td>1937</td>
<td>111</td>
<td>147</td>
<td>64</td>
<td>5,718</td>
<td>14</td>
<td>9,400</td>
</tr>
<tr>
<td>1947</td>
<td>70</td>
<td>191</td>
<td>73</td>
<td>6,927</td>
<td>25</td>
<td>23,100</td>
</tr>
<tr>
<td>1957</td>
<td>65</td>
<td>225</td>
<td>82</td>
<td>8,493</td>
<td>35</td>
<td>46,000</td>
</tr>
</tbody>
</table>

Although the number of specialized farms held up until about 1950, general farming was a victim of the war and the immediate postwar period. The increasing cost of farm machinery made it economically unsound for farmers to purchase expensive machinery that could be used only on the small acreage usually associated with general farming. These difficulties were compounded by rapid technological change, which reduced the value of farm machinery even while it stood in the tool shed. After 1950 the specializing farmer was also caught in a decreasing margin of profit. He could escape by giving up farming, as many farmers did, or increase his output without increasing his cost per unit of production. This was accomplished by a number of means but primarily by cutting labor costs through mechanizing farm operations requiring extensive labor and through introducing more powerful and versatile machines in areas already mechanized. This was the decade of widespread adoption of barn cleaners, egg washers, automatic poultry feeders, and specialized harvesting machinery. The result was to increase greatly the capital

*Only farms with at least 200 man-work units and a full-time operator are included (Farm Economics, March, 1959, pp. 5749-5752; interview, S. W. Warren, Dec. 5, 1960).
invested on each farm. Moreover, the nature of the new machines frequently forced farmers to adopt them sooner than the economics of their operation would justify. In the dairy industry, for example, the pipeline milker was a sound method for saving labor but this device made little sense if connected at the outflow end with the traditional forty-quart milk can. Refrigerated bulk tanks, therefore, were needed with pipeline milkers. But these tanks in turn required bulk tank trucks to pick up the milk from the farm. By 1960 these tank trucks were cutting into the business of operators who picked up milk in forty-quart cans, thereby gradually forcing the less efficient operator out of business. As this occurs, the farmers using milk cans have to convert to bulk tanks in order to maintain their milk market. The phenomenon is comparable to the break-up of threshing rings in the early 1930's by the introduction of a small number of combines; but, unlike the grain farmer, the dairyman cannot stay in business by hiring a bulk tank for a few days a year.

The expansion of farm businesses in New York State was accompanied by greatly increased need for operating capital. Debt, once regarded by the farmer as a disgrace to be quickly paid off, became an accepted part of farm management. To spread the risk, arrangements were adopted from other businesses operating on borrowed capital, which included renting arrangements, partnership agreements, and vertical integration with manufacturers of farm supplies. The Extension Service adjusted to this increased emphasis on the business aspects of farming, which it had helped to promote, by counseling farmers individually on management problems and by facilitating the movement of capital by advising agencies in a position to finance farm operations.

Other approaches to improving the economic position of the farmer were to seek new uses for agricultural products and to develop orderly marketing procedures enabling the farm products to flow smoothly from producer to consumer without disabling fluctuations in price. These approaches to the problem of stabilizing postwar agriculture lay behind the passage of the Agricultural Research and Marketing Act of 1946. This act declared it to be the policy of Congress "to promote a sound and prosperous agriculture and rural life as indispensable to the maintenance of maximum employment and national
prosperity. It is also the intent of Congress to assure agriculture a position in research equal to that of industry which will aid in maintaining an equitable balance between agriculture and other sections of our economy." This legislation reflected the hope that in time solutions would be found through research to the problems arising from an agricultural surplus. Meanwhile, Congress relied on the USDA action agencies to carry out its policy of maintaining balance between agriculture and other sections of the economy.

The wartime price guarantees of 90 per cent of parity for agricultural products terminated at the end of 1948. However, the Agricultural Act of 1948, which replaced this legislation, also relied on a parity formula. In this act and in additional legislation passed the following year, parity was generally set at close to the 90 per cent level. This legislation was not in accord with the views of officials of the College of Agriculture, who reflected what was probably the dominant opinion among northeastern farmers—that market price should be the principal guide in determining the kinds and levels of agricultural production. Since the Northeast was not primarily an agricultural region or a major producer of the basic surplus crops, it was not in a strong position to influence the formation of national agricultural policy. Once policy was established, however, the College could and did play an important role in the formulation of administrative decisions affecting New York and, in some cases, northeastern agriculture. In hearings on milk-marketing orders, for example, staff members offered expert testimony which furnished a basis for setting prices adjusting the supply of milk to the anticipated demand. In some cases before the order was drawn up, staff members brought together groups interested in milk pricing in order to secure a workable compromise which could serve as the basis for the milk-marketing order.

RELATIONS WITH USDA ACTION AGENCIES

Preparation for defense and war mobilization disrupted relationships between the state extension services and the USDA action agencies — agencies also working directly with farmers — which had been stabilized after the Mt. Weather Agreement. The redistribution of power tended to follow its normal course in wartime toward
concentration in the national government. There was, in New York and other states, a strong determination to oppose this concentration of power as applied to agricultural mobilization. Officials of the state extension services believed, with good reason, that their agencies offered the most efficient medium for helping farmers increase production. The possibility also that the action agencies might permanently preempt extension's responsibility under the justification of war emergency was not entirely overlooked by extension officials.

The relationships between the Extension Service and the USDA action agencies were complicated by attitudes and issues having little relation to agriculture. Both parties found themselves in uncomfortable alliance with administrators who held doctrinaire views about the centralization of power and decided issues involving the vesting of authority on this basis. By stressing elements of ideology in what were essentially practical affairs, the doctrinaires made the normal process of accommodation between the USDA and state extension officials more difficult. Usually, however, they were held in check by those who subordinated doctrine to expediency in the decision-making process. By making decisions dependent on the movement of events, expediency, too, threatened standing relationships by giving undue weight to pressures of considerable intensity but short duration. This was the case in the winter of 1941, when members of the party in power held the land-grant colleges responsible for farmers voting the Republican ticket in the campaign of 1940. "The situation has become so bad," wrote Thomas Cooper, the secretary-treasurer of the Association of Land-Grant Colleges, "that our strong friends in Congress are reluctant to take up prospective legislation." In spite of the tendency of doctrinaires and those steering by political winds to drive them apart, agricultural college and USDA officials usually were able to reach an accommodation on a personal basis; as in former years, Dean Ladd and Director Simons took an important part, not only as officials of the College of Agriculture but also as representatives of the Association of Land-Grant Colleges.*

The alliance between the American Farm Bureau Federation and

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* Ladd had been a member of the Executive Committee since 1938. Simons was a member of the Committee on Extension Organization and Policy and its chairman in 1941.
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the extension services of the land-grant colleges was another source of friction between USDA and college officials. The operation of this alliance is illustrated in the organization of the wartime farm labor program. In March, 1943, responsibility for farm labor was assigned to the newly established Agricultural Labor Administration in the Department of Agriculture. The issue of how this authority would be administered was then threshed out. Director Simons, who had already worked through the farm organizations in New York State to secure an emergency appropriation for farm labor from Governor Dewey, hurried to Washington to press for decentralized administration of the national farm labor program through the state extension services. In doing this he had the strong support of the American Farm Bureau Federation and fellow extension directors in other states, particularly C. E. Brehm of Tennessee, P. O. Davis of Alabama, and T. B. Symonds of Maryland. The question of decentralized administration turned on one word in the congressional appropriation for the farm labor program. Director Simons testified before both the Senate and House Appropriations Committees in favor of a stipulation that about one-half of the total appropriation “shall” be appropriated to the states on the basis of need. The acceptance of this word placed the operation of the program within the country on a decentralized basis. Responsibility for the recruitment of foreign laborers remained with the Agricultural Labor Administration.

The American Farm Bureau Federation gave strong support for the decentralization of other agricultural programs through the extension services of the land-grant colleges. On specific issues like the farm labor program, the national federation usually supported the position of the land-grant colleges. This relationship had, of course, existed long before the USDA action agencies were established and was a situation these agencies had to live with. USDA administrators, however, did not view with equanimity a resolution passed at the December, 1940, meeting of the American Farm Bureau Federation calling for transferral of the extension services of the land-grant colleges authority for administering the USDA action programs at the state level. Their resentment at the lack of confidence expressed in their work was compounded by the belief that the resolution had been inspired by representatives of the land-grant colleges. The
resolution in question followed so closely the content of a speech made at the federation meeting by Director C. E. Brehm of Tennessee that USDA officials had strong ground for this suspicion. The method of accommodation in this instance was described by Dean Ladd in a letter to the chairman of the Executive Committee of the Association of Land-Grant Colleges, who had called upon Ladd to help repair the breach:

I have been in close touch with the situation in Washington for the past three weeks. Director Simons has been in Washington several times and while there has been in daily contact with me by telephone. He has done an exceptionally fine job in maintaining fine personal relationships with the men in the Department, and he tried with some success to bring a little more harmony and understanding to the whole situation. He has worked closely with Creel and has had a long and frank conversation with Wickard. Meanwhile, several Department representatives have been in my office and talked frankly about the whole situation.

The American Farm Bureau resolution may well have suggested to the officials of the USDA action agencies that it was time to strengthen their organizations at the local level. In May, 1941, the regional office of the Agricultural Adjustment Administration moved to dismiss Earl Flansburgh, the county agent leader, as state administrator of the AAA program and replace him with a full-time chairman responsible only to the AAA. "Although the change is somewhat camouflaged," Ladd wrote to Secretary of Agriculture Wickard, "I am convinced that the real aim is to divorce the agricultural conservation program entirely from the Extension Service and the College." In reply, Acting Secretary Paul Appleby stated that the desire to "develop responsibility, leadership, and understanding of the program among farmers themselves" did not preclude cooperation with the Extension Service. By 1941 the AAA was a powerful national organization. The strength of the New York State Agricultural College and the State Extension Service was no longer sufficient to prevent the AAA from developing organizations within New

*Cecil Creel was Washington representative for the Association of Land-Grant Colleges; Claude Wickard was Secretary of Agriculture (Ladd to Walton, March 11, Walton to Ladd, March 11, 1941 [telegram], Ladd Papers).
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York State independent of extension, as it had already done in many other states.

The years immediately following the separation of the AAA and the Extension Service in New York were marked by conflict at both the county and state level until extension and AAA agents learned to work together on common agricultural problems from positions of separate authority. When, at the end of the war, continued congressional appropriations for the Agricultural Adjustment Administration and the Soil Conservation Service became a political certainty, the danger which the Extension Service posed to their continued existence became less serious. The security this knowledge provided, together with a growing mutual respect between USDA and extension personnel, facilitated greater cooperation in this state. By 1948 the Dean of the College of Agriculture could point to a “happy relationship” between the College and the action agencies. The heads of these agencies in the state and personnel of the College were, he asserted, personal friends. Personal contacts between the staff of the Extension Service, the AAA, and the SCS were supplemented at the state level by quarterly meetings held to coordinate the activities of public agencies which directly affected New York agriculture.*

SEPARATION OF FARM BUREAU AND EXTENSION SERVICE

Close ties between the American Farm Bureau Federation and the land-grant colleges were both a source of strength and a handicap in promoting their mutual interest in decentralization of government activities relating to agriculture. Any action enlarging the authority of the state extension services tended to strengthen the state and national farm bureau organizations. Under these circumstances it was difficult to persuade other national farm organizations to support steps for the decentralization of USDA functions through the land-grant colleges. It was with the object of securing some unity among

*An outgrowth of the USDA War Board, representatives of these and other public agencies, including the State Department of Agriculture and Markets and the State College of Forestry, have met since the war under the name of USDA Council (Simons, Wartime and Other Emergency Activities, p. 46).

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national farm organizations on the issue of decentralization that Babcock held a conference in his office in February, 1942, attended by Ezra Taft Benson, secretary of the National Council of Farm Cooperatives; Albert Goss, master of the National Grange; James Patton, president of the Farmers Union; President Edmund E. Day of Cornell University, and Dean Ladd. During the meeting Mr. Goss demanded, evidently as a price of unity, that the favoritism shown farm organizations in some fifteen states be eliminated. On the basis of this meeting and other observations, Babcock said that only by placing the county agent work on a 100 per cent public basis could enough support be garnered among farm organizations and in Congress to decentralize USDA functions through the land-grant colleges. In the same letter Babcock reported the reaction, privately expressed, of the American Farm Bureau Federation president, Edward O'Neal, to Mr. Goss's demands: "Mr. O'Neal agreed that Mr. Goss had sound grounds for his objections and repeatedly said in our conferences that he would like to see the so-called partnership between the Farm Bureau and Extension Service in certain states broken up."23

The separation of the farm bureau and state extension services, made mandatory by order of the Secretary of Agriculture, Ezra Taft Benson, in November, 1954, did not come at the request of groups in New York State; rather it was forced by groups in other states over the wishes of New York farm organizations and officials of the College. In the twelve years between Babcock's conference and the Secretary's order, the groups raked over the old charges about misuse of franked mail for farm bureau purposes, turning over extension dues to pressure groups, and competition with private business by merchandising agencies of the farm bureaus. Little new evidence was presented which favored separation.

When the order requiring separation was issued, it came from what a student of the subject has called "the Secretary who was as close to agreement with Farm Bureau policy as any occupant of that office had ever been."24 Regardless of the public position of farm bureau officials in the intervening years, it would seem that Babcock's reasoning in 1942 provided the rationale for separation. The long delay was to allow time in those states with close farm bureau - extension service connections to prepare for separation.
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During those years the relationship between the farm bureau and the extension service was ended in one state after another until, in 1950, only two states remained with these organizations in partnership—New York and Illinois. It was evident to Director Simons and E. S. Foster, executive secretary of the New York State Farm Bureau Federation, that separation in this state would eventually be required, either by executive or congressional action or by court decision, as had occurred in Kansas. Together they set out to prepare New York farm bureau members, who were generally satisfied with existing relationships, for an adjustment to external pressures that could not be avoided.25

A subcommittee on reorganizing the New York State Farm Bureau Federation reluctantly recommended separation from the State Extension Service in May, 1951. This was accepted by the directors of the State Farm Bureau Federation but did not become organization policy at the time. It was not until the spring of 1954, when it was known that Secretary Benson planned to release an order requiring separation, that representatives of the State Farm Bureau and the Extension Service agreed on procedures for separation. There was opposition to separation from other farm organizations in the state which feared that relationships to their constituency would be disrupted if the Farm Bureau were released from its ties with the Extension Service. However, separation was accomplished early in November, 1954, at a conference of the State Farm Bureau Federation. The following week Secretary Benson issued his order requiring separation.26

INTERNAL ADMINISTRATION

The twenty years between 1941 and 1960 witnessed great changes in college personnel. Few among those charged with major administrative responsibilities held their positions throughout this period. Dean Ladd’s often expressed plans to relax on his farm at the end of the war were not to materialize. He died on July 23, 1943. His successor was William I. Myers, then head of the Department of Agricultural Economics. Professor Myers brought to the position vast experience as an administrator and invaluable personal relationships with leaders of farm organizations and other men in positions to

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affect public policies toward agriculture. In 1954 L. R. Simons retired after serving forty years as an extension worker, twenty-two of these as director of extension. He was succeeded by Maurice C. Bond, then a professor of marketing, who had held major responsibility for the extension work of the Department of Agricultural Economics. In 1957 Professor Charles E. Palm succeeded C. E. F. Guterman as director of research and director of the Cornell University Agricultural Experiment Station. In this position he acquired larger administrative experience and additional contacts which served him well on his appointment as dean in 1959, following the retirement of Dean Myers. Palm was succeeded as director of research and director of the Cornell University Agricultural Experiment Station by Wilbert Keith Kennedy, professor of agronomy. In 1960 A. W. Gibson retired after twenty years as director of resident instruction and was succeeded by Thomas C. Watkins, professor of economic entomology. Also in 1960 Professor Arthur J. Heinicke retired after eighteen years as director of the Geneva Experiment Station. His successor, Professor Donald W. Barton, had been head of the Vegetable Crops Department at Geneva. In the departments, only A. J. Heinicke, head of the Department of Pomology since 1920, and J. H. Bruckner, appointed acting head of the Department of Poultry Husbandry in 1940 and head in 1942, served throughout the twenty-year period, 1940-1960. 27

Most of the expansion in the work of the College between 1941 and 1960 occurred within existing administrative units. Several new units were created, however, in order to bring together similar work being conducted in separate departments and to lay a basis for larger appropriations from the state. Perhaps the most important new unit was the School of Nutrition, established in 1941 to coordinate research and teaching in nutrition, then being carried on in the Veterinary College and in the Colleges of Agriculture, Home Economics, and Arts and Sciences. The purpose of the school, declared its director, L. A. Maynard, was "to blanket the study of nutrition from the soil to the consumer's table and assess the results in health and performance." 28 Its establishment was primarily due to H. E. Babcock. Deeply interested in research in nutrition, he promoted the idea of a separate school of nutrition and was active in obtaining
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financial support. Closely related to the School of Nutrition was the Department of Biochemistry.

