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The farmers' millennium: the ideology of agricultural improvement in Iowa, 1855 to 1865

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The farmers' millennium:

The ideology of agricultural improvement in Iowa, 1855 to 1865

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A few family members also played a role in what I ended up writing about. My parents, of course, encouraged and facilitated the interest in history that I developed in middle school. Around the same time, as I developed a related interest in genealogy, my grandmother shared with me a story that connects me to my subject. One of her ancestors, either her great-great-grandfather or her great-great-great-grandfather, whose last name was Beedle, deeded land to the State of Iowa for the benefit of the Iowa State Agricultural College and Model Farm – the first antecedent of my alma mater and current home, Iowa State University. In the Ames, Iowa of the twenty-first century a street is named for him, its southern terminus being, from what the United States Bureau of Land Management's records indicate, on or near the 80-acre farm he purchased in 1855. The story about deeding land to the state may or may not be true but, my interest in the history of Iowa State University being sparked, it constantly occupied a place in the back of my mind. I never dreamed that I would end up writing a thesis on an aspect of agricultural history, even one such as this, which involves the development of an important political idea. But it is for the sake of men such as the Abraham or Simeon Beedle of my grandmother's story – ordinary residents of Story County who, eager to see an agricultural college created, issued bonds

and transferred ownership of their farms to the college's Board of Trustees – that I have written. For them, in addition to the luminaries of the Iowa State Agricultural Society, the presidents of the college, and Representative Justin S. Morrill, we should assess the quality with which the college (now university) has abided by its founders' intentions and accommodated them to changing times. I would prefer not to see their efforts disgraced or unappreciated by a failure to understand the origins of Iowa State University.

ABSTRACT

The Morrill Act of 1862, a piece of federal legislation enacted a century and a half ago, lives on today. That law allocated thousands of acres of federal land to state governments, based on the size of their congressional delegations, so they could establish colleges of agriculture and the mechanic arts and give a college education, liberal and practical, to students who could not otherwise afford one. The Morrill Act lives on because the "land-grant colleges" it endowed with financial resources still exist today, operating on billion-dollar budgets and enrolling tens of thousands of students. Further, at least at Iowa State University, each incoming president's inaugural address has involved an explanation of the land-grant idea.

In the past three decades, that explanation has devolved from the broad view, held for a century, that land-grant colleges should prepare their students to be productive economically and politically, that they should educate them to be competent engineers and agriculturists as well as civic-minded people capable of acting not just in someone's private interest, but in their community's – their polity's – public interest. The latest presidents of Iowa State have, since the 1980s, put forward an explanation of the land-grant idea that places economic values, rather than political values, at the center of the university's existence. The work of historians of agriculture and the land-grant colleges has not been much better, the former paying little attention to the land-grant colleges and the latter more often than not failing to see the larger context in which the colleges were created and have existed.

This thesis investigates the ideology that played a role in Iowa State University's creation in the late 1850s and early 1860s as the Iowa State Agricultural College and Model Farm. In the mid- to late 1850s, acting out of a concern for declining soil fertility (or the potential for it), the

Iowa State Agricultural Society formulated an ideology of sustainable land use, scientific investigation of farming techniques, and the equal dignity of labor (agricultural and mechanical work) with the more esteemed professions. The Society turned to a number of educational institutions, including annual fairs, agricultural periodicals, seed distribution programs by the federal government, township-level farmers' clubs, the state geological survey, and the state agricultural college, chartered in 1858, before the Morrill Act's passage. The author undertook this thesis because he believes that, if Iowa State's administration are going to invoke the history of the Morrill Act to rationalize their actions, they ought to know what that history is.

CHAPTER 1

INTRODUCTION

The current president of Iowa State University, Steven Leath, delivered his inaugural address in September 2012. That address continued a ritual begun in 1869 by the first president of Iowa State, Adonijah S. Welch. As I sat in the audience I hoped that, like most of his predecessors, Leath would describe the mission and purpose of the land-grant colleges and universities thoroughly. Instead, he offered only a minimal definition of the land-grant idea. Referring to himself as "a firm believer in land-grant ideals," Leath explained three components of the land-grant mission.[1] First, he emphasized, connectedness to the land, through their study of agriculture, and to the citizens of the states in which they are located, through their outreach activities, define land-grant colleges and universities. Second, "Land-grant people have the ability to see the bigger picture."[2] Third, the administrators, academics, and students working at land-grant colleges "are known for being bold. They are not afraid to take big and bold actions."[3] According to Leath, the land-grant colleges had been created for "all people. That's why land-grant institutions were called the 'people's colleges.'"[4] In addition to these characteristics, accessibility and affordability make the land-grant colleges distinctive, he said.

By that point, most of Leath's remarks about the nature of land-grant colleges had concluded. But the term made a few more appearances in the balance of his speech. As he described "the second major focus of [his] presidency," partnerships with business and industry,

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[1] Steven Leath, "Installation Address" (speech, Ames, IA, September 14, 2012), Iowa State University, http://www.president.iastate.edu/install/program/remarks.php.
[2] Ibid.
[3] Ibid.
[4] Ibid.

Leath stated that such work is "central to what we, as a land-grant university do and should do."[5] Unlike the emphasis on teaching made by people such as Welch and the namesake of the Morrill Act, Justin S. Morrill, Leath emphasized research activities as "[t]he foundation of any economic development effort ... and indeed the foundation for our academic programs and for our outreach efforts" that would enable "Iowa State to effectively carry out its land-grant mission."[6]

As Leath's allusions to the modern relevancy of the federal Land-Grant College (or Morrill) Act more than 150 years after its passage into law suggest, this legislation has proven to be one of the most enduring policies enacted around the time of the Civil War. Historian Scott Key observes, "In the midst of the most severe test ever put to the existence of the United States, the Civil War of 1861 – 1865, Congress found time to pass the most significant piece of federal educational legislation since the Ordinances of 1785 and 1787," and that passage "seems remarkable."[7] Originally introduced by Justin Smith Morrill, a United States Representative from Vermont, in 1857, the final version of the land-grant colleges bill awarded states a portion of federally-held public lands, the size of which was based on the size of their delegations to Congress, for "the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts … in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."[8]

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[5] Ibid.
[6] Ibid.
[7] Scott Key, "Economics or Education: The Establishment of American Land-Grant Universities," *The Journal of Higher Education* 67 (1996): 215.
[8] Alan Fusonie and Marilyn Jacobs, *The Land-Grant Colleges: A Selective Historical Bibliography and Legislative Chronology* (Beltsville, Maryland: Associates of the National Agricultural Library, Inc. and Wild Woods Research Associates, 1983), 25.