The importance of more rapid development in biochemistry at the University was recognized in the mid 1930's, and in 1937 the university Division of Biology recommended the establishment of a department of biochemistry in the College of Agriculture. A beginning in this direction was made in October, 1941, when the work in biochemistry in the Department of Zoology of the College of Arts and Sciences was transferred to the Department of Animal Husbandry under the administrative direction of Professor Maynard. Maynard wished to augment this small staff, headed by Nobel prize winner James B. Sumner, and in August, 1942, he submitted a memorandum indicating an urgent need to make biochemistry a separate administrative unit. At a conference that December, Professor Maynard, Dean Ladd, and Directors Gibson and Guterman decided that this department should be established “as soon as possible.” It was not until 1945, however, that Dean Myers was able to secure an appropriation from the legislature. Unquestionably, his efforts were aided by the decision of the G.L.F. to subscribe $200,000 for a building to house the new department. In making this gift to the University, the G.L.F. Board of Directors recommended that the building be named Savage Hall in honor of Professor E. S. Savage, the originator of the “open formula” feeds, which had played such an important part in the early success of the organization.

In 1948 a special appropriation by the legislature made possible the long-desired Department of Conservation. Work with fish, wildlife, and farm forestry was transferred from the Departments of Zoology, Entomology and Limnology, and Forestry. At that time forestry was disbanded as a separate department. Gustav A. Swanson was appointed head of the new department.

The enlarged scope of the Department of Dairy Industry, recognized in 1960 by the new title, Department of Dairy and Food Science, had been developing gradually since 1945, when the New York State Canners and Freezers Association asked the College to establish a four-year program in food science. This development coincided with a period of rapid change in the dairy-processing industry, as technological improvements reduced the number of
employees needed in the industry and financial considerations led dairy manufacturers to branch out into processing and marketing other food items. The four-year curriculum in food science was established in 1946, with administrative control vested in an interdepartmental committee under the chairmanship of Director Gibson. A teaching staff of a single professor paid from lapsed salaries and housed in the agricultural engineering building carried the program with the assistance of Professor B. L. Herrington and others from the Department of Dairy Industry. Finally in 1959 an appropriation was secured to establish an effective program in the Department of Dairy Industry.35

The titles of two departments were altered; in 1942 the Department of Agricultural Economics and Farm Management shortened its name to Department of Agricultural Economics, and in 1948 the Department of Biochemistry added "and Nutrition" to its name.36 Neither title indicated a change in activities. Biochemistry was renamed to convey some idea of the department's scope, since biochemistry was then a technical term of limited usage. However, public interest in the basic sciences increased greatly in the 1950's, and in 1960 it was considered appropriate to change back to Department of Biochemistry.37 In 1949 the work in meteorology was transferred to the Department of Agronomy, following the retirement of Professor R. A. Mordoff, who had taught courses in the field since 1917.38

In 1945 a new Department of Extension Teaching and Information was established jointly in the Colleges of Agriculture and Home Economics with both teaching and administrative functions. To the new department was assigned responsibility for the press, radio, and audio-visual services of the two colleges, the preparation of manuscripts for publication, and instruction in extension teaching and journalism. Professor William B. Ward was appointed head of the department.39

In 1958 the Office of Farm Practice and Farm Superintendence was abolished. Administration of the farm practice requirement was placed under the director of resident instruction, and administration of the university farms was placed in an Office of Farm Services responsible to the director of research.40
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RELATIONS WITH THE STATE

The College achieved greater flexibility in its operations between 1941 and 1960, while at the same time the authority over the College of university administrators and of administrators in Albany increased. This paradoxical situation arose as administration was rationalized in both the University and the state government. It was the policy of Deane W. Malott, president of Cornell since 1951, to emphasize the unity of the University. In addition, the increasing number of state-supported units—the School of Industrial and Labor Relations was added in 1944—made it desirable to assure through the University's administration continued coordination of these colleges in relation to the state government. Since this relationship has primarily concerned financial matters, the principal agent performing this coordinating function has been the university controller. At the state level, the legislature belatedly recognized that the most efficient return on the state's investment in higher education was not secured as long as it controlled all aspects of the operation of educational institutions through line-item appropriations. However, in allocating a large part of the college budget to "maintenance undistributed," the legislature did not thereby transfer control over this portion of the College's budget to the University, for these appropriations could be segregated only with the permission of administrative officials in Albany. In the last twenty years this approval has usually been forthcoming, due to mutual confidence between university and state administrators.

Although methods of administration which prove satisfactory over a period of time acquire resistance to change as they become buttressed by tradition, this point had not been reached by 1960 in the relationships between university and Albany officials. The freedom of operation which had been granted university officials in their administration of the College of Agriculture could, with a change in state or university personnel, be placed in jeopardy. The element of instability in the relationships between Albany and Cornell officials has been, to a degree, counteracted by the Council for the College of Agriculture. The members of the council were selected merely to advise on behalf of the interests in agriculture, in agricultural busi-
ness, and in agricultural education which they represented, but it was natural that they would become involved in supporting the educational program they recommended. This support has not taken the form of lobbying; rather it has been primarily in the realm of informing the public about the plans and activities of the College of Agriculture.\textsuperscript{42} By providing information that has promoted a continued expression of public confidence, the members of the council have generated diffuse pressures for continued support of the College which have been difficult for public administrators to resist arbitrarily. The council's recommendations concerning the annual budget of the College have been incorporated by the Agricultural Conference Board into its annual statement of the needs of New York agriculture and presented to the Governor and legislative leaders shortly before each session of the legislature.

The establishment of the State University of New York in 1948 and the incorporation of the state colleges at Cornell into its decentralized structure did not, from a legal standpoint, clearly increase the authority of state officers over the College of Agriculture. Under the new legislation, the general supervision of the State Colleges was transferred from the Board of Regents to the Board of Trustees of the State University. This grant of authority "subject to the general supervision and authority of the board of regents" for "over-all central administration, supervision, and coordination of state operated institutions and statutory or contract colleges" represented a reallocation of authority as broad and as vague as that formerly possessed by the Board of Regents in its own right.\textsuperscript{48} For Cornell University and the College of Agriculture, the immediate disadvantage in the new arrangement lay in the disruption of personal relationships with the Board of Regents, which by 1948 had developed to the general satisfaction of Cornell. Prior to that time the Board of Regents had agreed, on the basis of personal understanding, to submit the college budget intact, an arrangement under which the regents restricted themselves to commenting on provisions in the budget that they questioned. The officials of the State University have, on the other hand, used their power to remove and reduce items in the college budget, the extent of these reductions and the manner in which they were made depending on the person who held the position of liaison.
officer between the State University and the state colleges at Cornell. Generally, however, these reductions have been modest.\textsuperscript{44} Although the State University is one more administrative level through which the college budget must pass, the opportunity for higher education which the State University opened to the people of New York made this a small price for the College of Agriculture to pay.

The authority to grant increases in salary was another area in which, over the years, the legislature relinquished power to administrators. The Salary Classification Act, which became effective in March, 1945, authorized Cornell University to classify all positions in the College of Agriculture and at the Geneva Experiment Station within the services and grades specified in the act and to recommend annual increments within the range specified. Unlike previous legislation, this act permitted the University, with the permission of the director of the budget, to appoint persons in the professional service above the minimum salary, thus making it possible to compete with other institutions for outstanding persons without securing special authorization from the legislature.\textsuperscript{45}

Only twice between 1941 and 1960 has the state appropriation for operation and maintenance been reduced below the level of the previous year, the only substantial reduction coinciding with the beginning of the administration of Governor Dewey in 1943. Since that time, with the single exception of 1950, appropriations for operation and maintenance have steadily climbed from slightly below two million dollars in 1944 to nearly 7.8 million dollars in 1959. Except for the war years, when funds for the federal farm labor program were carried in the college budget, the state’s portion of the college budget for maintenance and operation has ranged between 65 and 70 per cent of the total.\textsuperscript{46} Relative to appropriations made by other states, New York stood second in the amount appropriated for agricultural research in all but three of the years between 1945 and 1959. During the same period, however, New York dropped from first to fifth in the amount appropriated for agricultural extension.\textsuperscript{47}

Four major buildings, approved by the Board of Regents in 1943 as part of its postwar building program, were completed at the College and the Geneva Experiment Station. Other buildings, also
approved by the regents and the New York State Postwar Public Works Planning Commission, but not started by 1960, included an agronomy building, an entomology building, and a new series of greenhouses with attached headhouses.48

The building program at the College was part of a state plan to use public works as a means for alleviating the effects of a depression which, it was anticipated, would follow in the wake of World War II. In 1945 an initial appropriation of $1,529,000 was made for the library building. The following year $1,116,000 was appropriated for an agricultural engineering building and $430,000 for a food science and technology building at Geneva. Thereafter the state administration sat back to await the beginning of the depression. As the years passed without a break in the postwar prosperity, pressure developed to authorize the construction of the buildings that had already received initial appropriations from the legislature. In October, 1949, construction at last began on a building to house the combined libraries of the Colleges of Agriculture and Home Economics.49

Although plans for this building had been prepared since the spring of 1945, there was still a group in the faculty which favored integrating the college library within a new university library. In 1948 this step was called “the only satisfactory permanent solution to the library problem” by the Library Committee of the Faculty of Agriculture. This position was not supported by the faculty, which was aware of the University’s inability to secure funds to finance its share of the central library at that time. To the majority it seemed wiser to construct a building for which an appropriation had already been made than to wait out the uncertainties of university fund raising.50 Space was incorporated in the new building to house the Bailey Hortorium, the Wiegand Herbarium, and other facilities of the Department of Botany, which in the 1930’s had been slated to occupy a separate structure. A wing connecting the library with Warren Hall also provided accommodations for the Department of Rural Sociology and the Biometrics Unit. In the fall of 1952 the new building was completed. The staff, budgets, and books of the two college libraries plus some departmental libraries were consolidated in the new building, appropriately named in memory of Albert R.
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Mann. 51 For the first time in its history, the College of Agriculture had adequate library facilities.

The agricultural engineering building, first requested in the ten-year plan prepared by Acting Dean Webber in 1910, appeared in proposals for the expansion of the physical facilities of the College submitted in 1920 and in 1930. Construction of the building actually started in 1953 after the legislature made additional funds available. 52 The new building, occupied in February, 1956, was named Riley-Robb Hall in honor of Howard W. Riley and Byron B. Robb, the professors who guided the early development of agricultural engineering at Cornell.

Construction of the food science and technology building at Geneva was also slow in getting under way. Although a number of the annual reports of the station for the years after the first appropriation was made in 1946 contain the hopeful statement that construction was about to begin, it was not until March, 1958, that ground was actually broken, the delays being due to the Korean War and the desire of state officials to give priority to the construction of a central heating plant. 53 The new building, dedicated in 1960, contained laboratories, storage facilities, and a two-story pilot plant for large-scale investigation of food-processing operations. 54

Frank B. Morrison Hall, occupied in the summer of 1961, gave the Department of Animal Husbandry the most extensive physical facilities of any department on the upper campus. Unlike Wing Hall, which was planned primarily for resident instruction, the new building was designed for research and extension activities as well. It contains over three hundred rooms including five teaching laboratories and six lecture rooms, one of which has seating capacity for over 300 persons. 55

Two buildings, constructed almost exclusively for research, incorporated facilities permitting control over the environment in which experiments are conducted, thereby enabling investigators either to maintain a constant environment necessary for increased accuracy in some experiments or to use such environmental factors as temperature, humidity, and the composition of atmosphere as experimental variables. In previous decades much was learned without such rigorous controls, but with the increasing sophistication of research
techniques, specific knowledge of the effect of environmental conditions in experimental situations became increasingly important. The Poultry Biology Laboratory, completed in 1961, contained chemistry laboratories (none was included in Rice Hall when erected nearly fifty years earlier), a food technology laboratory, where detailed bacteriological analyses could be made and new poultry products developed, and air-conditioned animal rooms. For the further perfection of a technique developed by Professor Robert Smock for preserving apples in storage by reducing their rate of respiration, a cold storage building was erected in 1953 which included equipment for modifying the atmosphere in the storage rooms. The building, making possible large-scale research on a technique already proved commercially significant, was financed by a loan from the University, which was repaid from the sale of orchard products.

Service to organized agriculture and agricultural business was for Dean Myers, as it had been for Dean Ladd, a primary objective of the College. Departments at the College continued to work closely with farm organizations, some, like the Department of Animal Husbandry, having advisory committees composed of leading farmers. Through representation on the Agricultural College and Experiment Station Council, farm and farm-related organizations advised on the formation of policy and programs in the College and, through the medium of the Agricultural Conference Board, aided in securing the appropriations for the College. Dean Myers' reliance on this approach to the legislature replaced the lobbying methods which Deans Bailey, Galloway, and Mann had used to obtain appropriations. However, there was in the College, as there had been since Bailey's administration, a point of view which opposed tying the development of the College so closely to the practice of agriculture. Those who took this position found support in census estimates that by 1959 the proportion of the state's population engaged in agriculture was below 3 per cent. On the occasion of his retirement in 1959, Dean Myers spoke directly on this point:

There are some who have come to the College in recent years who would play down agriculture and emphasize other fields. I believe we would do that at our peril. I think the basic factor should be the philosophy of service
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to agriculture and to the public and add other related work, but not weaken
the service for which this College was established and for which it has
been supported.

INTERNATIONAL SERVICE

The influence of the College between 1941 and 1960 has been
extended to many countries in connection with programs to increase
the productivity of agriculture. Federal agencies and private founda­
tions interested in agricultural development called for the services
of staff members. Their most singular effort toward improving foreign
agriculture was based on a contract between Cornell University
and the University of the Philippines. Originally financed by the
Mutual Security Agency and the Philippine government, the contract
provided for Cornell's assistance in strengthening the teaching and
research program of the College of Agriculture at Los Baños. The
challenge was substantial; in effect, it was necessary to resolve issues
in a few years which in the Cornell experience had required some five
decades. Nevertheless, effective steps were taken toward basing
teaching on research and toward relating research problems to the
nation's agriculture. In 1954 the contract, then under Foreign Opera­
tions Administration auspices, was broadened and extended further
in time. When the Los Baños project finally ended in June, 1960,
thirty-five members of the faculty had served in the Philippines. Also
during that period sixty-seven young faculty members of the College
of Agriculture at Los Baños came to the United States for advanced
study; of these, twenty-four attended Cornell.

The Inter-American Institute of Agricultural Sciences, established
under the auspices of the Pan American Union in 1942 at Turrialba,
Costa Rica, met the need for a center for the study of tropical agricul­
ture. Dean Mann and President Farrand had emphasized this need
in 1928 when soliciting support for the Graduate School of Tropical
Agriculture in Puerto Rico. Among those of the college staff who
have served at the Institute are H. C. Thompson, Ora Smith, and
Howard E. Conklin. After retiring from Cornell in 1951, Professor
Thompson was head of the Department of Plant Industry for three
years, the last two of which he was also director of research and
education. Ora Smith spent six months there during 1946-47, conduct-
ing and directing research, mainly on weed control. For the next two years he continued to direct research by correspondence, spending a month each year at the Institute. Howard E. Conklin conducted research and lectured on the appraisal of agricultural resources during 1955-56. 68

Since the war, staff members have participated in foreign assistance programs in almost all the Latin American nations, several countries of Africa including Libya and Uganda, India, and the countries of Southeast Asia. While most of the overseas service has been in the so-called underdeveloped areas, teaching and research has also been done in universities and corporations in Japan and Western Europe. For example, Frank V. Kosikowski of the Department of Dairy Industry worked at the Cheese Research Laboratory at Versailles, France, for six months in 1955, assisting in the improvement of French Roquefort, and in 1959 helped establish a research program in dairy science at University College, Cork, Ireland. During January to September, 1957, William K. Jordan helped develop new dairy machinery at the Wedholms Manufacturing Company at Nykoping, Sweden, and at the same time Dr. B. L. Herrington lectured on dairy chemistry at the Royal College of Veterinary Medicine and Agriculture in Copenhagen, Denmark, while holding a Fulbright award. The following year, also on a Fulbright grant, H. W. Seeley occupied a chair in bacteriology at the University of Reading in England. 64

Richard Bradfield's participation in planning and directing the foreign agricultural activities of the Rockefeller Foundation has been noteworthy. In 1941 he was one of three eminent agricultural scientists who studied possibilities for the improvement of Mexican agriculture. This study was followed by an intensive program to improve the plant varieties and agronomic practices in Mexico while also training workers from Mexico and other North American countries. From 1947 to 1954 Bradfield was a member of the Rockefeller Foundation's Board of Consultants for Agricultural Activities, and in 1956 he served as regional director for agriculture in the Far East. The following year he became a trustee of the foundation, succeeding Dean William I. Myers. 65

While each technique developed by research workers for the improvement of agriculture in foreign countries was a step toward
increased productivity, the attainment of this objective involved the formidable task of securing acceptance of these techniques by the persons who worked the land. Experience with New York State farmers was only partially relevant, for in many foreign countries adoption of new techniques turned on such considerations as the attitudes of villagers toward strangers, the influence of religious leaders, and the reluctance of persons with formal education to engage in manual labor. A new approach to the varying problems faced by agricultural extension workers overseas grew out of a program in extension education established by J. Paul Leagans in the Department of Rural Education in 1949. As the first full-scale program at any university leading to an M.A. or a Ph.D. degree in extension education, it was necessarily a pioneering venture. Although established initially as a means for upgrading American extension workers, it soon attracted foreign students and turned toward the consideration of extension work overseas. Students in the program were expected, in turn, to train extension workers in other countries. Aided by a $500,000 grant from the Ford Foundation in 1955, techniques in cooperative extension were explored, and by 1960 the program had become a sound combination of course work, special seminars and lectures, supervised field study, thorough exposure to the methods of the New York State Extension Service, and appropriate social occasions. The publications on comparative education prepared in connection with the program have proved to be of world-wide interest.  