Comparing Leath's address to those of his predecessors left me wondering to what extent modern land-grant university administrators are aware of the legacy they have inherited even as they invoke it in their administrations of vast public institutions. In expanding that comparison into this thesis, I found that the state's land-grant college – originally the Iowa State Agricultural College and Model Farm, now the Iowa State University of Science and Technology – began its life well before the Morrill Act, that it was one of many institutions the Iowa State Agricultural Society wanted established to disseminate improved agricultural knowledge and turn every backward farmer into a participating agent of progress. True to the addresses that Morrill himself gave throughout his political career and that incoming presidents of Iowa State delivered until the 1980s, the College and the Society and its other auxiliaries were founded for carefully considered ideological reasons. Taking cues from a wide, sometimes hardly related body of literature, this thesis shows the concerns that gave rise to that ideology, defines it, and explains the place in it held by the Society's auxiliary organizations – most importantly, of the College.

In the late nineteenth and twentieth centuries, land-grant colleges such as Iowa State University became the most enduring agents of agricultural education to which agricultural societies and reform efforts were related. Historians have approached the land-grant colleges in several different ways, including biographies of principal members of the movement that resulted in the passage of the Morrill Act, studies of the origins of the Morrill Act and the land-grant colleges as land policy or legislation generally, as the result of growing government powers, and as a social movement. In seeking to credit one figure with making the main effort toward enacting the law they treat the college's history as a top-down affair that Congress imposed. In stressing procedure and the Land-Grant Colleges Bill's path through Congress they neglect the law's inspired origins that developed over a long period of time. In dealing with the social movement out of

which support for colleges of agriculture grew, historians view the Morrill Act's success as an inevitable fact, the result of inexorable progress, and so they go into little depth. Instead, their narratives are celebratory and, to borrow a phrase used by Joseph J. Ellis in another context, employ "an irresistible narrative charm."[9] What these approaches do not do is assess or place the history of the land-grant colleges within the contexts of their creation: agricultural reform and the desire to eliminate wastage of the land's nutrients, to make agricultural labor and life more dignified, to achieve both of those objectives by making agriculture more scientific, and to make agriculture more scientific by educating farmers in a wide variety of ways.

One of these historians, Earle D. Ross, rightly states that Iowa's agricultural college came into existence as a result of the work of agricultural societies in the state. Since that is the case, the ideology underlying the college can best be understood through the ideology of the society. Historians of the land-grant or Morrill colleges hint at connections to the long-running but still developing movement toward agricultural reform and improvement in the late eighteenth and early nineteenth centuries. They indicate that the Morrill colleges were created in order to achieve, or at least act as a vehicle for, agricultural improvement and its ideology. The context of colleges' creation varied from state to state, however, and historians often fail to assess agricultural colleges as they existed before the passage of the Morrill Act in 1862 and before the state legislatures designated them as the beneficiaries of the federal government's beneficence. That is, they fail to address individual colleges' contexts. Since land-grant colleges and universities are public institutions founded on a set of ideals and working (still) to advance them, this failing is lamentable.

The Morrill Act of 1862 did not create agricultural education in the United States. The Morrill Act of 1862 merely made federal resources available to state colleges of agriculture.

[9] Joseph J. Ellis, *His Excellency: George Washington* (New York, New York: Alfred A. Knopf, 2004), 207.

Although the Morrill Act of 1862 receives frequent citation as the origination of agricultural education in a college setting, colleges of agriculture were being created years before its enactment. The law provided important financial resources but did not provide the ideological reason for their being. That already existed, and can be found in the Iowa State Agricultural Society's annual reports which, although compiled from contributions by many individuals from many different backgrounds and settings, need only to be unpacked for a coherent system of belief to emerge. Unfortunately, despite the closer correlation between agricultural society and agricultural college, historians of agricultural education have concentrated on the federal government, national trends, and the Morrill Act of 1862.

One of the oldest approaches to the history of the land-grant college movement is a debate over who should receive credit for the land-grant college idea. Since 1910 several scholars have variously argued for giving credit to Jonathan Baldwin Turner of Illinois or to Justin S. Morrill of Vermont. Edmund J. James, president of the University of Illinois, weighs in for Turner in a 1910 biography.[10] Donald R. Brown offers more forceful support in an article published in 1962. He writes that to Turner "must be given major credit for the success of the campaign" on account of "his combination and elaboration of the ideas of collegiate instruction in agriculture and mechanical arts, the use of proceeds from the sale of public lands for educational purposes, and the development of a national system of higher technical schools."[11]

William Belmont Parker supports Morrill's claims for credit in his 1924 biography of the statesman. While Turner "was only one voice in the chorus of advocates, 'practical educators,' who between 1840 and 1860 made themselves heard in the East and West," Morrill was an emi-

[10] Edmund J. James, *The Origin of the Land Grant Act of 1862 (The So-called Morrill Act) and Some Account of its Author, Jonathan B. Turner* (Urbana-Champaign, Illinois: University Press, 1910), 7.
[11] Donald R. Brown, "Jonathan Baldwin Turner and the Land-Grant Idea," *Journal of the Illinois State Historical Society (1908-1984)* 55, no. 4 (1962): 378.

nent leader in the agricultural education movement, who "brought to the task knowledge fully abreast of his time and ideals not unworthy of a scholar," he writes.[12] Coy F. Cross II makes another case for Morrill in a biography that appeared in 1999. Unfortunately, he does not incorporate broader trends involving the growing importance of science to agriculture and industry in the nineteenth century, the increasingly important connection between education and a functioning democratic republic, or the agitation of educational and agricultural reformers on behalf of accessible education that had some utility.

The partisanship of this debate seems uncompromising but soon loses its sting, for James, Parker, and Cross suggest a longer story than that of one man's epiphany. James writes that he neither meant "to detract one iota from the credit due to Mr. Morrill for his earnest wise and persistent advocacy of the policy of Federal Aid to education," nor to deny that another individual or group of individuals might deserve "the credit for the ultimate victory of a great cause in which so many people were enlisted. In fact it is probably untrue that any one man ever succeeded in carrying through, himself, unaided, any great enterprise or undertaking."[13] His story begins in the 1830s rather than with Turner's proposal in the 1850s. Similarly, Parker conceded that, "Without being in any sense a specialist in education, Morrill was far too intelligent a man not to be aware of the main movements in the field. He could hardly be ignorant of the general trend toward Government aid for agricultural and industrial education."[14] Cross' approach is more moderate than Belmont's, for he writes that Morrill was not the fountainhead of the idea

[12] William Belmont Parker, *The Life and Public Services of Justin Smith Morrill*, (Boston: Houghton Mifflin Company, 1924), 280, 261.
[13] James, *The Origin of the Land Grant Act of 1862*, 14.
[14] Parker, *The Life and Public Services of Justin Smith Morrill*, 274.

and that support for education, especially through land grants, had been common throughout American history up to Morrill's time in Congress.[15]

Earle D. Ross makes a contribution to the authorship debate in 1938, drawing out the longer stories that the above authors imply in their moderation. He adopts the less partisan, more useful view that the land-grant colleges' "uniquely effective place … in the scheme of American education has resulted not from any cleverly devised act struck off at a given time but from a gradual process of adjustment to changing economic and social needs, an adaptation to varied environments, and competent experimentation in subject matter and method."[16] He finds that "[i]t is evident that through the efforts of many pioneers—famous and obscure—the agricultural or industrial college movement was initiated in essentials and, for a time, well advertised when the Vermont Representative sought national aid," and credits state and county agricultural societies with providing a forum in which social reformers, scientists, and teachers could congregate and collaborate.[17]

Works that consider the Morrill Act as a piece of land policy or a work of legislation are beneficial in that they most often deal with pragmatism in the face of political vagaries. John Y. Simon uses records of Congressional debates to narrate the legislative process through which that proposal passed before it became law in 1862, and his account of the Morrill Act stresses the collegiality of enacting legislation. Several of Morrill's colleagues in the United States House of Representatives supported his efforts. Further, he writes, the land-grant colleges bill built on the legwork done by lay reformers such as Jonathan Baldwin Turner. These legislative collabora-

[15] Coy F. Cross II, *Justin Smith Morrill: Father of the Land-Grant Colleges* (East Lansing, Michigan: Michigan State University, 1999), 87.
[16] Earle D. Ross, "The 'Father' of the Land-Grant College," *Agricultural History* 12, no. 2 (1938): 186.
[17] Ibid., 159, 161-167, 169.

tions had both idealistic and pragmatic elements. [18] The idea to establish a system of colleges of agriculture and the mechanic arts "emerged from an idealistic concern for the adaptation of existing educational resources to a changing society in a nation which generally believed that educational policy was a public concern," Simon explains.[19] In this regard the Morrill Act, like the Homestead Act of 1862, "embodied a policy of general welfare at government expense."[20]

The greatest value of Simon's study, however, lies in his examination of the question of why the Morrill Act was introduced in the late 1850s but passed in 1862. He points to the unity of disparate, sometimes conflicting economic sectors: "The college bill was one of many Republican efforts to cement an alliance between East and West, between industry and agriculture."[21] In part, he views the Morrill Act as one part of a wartime Republican program to exploit the South it was in the process of reconquering. The war enabled such direct promotion of higher education by the federal government and "opened vistas of national reorganization and vast exploitive possibilities," and "shared a common goal of equalizing opportunity."[22] Simon argues that this "common goal" made laws such as the Morrill Act and the Homestead Act politically valuable to the Republican Party in that they "attracted voters unsympathetic to the antislavery cause and who could not be captured by the Democrats because the Southern leadership would not endorse centralism."[23]

Other authors who examine the Morrill Act as a piece of legislation do so in the context of American land policy. Paul W. Gates only briefly mentions the Morrill Act and the land-grant colleges, but he takes care to suggest a long, collaborative process that included more people

[18] John Y. Simon, "The Politics of the Morrill Act," *Agricultural History* 37, no. 2 (1963): 105.
[19] Ibid., 103.
[20] Ibid., 110.
[21] Ibid.
[22] Ibid., 108-109.
[23] Ibid., 109.

than just Turner or Morrill. After Turner made "The original call for Federal aid … in 1851," Gates writes, "during the next 11 years [it] was taken up by the United States Agricultural Society and distinguished groups of writers, scientists, and administrators…. It was pushed to success in 1862 by Justin Smith Morrill, Congressman from Vermont."[24] Yet, the Morrill Act had a long history: "Off and on since the founding of the American Republic there had been talk about the creation of a national university, an institution at which science, particularly agricultural sciences, could be taught."[25]

Scott Key deals with much the same subject as Gates and suggests a reason that such early "talk" came to no fruition. Most histories of land-grant colleges, Key notes, conclude "that the education of the ordinary person was the chief motivating factor in the passage of the Morrill Act and the subsequent creation of land-grant universities and colleges."[26] Key argues instead that the Morrill Act of 1862 "was not primarily a piece of educational legislation. Rather, it was an important piece of federal economic policy" in that it signaled the emergence of a new conception of toward what objectives land policies should work.[27] Initially, the federal government was interested in selling off its lands for the sake of increasing its revenues, which, rather than "educational or social provisions, was preeminent when it came to the disposal of the public lands."[28] During James Monroe's presidency, however, internal improvements "that would connect the country politically and economically" became a legitimate object of federal resources, and the earlier "focus on revenue was being replaced with a focus on settlement and national development."[29] In the 1840s the federal government's land policy reconciled the revenue and set-

[24] Paul W. Gates, *History of Public Land Law Development* (New York: Arno Press Inc., 1979), 22.
[25] Ibid., 335.
[26] Scott Key, "Economics or Education: The Establishment of American Land-Grant Universities," *The Journal of Higher Education* 67, no. 2 (1996): 198.
[27] Ibid.
[28] Ibid., 199, 201-205.
[29] Ibid., 206-207.

tlement priorities as it sought sources of funding for the debts incurred by the Mexican-American War and required increased sales to raise those funds.[30] According to Key, the importance of the Morrill Act of 1862 lay in its solidification of a "shift away from selling to donating the public lands in order to provide the federal government with revenue."[31]

A third major approach to the history of the Morrill Act interprets it as the result of a combination of social forces and growing federal powers. This approach has value for two reasons. First, it should provide a broader context and better facilitate the relation of specific facts that can present a more detailed, nuanced, intricate, and also sturdier assessment of these highly praised colleges and universities whose leaders constantly refer to the past as a guide for future activity and that have educated millions of students. Second, this approach comports better with the discourse on civics and political or public intentions that held the most prominent place in the inaugural addresses of land-grant college presidents for the first century of their existence, and in the addresses on education given by Morrill throughout his career as a United States Representative and Senator. Yet, these studies tend to focus on the Morrill Act and the United States overall rather than the particular environments in which individual states created their colleges of agriculture and designated them the recipients of their Morrill Act endowments.

In his study of Congress' role in advancing institutions of higher education in the nineteenth century George N. Rainsford finds that the Morrill Act was an important part of land policy, but also takes care to describe other forces that led to it, such as intellectual trends toward placing a higher value on science and the interest of farmers' and mechanics' associations in sponsoring accessible education that they could use. Rainsford links the land-grant colleges movement to an ideological conflict in mid-nineteenth century American politics, noting that

[30] Ibid., 208.
[31] Ibid., 215.