EXTENSION

Since 1946, except for the Korean War years, government agricultural policy and the pressures of the marketplace have combined to force more efficient practices upon those who would remain in farming. Farmers have turned to the Extension Service for help in maintaining and analyzing farm records and in cutting the cost of production. As the margin of profit declined, there was an increasing incentive to analyze production situations with greater refinement in order to find means for further cutting costs. Electronic coding and computing machines have made technically feasible this more sophisticated analysis of the numerous variables making up production situations. One effective way of reducing costs is to adjust plant and animal
feeding to the production desired. By 1960 the Extension Service could make feeding recommendations for the individual cow, the individual orchard, and the individual field crop. The Dairy Records Processing Center provided cooperating farmers with the information on which individual feeding could be based. By 1960 the center was calculating, printing, and returning to farmers on a monthly basis production records on about 100,000 cows. In making recommendations for fertilizer applications, the Agronomy Department used coding and sorting machines to study the relationship between soil groups and past fertility management. In pomology, it was found that a combination of leaf and soil analysis, together with information on soil type, leaf symptoms, tree growth, and condition of crop, was required to make accurate recommendations for the individual orchard. Beginning in 1956, this analysis was provided to growers on a limited basis, the growers paying a fee as they had done in the past for soil analysis.

The scope of extension programs in agriculture broadened to incorporate activities previously limited to a relatively small number of counties. Much greater emphasis has been placed on helping producers develop stable and profitable marketing methods. There has also been a tendency to move into areas of general education formerly considered outside the province of the College, such as extension work with nonfarm people. In the early development of agricultural extension work it had been college policy not to restrict its application to farm people; indeed, Dean Bailey strongly advocated unrestricted access to the benefits of agricultural education. His favored Department of Landscape Art by no means confined its work to farm families. Although this phase of college operation was restricted because of pressure from state officials, it remained an important part of the extension program in certain urban counties. In Westchester, for example, ornamental horticulture — the care of home grounds, lawns, and golf courses — was the basis of agricultural extension in 1942. Since the war the number of persons who can afford to own land for recreational purposes has greatly increased. In upstate New York and on Long Island many areas which were rural before the war were rapidly occupied by suburbs, and in the back country abandoned farm lands were reoccupied for their recreational
EDUCATION AND AGRICULTURE

value. In 1954 a full-time assistant was employed in Broome County to help nonfarm people make wise use of their land. Five years later several other counties employed agents skilled in landscaping and floriculture to advise homeowners.70

Since, by 1960, solutions to many of the important problems of agriculture were determined by units of government dominated by nonfarm people, it seemed desirable for the Extension Service to help farmers by contributing to the public's knowledge of agricultural problems, for it was evident that the public was not well informed on the relations of local, state, and national government to agriculture. In an exploratory program in the public problems of agriculture conducted in 1960, the interests of agriculture were approached from a broad perspective. Instruction in the financing of local government, based on research done by the Department of Agricultural Economics, was given around Ithaca.71 With this project, that department joined the Department of Rural Sociology in exploring the field of extension work in general education.

Movement in this direction was slow and tentative, for pressures to keep extension work closely related to the technical problems of agriculture were intensive. Not every promising beginning was consolidated into a permanent program. Although considerable interest was expressed in a rural music project conducted by the Department of Rural Sociology from 1940 to 1942 under a $20,000 grant from the Rockefeller Foundation, there was no further development after the grant expired.72

To increase the stability of marketing, extension personnel worked increasingly with those who handled farm products after they left the farm — the buyers, jobbers, retailers, and consumers. This form of extension work started in 1955 in the Buffalo and Rochester areas. Training schools for both wholesalers and retailers were held in these cities. The response from agricultural businessmen was excellent; at their request the schools were repeated.78 After 1957 special marketing agents who worked exclusively with food handlers were employed in New York City, Buffalo, and Rochester.74 Price and supply information and suggestions for wise buying were distributed to encourage consumers to adopt orderly purchasing practices.75 In the poultry industry, where a narrow margin of profit was associated with dis-
rupting crises of over-production, orderly marketing early received attention. By 1955 the *Poultry and Egg Market Report* was issued every two weeks to 1,100 people who were in a position to assist in stabilizing the flow of poultry and poultry products from producer to consumer. Work with dealers was not accepted readily by some farmers who found it hard to believe that the College could serve their interest while working with their traditional enemies—the middlemen.

New methods of communication were adopted for the marketing programs and other phases of extension. To reach consumers, weekly releases were sent to professional workers who wrote for homemakers. Dealers in farm supplies and teachers of vocational agriculture were used by the Extension Service to get college recommendations to farmers. Television was used to channel information to both producers and consumers. In the year prior to July, 1957, over five hundred regularly scheduled programs were presented by about 120 members of the extension staff. A television service was established to provide technical assistance in preparing these programs.

Rapid changes in the poultry industry led to an observation about extension teaching only slightly less applicable to other types of farm operations: "Competition for the time of the producer is extremely keen, and a program must be designed to make available to him the maximum amount of information and help, with the least expenditure of time on his part. As the trend moves to fewer producers handling operations of increased size, the level of teaching must be upgraded." The well-informed large operator required information fresh from the experiment station pertinent to his particular business. Other farmers could benefit from instruction given at county meetings or over television. In the winter of 1960, 1,400 persons enrolled in a six weeks' television farm management course given by Professor L. C. Cunningham, in which the farm records of those enrolled were utilized in preparing "homework" for the course. Within the counties, agents secured more time for farm management work with individuals by instructing farmers to take over such time-consuming routine matters as the interpretation of soil tests. Long-term planning was also viewed as a means for securing greater efficiency in county extension programs. In 1961 each agent was expected, with
the aid of his county committees, to prepare a five-year program for agricultural extension in his county.83

In 1956 a study was initiated to determine the factors related to success as a county agricultural agent, but as of 1960 the information secured was not yet being applied to the selection of new candidates. Certain basic technical skills, skills in communication, and a pleasing personality are fundamental requirements, but the measurement of these qualities has remained highly personal. Communication skills tended to receive greater emphasis than formerly, since candidates generally had a command of technical agricultural information. In the 1950's few complaints came from the field regarding weaknesses among the agents on this score.84 Through the Department of Rural Sociology a major effort was made, beginning in 1953, to improve the county agents' understanding and appreciation of leadership. In 1957 alone, 114 leadership training conferences were held, including a two-and-a-half-day session for county agents.85 Undergraduate students planning to enter the Extension Service were given special counseling in addition to their courses in methods and organization of extension work.86

Following the war, the county agents desired to apply scientific procedures in developing new programs and evaluating existing programs. In 1947 they requested help in setting up informal studies, preparing questionnaires, and determining sampling methods.87 In 1958 the Office of Extension Studies was established under the administrative control of the director of extension, to serve as the research arm of the director, the state leaders, and the county agricultural, home demonstration, and 4-H agents.88 The establishment of this research division outside existing departments reflected a flexibility in college administration much greater than before the war. Coordination with rural sociology was provided by giving the head of this office, Professor Frank Alexander, a joint appointment in that department.

Generally the authority of department heads over the extension activities of the College was increasing. Traditionally, the departments and department heads had controlled the subject matter of extension, but by 1959 they had also acquired a voice in determining the circumstances under which the subject matter would be pre-
OLD CONCEPTS AND NEW, 1941-1960

sented. Under the new memoranda of agreement with the USDA regulating extension activities, a provision was included which required that both subject matter and program go from the director of extension to department heads for their approval.89

In May, 1946, the trustees, at the request of the Faculty of Agriculture, upgraded the status of the extension staff by dropping “Extension” from their titles.90 In this belated move, the University recognized that the standards of extension teaching were not so different from resident instruction that the members of the extension staff required a special designation.

In 1960, as in 1915, the county agricultural agent was regarded by the college administration as the representative of the College in the county. All college activities in the county were to be cleared through his office, a requirement often regarded as a nuisance by research personnel and sometimes by the agents themselves. The concept of the county agent as representative of the College was brought into question by a controversy in Madison County in the winter of 1960, the same county where local interests had made wild charges about Cornell domination forty years before. The issue was precipitated when the director of extension, M. C. Bond, found a poorly qualified 4-H agent appointed by the county extension association to be unacceptable to the College. In the process of resolving the issue, an opinion was secured from State Attorney-General Lefkowitz, who ruled that the county extension association had final power to hire and fire extension agents.91 While of some significance legally, it is doubtful whether this decision will have much effect on the work of the Extension Service. This case was an exception to the usual cooperative relationship between college officials and county extension associations. If such conditions were widespread, the basis for a cooperative extension service would not exist.

In 1959 the county agricultural agent staff in the fifty-six counties supporting agricultural extension contained 163 persons, and nearly one million dollars was appropriated for their work by boards of supervisors. The county membership organizations, formed after the separation from the farm bureaus, raised another $235,000 from dues.92 Within the counties, the agricultural extension staff was usually divided on the basis of subject matter areas. In Tompkins
EDUCATION AND AGRICULTURE

County, for example, the assistant agent was responsible for dairy and livestock, the associate agent for poultry, field crops, and the county extension periodical, and the agent for administration, public relations, relations to public agencies, and the farm management program.93

Some problems facing the county agent in 1960 were in decided contrast to those of 1915. He no longer had to impress the public with the value of his services; rather, he had to choose between legitimate activities and learn to refuse with grace individuals and groups who could not be accommodated. The portion of his time devoted to acquiring information increased over the years as rapid change in agricultural technology increased the difficulty of keeping recommendations up to date.* County-wide commodity meetings, once a valuable extension medium, decreased in value. It became more difficult to communicate useful information to these groups because the persons who came varied widely in their ability to assimilate and apply the information presented.

Other problems were not unlike those of earlier years. Membership recruitment remained important, for boards of supervisors tended to inquire about this although the services of the extension agents were not limited to those who were formally members of the county association.† The relation of agricultural to home economics extension, a complexity of problems in 1915, remained so in 1960 and will undoubtedly continue to be so in the future.94 Also many members of the executive committees of county agricultural associations remained unclear about their role relative to that of the agent in planning and administering the county agricultural programs.95

*In Tompkins County, Agricultural Agent Ernest Cole estimated that in 1959 about 25 per cent of the time of the three men engaged in agricultural extension was spent acquiring information (interview, Dec. 7, 1960).

†New York, it may be noted, was the only state in which county extension organizations after separating from the Farm Bureau were permitted to charge membership fees (W. J. Block, Separation of the Farm Bureau and the Extension Service [Urbana, 1960], p. 222). Nominal fees were desired by both college administrators and a large number of New York farmers on the ground that those who had a financial stake in the organization were likely to take a continuing interest in its activities (Simons, "Extension Service Partnership," p. 80; E. O. Moe, "New York Farmers' Opinions on Agricultural Programs," Cornell Ext. Bull. 864, 1952).
Short schools and conferences held under college auspices became of even greater importance after the war. In 1955 the school for highway superintendents had an attendance of 369, in 1960 of 398. Beginning in 1952 technical assistance to town highway superintendents was provided on a year-round basis; by 1955 results of research on road building and maintenance conducted by the Department of Agricultural Engineering was extended to this group by a full-time extension engineer and assistant. The annual meeting of bankers to discuss agricultural credit, which started in the Bailey administration, continued as a five-day session under the name, Banker's School of Agriculture.® The Eighteenth Annual Insecticide, Fungicide, and Pesticide Application Equipment Conference, held in 1957, was attended by nearly five hundred, while the Eighteenth Cornell Nutrition Conference, held in Buffalo in 1954, attracted 652 feed men from thirty-two states, Canada, England, Holland, and Belgium.® In 1950 an annual conference was established for fertilizer producers, and the following year a similar conference was organized for lime producers.® An annual meeting for seed and fertilizer dealers was initiated in 1948, at which the results of new research in agronomy were presented and the annual revision of Cornell Recommends for Field Crops was released. A five-day short course for beef cattlemen was initiated in 1952 and the following year was attended by one hundred persons from thirty-two New York counties and eight other states.® A sheepmen's short course was started in 1958. In that year a short course for commercial florists, an annual event since 1930, had an attendance of over three hundred.®° Numerous other conferences were held but, in most instances, on a less regular basis.

Farm and Home Week was adapted to changing means of communicating information. By 1960 the education imparted by the lectures and exhibits did not appear to justify the disruption of the regular work which the week's activities involved. That year Farm and Home Week was reduced to three days and the following year was further streamlined under the name of Agricultural Progress Days. However, the decline in Farm and Home Week as an educational session for adults coincided with its development as an educational experience for young people. In 1958 during Farm and Home Week about five hundred high school science students and teachers
attended special lectures and demonstrations presented by the Department of Botany. By 1961 eleven departments were participating in an educational program attended by young people from all parts of the state. By this means high school students were acquainted with the opportunities available through agricultural education.  

During his long lifetime it was the practice of Professor Simon Henry Gage to read the annual report of the College of Agriculture. "As a born farmer knowing something of the difficulties which farmers have to face," he stated in 1943, in the ninety-second year of life, "I appreciate what the College of Agriculture has done and is doing to help that necessary element of the state." A measure of the success of extension was the substantial reduction in the time required to secure almost complete acceptance of new crop varieties. In 1958 improved alfalfa had reached the same level of acceptance in eight years that hybrid corn reached in twenty-eight years. Wheat varieties developed by Professors Love and N. F. Jensen predominated as far away as Michigan. Extension also played a large part in helping New York farmers offset reduced acreages of basic crops and a lower price per bushel with increased yields per acre. "This," reported the Dean, "is efficient farming." Perhaps the most significant single contribution of agricultural extension lay in the continued development of artificial breeding. In 1944 the state, at the urging of dairymen, appropriated $46,000 for research and service work in artificial breeding. In that year also, it was decided to move the headquarters of the New York State Artificial Breeders' Cooperative from Syracuse to new buildings to be constructed adjacent to the campus on Judd Falls Road. This convenient location, which has greatly facilitated the breeding research of the Department of Animal Husbandry, was made possible by an unusual arrangement by H. E. Babcock wherein ownership of these buildings on Cornell University land was vested jointly in the Cooperative and the State of New York. Since 1945 training schools, sometimes as many as four in a single year, have been held at Cornell for artificial breeding technicians.
Fundamental research received greater emphasis than at any time previously. If not the American public, at least their representatives in Washington recognized that the maintenance of national security and an expanding standard of living required national support for basic research; funds for this purpose from federal agencies other than the Department of Agriculture have been increasingly important since 1950, as the number and amount of grants from two federal sources in selected years will show:\textsuperscript{106}

<table>
<thead>
<tr>
<th>Federal Sources</th>
<th>1950-51</th>
<th>1954-55</th>
<th>1959-60</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Science</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundation</td>
<td>-</td>
<td>-</td>
<td>- 7</td>
</tr>
<tr>
<td>Public Health Service</td>
<td>1 $6,000</td>
<td>5 $41,000</td>
<td>32 $387,000</td>
</tr>
</tbody>
</table>

Additional support for basic research became available in 1958 through contract agreements with the U.S. Atomic Energy Commission and divisions of the Department of Defense. In the year 1959-60 contracts were signed with the U.S. Air Force, Atomic Energy Commission, Army Medical Research and Development Command, Army Corps of Engineers and Office of Naval Research for research totaling over $164,000.\textsuperscript{107} The faculty employed on state funds experienced less pressure to confine research to the practical. It was the policy of both Director Guterman and Director Kennedy to encourage all members of the faculty to follow problems beyond practical solutions to the study of underlying causal relationships.\textsuperscript{108}

The increased emphasis on basic research was in addition to, rather than in lieu of, research on practical problems of agriculture. In some respects, research in the latter area was more important than ever since the advantage New York farmers possessed by proximity to markets was reduced through the decline in markets for unprocessed farm products. Fresh local produce was supplanted by products canned, frozen, dried, or packaged in plastic out of the state. Moreover, other states had efficient colleges of agriculture which helped farmers capitalize on what were, in many instances, natural advantages in climate and soil.
EDUCATION AND AGRICULTURE

It is well that over the years the public gradually acquired confidence in the value of agricultural research, for appropriations would be seriously impaired if the public insisted on understanding how funds allocated for this purpose were being spent. Specialization in science resulted in a communication barrier between the scientist and even the well-informed layman. Yet some degree of communication continued to be necessary, for the public's representatives rightly insisted upon being partially informed before allocating funds. To bridge this gap between the scientist and layman, Dean Palm and Director Kennedy developed project-presentation notebooks combining carefully chosen words and photographs to explain the objectives and financial requirements of major research proposals.

Increased communication occurred between agricultural scientists and fellow scientists and between agricultural scientists and those interested in technical applications of their research. From the halting efforts of agricultural researchers to establish formal lines of communication in 1871, a complex network had evolved through the efforts of scientists to secure a maximum of information in readily usable form and from the desire of those interested in technology to reduce the time lag between research and its economic application. The Department of Entomology and Limnology, for example, achieved closer communication with entomologists in the Bureau of Entomology of USDA and at all of the State Agricultural Experiment Stations; with chemists and regulatory men in the U.S. Food and Drug Administration and corresponding state agencies; with industry through the National Agricultural Chemicals Association, the National Pest Control Association, and the Chemical Specialties Manufacturer's Association. Closer liaison with the regional and national plant boards and with entomologists in other countries was also established.109

Interdepartmental coordination and cooperation between departments of the College and state and federal agencies engaged in research had become a matter of course. In 1960 seven departments conducted research under cooperative agreements with the Agricultural Research Service of the USDA; fully a third of the research projects under way that year were based on interdepartmental cooperation or cooperation with public agencies.110 At the request of
the College, the State Experiment Station Division of the USDA began evaluating all research—state and federal—in 1959. Comprehensive reviews of the research activities of individual departments were also conducted under the auspices of this division. These reviews, voluntary on the part of the departments, were made by reviewing teams drawn from the division, other colleges, and industry, and were of three to four days’ duration.111

In 1957 the Cornell Pesticide Residue Research Laboratory was constructed with a state appropriation supplemented by a grant from the United States Public Health Service. This facility was intended to advance investigations already under way in the Department of Entomology and to serve as a testing laboratory for assisting New York farmers in complying with federal tolerances for poisonous residues. Although the danger from residue of poisonous sprays had been recognized since the 1920's, when persons in England died from cider contaminated with arsenic, it had not been a matter of great public concern until the 1950's when mass circulation magazines suggested, often without scientific basis, that residues from insecticides and fungicides were present in such quantities as to pose a threat to public health.112 Information based on sound methods of investigation became of critical importance, not only as a means of protecting public health but also to quiet those who exaggerated the danger.
EDUCATION AND AGRICULTURE

Cooperation between public and private organizations provides the basis for the operation of the Cornell Ornamentals Research Laboratory, established in 1948 at the Long Island Agricultural and Technical Institute at Farmingdale. The USDA and the Departments of Plant Pathology and Floriculture and Ornamental Horticulture provide the staff members who work in the laboratory; the greenhouses were donated by the New York Florists Club and New York State Flower Growers, Inc. The institute, once so antagonistic to college activities on Long Island, was selected as a site for the laboratory since it is in an area where about half the nursery business in the state is concentrated.

The coordination between the Cornell and Geneva experiment stations anticipated by the legislation of 1923 was finally achieved in the years that Professor Arthur Heinicke was director. Heinicke's appointment in 1942 was no sudden decision; in 1938 he was considered the person to bring about satisfactory coordination between the two institutions. This was no easy task. The beginning of his administration coincided with the decision, taken at the insistence of Albany officials, to concentrate research on dairy cows at Ithaca. This action confirmed the suspicions some Geneva businessmen already had about Cornell's motives. Director Heinicke's attempt to establish good relations with the Geneva Chamber of Commerce early in 1943 did not satisfy a group of Geneva businessmen who protested to Governor Dewey about the subordination of the station to the interests of the University. These feelings, cultivated by former Director Hedrick as a protective measure, were slow to die out, but

*The New York State Flower Growers, Inc., was organized in 1945 "to enable florists to further research in floriculture at Cornell" (Pi Alpha Xi Newsletter, Aug. 1, 1945 [Cornell University, mimeo.], p. 11; J. G. Seeley, ColI. of Ag. Historical Notes, 1962).

†The maintenance of dairy herds at both Cornell and Geneva had long been attacked by budgeting officials in Albany. Although President Day promised the commissioner of education, Frank Graves, in 1937, that the question of the dairy herds would be settled "within the works" before the next budget, the settlement was not accomplished until six years later. Ending an established area of activity in an educational institution is often difficult (Day to Graves, Nov. 9, 1937, Ladd Papers; President's Rpt. for 1942-1943, App. XIII).
as the years passed it gradually became clear to Geneva people that coordination with the College of Agriculture did not diminish the importance of the Geneva station.\textsuperscript{115} This importance was recognized by state officials who approved increases in the station's budget for operation and maintenance and provided major additions to the physical facilities.

**RESIDENT INSTRUCTION**

With the exception of the war years, undergraduate enrollment in the regular and two-year programs remained quite steady, in decided contrast to colleges of agriculture in other states, where enrollments declined during the postwar period.\textsuperscript{*} This stability of undergraduate enrollment in the College of Agriculture was the result of conditions both within and outside the University. Students were attracted by new courses in the biological sciences and agricultural business and by the large number of electives they could take outside the College of Agriculture. The absence in New York State until recent years of publicly supported institutions offering college level instruction in general education has also been a factor. Until the establishment of the State University, the state colleges at Cornell came closest to providing the kind of public education associated with state universities elsewhere. These same conditions also affected the enrollment of graduate students, which increased in the 1950's to almost twice the prewar level. As was true in earlier years, about one-third of the graduate students took their major subject in the College of Agriculture. Another noteworthy feature of the enrollment pattern was the increase in foreign students. In 1949-50 they composed 2.2 per cent of the undergraduate student body of the College; by 1958-59, 4.5 per cent. Difficulty in financing their education at Cornell prevented a more rapid increase in their numbers. In the late 1950's about eight to ten foreign students at the College were financed by the federal government, while others were supported by their own governments.\textsuperscript{116} As would be expected, the over-all percentage of farm-
reared students declined rapidly in this period from about 40 per cent in the years from 1946 to 1948 to less than 30 per cent in 1950-51.\textsuperscript{117} Student enrollment for the College of Agriculture, 1941-60, was as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Regular</th>
<th>Special</th>
<th>Graduate</th>
<th>Summer</th>
<th>Two-year</th>
<th>Winter</th>
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<tr>
<td>1941-42</td>
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<td>54</td>
<td>367</td>
<td>758</td>
<td>190</td>
<td>49</td>
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<tr>
<td>1942-43</td>
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<td>29</td>
<td>276</td>
<td>640</td>
<td>128</td>
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<td>1943-44</td>
<td>553</td>
<td>21</td>
<td>258</td>
<td>217</td>
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<tr>
<td>1944-45</td>
<td>443</td>
<td>60</td>
<td>264</td>
<td>363</td>
<td>58</td>
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<tr>
<td>1945-46</td>
<td>772</td>
<td>236</td>
<td>544</td>
<td>329</td>
<td>133</td>
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<tr>
<td>1946-47</td>
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<td>672</td>
<td>624</td>
<td>234</td>
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<td>1947-48</td>
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<td>696</td>
<td>717</td>
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<td>1955-56</td>
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<td>67</td>
<td>805</td>
<td>500</td>
<td>200</td>
<td></td>
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<tr>
<td>1956-57</td>
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<td>856</td>
<td>412</td>
<td>174</td>
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<td>1957-58</td>
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<td>895</td>
<td>511</td>
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<tr>
<td>1958-59</td>
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<td>906</td>
<td>595</td>
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<tr>
<td>1959-60</td>
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<td>71</td>
<td>975</td>
<td>600</td>
<td>205</td>
<td></td>
</tr>
<tr>
<td>1960-61</td>
<td>1,448</td>
<td>57</td>
<td>943</td>
<td>560</td>
<td>195</td>
<td></td>
</tr>
</tbody>
</table>

Undergraduate students in the College of Agriculture continued, as a group, to rank in academic achievement below students in other large colleges at Cornell.\textsuperscript{118} Due to the flexible admissions policy required in a public institution committed to serve the diverse needs of agriculture, agricultural science and education, and agricultural business, it was impossible to give the same emphasis to academic potential (as measured by standardized tests) as did units of the University having a less direct commitment to interest groups in the state. As a long-term approach to raising the level of academic performance, the College in 1959 undertook an accelerated recruitment program designed to emphasize the wide range of vocations that
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could be approached through “a university education in agricultural
science.” However, since it was recognized that an additional four
hundred students could be accommodated in the College, the raising
of admissions requirements was postponed until a substantial increase
in enrollment could be achieved. Construction of new university
dormitories for women, under way in 1960, offered one means of
increasing the number of highly qualified students. Although applica­
tions from women had increased substantially in the 1950’s, a quota
based upon availability of dormitory space had restricted their num­
ber to 190.

In the fall of 1958, 127 students received scholarships. Eighteen
were financed from a fund collected in memory of Dean Ladd. The
Sears Roebuck Agricultural Foundation provided fifteen scholarships
for farm-reared students; eight scholarships were established by the
New York Lime Association, while other individuals and groups
provided one or more scholarships. Although nearly three times the
number of scholarships were available in 1960 as in 1940, these were
not sufficient to meet the need for financial assistance. In 1959 a
special committee was appointed to secure at least fifty additional
scholarships.

Few major changes in admissions requirements occurred between
1940 and 1960. The two-year course remained both a terminal pro­
gram and a means by which inadequately prepared but highly
motivated students could, at the end of two years, enter the four-year
program. Approximately one-third of those entering the two-year
course from 1952 to 1954 took this step, and for those students a full
transfer of credit was possible. In 1945 a motion to give credit to
students transferring from the New York State agricultural institutes
lost by a faculty vote of sixteen to eighteen, but two years later, on the
basis of the good records of those already admitted, it was decided
to allow thirty hours of advanced standing to two-year graduates of
the institutes. Effective in the fall of 1959, the Scholastic Aptitude
Test of the College Entrance Examination Board was made an admis­
sion requirement, the results from this test being incorporated with
other information available to admissions officers in determining a
candidate’s chances for success in his chosen field of study.

Prior to 1957 there had not been, in spite of the efforts of Dean
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Mann and Directors Betten and Gibson, a concentrated interest in resident instruction on the part of the faculty. Although there were always a few teachers who were primarily interested in resident instruction, the large majority preferred to concentrate on research or extension. In this context the decision of the Faculty of Agriculture, taken in November, 1957, which called for the appointment of an *ad hoc* committee to study the problems of resident instruction, was a radical departure from the established pattern. This committee, to consist of one representative from each department offering undergraduate instruction, was to make “a thorough review and study of the policies of the College relative to recruitment, admissions, curriculum, requirements for graduation, farm practice, and such other factors affecting the training of future leaders in agriculture and science.”

Changes in the farm practice requirement and a new program for the recruitment of students resulted from the work of this committee.

As in previous years, the farm practice requirement was widely viewed as a deterrent to the recruitment of students whose occupational interests were not related to the practice of farming. “It is our opinion,” stated the Executive Committee and officers of the Alumni Association of the College in 1958, “that practice requirements must be viewed intelligently... [if this] is not to hold back this building of a great biological and agribusiness college.” Effective for students entering in the fall of 1960, this long-standing requirement was practically abolished. The forty units of practice previously required were reduced to from thirteen to twenty-five, depending on the student’s field of specialization, and in all areas of specialization acceptable professional experience could be substituted for farm practice. This step was taken over the protest of a group of faculty members who strongly favored a requirement which would bring students in direct contact with farm phases of agriculture.

Perhaps the most valuable contribution of the Ad Hoc Committee was the impetus it provided for the individual faculty member to examine and improve the quality of his resident teaching. For the first time in many years resident instruction was examined with the care that previously had been given to research and extension. Although observers like H. E. Babcock earlier complained that some
of the college faculty were guilty of sloppy teaching, there was little that could be done under Cornell's philosophy of individual responsibility, especially if those in question were effective in research or administration. By contributing to a feeling of responsibility for quality resident teaching, the Ad Hoc Committee significantly increased the over-all efficiency of the College.

More effective cooperation with departments of the College of Arts and Sciences in which a large number of agricultural students enrolled occurred after 1940, in part through the efforts of administrators in both colleges, in part through an increase in common professional interests among the faculty of the two colleges. At the request of the Dean of the College of Arts and Sciences, committees in the College of Agriculture were appointed in 1946 to consider the needs of agricultural students in chemistry, English, and social studies. Of these, chemistry presented the most difficult problems. "The Chemistry Department," stated an indignant student determined to get at fundamentals, "is paid to teach chemistry and not to bust students." In 1947 the Faculty of Agriculture recommended the establishment of a one-year terminal course in the Department of Chemistry for regular students and the establishment in the College of Agriculture of a terminal course in agricultural chemistry for two-year and other special students. The adoption of these recommendations, while most helpful to the student meeting a chemistry requirement for graduation, was of little consequence to the student seeking basic introductory instruction in chemistry. The latter area remained critical.

One approach to improving student performance in chemistry was to assist students inadequately prepared in mathematics. In 1949 the faculty asked Dean Myers to appoint a special committee to study the relationship between inadequate preparation in mathematics and success in certain college courses. On the recommendation of this committee an experimental course was introduced in 1952 to help correct poor preparation in mathematics. This course proved to be very successful. At the expiration of the experimental period in 1955, it was made available regularly as part of the students' orientation to college work.

In December, 1952, combined courses were established with the
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College of Engineering and the Graduate School of Business and Public Administration. To enter the five-year program in professional agricultural engineering, the student had to meet the entrance requirements of the College of Engineering. Those completing the program were awarded the degree of Bachelor in Agricultural Engineering. By registering in a joint program in agricultural management with the Graduate School of Business and Public Administration, the ambitious student could earn both a Bachelor of Science and a Master of Business Administration or a Master of Public Administration at the end of five years. 136

In line with the trend toward serving organizations involved in the processing, distribution, and marketing of agricultural products, the College, in cooperation with the National Association of Food Chains and the Graduate School of Business and Public Administration, established an executive training program for workers in the food industry in 1958. Built around a nucleus of courses in food distribution, the program offers a wide range of optional courses appropriate to the needs of the individual students, all of whom are expected to have substantial experience in some phase of the food industry. By exposing future executives to current economic ideas and by encouraging them to relate their own experience to the overall process of food distribution, the program contributes to giving industry executives a broader point of view. 137

This and other programs designed to prepare students to assume significant roles in organizations related to agriculture represent recent steps in a process initiated by Dean Bailey when he established a special program for students intending to teach nature study. Reliance on electives as the best means for meeting the educational needs of the individual student, also emphasized by Bailey, remains the basis of resident instruction. There was, however, an element basic to Bailey’s concept of resident instruction which is not always part of a Cornell student’s education, in spite of Bailey’s considerable efforts while dean, and it was to this he returned during a talk in 1945. Discussing the concept of horizon, he called attention to the value of Turkey Hill, an elevation overlooking the campus and the southern end of Cayuga Lake, as a piece of educational apparatus useful in determining the limits of one’s mental outlook. “I went
to the crest," he said, "and I visioned the developing of a sentimental idea whereby every student going through a four year course would once in his course go to the top of Turkey Hill and get a horizon. Most persons," added the eighty-seven year old teacher, "have no idea of a horizon of landscape let alone a horizon of life."\textsuperscript{138}
TO select from among the forces operating on the College of Agriculture over nearly one hundred years those elements which were primarily responsible for making the institution a leader among colleges of its kind is, of course, a somewhat speculative procedure. It seems clear, however, that ranking high among them are the persons responsible for infusing purpose and vigor into an institution which began poorly. To Roberts, Bailey, and President Charles Kendall Adams, New Yorkers owe a special debt, for it was they who ended the groping and false starts of the earlier years and established the College as an effective force in New York agriculture and a model for colleges of agriculture elsewhere.

While we may regret that, on his arrival at Cornell, Roberts felt himself in an alien atmosphere, we may delight in his faith in the future of agricultural education and the knowledge and self-assurance which enabled him to affect the shape this future would assume. Invaluable though it was, Roberts was not limited to that "knowledge born of experience" from farming in New York and Iowa; he also engaged in agricultural experimentation and was a vigorous supporter of the experiment station movement. Much credit is due Roberts also for his cautious constructive extension of experiment station results to farmers. Communicating techniques for the improvement of agriculture to audiences at once highly critical of advice and uninformed about the natural processes underlying farm operations required teachers of Roberts' caliber. New York was fortunate in finding, only five years after beginning the search, a first-rate teacher who could advance agricultural education with little outside support until other men and other conditions made possible the era of Deans Bailey, Eugene Davenport, and T. F. Hunt.