Democrats denied the federal government's power to undertake internal improvements, even through the disposal of public lands, while the Whigs and, later, Republicans supported that interpretation of federal powers.[32] Yet, he concluded that the act itself was an act of land policy, even though he initially had described the land-grant colleges movement in terms of broader social changes of the antebellum era. As he puts it, "zeal for land outweighed that for education."[33]

Roger L. Williams seeks to offer "a new interpretation," attempting to define the land-grant colleges' "lengthy transition from the era of strain and struggle to that of growth and relative prosperity."[34] To do so he examines the careers of George Washington Atherton, who served as the president of the Pennsylvania State College from 1882-1906 and played an important role in the passage of the Second Morrill Act of 1890, which granted increased funding to the land-grant colleges. Before leaping into his examination of what the land-grant colleges became, he addressees their origins. A confluence of trends, Williams writes, led to the Morrill Act, including: "an expanding democracy; a utilitarian impulse that sought to create a 'practical' education; the ascending influence of science and the beginnings of agricultural science; an emboldened agrarianism, active and agitating; an emerging industrial economy; and the influence of educational and political innovators whose perception of the inability of the antebellum college

[32] George N. Rainsford, *Congress and Higher Education in the Nineteenth Century* (Knoxville, Tennessee: The University of Tennessee Press, 1972), 82

[33] Ibid., 97.

[34] In doing so, Williams succeeds in making this offer by articulating two different definitions scholars use to define the land-grant college movement. First, he explains, scholars treat the land-grant college movement as "the collective story of the emergence of seventy-one colleges and universities that were predicated on an exclusive relationship with the federal government and a shared set of obligations to their respective states." The second lens through which scholars interpret the land-grant college movement, he states, is: "the expression and diffusion of certain political, social, economic, and educational ideals. The motives typically attributed to the movement involve the democratization of higher education; the development of an educational system deliberately planned to meet utilitarian ends, through research and public service as well as instruction; and a desire to emphasize the emerging applied sciences, particularly agricultural science and engineering." Roger L. Williams, *The Origins of Federal Support for Higher Education: George W. Atherton and the Land-Grant College Movement* (University Park, Pennsylvania: The Pennsylvania State Press, 1991), 1, 4.

to accommodate these changes."[35] Combining Jacksonian Democracy's "pressure … to extend education to the 'industrial' classes," calling attention to the "antecedents" of practical education, noting an increasing "class-consciousness of both farmers and labor groups," furthered by agricultural societies, the inclusion of science in college curricula beginning in the 1820s, and interest in agricultural colleges beginning at that time, Williams challenges the idea that the Morrill Act began something completely new.[36] He concludes that the Morrill Act was significant as a piece of land policy, since "Congress attached certain conditions to the educational enterprises that were expected to emerge" instead of granting land to the states and delegating to them complete responsibility for the outcome.[37]

Williamjames Hull Hoffer's *To Enlarge the Machinery of Government* considers the Morrill Act as the opening move in a new political-social trend rather than as the result of one such trend. As he writes, "Students of American higher education have celebrated the proposal. Students of the nation-state have dismissed it. A closer look reveals the opening act of a long conversation in Congress over the limits and powers of the federal government, and American state building itself."[38] This is not to say that the rhetoric of the Morrill Act ignored the past. Rather, it used the past to change the future, for its supporters "characterized this plan not as the first step toward a centralized administrative state but as the natural extension of goals as old as the republic itself," as "leading Americans such as George Washington, Thomas Jefferson, Benjamin Franklin, and Noah Webster" had made earlier attempts to create "institutions to aid agriculture and learning in general" much like the Morrill Act did.[39]

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[35] Ibid., 11.
[36] Ibid., 14, 21, 26, 28-34.
[37] Ibid., 34-35.
[38] Williamjames Hull Hoffer, *To Enlarge the Machinery of Government: Congressional Debates and the Growth of the American State, 1858-1891* (Baltimore, Maryland: The Johns Hopkins University Press, 2007), 8.
[39] Ibid., 9-12.

Two salient points emerge from Hoffer's analysis of the legislative record. First, on the issue of opposition to the Morrill Act, he writes that, "To gain Democratic votes, Morrill cast the measure not as a sectional one or a party one, and certainly not as one to promote a more powerful national government, but as a boon to farmers all over the country, a good investment for capital, and an essential tool to keep the American farmer ahead of his European competitors."[40] Second, Hoffer suggests that in the administrative nightmare of the Civil War, with an urgent need to prioritize public resources, the main issue Congress faced with respect to the Morrill Act was ascertaining "what kind of administration best promoted the nation's farm interests" without exercising too much control over the states or creating a large, expensive bureaucracy.[41] Consideration of the Morrill Act "involved vital ideas about how the law worked, which … then touched foundational concepts of government, in particular its purposes and its limitations," he explains.[42]

An alternative to the interpretations advanced thus far is that the Morrill Act emerged from a social movement. Earle D. Ross, mentioned earlier, explains the democratic origins of the land-grant college idea of making a college education, in addition to training in agriculture and the mechanic arts, available to the general population of the United States. Independence brought a new political ideology into vogue and, Ross writes, "Free government necessitated free schools."[43] The new ideology and its attendant push for more accessible education drew upon the advocacy of men such as Benjamin Franklin and Dr. Benjamin Rush and general Enlightenment "reforming and rationalizing philosophy."[44] Later, it was linked to the free soil movement: "Although not of direct political concern in itself, the proposal had gained sufficient recognition

[40] Ibid., 17.
[41] Ibid., 39.
[42] Ibid., 36.
[43] Earle D. Ross, "The Land-Grant College: A Democratic Adaptation," *Agricultural* History 15, no. 1 (1941): 27.
[44] Ibid.

[by the 1850s] to be grouped appropriately and conveniently with the other agrarian-labor measures of the free-soil program."[45]

Ross argues that the movement in support of practical education gained organization as the nineteenth century wore on, adjusted itself and the anticipated curriculum to the changing economic circumstances of the mid-nineteenth century, and involved a diverse group of advocates and ideas.[46] Those ideas, he writes, combined secularism, "democratic enthusiasm," and grants of land for an endowment led to state universities such as the land-grant colleges.[47] Accordingly, the Morrill Act was a composite piece of legislation, and this directly contributed to the support it garnered. Ross explains, "The appeal and availability of the Morrill Act was in its synthetic composition—its skillful combination of the essential elements of the leading proposals for industrial education, its effort to balance the interests of East and West, its concession to the jealousy in all sections of Federal control, and its deliberate generalness and vagueness on the more controversial matters."[48]

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[45] Ibid., 29.
[46] Ibid., 28.
[47] Ibid., 27.
[48] Ibid., 29. Ross further delineates the elements of the Morrill Act's "synthetic composition" in a book published the next year. See Earle D. Ross, *Democracy's College: The Land-Grant Movement in the Formative State* (Ames, Iowa: The Iowa State College Press, 1942). Ross' account of the Morrill Act itself sustains what other authors, discussed above, write. He quotes the purpose of the legislation as stated therein and summarized the legislative process by which Morrill's bill became law, noting that sectionalism rather than a debate on the bill's educational merits dominated the proceedings. Indeed, he writes, "Alike in debate and editorial there was a discouraging but characteristic lack of consideration for the educational theories and policies involved; what purported to be a discussion of these issues was mainly negative or distorted." Ross, *Democracy's College*, 63. The approach Ross uses is satisfying in that it views the Morrill Act as an endpoint rather than a spontaneous beginning, even if Ross' narrative suggests that the Morrill Act and a powerful network of land-grant colleges was inevitable and he overlooks state efforts to create colleges of agriculture, which were well under way in the late 1850s and early 1860s without the Morrill Act. That Ross should have chosen the approach used in this work is surprising, since he observes that, while "The legislative galleries, committee rooms, and lobbies of the national capital" afforded "strategic points for observing the denouement of great national measures" such as the Morrill Act, an examination of the proceedings there provides "but partial and confusing explanation of origins and influences." Ross, *Democracy's College*, 46. Indeed, as Paul W. Gates has written, "The Agricultural College Act has been overrated by those writers who have attributed to it the beginnings of numerous state agricultural colleges which, in fact, were underway prior to 1862." Paul W. Gates, "Western Opposition to the Agricultural College Act," *Indiana Magazine of History* 15, no. 2 (June 1941): 136.

Edward Danforth Eddy Jr. uses Ross's approach in an attempt "to outline the development of the philosophy and program of these institutions."[49] Like other authors, Eddy notes all the aspects of the land-grant movement's origins, including increasing democracy in America, the rise of science, the inadequacy of antebellum colleges, more forceful pushes to create colleges of agriculture and mechanic arts, the precedent of using grants of land to fund education, etc. Additionally, as the year of the Morrill Act's passage approaches in Eddy's narrative, he incorporates Turner's work as well as that of Morrill himself. *Colleges for Our Land and Time*, as it relates to the origins of the Morrill Act, contains information and analysis very similar to that in Ross's *Democracy's College*. Eddy's work is notable, however, in its depth and thoroughness. Unfortunately, both Ross' and Eddy's narratives drive at the Morrill Act, rather than the founding and establishment of specific colleges whose circumstances were all unique. This means that they neglect state efforts that would have been more visible to the target audience of farmers and mechanics and would have been more significant, since the Morrill Act required states to create, build, and maintain the colleges and their facilities and restricted the use of proceeds from the sale of the federal lands granted by the Morrill Act to providing instruction.

In the post-World War II United States James Lewis Morrill, president of the University of Minnesota, describes the Morrill Act as "another Act of Emancipation" designed to accommodate the needs of settlers who wanted to cultivate western lands more productively; thus, the land-grant colleges held a national purpose and were not meant to benefit students or their states in purely economic terms. [50] The "heart of the matter," he states, is "the idea that the citizens of a democracy need knowledge; that learning is more than an ornament; and that instruction must be

[49] Edward Danforth Eddy, Jr., *Colleges for Our Land and Time: The Land-Grant Idea in American Education* (New York: Harper & Brothers, 1956), xiii.
[50] James Lewis Morrill, *The Ongoing State University* (Minneapolis: The University of Minnesota, 1960), 3, 5.

useful.[51] The land-grant colleges recognized that "[e]very citizen participates in the shaping of social policy, whether he knows it or not. His enlightenment is thus an urgent public concern, for the price of his ignorance may be the destruction of the community" as their great innovation for higher education.[52] Although Morrill did not detail the origins of the land-grant colleges, he points to the broad cultural trends of the Jacksonian era, "with its new belief in the dignity and worth of each individual, and of the free school movement with its credo that education is a public obligation," observed by Ross and others.[53]

Allan Nevins also penned a brief but compelling study of the links between public education and the idea of democracy. Remarking upon those broad cultural trends of the Jacksonian era, he explains the ideological cauldron out of which the land-grant colleges, with their commitment to democratic education, boiled. He describes this commitment brilliantly:

> The central idea behind the land-grant movement was that liberty and equality could not survive unless all men had full opportunity to pursue all occupations at the highest practicable level…. The struggle for liberty when carried to its logical conclusion is always a struggle for equality, and education is the most important weapon in this contest. Democracy implies intellectual liberty with full freedom to think, write, and speak. It implies an open society, without caste lines, giving its members full freedom to move from calling to calling, rank to rank; and mobile society, with equal freedom to move geographically, to change environment, and to find without agonizing effort new positions or fields of enterprise.[54]

A few other works deserve mention in this historiographical overview. Since this thesis seeks to increase our understanding of the mission of Iowa State University's antecedent colleges, beginning with the Iowa State Agricultural College and Model Farm, we must notice another work of Earle D. Ross, *The Land-Grant Idea at Iowa State College*, in which he provides a history of how the land-grant idea to combine practical with scientific, or theoretical, education was put into place at Iowa State. His overview of Iowa State's early days, before its opening in 1869,

[51] Ibid., 16.
[52] Ibid., 20.
[53] Ibid., 5.
[54] Nevins, *The State Universities and Democracy*, 16-17.

is short, as is his assessment of support for agricultural education in Iowa before the Iowa General Assembly enacted the law that began the Iowa State Agricultural College's existence in 1858. He writes that a few agricultural newspapers, "with the state and county agricultural societies, became the main organs of agitation for a state agricultural college and for an agricultural bureau," but this is not the focus of his story.[55] Such remarks, however, are helpful in that they confirm that what other works, including Ross, state happened in the United States as a whole – a sizeable movement of people that sought to establish colleges of agriculture and mechanic arts – also happened in Iowa.