To Charles Kendall Adams, that almost forgotten figure among Cornell's executive officers, must go credit for throwing the weight
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of his office behind Roberts' efforts to make the College of service to New York's largest occupational group. Much has been written about the land-grant concept of service to all the people of the state. At Cornell it was Adams who assumed responsibility for giving reality to the concept as far as agricultural education was concerned.

Bailey, that genius whose capacity to lead surpassed the ability of others to follow, encompassed agricultural education, divided it into its components, and entrusted the further development of these parts to promising young people to whom he allowed the utmost freedom, leaving it to others to impose order on the educational ferment he had encouraged. The divisions of agricultural education he laid out did not, of course, develop with equal success, in part because of variations in strength of the persons to whom they were initially assigned, in part because of variations in the value attached to these subjects by the public and its representatives in Albany. Obviously, the public has sometimes been wrong. Consider, for example, the number of uninspired farm buildings and yards which today dot the New York landscape; Bailey's Department of Landscape Art might have helped. In other respects the public and its representatives have caught up to Bailey, although in some instances it required nearly half a century for them to do so. Few today would take exception to the statement that it is not the primary purpose of the College to train farmers; few today would deny that the courses in the College are science courses.

The beginning of graduate study in the agricultural sciences largely coincided with Bailey's tenure at Cornell. To him must go a large share of credit for attracting outstanding graduate students and for making Cornell the first institution in the nation to award the Ph.D. degree for study in agricultural subjects.

Credit for advancing a dynamic concept of education which places the educator in the vanguard of social change is also due Bailey. He used the power his circumstances provided to direct agricultural education into areas which, in his analysis, met the needs of the time. Other deans of the College have shared Bailey's view of the educator's relation to social change, but efforts to implement their views have been less dramatic and narrower in scope. Probably the opportunity for exercising leadership in agricultural education has not

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decreased since Bailey's administration, but the complex structure through which it must be exercised has increased the time lag between stimulus and effect and has complicated the determination of responsibility for the result. Another concept important to Bailey—the development of unity among the diverse elements of higher education—has become even more difficult to implement. What Roberts achieved by small classes, what Bailey achieved by College assemblies and courses in farm management and rural economy, has since been largely eclipsed by the increasing size of the institution and changing attitudes toward education, which are quite beyond the capacity of administration to control.

However important the guiding and coordinating functions of the deans and directors, the ultimate success of the College has rested on those conducting research and teaching resident students and the people of the state. Throughout its history the College has had a good proportion of faculty members who can be called outstanding—persons effective in research, resident teaching, or extension, or a combination of these activities, who, in the process of advancing their work, frequently served to encourage good work in their colleagues.

Although there have been occasional exceptions, both faculty and administration have generally benefited from favorable working conditions. As an examination of page 247 will show, funds available for the work of the College have increased quite steadily, thereby enabling the College to avoid extensive salary cuts or wholesale dismissals highly destructive to faculty morale. The buildings and equipment of the College, while not always what the faculty desired, have, since 1906, been among the best at agricultural colleges in this country. In accord with the Cornell tradition, a large element of freedom has been permitted each faculty member. Political interference has been rare, and the right of the faculty to take unpopular positions has been protected. Other benefits members of the Faculty of Agriculture have had through association with Cornell University have included stimulation and cooperation from the other faculties as well as the services which the parent institution provides to facilitate scholarship and ensure personal security.

Benefits to agricultural students from association with the Uni-
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versity have been less clear-cut. For those adequately prepared for study in the endowed colleges, an educational opportunity has been available such as few other land-grant universities present, since frequently the liberal arts have been badly neglected in these institutions. On the other hand, students admitted to the College of Agriculture for training in fields not requiring a high degree of verbal or mathematical skill have often regarded courses in the endowed colleges as irrelevant to their needs or abilities. However, the opportunity for these students to receive instruction relevant to their situations has increased in recent years as a considerable number of professors in the endowed colleges have taken seriously the University's obligation as a land-grant institution to provide instruction for students with diverse backgrounds and objectives. Although accessory instruction within the University has consisted primarily of state college students taking courses in the endowed colleges, this has been by no means a one-way relationship. College of Agriculture courses in biology, genetics, and the philosophy and methodology of education, have attracted many students from the endowed divisions.

Association with a land-grant institution has been of great benefit in obtaining access to federal funds, which have been significant not only in a quantitative sense but in terms of the purposes for which they were allocated. During the 1880's, when the development of experiment stations was of critical importance to many agricultural scientists, a response from Congress was secured with the aid of the U.S. Department of Agriculture at a time when Cornell University limited its support of agricultural education largely to the receipts from the university farm. The Hatch Act made possible the hiring of Bailey and the initiation of new lines of investigation; later, with Adams Act funds, Webber and T. L. Lyon were added to conduct fundamental investigations in the breeding and nutrition of plants. In 1914, when the extension of information produced by the experiment stations was important to agricultural college leaders, the passage of the Smith-Lever Act enabled the College to have direct and continuing contact with farmers at a time when state appropriations permitted extension work of only an intermittent character.

The cooperation which marked the relationship of the colleges of
agriculture to the U.S. Department of Agriculture in obtaining appropriations from Congress for agricultural research and extension contrasted with the conflict between the colleges and agencies of the Department of Agriculture over authority to provide direct services to the American farmer. In New York State, the College of Agriculture dealt with these conflicts from a position of strength based on close ties with organized agriculture in the state. Since World War II, cooperative relationships between the College, divisions of the USDA, and other agencies involved in agricultural education have been based on an acceptance of the permanency of these institutions and recognition that the national and international problems of postwar agriculture demand the coordination of all talents.

Although resident instruction, research, and extension have each been dominant in the thinking of agricultural educators at particular times, the pattern at Cornell since 1869 has been one of approximately equal emphasis on these phases of agricultural education. Before 1900 Roberts, Bailey, Caldwell, Comstock, Wing, and Law performed all these functions, thereby initiating the close relationship existing between them today. Teachers, experience in the College has indicated, benefit by close contact with research while, in turn, researchers benefit from acquaintance with the problems faced by those who grow, process, and distribute the products of the farm.
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23. Ibid., 1794, pp. xxxiii-xlvi.
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51. See especially Amos Brown to William H. Brewer, May 14, 1858, Brewer Papers, MF.
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55. Justin S. Morrill to E. B. Morgan, Dec. 1, 1862, quoted in ibid.
56. Becker, Cornell University, p. 64.
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59. Trans., 1861, pp. 344-345.
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64. Dorf, Builder, pp. 205-208.
66. Ibid., 1858, pp. 706-707; 1861, pp. 361-362.
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68. Ithaca Journal and Advertiser, Sept. 5, 12, 19, 26, Nov. 7, 1860.
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5. Treasurer’s Rpt., 1901 to 1904, MS.
8. Roberts to Nixon, June 9, Pound to Nixon, June 10, 1902, Nixon Papers, MF; Schurman to Nixon, June 12, 1902, Schurman Papers; Pound to Nixon, June 11, 1902, Nixon Papers, MF; Schurman to Nixon, June 12, 1902, Schurman Papers; John Craig to Nixon, July 19, 23, 1902, Nixon Papers, MF.
9. Spencer to Nixon, Aug. 19, 1902, Nixon Papers, MF.
10. Roberts to Nixon, Aug. 28, Spencer to Nixon, Aug. 31, 1902, Nixon Papers, MF.
11. Ibid., Jan. 13, 1903.
12. Schurman to Collingwood, Feb. 3, 1903, Schurman Papers; Ricketts to Nixon, Feb. 12, 1903, Nixon Papers, MF.
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Schurman, 1902-1903, App. VIII.

28. Cornell Univ. Register, 1903-1904.
32. There was extensive correspondence between Dawley and Bailey on these subjects in November, 1903, Bailey Papers.
33. Rpt. of the Director of Farmers' Institutes and Normal Institutes for the Year 1903, pp. iii-iv.
34. Bailey to H. E. Cook, Sept. 28, to F. E. Dawley, Oct. 6, 1903, Bailey Papers.
42. Bailey to Schurman, Dec. 17, 18, 1903, Bailey Papers.
44. Ithaca Daily Journal, Jan. 6, 1904.

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53. Argument of Chancellor Day of Syracuse University and Resolutions of College Presidents at Hearing before Legislative Committee at Albany, N.Y., February 22, 1904, on Bill to Give Cornell University $250,000 for an Agricultural Building (Syracuse, 1904). Additional information about this and other hearings relating to the establishment of a state college of agriculture at Cornell may be found in Carron, Contract Colleges, pp. 58-67.


56. James R. Day, Argument; More Reasons Why State Money Should Not Be Appropriated This Year for an Agricultural Building at Cornell (Syracuse, 1904); Agricultural Education in New York State (Ithaca, 1904).


58. Lincoln, Messages from the Governors, X, 627.


62. Schurman to Johnson, March 9, 1904, Schurman Papers.


64. Bailey to White, Feb. 27, 1912, Bailey Papers; Schurman to White, Mar., 29, 1904, Schurman Papers.


66. Cornell Daily Sun, April 29, 1904.


69. Johnson to Bailey, April 12, 1904, Bailey Papers; Schurman to Collingwood, May 13, 1904, Schurman Papers; Cornell Alumni News, April 13, 1904, p. 218.


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75. Henry to Bailey, Jan. 16, 1904, Bailey Papers.
76. Bailey to Schurman, Nov. 28, 2, 1903, Bailey Papers.
81. S. W. Fletcher to F. A. Waugh, May 22, 1904, Fletcher Letterbooks.

83. Both collections of Bailey's correspondence are located in the University Archives. Editorial correspondence is divided between the two collections.

86. Schurman to Bailey, July 29, 1904, Schurman Papers.
89. Pound to Bailey, April 16, 1906, Bailey Papers.
90. Cornell Univ. Register, 1904-1910.

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21, 1907, George Malby to Tuck, Oct. 17, 1907, F. N. Godfrey to Tuck, Oct. 18, 1907, F. Shepard to Tuck, Oct. 17, 1907, Bailey to Tuck, Nov. 22, 1907, Bailey Papers.


100. Ibid., Nov. 1.

101. Ibid., Nov. 5.


104. Bailey received letters of thanks from a number of college presidents. See Andrew M. Soule to Bailey, March 12, Rufus W. Stimson to Bailey, March 14, 1907, Bailey Papers.

105. Bailey to Schurman, March 15 (two letters), Schurman to Bailey, March 15, 1907, Bailey Papers.


108. Herrick and Smith, Comstocks of Cornell, p. 196.

109. Schurman to Bailey, June 3, 1907, Schurman Papers.

110. Tuck to Bailey, March 26, 1907, Bailey to Tuck, Aug. 1, 1907, Bailey Papers.


112. George A. Fuller to Bailey, Feb. 18, 1907, Bailey Papers.


118. Country Gentleman, Jan. 12, 1905, p. 46.


121. Davis to Bailey, April 6, 1906, John H. Broad to Bailey, Jan. 27, 1908, Bailey Papers.

122. K. C. Davis to Bailey, Dec. 6, 1907, Bailey Papers.


124. Brown to Bailey, April 9, Bailey to Brown, April 15, 1907, Bailey Papers.

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129. Faculty of Ag. Minutes, I, 133.


133. Bailey to J. L. Snyder, May 15, 1907, Bailey Papers.


135. Schurman to Bailey, May 19, 1904, Nov. 27, 1905, Bailey Papers.


139. Tuck to Bailey, Feb. 4, 1907, Bailey Papers.

140. Bailey to Schurman, Aug. 1, 1907, Bailey Papers.


142. Cornell Univ. Register, 1907-1908.


149. Ibid., April 1, 1911.


151. Pearson to Bailey, Nov. 9, 18, 22, 1904, Bailey Papers.
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152. Bailey to Schurman, March 5, 1907, Bailey Papers.
155. W. A. Stocking to Webber, April 13, 1910, Bailey Papers.
156. Bailey to Rice, April 23, 1908, Bailey Papers; Faculty of Ag. Minutes, II, 121.
159. Bailey to Hughes, March 6, 19, 1908, Bailey to Jordan, March 26, 1908, Bailey Papers.
162. Bailey to Kenyon L. Butterfield, March 5, 1908, Bailey Papers.
163. Pinchot to Bailey, April 24, 1908, Bailey Papers.
164. The report was originally printed by Congress (Senate Doc. 705, 60th Congress 2d sess.) then reprinted by the Spokane, Washington, Chamber of Commerce and finally published by Sturgis and Walton (New York, 1911).
172. See Bailey to Wing, June 24, 1907, Bailey Papers.
174. Bailey, note attached to Webber to Mann, Dec. 22, 1908, Box 44, Mann Papers.
177. Bailey to E. L. Williams, Oct. 8, 1907, Bailey to A. D. MacGillivray, July 12, 1907, Tuck to Bailey, Jan. 15, 1908, Bailey to Mr. Collier, Nov. 4, 1910, Bailey Papers.
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180. Bailey to W. J. Spillman, April 12, 1907, Bailey Papers.
184. Pearson to Bailey, July 8, Bailey to Pearson, July 9, 1908, Bailey Papers.
186. Webber to Tuck, Sept. 13, 1910, Bailey Papers.
189. Webber to R. C. Edlund, June 9, 1910, Bailey Papers.
190. Bailey to C. D. Bostwick, April 24, 1908, Bailey Papers.
192. Bailey to Schurman, July 6, 1908, Bailey Papers.
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211. Webber to C. F. Curtiss, Feb. 24, 1910, Bailey Papers.
212. Schurman to Pearson, Nov. 30, Dec. 8, 1909, Schurman Papers; Webber to A. D. Dean, July 13, 14, 1910, Bailey Papers.
220. Bailey to Schurman, Nov. 6, 1907, June 6, 1908, Bailey Papers.
222. Bailey to Schurman, July 16, to S. A. Beach, Oct. 21, 1907, Bailey Papers.
223. Luis Jackson to Bailey, April 3, 1908, Bailey Papers.
224. Van Wagenen to Bailey, April 22, 1908, Bailey Papers; Baker, County Agent, p. 7.
231. Webber to Val Keyser, June 28, 1910, Bailey Papers.
232. Pearson to Bailey, June 1, 1909, Bailey Papers.
233. Bailey to Tuck, April 16, 1907, to L. L. Woodford, March 2, 1908, Bailey Papers.
234. Cornell Countryman, April, 1934, p. 219, June, 1940, p. 164.
236. Ibid., March 25, 1909, p. 289; Webber to Fred M. Hill, Feb. 28, 1910, Bailey Papers.
237. Cornell Countryman, April, 1908, p. 227, April, 1909, p. 223.
238. Ibid., Oct., 1908, pp. 9-11.
239. Webber to Kenyon Butterfield, June 1, 1910, Bailey to G. E. Burnap, June 24, 1910, Bailey Papers.
240. John Hamilton to Bailey, Oct. 20, 1909, Butterfield to Bailey,
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245. July 8, 1908, Bailey Papers.
249. Faculty of Ag. Minutes, I, 194.
259. Tuck to Bailey, Feb. 27, April 2, 1907, Bailey Papers.
261. Ibid., June, 1909, p. 309.
270. Dec., 1905, p. 66.
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to Alfred Vivian, Nov. 22, 1910, Bailey Papers.
Pres. Schurman, 1906-1907, App. VIII.
275. W. N. Giles to Webber, April 16, 1910, Bailey Papers.
276. Bailey to E. L. Williams, June 21, to Niagara Sprayer Co., July
1, 1909, Bailey Papers.
278. Webber to M. L. Davey, May 2, to Whetzel, May 5, 1910, Bailey
Papers.
279. Bailey to M. V. Slingerland, April 4, Webber to A. D. Shamel,
May 4, 1910, Bailey Papers.
280. Country Gentleman, Oct. 21, 1909, p. 1005; Webber to Schur-
281. Webber, "To All Departments," Nov. 18, 1909, Webber to Prof.
282. Needs of the New York State Colleges at Cornell University, Pre-
sented by the Trustees Appointed by the Governor to the Board of Trustees
of Cornell University, Approved by the Full Board of Trustees and
Ordered Transmitted to the Legislature, Jan., 1910, Bailey Papers.
283. Syracuse Herald, Jan. 29, 1910; Webber to H. N. Wells, March
26, 1910, Bailey Papers.
284. W. N. Giles to Webber, Feb. 23, 1910, I. E. Davis to Schurman,
286. Webber to Seth Low, April 20, 1910; Bailey Papers.
287. Cornell Alumni News, April 13, 1910, p. 317; Webber to H. M.
Barr, April 9, 1910, Bailey Papers.
288. Webber to R. A. Emerson, April 19, 1910, Bailey Papers.
289. Oneida Dispatch, April 22, 1910; Albany Argus, April 27, 1910;
Webber to Ralph W. Thomas, April 26, 1910, Bailey Papers.
290. Craig to Bailey, Dec. 8, Bailey to Craig, Dec. 8, 1910, Bailey
Papers.
293. Roberts to Bailey, Jan. 3, 1911, Bailey Papers.
294. W. A. Henry to B. B. Odell, May 10, 1904, Eugene Davenport
to Webber, Nov. 25, Dec. 14, 1910, Bailey Papers.
295. Davenport to Webber, July 8, June 14, Aug. 19, 1910, Bailey
Papers.
296. Webber to Schurman, Dec. 22, 1909; Statement by Dean Webber,
minutes of suggestions made at meeting, College of Agriculture, July 18,
1910, Bailey Papers.
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298. Bailey to C. H. Rammelkamp, April 17, 1907, Bailey Papers.
300. The origin of the college is described in A History of the New York State College of Forestry at Syracuse University, Syracuse, New York, 1911-1936, ed. by Raymond J. Hoyle and Laurie D. Cox (Syracuse, 1936), pp. 7-8.
301. March 21, 1910, Bailey Papers.
305. Cornell Daily Sun, March 5, 1904; Bailey to B. Franklin Pepper, Oct. 29, 1906, Bailey Papers.
308. Schurman to Mann, Nov. 24, 1909, Schurman Papers; Mann to J. Horace McFarland, July 19, 1910, Bailey Papers.
313. Warren to Bailey, April 16, 1908, Mann to Warren, April 16, 1910, Bailey Papers.
316. Bailey to Tuck, Dec. 6, 1911, Bailey Papers.
317. Bailey to Schurman, June 29, 1908, Bailey Papers.
319. Bailey, "To All Departments," March 9, 1908, Bailey Papers.
321. Love to Mann, April 7, 1909, Bailey Papers.
322. Mann to T. L. Lyon, May 22, 1909, Mann to Alice McCloskey, April 28, 1910; Bailey Papers.
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3. John Carlisle to Frank Hiscock, June 7, 1911, Selection of Director Papers.
4. July 4, 1911, Selection of Director Papers.
5. John Craig to Schurman, July 12, 1911, Selection of Director Papers.
8. Rice Papers.
12. Statement dated Oct. 21, 1911, Box 45, Mann Papers.
18. *Laws of New York*, 1911, ch. 785; Minutes of meeting filed under Advisory Board (State), Galloway Papers.
26. Jared Van Wagenen to Bailey, April 1, Mann to Brother Barnabas, May 2, 1913, Bailey Papers.
27. Bailey to Carlisle, April 24, Carlisle to Bailey, April 26, 1913, Bailey Papers. For the relationship between Louis Marshall and Governor Sulzer see W. Freeman Galpin, *Syracuse University* (Syracuse, 1960), II, 159-163.

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29. Burritt to Mann, May 14, 1913, Box 45, Mann Papers.
30. June 21, 1913, Burritt-Bailey Correspondence.
31. Burritt to Bailey, June 5, Bailey to Dillon, June 4, 1913, Bailey Papers; Bailey to Burritt, Sept. 8, 1913, Burritt-Bailey Correspondence.
32. Bailey to Burritt, Oct. 29, 1913, Burritt-Bailey Correspondence.
37. Bailey to Stocking, July 26, 1913, Bailey Papers.
38. Bailey, “To the Faculty of Agriculture,” March 11, 1912, Bailey Papers.
44. Bailey to Samuel Spring, May 19, 1913, Bailey Papers.
45. Bailey to Spring, July 29, 1913, Bailey Papers.
46. Tuck to Bailey, May 15, Bailey to Tuck, Sept. 5, 1911, Bailey Papers.
47. Tuck to Bailey, June 6, Bailey to Tuck, June 7, 1911, Bailey Papers.
48. Faculty of Ag. Minutes, II, June 20, 1911, p. 177, July 11, 1911, p. 182.
49. Bailey to F. G. Helyar, April 26, 1911, Bailey Papers.
50. Faculty of Ag. Minutes, II, 177; Bailey to Tuck, May 3, 1913, Bailey Papers.
51. “A Statement Concerning the Assembly by Members of the Faculty of the College of Agriculture,” undated, 37 signatures, Bailey Papers.
53. B. H. Gitchen to Webber, May 16, 1910, Bailey Papers.
57. Spillman to Bailey, April 6, Bailey to Spillman, April 13, 1912, Bailey Papers.
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59. Tuck to Bailey, April 23, 1912, Bailey Papers.
60. Ibid., May 11, 1912.
63. Bailey to Tuck, Aug. 29, 1912, Bailey Papers.
71. Bailey to E. W. Barnes, Jan. 27, to Floyd S. Barlow, March 25, 1913, Bailey Papers.
73. Faculty of Ag. Minutes, II, 190.
74. Bailey to W. A. Riley, Nov. 4, 1912, Bailey Papers.
75. Mann to Cornelius Betten, April 21, 1930, Mann Papers.
78. College of Agricultural Historical Notes, 1962.
79. See page 247.
80. F. V. Coville to Schurman, April 29, 1914, Galloway Papers.
82. Bailey to Eugene Davenport, April 17, 1912, Bailey Papers.
83. Stocking to Bailey, July 31, 1914, Bailey Papers. The administrative papers of Stocking form a single unit with those of Bailey.
84. Burritt to H. W. Collingwood, July 31, 1913, Box 45, Mann Papers.
85. Mann to J. H. Barron, July 15, 1913, Bailey Papers, Royce to Schurman, April 10, Schurman to Royce, April 13, 1914, Selection of Director Papers.
86. Royce to Schurman, April 30, 1914, Selection of Director Papers.
87. H. L. Russell to Schurman, Jan. 27, 1914, Selection of Director Papers.
88. Galloway to Schurman, March 12, 1914, Galloway Papers; Shur-
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89. William A. Taylor to Bailey, March 26, 1913, Bailey Papers.
90. L. C. Corbett to Schurman, April 28, L. O. Howard to Schurman, April 29, Frederick V. Coville to Schurman, April 29, J. A. Holmes to Schurman, May 2, Erwin L. Smith to V. A. Moore, April 28, 1914, Galloway-Schurman Correspondence.
91. L. C. Corbett to Chas. H. Royce, April 7, 1914, Rice Papers.
92. April 8, 1914, Galloway Papers.
93. Selection of Director Papers.
94. Galloway to Schurman, May 14, 1914, Galloway Papers; Rice to Royce, May 14, 1914, Rice Papers.
95. Rice to Royce, May 20, 1914, Rice Papers; Royce to Schurman, June 24, 1914, Selection of Director Papers; Royce to Bailey, June 24, 1914, Bailey Papers.
96. Mann to Jared Van Wagenen, June 21, 1913, Box 45, Mann Papers; E. L. D. Seymour to Royce, July 2, 1914, Rice Papers.
97. Mann to Burritt, July 12, Burritt to Mann, July 14, 1913, Box 45, Mann Papers.
98. Seymour to Royce, July 2, 1914, Rice Papers; Seymour to Galloway, 1915, Galloway Papers.
101. Faculty of Ag. Minutes, III, 198-200.
102. Rough notes of meeting, March 7, 1916, Galloway-Schurman correspondence.
103. Stocking to H. E. Cook, March 2, to James J. Frawley, April 17, 1914, Bailey Papers.
105. Galloway to Schurman, March 27, 1915, Galloway-Schurman Correspondence.
108. Matthews to Galloway, Jan. 22, 1915, Galloway-Schurman Correspondence.
109. Galloway to Schurman, May 28, 1914, Galloway-Schurman Correspondence.
110. "Statement Regarding Expenses, Budget Plans, Etc.," June 17,
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1915, Galloway-Schurman Correspondence.

111. The statement of the faculty was enclosed in a letter from James Needham to T. B. Wilson, June 20, 1916, Galloway-Schurman Correspondence.


114. Galloway to Schurman, June 3, 1916, Galloway-Schurman Correspondence.


116. Faculty of Ag. Minutes, III, 293; Schurman's statement is in the Galloway-Schurman Correspondence.


118. Bailey to Tuck, Nov. 28, 1911, Bailey Papers.


123. True, History of Agricultural Extension Work, pp. 200-201.

124. Robertson to Bailey, Nov. 27, 1912, Bailey Papers.

125. M. C. Burritt, Rpt. of the Director, July 10, 1914, Mann Papers.


128. True, History of Agricultural Extension Work, pp. 115-120.

129. Smith, People's Colleges, pp. 130-131.

130. Memorandum regarding the coordination of extension work in New York State, undated, Galloway Papers.

131. Stocking to Burritt, Jan. 15, 1914, Bailey Papers; Burritt to


138. Burritt to Mann, Aug. 27, Mann to Burritt, Aug. 30, 1918, Mann Papers.

139. Thomas Bradley to Bailey, Jan. 19, Bailey to F. L. Musback, March 9, 1911, Bailey Papers.


141. Galloway to C. U. Huson, May 28, 1914, Galloway-Schurman Correspondence; Mann to Burritt, April 2, 1917, Mann Papers.

142. Burritt to Mann, Aug. 27, 1918, Mann Papers.


144. Burritt to H. W. Collingwood, June 22, 1918, Mann Papers.

145. Faculty of Ag. Minutes, V, 55-60.

146. Tuck to Bailey, March 4, Bailey to T. F. Hunt, April 11, 1913, Bailey Papers.

147. Martha Van Rensselaer to Mann, Nov. 1, 1919, Mann Papers.


149. Faculty of Ag. Minutes, V, 55-60.


151. A. C. True to Eugene Davenport, Feb. 27, 1915, Burritt-Bailey Correspondence.

152. Burritt to H. J. Wilder, March 12, 1915, Burritt-Bailey Correspondence.

153. Mann Papers.

154. Mann to Burritt, April 23, 1918, Mann Papers.

155. Mann to Burritt, July 10, 1919, Mann Papers.

156. Mann to Burritt, May 18, 1920, H. C. McKenzie to Burritt, Oct. 28, 1919, Mann Papers; Burritt to F. E. Robertson, Feb. 18, 1920, Rice Papers; Mann to Burritt, June 2, 1920, Mann Papers.


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162. W. G. Barney to Bailey, June 14, Mann to Barney, June 19, 21, 1912, Bailey Papers.


167. Undated memorandum drafted by Babcock, Box 4, Mann Papers; Burritt, memorandum of telephone conversations with county agents, Dec. 31, 1918, Mann Papers.


169. Mann to Burritt, May 15, 1920, Mann Papers.


173. Babcock to Farm Bureau Manager, Circ. Letter 40, Mann Papers.

174. Jay Coryell to County Farm Bureau Presidents, June 2, 1920, Mann Papers.


176. Mann to Warren, Nov. 17, 1920, Mann Papers.


181. Mann to C. D. Tarbell, June 2, 1919, Mann to E. T. Hiscock, June
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185. Burritt to Mann, June 28, 1919, Mann Papers.


188. Mann to Burritt, March 17, 1919, Mann Papers.

189. Mann to Bates, March 9, June 22, 1920, Mann Papers.

190. Cornell Countryman, Dec. 1919; Babcock to Mann, Aug. 29, 1919, Mann Papers.

191. Rose to Mann, Oct. 6, 1919, Mann Papers.

192. Mann to Van Rensselaer, Feb. 19, 1919, Mann Papers.


197. Rose to Mann, Dec. 23, 1918, Burritt to Mann, Nov. 26, 1919, Mann Papers.


199. Smith, People's Colleges, pp. 189-190.


201. M. V. Atwood to Farm Bureau Agents, Nov. 11, 1918, Mann Papers; Mann to H. O. Elkins, Feb. 5, 1914, Bailey Papers.


203. Faculty of Ag. Minutes, III, 213-216; IV, 39, 66.

204. Mann to Burritt, May 19, 1919, Mann Papers.

205. Faculty of Ag. Minutes, V, 50.


207. Mann to T. L. Lyon, Nov. 8, 1918, to Davenport, Jan. 27, 1919, Mann Papers.

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208. Faculty of Ag. Minutes, IV, 184.
209. Mann to F. B. Mumford, Oct. 23, 1919, Mann Papers.
211. Lyon to Mann, Sept. 23, 1918, Mann Papers.
212. Faculty of Ag. Minutes, V, 29; Galloway to J. E. Creighton, Jan. 21, Galloway to Schurman, Jan. 21, 1916, Galloway-Schurman Correspondence.
220. Proc., Assoc. of Land-Grant Colleges, 1922, pp. 128-140.
223. Faculty of Ag. Minutes, IV, 73-74; Martha Van Rensselaer to Mann, Dec. 23, 1919, Mann Papers.
225. Faculty of Ag. Minutes, II, 232.
227. Faculty of Ag. Minutes, III, 111.
228. Mann to C. D. Bostwick, Nov. 5, 1919, Mann Papers.
231. The figures are from the reports of the President and the annual reports of the College of Agriculture. Where discrepancies exist, the figures from the annual report of the College are used. The asterisk indicates data not available.
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233. Stark to Bailey, Nov. 6, 1912, Bailey Papers.


235. Mann to Frank Thilly, Oct. 27, 1920, Mann Papers.

236. Cornelius Betten to H. L. Russell, April 18, 1922, Mann Papers.

237. Webber to C. H. Hull, June 17, 1910, Bailey Papers; *General Circ. of Information*, 1911-1912.


239. Faculty of Ag. Minutes, IV, 179, 190, 197, 209; Mann to Warren, May 8, 1919, Mann Papers.


241. Faculty of Ag. Minutes, June 12, 1911, pp. 151-170.


244. Bristow Adams to Mann, Oct. 7, Mann to Adams, Oct. 10, 1921, Mann to Betten, Feb. 18, 1920, Mann Papers.

245. Faculty of Ag. Minutes, IV, 12.


248. Rice to Mann, Dec. 9, 1920, Mann Papers.


254. Faculty of Ag. Minutes, III, 70.

255. *Cornell Countryman*, Feb., 1911, p. 392; Faculty of Ag. Minutes, IV, 105, 118.


261. F. W. Lathrop to Dane L. Baldwin, Oct. 12, 1918, Mann Papers.

262. Mann to Wyman S. Smith, April 15, 1919, "President of Alumni Association to Dear Fellow Cornellian," April 29, 1920, Burritt folder, Mann Papers.

263. Bailey to Schurman, April 3, 1911, Bailey Papers.
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265. Webber to Bailey, Nov. 20, 1912, Bailey Papers.
266. Whetzel to Bailey, April 28, 1913, Bailey Papers.
269. Statement of Dean Mann accompanying the budget request of the New York State College of Agriculture as sent to the Governor and the Legislature, Oct. 1, 1919, Mann Papers.
271. Hiscock to Mann, March 29, 1919, Mann Papers.
272. Mann to Walter F. Willcox, April 2, 1919, Mann Papers.
274. J. C. Marquis to Mann, Jan. 24, 1911, John G. Gudmunsden to Mann, May 18, 1921, Mann Papers.
275. Mann to T. F. Hunt, May 28, 1918, Mann Papers.
277. Bailey sent a number of letters to determine what staff member had inspired the appropriation. Bailey to A. C. Beal, Bailey to Whetzel, Aug. 24, 1911, April 20, 1912, Bailey Papers.
279. Laws of New York, 1920, ch. 896; Mann to Alfred E. Smith, May 20, 1920, Mann Papers.
280. Minutes of conference, meeting to formulate program of forest and wildlife conservation, Dec. 15, 1920, MS, Box 16, Mann Papers.
286. Mann to Sage, Jan. 15, to Schurman, May 16, 1919, Mann Papers.
288. A memorandum reporting the results of a recent trip to Albany, Jan. 18, 1916, Mann Papers.
289. "Comptroller" folder, Box 5, Mann Papers.
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290. Mann to K. M. Weigand, April 21, 1920, Mann Papers.
292. Mann to J. C. Marquis, Jan. 22, 1917, Mann Papers.
295. Mann to C. H. Tuck, Feb. 23, 1917, Mann to Dix, Oct. 8, 1918, March 5, 17, 1919, Mann Papers.
298. Mann to M. V. Atwood, Sept. 3, 1918, Mann Papers.
299. Mann to J. D. Pratt White, June 3, 1919, Mann Papers.
300. Mann to E. T. Hiscock, March 4, 1920, Mann Papers.
301. Bailey to Schurman, March 31, 1911, Bailey Papers; Warren to Rice, March 26, 1926, Rice Papers.
302. Mann to H. C. Thompson, May 1, 1920, Mann Papers.
305. Galloway to E. L. Williams, Dec. 22, 1914, Galloway-Schurman Correspondence.
308. Ogden, Diaries of Andrew D. White, p. 460.
310. Mann to Betten, May 12, 1920, Mann Papers.
311. C. D. Bostwick to Mann, Jan. 8, 1921, Mann Papers.
312. Whetzel to Bailey, April 30, 1909, Donald Reddick to Bailey, July 19, 1913, Bailey Papers.
314. Mann to Tuck, Nov. 11, 1916, Mann Papers.
317. Savage to Mann, Dec. 16, 1919, Building Program folder, Box 44, Mann Papers, Minutes, Evening Session, Box 9, Mann Papers.
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318. Mann to George A. Blauvelt, Feb. 7, to Eastman, Jan. 8, 1920, Mann Papers.
319. Laws of New York, 1920, ch. 165; Mather to Mann, April 18, 1920, Mann Papers.
321. Semi-Centennial Report, Box 13, Mann Papers.
322. To the Staff of the College of Agriculture, May 21, 1919, Mann Papers.
324. Resolutions approved by Galloway, signed also by Professors Needham, Works, Warren, Wing, Cavanaugh, W. A. Riley, on behalf of the faculty, Box 44, Mann Papers.
325. Faculty of Ag. Minutes, IV, 74, 127.
331. Faculty of Ag. Minutes, V, 42-43.
332. Whetzel and Needham to Mann, Sept. 16, 1919, Mann Papers.
333. Faculty of Ag. Minutes, IV, 83, 93, 146.
334. Whetzel to Mann, Oct. 24, 1918, Mann Papers.
335. Mann to R. A. Emerson, April 17, 1920, Mann Papers.
337. Galloway to Schurman, May 7, 1915, Galloway-Schurman Correspondence; folder labeled “Rural Social Conditions,” Box 45, Mann Papers.
339. Works to Mann, May 18, July 10, 1917, Mann to Works, July 25, 1918, Mann Papers.
342. Mann to Rose, April 1, 1919, Rose to Mann, May 10, 1920, Mann Papers.
343. Mann to Horace White, April 5, 1919, Mann to E. H. Thomson, Jan. 12, 1920, Mann Papers.
345. Van Rensselaer to Mann, Jan. 29, 1920, Mann Papers.