This thesis examines the spirit of agricultural reform that influenced the land-grant colleges – specifically, Iowa's land-grant college. To do that, it should draw on histories of agricultural reform. Ironically enough, however, histories of agricultural change in the nineteenth century and histories of agricultural reform at that time – agricultural societies, fairs, periodicals, etc. – remain unconnected to the histories of the institutions that developed into the preeminent engines of agricultural change and reform in the late nineteenth and twentieth centuries, the land-grant colleges. Broad histories of agricultural change, such as Clarence H. Danhof's landmark *Change in Agriculture: The Northern United States, 1820-1870* tell a story of men's entrepreneurship. Since "the agricultural industries" are made up of "many small units, [they] have included comparatively few men who are easily identified as shaping the course of development. Nevertheless, leadership did exist and made itself felt, change of a near revolutionary nature did occur, and vigorous enterprise was common."[56] Some of this leadership, he writes, came from knowledge provided by the vehicles of books, pamphlets, journals, societies, and the Patent Of-

[55] Earle D. Ross, *The Land-Grant Idea at Iowa State College: A Centennial Trial Balance, 1858-1958* (Ames, Iowa: The Iowa State College Press, 1958), 23.
[56] Clarence H. Danhof, *Change in Agriculture: The Northern United States, 1820-1870* (Cambridge, Massachusetts: Harvard University Press, 1969), vii-viii.

fice as by the end of his period a "new kind of farmer acted in light of what he saw on his travels, on the farms of like-minded neighbors, or read in periodicals and books," but an examination of such vehicles would lie on the margins of his study.[57] Paul W. Gates's history of agricultural change also dealt with actual changes in farming, but agricultural reform occupies a place in his history because, throughout the antebellum period, reformers and societies increasingly reached ordinary farmers.[58]

Similarly, Allan G. Bogue's *From Prairie to Corn Belt*, which considers agricultural change in Illinois and Iowa specifically, has very little to say on the subject of agricultural education. Although Bogue writes on the economic transformation of the Illinois and Iowa prairies into major producers of corn and livestock in the middle of the nineteenth century using overwhelmingly quantitative data from the United States Census, deed and mortgage registers, and vital statistics, he does mention the role that organizations such as agricultural societies and colleges of agriculture played in leading to farming innovations. Most importantly, he mentions agricultural societies and colleges of agriculture in nearly the same breath, as "sources of ideas available to the prairie farm-maker," demonstrating that a good work of agricultural history can incorporate agricultural societies and instruments of education, that such organizations not only coexisted but that they influenced one another.[59]

Other historians have studied agricultural reform in its own right. In their assessments of agricultural reform in Georgia and Virginia James C. Bonner and Charles W. Turner, respectively, lay out what agricultural societies in the antebellum era tended to do. Bonner writes that agricultural reform in the "Cotton Belt" began in the vicinity of Hancock County, Georgia in re-

[57] Ibid., 54-69, 281.
[58] Paul W. Gates, *The Farmer's Age: Agriculture 1815-1860* (1960; repr. New York, New York: Harper & Row, 1968), 312-382.
[59] Allan G. Bogue, *From Prairie to Corn Belt: Farming on the Illinois and Iowa Prairies in the Nineteenth Century*, 2nd ed. (Lanham, Maryland: Ivan R. Dee, Publisher, 2011), 204-206.

sponse to wasteful agricultural practices then in use in plantation settings; as he puts it, "the abundance of land and the relative scarcity of labor had encouraged soil exhaustion and emigration."[60] Aside from his citation of environmental declension, however, he makes no mention of a rationale for attention to agricultural reform. The remainder of the work relates the actions of agricultural societies in that region, which communicated with the wider world "through agricultural literature, agricultural organizations, and migratory planters."[61]

Turner concentrates on Virginia. In his view, soil depletion due to skimming soil practices and erosion in the Tidewater region led to settlement of the Piedmont and an interest in agricultural reform in 1830-1860. He, too, offers the reader a survey of the leading agricultural societies of his era and place of study, but he ends with a fairly comprehensive characterization of their role as one of many agents of change. Agricultural societies, he writes, appealed to the state government for public assistance in the form of "internal improvements, the setting up of an agricultural department, the establishment of an agricultural professorship or college, the sponsoring of soil surveys, and the granting of financial aid for the State society."[62] As helpful as such policies would have been to spread knowledge of improved agricultural practices, fairs also played a role "in helping to form opinions, in spreading information, and in encouraging reformation, not to mention the social values derived" from such gatherings, while agricultural societies promoted agricultural periodicals for the same reasons.[63]

Studies such as Bonner's and Turner's identify agricultural societies, their most noticeable activities, and their most conspicuous associated organizations, but they give scant attention to the ideological rationale for agricultural reform, leaving unanswered questions such as, Why

[60] James C. Bonner, "Genesis of Agricultural Reform in the Cotton Belt," *The Journal of Southern History* 9, no. 4 (1943), 475.
[61] Ibid., 491.
[62] Charles W. Turner, "Virginia Agricultural Reform, 1815-1860," *Agricultural History* 26, no. 3 (1952): 85.
[63] Ibid., 87-88.

should declining soil fertility have disturbed planters, farmers, and other individuals so much? After all, the empire of liberty and the spirit of Manifest Destiny had embarked upon their march toward the west coast of the North American continent and one could purchase or use vast expanses of land or move ever farther west. Few historians of agricultural societies and agricultural reform assess such organizations and such work as having a relationship to an ideological basis for the education they sought to instill.

Those that do discuss the societies' ideological basis convey ideologies that related more to politics and society than to economics. Steven Stoll notes the importance to agricultural reformers of republicanism and civic health, and identifies agricultural reform in the early nineteenth century as the fountainhead of conservation later in that century.[64] Stoll's work built on that of Avery O. Craven, who noted the interest of Southern agricultural reformers, such as Edmund Ruffin, in strengthening the South vis-à-vis other sections of the United States.[65] Gilbert C. Fite draws attention to nineteenth century beliefs in the greater moral health and virtues of rural, especially agricultural, life, also known as agricultural fundamentalism.[66] Tamara Plakins Thornton finds that agricultural reformers around Boston, Massachusetts shifted their interests from agricultural reform, which allowed them to express their republicanism, in the late eighteenth and early nineteenth centuries, to horticultural finery, which allowed them to assert their cultural advancement and higher social status, by the 1840s.[67]

James D. Alsop and Harold T. Pinkett considered the ideological origins of specific agricultural societies. While Alsop found that the agricultural society on the island of Nantucket saw

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[64] Steven Stoll, *Larding the Lean Earth: Soil and Society in Nineteenth-Century America* (New York, New York: Hill and Wang, 2002).
[65] Avery O. Craven, "The Agricultural Reformers of the Ante-Bellum South," *The American Historical Review* 33, no. 2 (1928): 302-314.
[66] Gilbert C. Fite, "The Historical Development of Agricultural Fundamentalism in the Nineteenth Century," *Journal of Farm Economics* 44, no. 5 (1962): 1203-1211.
[67] Tamara Plakins Thornton, *Cultivating Gentlemen: The Meaning of Country Life among the Boston Elite, 1785-1860* (New Haven, Connecticut: Yale University Press, 1989).

itself as an economic institution designed to cope with diminishing economic fortunes, Pinkett's study of agricultural societies in Washington, D.C. more closely resembles studies of agricultural reform that focused not on specific agricultural societies but on agricultural reformers' ideologies – Stoll, Craven, Fite, and Thornton.[68] Political figures' interest in redressing an imbalance between British and American agricultural production, together with their involvement with agricultural societies, suggests the presence of a civic, rather than merely self-interested or economic, interest in agricultural reform, Pinkett concludes.[69]

Agricultural societies turned to education to achieve their ideological objectives. Ralph M. Brown, in his consideration of agricultural education in Virginia, dispels any notion that agricultural education in the nineteenth century exclusively meant college or university education; rather, a variety of means existed. The important thing was that education occurred. No agricultural college existed in Virginia until 1872, he notes, but agriculturists acquired knowledge through "experimentation in the field, the advice of other agriculturists, books on agriculture, and, occasionally, in the laboratory," and Brown notes the work of John Smith on corn, John Rolfe on tobacco, George Washington's outreach to other scientific farmers in Britain and America, Thomas Jefferson's incorporation of agriculture into the University of Virginia, and John Taylor and Edmund Ruffin on creating options for higher education in agriculture.[70]

Agricultural societies' mechanisms for agricultural education included, most notably in addition to the land-grant colleges discussed earlier in this chapter, fairs and periodicals. Annual fairs were probably the most visible institution that could be used to educate farmers. Fred

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[68] James D. Alsop, "Island Refashioning: The Nantucket Agricultural Society, 1856-1880," *The New England Quarterly* 77, no. 4 (2004): 563-587. For other studies of specific agricultural societies see Charles W. Turner, "Virginia State Agricultural Societies 1811-1860," *Agricultural History* 38, no. 3 (1964): 167-177 and Merrill E. Jarchow, "Early Minnesota Agricultural Societies and Fairs," *Minnesota History* 22, no. 3 (1941): 249-269.

[69] Harold T. Pinkett, "Early Agricultural Societies in the District of Columbia," *Records of the Columbia Historical Society, Washington, D.C.* 51/52: 32-45.

[70] Ralph M. Brown, "Agricultural Science and Education in Virginia Before 1860," *The William and Mary Quarterly*, Second Series 19, no. 2 (1939): 197-205.

Kniffen describes the character of agricultural fairs in a pair of articles; their history is marked by tension between education and entertainment. He mainly comments on what they looked like during twenty-year periods from 1810 to 1949, but he calls attention to their educational role when he writes that "[t]he fair was the means used by the agricultural societies to educate the practicing farmer to the advantages and ways of improving livestock and crops."[71] Earle D. Ross, known primarily for his contributions to the history of land-grant colleges, charted a series of changes in the character of agricultural fairs in what is now the Midwest from their beginnings in the mid-nineteenth century to the mid-1920s, when he wrote his study. Before 1870, he writes, the role of a fair was "primarily educational."[72] Further, early nineteenth century "'literary' agricultural societies" were ineffective because they did not "motivate and visualize" new ideas for agricultural practice and farmers did not come "together for an interchange of experiences" – in other words, they failed because they were not educational.[73] Insofar as Kniffen and Ross mentioned the educational role of a fair, however, they did not discuss why a fair should be educational in the first place. Their assertions of the fact of a fair's educational value are important, but they leave out the ideological basis of such education and leave unanswered questions such as, Why should education via a fair have been so important?[74]

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[71] Fred Kniffen, "The American Agricultural Fair: The Pattern," *Annals of the Association of American Geographers* 39, no. 4 (1949), 266-267. See also Fred Kniffen, "The American Agricultural Fair: Time and Place," *Annals of the Association of American Geographers* 41, no. 1 (1951): 42-57. The latter article notes geographic and seasonal tendencies of recorded agricultural fairs in a few sample years.

[72] Earle D. Ross, "The Evolution of the Agricultural Fair in the Northwest," *The Iowa Journal of History and Politics* 24 (1926): 453.

[73] Ibid., 445.

[74] Other historians discuss other functions of agricultural fairs. John Rickards Betts argues that agricultural reformers' interest in trotters, a kind of horse with agricultural uses, cemented horse racing as a spectacle inherent in an agricultural fair even though races had met with opposition from society leaders for decades. John Rickards Betts, "Agricultural Fairs and the Rise of Harness Racing," *Agricultural History* 27, no. 2 (1953): 71-75. In North Carolina, Melton A. McLaurin writes, the state agricultural society's fair represented its "principal agency for the promotion of both scientific agriculture and industry," though the society relied upon "social appeal" to attract visitors and made such appeals through the inclusion of bands, military drills, parades, agricultural addresses, sports such as horse racing, and other special events; further, other organizations timed their annual meetings around the agricultural society's fair time to increase their attendance. Melton A. McLaurin, "The Nineteenth-Century North Carolina

Agricultural periodicals, given their regular publication on a weekly, monthly, or other basis, could do throughout the year what a fair could do only once. Albert Lowther Demaree, Wesley H. Wallace, and Richard H. Abbott all describe the works of agricultural journals that became popular in the early nineteenth century.[75] These historians delineate the events of some journals' emergence, life, and demise, and all of them draw attention to the journals' role as associates of agricultural societies and an agent of agricultural education. Demaree, for example, describes agricultural periodicals as "organs" of agricultural societies and writes that "No policy of the farm press was more urgently and persistently advanced than the demand for agricultural education in the United States."[76] Similarly, Wallace observes that agricultural periodicals attempted to act as "'missionaries to … the anti-book farmers of the state,'" thereby assuming a position as agents of progress.[77] Abbott makes the closest approach to an ideological analysis of antebellum agricultural periodicals. They spoke to ordinary farmers, he writes, to argue that they should pursue agricultural improvement because, "until the attitude of society was changed, farming would be considered 'unworthy of the attention of gentlemen of intelligence,'" and therefore agricultural periodicals promoted agricultural education, especially in a college set-

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State Fair as a Social Institution," *The North Carolina Historical Review* 59, no. 3 (1982): 213-223. Eventually, however, the fair's function as a social institution increased at the expense of its role as an instrument of education, McLaurin writes. McLaurin, "The Nineteenth-Century North Carolina State Fair as a Social Institution," 227. Catherine E. Kelly sounded another social note when she argued that, after the development of industrial manufacturing in the early nineteenth century, fair exhibits and premiums for domestic manufactures were "reconstructed in ways that reflected and furthered the transmission of gender roles and the elaboration of new class identities." Catherine E. Kelly, "'The Consummation of Rural Prosperity and Happiness': New England Agricultural Fairs and the Construction of Class and Gender, 1810-1860," *American Quarterly* 49, no. 3 (1997): 576. Over time premiums rewarded the fancier products of "the feminized parlor," thereby instilling "the genderized system that lay at the heart of bourgeois culture" and adding to the range of agrarian ideals femininity and the middle class. Kelly, "'The Consummation of Rural Prosperity and Happiness,'" 590.