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347. Mann to Needham, May 22, to Whetzel, Nov. 27, 1920, Mann Papers.

348. Galloway to members of the Agricultural College Council, May 25, 1916, Galloway-Schurman Correspondence.

349. L. R. Hesler to Whetzel, June 16, 1919, Mann Papers.

350. G. W. Parker to Rice, March 26, 1918, Mann Papers.


352. Mann to Hill, June 19, 1919, Mann Papers; Faculty of Ag. Minutes, V, 16; Mann to W. A. Riley, May 6, 1920, Mann Papers.

353. Mann, “To Professors and Assistant Professors,” Dec. 22, 1919, Box 8, Mann Papers.


357. Mann to W. A. Riley, May 6, 1920, Mann Papers.


359. Burratt to Mann, Nov. 5, 1920, Mann Papers.

360. Mann to Betten, June 5, 1919, Mann Papers.


366. Faculty of Ag. Minutes, IV, 43.

367. Ibid.; Galloway to Whetzel, Jan. 18, 1915, Galloway Papers; Galloway to G. W. Harris, Jan. 2, 1915, Galloway-Schurman Correspondence.


370. Faculty of Ag. Minutes, IV, 222.


372. Ibid., March, 1924, p. 175.


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ford to Mann, Dec. 21, E. Davenport to Mann, Dec 23, J L. Stone to Mann, Jan. 16, 1919, Mann Papers.


377. Stocking to Bailey, Oct. 27, 1911, Rice to Bailey, June 10, 1913, Bailey Papers; Box 14, Mann Papers; Mann to M. W. Harper, March 9, 1921, Mann Papers.


379. Galloway to Schurman, June 7, 1917, Galloway-Schurman Correspondence; Mann to Galloway, May 24, 1920, Mann Papers.

380. Mann to Schurman, June 20, 1919, Mann Papers.

381. Faculty of Ag. Minutes, V, 52; Stocking to Mann, June 4, Pearson to Mann, May 17, 1920, Mann Papers.

382. Interview, Thomas E. Milliman, Dec. 6, 1960.

383. May 12, 1920, Mann Papers.

384. See Mann to R. W. Curtin, May 6, to Bristow Adams, June 12, 1918, to H. H. Wing, Sept. 30, 1919, Mann Papers.


391. Warren to Mann, Sept. 20, 1918, Mann Papers.


393. Farm Economics, Feb., 1957, contains a biographical sketch of Warren by Pearson.


395. Mann to Burritt, Aug. 18, 1920, Mann Papers.

CHAPTER VII

1. Mann to Burritt, April 1, 1922, Mann Papers.

2. M. C. Burritt Diaries, Nov. 20, 1922.


5. Burritt to Mann, April 3, Sept. 6, 1922, Mann Papers.

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8. See appendix A.
10. Mann to Burritt, Sept. 7, 1922, to Ladd, April 8, 1929, Mann Papers.
15. Babcock to Mann, June 5, Mann to Babcock, June 19, 1928, Mann Papers.
17. Mann to Burritt, March 17, 1922, Mann Papers.
18. Mann to A. C. True, Dec. 2, 1921, Mann Papers.
19. Data on the administration of the county farm bureaus is included in the Ann. Rpt. of the N.Y. State Coll. of Ag., 1921 to 1930; Cornell Countryman, Nov., 1928, p. 46.
22. Simons, Memorandum to Dean Mann and Director Ladd, April 20, 1919, Mann Papers.
23. Burritt to Peter G. Ten Eyck, Jan. 10, 1923, Mann Papers.
26. Faculty of Ag. Minutes, V, 99.
29. Mann to Burritt, Feb. 8, 1921, Mann Papers.
30. Ladd to Mann, March 24, Mann to Ladd, April 23, 1930, Mann Papers.
33. Rpt. of the Pres., 1931, App. VIII.
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36. Mann to J. N. Hurley, Mar. 15, 1922, Mann Papers; *The Non-Pooler*, June 25, 1922, p. 3.
37. Mann to H. B. Sweet, Feb. 19, 1923, Mann Papers; Bruce Jones, College of Agriculture Historical Notes, 1962.
40. Mann to Burritt, March 9, 1921, Jan. 18, 1923, Burritt to Mann, Feb. 10, March 7, 1921, Mann Papers.
42. *Rural New Yorker*, Sept. 8, 1923, Dec. 6, 1924.
45. Statement of Mr. Brockway, 1921, Box 19, Mann Papers; *Ann. Rpt. of the N.Y. State Coll. of Ag.*, 1921, pp. 22-23.
47. Mann to Frank Hiscock, Jan. 4, Feb. 14, Hiscock to Mann, Jan. 5, 1922, Mann Papers.
49. Mann to R. P. Holland, Oct. 6, 1921, Mann Papers.
50. Mann to Horace White, Feb. 13, 1921, Mann Papers.
52. Bates to Mann, Dec. 1, 1921, Mann Papers.
55. Faculty of Ag. Minutes, VI, 121.
58. Faculty of Ag. Minutes, VI, 182.
60. Joseph Wilson to Charles E. Treman, March 7, 1928, Graves to
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Mann, Dec. 8, 1927, Mann Papers.


63. Mann to Mrs. A. W. Smith, Jan. 4, 1921, Mann Papers.

64. Mann to C. D. Bostwick, June 7, 1920; “Reasons Why Home Economics Should Now Be Established as a Separate State College at Cornell University,” Jan. 8, 1921, Box 44, Mann Papers.

65. Mann to J. D. Barnum, April 21, 1924, Mann Papers.


68. Flora Rose, Confidential Rpt. of Home Economics Conference in Albany, Nov. 21, 1929, Mann Papers.

69. Mann to Betten, Jan. 25, 1925, to Kimball, Dec. 3, 1929, Mann Papers.

70. Mann to Mortimer Y. Ferris, April 5, 1922, Mann Papers.

71. State Budget Requests, 1920-21 to 1928-29, located in office of director of finance.

72. Mann to George A. Blauvelt, March 15, 1924, Stocking to Mann, Dec. 29, 1922, Mann Papers.

73. Warren to Mann, Oct. 27, 1927, Mann Papers.


77. Ann. Rpt. of the N.Y. State Coll. of Ag., 1929, pp. 16-17; President’s Rpt. for 1929-1930, App. VIII.

78. Mann to Charles D. Bostwick, Aug. 16, 1923, March 6, 1929, Mann Papers.


80. President’s Rpt. for 1929-1930, App. VIII; Mann to Frank P. Graves, April 25, 1930, Mann Papers.

81. Memorandum concerning the meeting of the Governor’s Agricultural Advisory Commission, Aug. 2, 1929, Ladd to Mann, Aug. 5, 1929, Land Utilization Folder, Box 46, Mann Papers; Faculty of Ag. Minutes, III, 242-281.

82. Mann to Farrand, Dec. 23, 1930, Mann Papers.

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83. President's Rpt. for 1928-1929, App. VIII.
84. Mann to R. A. Emerson, April 17, 1930, Mann Papers.
85. Mann to R. A. Pearson, Aug. 8, 1930, Mann Papers.
86. Betten to Mann, Feb. 9, Mann to Betten, Feb. 11, 1921, Mann Papers.
87. Faculty of Ag. Minutes, VI, 173-176.
89. Gibson to Mann, June 25, 1929; Mann Papers.
90. Mann to Betten, Feb. 16, to Ladd and Betten, July 14, 1927, Mann Papers; Charles A. Taylor, A Brief History of the Winter Short Courses (Ithaca, 1942; mimeo.), p. 11.
91. Betten to Mann, April 23, C. V. Piper to Mann, July 11, 1921, Mann to Betten, Oct. 1, 1923, Mann Papers.
93. Mann to Betten, May 21, 1924, Mann Papers.
94. Faculty of Ag. Minutes, V, 124-129, 155.
96. Mann to Burritt, Nov. 6, Burritt to Mann, Nov. 5, 1923, Mann Papers.
98. Ladd to Betten, April 3, 1926, Mann Papers.
99. Berne A. Pyrke to Mann, May 9, Mann to Alfred E. Smith, May 26, 1923, Mann Papers.
100. Thatcher to F. L. Fairbanks, May 29, 1925, Thatcher to Mann, May 10, 1927, Mann Papers.
102. Mann to Morrison, Jan. 7, 1928, Mann Papers.
104. Faculty of Ag. Minutes, VI; Mann to Betten, Jan. 3, 1921, March 22, 1922, Mann Papers.
105. Mann to Betten, July 14, Betten to Mann, Feb. 22, July 5, 1924, Mann Papers.
106. Mann to Betten, Nov. 22, 1927, Mann Papers.
108. Faculty of Ag. Minutes, VI, 75-98.
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110. Love to Mann, Jan. 10, 1929, Mann Papers.
111. Faculty of Ag. Minutes, VII, 100.
112. Faculty of Ag. Minutes, VI, 187.
114. See Mann to Chandler, Feb. 15, 1921, Mann Papers.
115. Myers to Mann, July 9, 1930, Mann Papers.
116. Mann to Ladd, Dec. 6, 1928, Mann Papers.
123. Faculty of Ag. Minutes, V, 132; Mann to Flora Rose, June 24, 1921, Mann Papers.
124. Mann to Frank A. Dudley, Oct. 3, 1921, Box 46, Mann Papers.
125. Dudley to Mann, March 3, 1922, March 18, 1924, “Memorandum of Understanding between the American Hotel Association and Cornell University,” etc., Box 46, Mann Papers; Mann to Farrand, May 4, 1927, Mann Papers.
126. H. B. Meek to Betten, Aug. 9, 1926, Mann Papers.
127. Mann to Farrand, Dec. 22, 1923, April 4, 1924, Mann Papers.
129. Mann to J. Du Pratt White, April 20, 1923, Mann Papers.
131. Mann to J. C. Bradley, Jan. 19, 1924, Mann Papers; Faculty of Ag. Minutes, VI, 19.
132. Mann to W. W. Ellis, April 27, 1921, April 27, 1928, Mann Papers.
134. Memorandum Concerning Efforts to Obtain Library, etc., May 2, 1931, Mann Papers.
136 Ibid., 1923, p. 17, 1931, p. 12.
137. Asa King to Mann, June 29, 1929, Mann Papers.

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141. Works to Mann, Feb. 7, 1921, Mann Papers.
143. Warren to Mann, Jan. 20, 1930, Myers to Mann, June 20, 1928, Mann Papers.
144. Warren to Rice, March 26, 1926, Rice Papers; Myers to Betten, Oct. 6, 1924, Mann to Warren, June 6, 1930, Mann Papers.
146. Mann to Burritt, Feb. 1, Babcock to Mann, Feb. 11, Mann to Alfred E. Smith, April 18, 1924, Mann Papers; Laws of New York, 1924, ch. 225.
147. Warren to Mann, Jan. 18, 1930, Mann Papers.
149. Warren to Mann, April 15, 1924, Mann Papers.
150. Mann to Betten, Feb. 1, 1924, Mann Papers; Cornell Countryman, Dec., 1910, pp. 94-98.
151. Mann to Burritt, June 2, 1928, Mann Papers.
158. Ibid., pp. 70-73, 89
159. Ibid., pp. 77-78.
163. Ibid., pp. 81-82.
164. Rice to E. G. Misner, March 18, 1926, Rice Papers; Warren to Rice, March 27, April 2, 1926, Mann Papers.
165. Meeting of Directors of Northeastern Experiment Stations at
Educaon and Agriculture

Ithaca, Feb. 23-24, 1928, Box 40, Mann Papers.


167. Mann to Betten, March 17, 1925, Mann Papers.


172. President's Rpt. for 1929-1930, App. VIII.


175. Faculty of Ag. Minutes, V, 106, 166; Ann. Rpt. of the N.Y. State Coll. of Ag., 1930, p. 18.


179. Mann to Betten, March 23, 1922, Mann Papers.


181. Ibid., April, 1921, p. 416; May, 1937, p. 7.

182. Ibid., Nov., 1924, p. 64; Dec., 1924, p. 95; March, 1925, p. 192; April, 1925, p. 222; Jan., 1926, p. 131.

183. Ibid., April, 1927, pp. 188, 205; Dec., 1928, p. 73.

184. Ibid., Dec., 1928, p. 73; interview, John P. Hertel, April 17, 1962.

185. Ibid., June, 1927, p. 243.

186. Ibid., April, 1929, p. 212; Oct., 1929, p. 9.

187. Ibid., June, 1927, p. 244.

188. Ibid., May, 1928, p. 282; March, 1929, p. 196; Nov., 1929, p. 61.


192. A. W. Gibson, Student Eliminations: Its Causes and Its Implications (Ithaca, 1929; mimeo.).


194. American Agriculturist, July 21, 1923; Mann to Jared Van Wag- enen, June 8, 1923, Mann Papers; Cornell Countryman, Oct., 1923, p. 11.


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198. George W. Parker to Mann, Dec. 9, 1921, Mann Papers.
199. Betten to Mann, Feb. 15, 1926, Mann Papers.
201. Faculty of Ag. Minutes, V, 226.
203. Mann to J. G. Schurman, May 23, 1924, Mann Papers.
205. O. C. French, ibid.
207. Ladd to Henry Haskell, Aug., 1929, Ladd Papers.
208. Mann to M. P. Rasmussen, Oct. 17, 1930, Mann Papers; President's Rpt. for 1927-1928, App. VIII.
209. C. W. Pugsley to Mann, Nov. 18, Mann to Pugsley, Dec. 29, 1921, Mann Papers.
210. E. R. Eastman to Mann, Nov. 21, 1930, Mann Papers.
211. F. B. Morrison to Mann, Aug. 18, 1923, Mann Papers.
212. Faculty of Ag. Minutes, VI, 131, 190, 79.
213. Ibid.
217. Mann to Mildred Cross, Dec. 8, 1926, Mann Papers.

CHAPTER VIII

1. H. H. Homer to Mann, Feb. 19, 20, 1931, Mann Papers; President's Rpt. for 1930-1931, App. VIII.
2. Mann to R. H. Rivenburg, March 24, to J. Warren Davis, May 18, 1931, Mann Papers.
5. Eastman to Ladd, April 13, 1937, Ladd Papers; American Agriculturist, April 10, 1937, p. 5.
6. Ladd to Daniel Dean, Dec. 9, 1940, to M. L. Wilson, Feb. 6, 1936, Ladd Papers.

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8. C. B. Smith to Mann, Jan. 16, 1931, Mann Papers.
10. Ladd to Treman, Feb. 4, March 2, 1933, Ladd Papers.
16. Ladd to M. V. Atwood, Aug. 22, 1934, Ladd Papers.
17. Ladd to Gannett, Nov. 12, 1935, Ladd Papers.
22. Members of the Executive Committee to Presidents of Land-Grant Institutions, March 24, 1933, Ladd Papers.
25. Ladd to B. H. Crocheron, March 24, April 24, to R. K. Bliss, April 17, 1933, Ladd Papers.
26. Schlesinger, Coming of the New Deal, p. 60.
33. Mann to F. D. Farrell, Sept. 21, 1936, Ladd Papers.
37. Ladd to Mann, Nov. 19, 1938, Ladd Papers.
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42. Ladd to Wilson, June 14, 1939, Ladd Papers.
45. Tolley to L. R. Simons, June 30, 1939, Ladd Papers.
52. Ladd to Herbert Lehman, Aug. 31, 1939, Ladd Papers.
54. Ladd to J. E. Dodge, Jan. 23, 1934, Ladd Papers.
55. Ladd to V. B. Hart, Jan. 30, 1934, Ladd Papers.
57. P.L. No. 182, H.R. 7160, 74th Congress.
61. Faculty of Ag., Minutes; VII, 28; Mann to Eugene Davenport, Feb. 16, 1931, Mann Papers.
62. Ladd to Farrand, Jan. 20, 1934, Ladd Papers.
63. Ladd to Herman Cooper, June 7, 1937, Ladd Papers.
64. Ladd to Burritt, April 11, 1939, Ladd Papers.
65. Ladd to Farrand, Aug. 8, 1936, Young to E. E. Day, Jan. 27, 1940, Ladd Papers.
66. Day to Young, Jan. 15, Young to Day, Jan. 27, 1940, Ladd Papers.
67. Ralph Hosmer to Mann, April 5, Emanuel Fritz to Mann, Aug. 21, 1930; memorandum of conversation between Commissioner Frank P. Graves and Emanuel Fritz, June 17, 1930, Mann Papers.
69. Dedication of the Louis Marshall Memorial (Syracuse, 1933), pp. 35-36; “State Support of Forestry Education in the State of New York,”
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MS in office of the dean, Coll. of Ag.
72. Hosmer, Forestry at Cornell, pp. 57-80.
74. Farrand to Mann, Dec. 11, 1930, Mann to Farrand, March 27, 1931, Mann Papers.
76. President's Rpt. for 1943-44, App. XV.
79. Ladd to Eugene Davenport, April 8, 1938, Ladd Papers.
81. Mann to Horner, Feb. 17, 1931; Mann, Memorandum concerning steps to obtain building for agricultural engineering for the New York State College of Agriculture at Cornell University, May 2, 1931, Mann Papers.
82. Library folder, Box 9-18, Ladd Papers.
83. Interview, E. S. Foster, June 15, 1961.
84. Special Appropriations Folder, Box 13, Ladd Papers.
86. Bruce Jones to Mann, Aug. 30, 1924, Mann Papers.
87. Bruce Jones to L. N. Simons, undated, Box 12, Ladd Papers.
89. Rice to Burritt, April 5, 1932, Rice Papers; W. H. Lighty to Burritt, April 15, 1936, Ladd Papers.
91. Babcock to Mann, Nov. 7, 1921, Mann Papers; Public Papers of Governor Lehman, 1936 (Albany, 1940), p. 581.
92. Speech MS in American Agriculturist folder, Box 14, Ladd Papers.
98. Ladd to Mann, Nov. 16, 1934, Ladd Papers.

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104. Faculty of Ag., Minutes, VII, 113.
105. Faculty of Ag., Minutes, VII, 35.
106. Woodford Patterson to Ladd, Sept. 5, 1939, Ladd Papers.
114. Ladd to Palm, April 18, 1938, Ladd Papers.
117. Mann to Warren, March 25, 1929, Mann Papers.
120. V. B. Hart to Farrand, Feb. 2, 1937, Ladd Papers.
121. Ladd to Babcock, Dec. 12, 1940, Ladd Papers.
125. Ladd to Daniel Dean, March 13, 1936, Ladd Papers.
126. Ladd to H. H. Whetzel, Box 11, Ladd to Dwight Sanderson, June 11, 1940, Ladd Papers.
127. Betten to S. D. Wicks, March 17, 1926, Mann Papers.
129. E. R. Rumpf to Ladd, Nov. 15, Ladd to H. M. Ashby, July 10,
EDUCATION AND AGRICULTURE

1937, Ladd Papers.
133. President's Rpt. for 1933-1934, App. VIII.
134. Ladd to Hedrick, June 10, 1937, Ladd Papers.
135. L. B. Skeffington to Ladd, Nov. 4, 1938, Ladd to Parrott, Aug. 21, 1937, Ladd Papers; President's Rpt. for 1937-1938, App. IX.
137. Interview, Leland Spencer, June 8, 1961.
139. L. J. Steele to Mann, May 7, Mann to Steele, May 19, 1923, Mann Papers.
146. Ladd to Arthur Deering, Jan. 7, 1940, Ladd Papers.
150. Earl A. Flansburg, “Developing Extension Leadership” n.d., mimeo., Box 14, Ladd Papers; interview, Irving Perry, Dec. 8, 1960; Fred B. Morris to Ladd, Nov. 22, 1938, Ladd Papers; Faculty of Ag. Minutes, XIII, 139-140.
151. Dwight Sanderson to Ralph Felton, May 7, 11, 1931, Felton to Sanderson, May 2, 1931, Felton to Mann, May 12, 1929, Mann to Felton, May 25, 29, 1929, Mann Papers.

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156. Hart to Mann, May 5, 1931, Mann Papers.


159. Ladd to L. A. Toan, Sept. 17, 1936, Ladd Papers; Cornell Countryman, March, 1938, p. 86.


164. National Association of Manufacturers folder, Box 15, Ladd Papers; Ladd to V. B. Hart, June 21, 1938, Ladd Papers.


170. MS of radio talk by Dean Ladd, June 14, 1935, Ladd Papers.


172. L. R. Simons to Dwight Sanderson, March 30, 1938, Ladd Papers.

173. President's Rpt. for 1931-1932, App. IX; Ladd to John P. Street, April 8, 1933, Donald K. Tressler to Ladd, March 2, 1934, Ladd Papers.


177. Asdell, Coll. of Ag. Historical Notes, 1962.


181. Research File, Box 19, Ladd Papers.


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186. President's Rpt. for 1931-1932 to 1940-1941, App. II.

187. Ladd to Louisa W. Farrand, June 15, 1930, to Burt W. Miller, July 24, 1935, Ladd Papers; Faculty of Ag. Minutes, VII, 123.

188. Ladd to Mann, Oct. 2, 1933, Ladd Papers.

189. Faculty of Ag. Minutes, VII, 114.


192. Faculty of Ag. Minutes, VIII and IX.

193. President's Rpt. for 1938-1939, App. VII.

194. President's Rpt. for 1930-1931, App. VIII.


197. Ladd to Betten, Jan. 18, Betten to Mann, Jan. 22, 1927, Mann Papers.


199. Faculty of Ag. Minutes, VII, 112-113; interview, A. W. Gibson, June 21, 1961.


201. College of Ag. Historical Notes, 1962.

CHAPTER IX


2. President's Rpt. for 1943-1944, App. XII.

3. President's Rpt. for 1941-1942, App. VII.


5. Mann to J. G. Lipman, Nov. 9, 1918, Mann Papers.


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18. *Nation’s Agriculture*, Jan. 1941, p. 11. See also Feb., 1941, p. 9.
19. May 13, 1941, Ladd Papers
27. Notes on retirement and promotions are contained in the annual report of the College.
29. L. A. Maynard to Ladd, Aug. 18, 1941, E. E. Day to Maynard, June 1, 1942, Ladd Papers; *President’s Rpt. for 1941-1942*, App. XIII.
30. A. W. Gibson to Ladd, Aug. 31, 1940, Ladd Papers.
40. Faculty of Ag. Minutes, XV, 133.
43. *McKinney’s Consolidated Laws of New York*, Education Law, sec. 355. For the relation of the Board of Regents to the Board of Trustees of the State University see Oliver C. Carmichael, Jr., *New York Establishes a State University* (Nashville, 1955), pp. 234-313.
44. Interview, Arthur Peterson, June 9, 1961.
46. See p. 247.
47. Dana G. Dalrymple, “State Appropriations for Agricultural Research and Extension,” *Agricultural Economics* 852 (Michigan State University,
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50. Faculty of Ag. Minutes, XI, 228.
59. Faculty of Ag. Minutes, XV, pp. 266-271.
64. R. F. Holland, Coll. of Ag. Historical Notes, 1962.
76. Ibid., 1955, p. 29.
77. Interview, Leland Spencer, Nov. 23, 1960.

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84. Interview, J. Paul Leagans and John C. Swan, Nov. 23, 1960.
89. Interview, Elton Hanks, Nov. 16, 1960.
90. Faculty of Ag. Minutes, June 28, 1945, p. 45.
102. Cage to Ladd, June 29, 1943, Ladd Papers.
111. Interview, W. K. Kennedy, Nov. 9, 1960.
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115. Ladd to Babcock, Jan. 11, 1941, Ladd Papers.
117. Faculty of Ag. Minutes, XIII, 43.
118. Ibid., XV, 59, 234.
119. The phrase was used as the title of a 34-page booklet describing Cornell's offerings in agricultural education.
120. Faculty of Ag. Minutes, XV, 234-236.
121. Ibid., p. 233.
122. Ibid., pp. 144-147. The scholarships available are listed in each annual announcement of the College of Agriculture.
123. Ibid., pp. 221-222.
124. Ibid., pp. 54, 68, 73; A. W. Gibson, Coll. of Ag. Historical Notes, 1962.
125. Faculty of Ag. Minutes, X, 58; XI, 197.
126. Ibid., XV, 46.
127. Ibid., p. 29.
128. Ibid., p. 185.
130. Faculty of Ag. Minutes, XI, 216-217, 224-225; XIII, 269.
132. Faculty of Ag. Minutes, XI, 97.
133. Cornell Countryman, Jan., 1946, p. 16.
134. Faculty of Ag. Minutes, XI, 161-165.
135. Ibid., XI, p. 168; XII, 86; XIII, 95; XIV, 52.
Membership in Agricultural Departments of County Extension Associations, 1914-1960

1914 - 3,592  1930 - 39,072  1946 - 79,697
1915 - 10,055  1931 - 40,111  1947 - 86,860
1916 - 13,681  1932 - 36,067  1948 - 87,686
1917 - 29,784  1933 - 25,891  1949 - 89,599
1918 - 45,012  1934 - 28,668  1950 - 89,082
1919 - 67,618  1935 - 30,789  1951 - 83,345
1920 - 57,958  1936 - 32,460  1952 - 82,171
1921 - 49,605  1937 - 40,631  1953 - 80,578
1922 - 42,059  1938 - 42,718  1954 - 77,606
1923 - 34,529  1939 - 42,895  1955 - 73,724
1924 - 28,398  1940 - 45,536  1956 - 70,631
1925 - 29,388  1941 - 46,975  1957 - 70,125
1926 - 28,476  1942 - 52,793  1958 - 69,711
1927 - 29,213  1943 - 58,466  1959 - 69,368
1929 - 34,493  1945 - 76,441

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APPENDIX B

Administrative Officers of the College of Agriculture

Dean

George C. Caldwell, 1868-1874
Isaac P. Roberts, 1874-1903
Liberty H. Bailey, 1903-1913
Beverly T. Galloway, 1914-1916
Albert R. Mann, 1917-1931
Carl E. Ladd, 1931-1943
William I. Myers, 1943-1959
Charles E. Palm, 1959-

Acting Dean

Herbert J. Webber, 1909-1910
William A. Stocking, Jr., 1913-1914
Albert R. Mann, 1916-1917
Cornelius Betten, 1924-1926, 1931

Director of the Cornell University Agricultural Experiment Station

George C. Caldwell, 1879-1886
Isaac P. Roberts, 1888-1903
Liberty H. Bailey, 1903-1913
Beverly T. Galloway, 1914-1916
Albert R. Mann, 1916-1923, 1928-1931
Roscoe W. Thatcher, 1923-1927
Frank B. Morrison, 1927-1928
Carl E. Ladd, 1931-1942
C. E. F. Guterman, 1942-1957
Charles E. Palm, 1957-1959
W. Keith Kennedy, 1959-

Director of the New York State Agricultural Experiment Station (since 1923)

Roscoe W. Thatcher, 1923-1927
Frank B. Morrison, 1927-1928
Ulysses P. Hedrick, 1928-1938
Percival J. Parrott, 1938-1942
APPENDIX B

Arthur J. Heinicke, 1942-1960
Donald W. Barton, 1960-

DIRECTOR OF EXTENSION
Albert R. Mann, 1916-1923
Maurice C. Burritt, 1923-1924 (Vice-Director, 1917-1923)
Carl E. Ladd, 1924-1931
Lloyd R. Simons, 1931-1954
Maurice C. Bond, 1954-1962
Alvin A. Johnson, 1962-

DIRECTOR OF RESIDENT INSTRUCTION
Cornelius Betten, 1923-1940 (Vice-Dean, 1920-1923)
Anson W. Gibson, 1940-1960
Thomas C. Watkins, 1960-

DIRECTOR OF FINANCE (for all state colleges at Cornell University)
Ralph H. Wheeler, 1945-1951
Arthur H. Peterson, 1951-1961
Robert L. Walsh, 1961-

STATE LEADER OF COUNTY AGRICULTURAL AGENTS
Lloyd Tenny, June-Dec., 1913
Maurice C. Burritt, 1914-1916
Howard E. Babcock, 1916-1920
Jay Coryell, 1921-1928
Lloyd R. Simons, 1928-1931
Earl A. Flansburgh, 1931-1943
Fred B. Morris, 1943-1958
Clifford R. Harrington, 1958-

LIBRARIAN
Willard W. Ellis, 1916-1946
Whiton Powell, 1947-

DIRECTOR, L. H. BAILEY HORTORIUM (since 1935)
Liberty Hyde Bailey, 1935-1951
George H. M. Lawrence, 1951-1960
Harold E. Moore, Jr., 1960-

HEADS OF DEPARTMENTS

During the evolution of the department headship in the Bailey administration the term "department head" was used under varying circumstances. Consequently, some of the dates listed before 1913 contain an element of personal judgment. In one instance I have not recorded a date where the case for several choices seemed equally persuasive. Acting heads and the
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heads of subdepartments are not listed. The names of departments are those used most recently.

**Agricultural Economics**

George F. Warren, 1909-1938  
William I. Myers, 1938-1943  
Forrest F. Hill, 1944-1954  
Glenn W. Hedlund, 1954-

**Agricultural Engineering**

Howard W. Riley, 1907-1944  
Byron B. Robb, 1946-1947  
Orval C. French, 1948-

**Agronomy**

Thomas F. Hunt, 1903-1907  
Thomas L. Lyon, 1921-1937  
Richard Bradfield, 1937-1955  
Nyle C. Brady, 1955-

**Animal Husbandry**

Henry H. Wing, 1903-1928  
Frank B. Morrison, 1929-1945  
Kenneth L. Turk, 1945-

**Animal Industry and Dairy Husbandry**

Henry H. Wing, 1891-1903

**Biochemistry**

Leonard A. Maynard, 1945-1955  
Harold H. Williams, 1955-

**Botany**

Karl M. Wiegand, 1913-1941  
Lewis Knudson, 1941-1952  
Harlan P. Banks, 1952-1961

**Conservation**

Gustav A. Swanson, 1948-

**Dairy and Food Science**

Raymond A. Pearson, 1903-1908  
William A. Stocking, Jr., 1908-1924  
James M. Sherman, 1924-1955  
Robert F. Holland, 1955-

**Drawing**

William C. Baker, 1908-1919
APPENDIX B

ENTOMOLOGY AND LIMNOLOGY
John H. Comstock, -1914
James Needham, 1914-1936
Oskar A. Johannsen, 1936-1938
Charles E. Palm, 1938-1957
Herbert H. Schwartd, 1957-1962
George G. Gyrisco, 1962-

EXTENSION TEACHING AND INFORMATION
Charles H. Tuck, 1907-1916
William B. Ward, 1945-

FARM CROPS
George F. Warren, 1907-1909
Edward G. Montgomery, 1913-1921

FARM PRACTICE
John L. Stone, 1907-1919

FLORICULTURE AND ORNAMENTAL HORTICULTURE
Edward A. White, 1913-1939
Laurence H. MacDaniels, 1940-1956
John G. Seeley, 1956-

FORESTRY
Walter Mulford, 1911-1914
Ralph S. Hosmer, 1914-1942
Arthur B. Recknagel, 1942-1943
Cedric H. Guise, 1944-1948

HOME ECONOMICS (to 1919)
Martha Van Rensselaer and Flora Rose, 1907-1919

HORTICULTURE
Liberty Hyde Bailey, 1888-1903
John Craig, 1903-1912

LANDSCAPE ART
Bryant Fleming, 1906-1915
E. Gorton Davis and Ralph W. Curtis, 1915-1922

METEOROLOGY
Wilford M. Wilson, 1909-1925
Richard A. Mordoff, 1925-1930

PLANT BREEDING
Herbert J. Webber, 1907-1912
Rollins A. Emerson, 1914-1942
Harry H. Love, 1944-1949
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Sanford S. Atwood, 1949-1953
Royse P. Murphy, 1953-

PLANT PATHOLOGY
Herbert H. Whetzel, 1907-1923
Louis M. Massey, 1923-1950
George C. Kent, 1950-

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