[75] Albert Lowther Demaree, *The American Agricultural Press, 1819-1860* (New York, New York: Columbia University press, 1941); Wesley H. Wallace, "North Carolina's Agricultural Journals, 1838-1861: A Crusading Press," *The North Carolina Historical Review* 36, no. 3 (1959): 275-306; Richard H. Abbott, "The Agricultural Press Views the Yeoman: 1819-1859," *Agricultural History* 42, no. 1 (1968): 35-48.

[76] Demaree, *The American Agricultural Press*, 42, 51.

[77] Wallace, "North Carolina's Agricultural Journals," 306.

ting.[78] Additionally, they urged farmers to accept "book farming" and argued that agriculture provided the foundation for all other kinds of wealth, that it "was the most independent of all ways of life," and that the better life of agriculturists gave them better health and morals.[79] Like the historians of agricultural societies and agricultural fairs, however, Demaree, Wallace, and Abbott only hint at the ideological motivations behind agricultural journals and fail to identify the place that such publications (or organizations or events, in the case of societies and fairs) had in an ordered thought process that made agricultural reform a meaningful, significant pursuit.

The disparate application and combination of these approaches to the history of the land-grant college movement, the Morrill Act, and related events and trends prove frustrating to a student of the subject who wishes to consider all aspects in close proximity to one another. The history of the land-grant colleges, a deeply inspired institution, deserves – and requires, as long as they continue to operate and make decisions not only about themselves but, through educating tens of thousands of students annually, about the entire United States – a holistic treatment that thus far has not been forthcoming. This academic problem is compounded by the fact that expressions of the land-grant idea by, for example, presidents of land-grant colleges at their inaugurations, are no longer the nuanced and detailed articulations of inaugural addresses given within approximately a century of the Morrill Act's passage. In the past few decades, the memory of a multi-dimensional Morrill Act that embraced political and civic goals in addition to economic ones has been lost. The land-grant colleges deserve more analysis than the existing histories, which approach hagiography, give them. The historiographic unification upon which this thesis rests facilitates the deeper analysis they deserve.

[78] Abbott, "The Agricultural Press Views the Yeoman," 39-40.
[79] Ibid., 40-42.

By situating the history and ideology of the Iowa State Agricultural College within the history and ideology of the Iowa State Agricultural Society, this thesis will better contextualize the history of agricultural education and the land-grant colleges. My hope is that the land-grant colleges will no longer hang in an ahistorical space. Agricultural education, particularly the Iowa State Agricultural College, occupied a vital place in Society's view of the world in which it existed. That world view was complicated and, in it, one thing led to another. The building blocks of later steps were all the previous ones. An education in the use of scientific agriculture, and the subsequent use of scientific agriculture, would improve farmers' material circumstances, make them the social equals of the traditional political class and, since those who attended an agricultural college would have learned something about the public world and governance, would facilitate their participation in politics not just as Election Day voters, but as officeholders. The history of the land-grant colleges should be extended backward in time so that the Morrill Act of 1862 lies in the middle of a long train of events rather than the beginning. It should be expanded in depth so that it includes state and county proponents of scientific agriculture and agricultural education, not just those of national significance. And it should be expanded in scope so that it includes the public, civic-minded orientation of a college education, alongside the private-economic orientation so common in the late twentieth and early twenty-first century understandings of the Morrill Act of 1862. This thesis attempts to begin that three-dimensional expansion.

Chapter 2 of this thesis considers agricultural declension in Iowa after an early period a period of astounding fertility in the years after settlers broke the prairie sod and began to sow crops on it. The land's stores of nutrients, together with its vast area, encouraged farmers to use the nutrients quickly – to "skim" the soil – and to move on after five years or a decade when

yields fell. The Iowa State Agricultural Society believed that the temptations of fertility were too much for Iowa's farmers and so they became impoverished. In response, it proposed a broad range of measures that farmers could take to perpetuate their land's resources. But they also couched those proposals in a complex ideology with interrelated elements. That ideology, elucidated in Chapter 3, strengthened the most fundamental of the world's industries (agriculture) by pursuing sustainable land use, the application of science to the use of the land, and these together lent agricultural labor more dignity and would put it on a more equal footing with the learned professions by making agriculture a learned pursuit. Chapter 4 points out the degree to which the Society dwelt on education and the creation of educational institutions to achieve this ideological program, to say nothing of ensuring that farmers implement their actual proposals.

The remainder of this thesis examines the educational institutions to which the Society turned. In Chapter 5, those include annual fairs, agricultural periodicals, seed distribution by the federal Patent Office and Department of Agriculture, farmer's clubs, and the State of Iowa's geological survey. Because these agencies were the leading edge of agricultural improvement in Iowa at the time, I have referred to them as "the plowshares of change." Chapter 6 turns from the annual reports of the Society to those of the Iowa State Agricultural College and Model Farm to examine in its own right the first antecedent of the Iowa State University of Science and Technology up until 1865, a year that marks three significant turning points: the conclusion of the Civil War, the assignation of the Morrill Act's largesse to the College, and the time at which the College's Board of Trustees began to manage the Model Farm itself rather than lease it out, as it prepared to open the College for instruction and brought the ideological abstraction of agricultural reform and education into reality. The College was to give motive power and contact with the world to the "plowshares" I describe in Chapter 5; thus, it constitutes "the draft horse of

change." Chapter 7, an epilogue, concludes this thesis by examining significant changes in the articulation of the land-grant idea by different leaders of Iowa's land-grant college and university. I hope that, after this shedding of light on Iowa State's pre-Morrill Act origins, university administration can make more informed decisions and better understand their historical mission.

CHAPTER 2

THE PROBLEM OF FERTILITY

Iowans with an interest in agricultural improvement organized the Iowa State Agricultural Society in the auspicious mid-1850s. Even though hard times soon fell upon Iowa and the United States – in 1858 an economic crash and the onset of the crop-ruining chinch bug and rust dealt blows to farmers across the state, in 1861 the Civil War began with its attendant drains on financial resources and the labor supply, and in several years of the early 1860s drought afflicted farmers – the Society grew by several different metrics. From 1855, the second year of the Society's existence, to 1865, the number of premiums awarded at its annual fair rose from 360 to 484 and the value of those premiums increased from approximately $1,200 to approximately $4,200. Although the number of premium winners increased from 245 in 1855 to only 253 in 1865, that number hit a high of 299 in 1860. Iowans' increased interest in their state agricultural society fair, alongside the annual publication of the Society's proceedings including speeches and essays given to it, created a venue in which advocates of agricultural improvement could offer advice on how to grow the best crops, breed and raise the best livestock, and turn their farms into stable providers of a living.

To achieve those goals, the Iowa State Agricultural Society sought to restore, maintain, and increase the fertility of Iowa's prairie soil through a variety of farm activities. Chief among them were crop rotation and the application of manure to fields of grain and grass, but the Society also advocated the installation of drainage systems and fences or hedges, the use of implements such as subsoil plows and seed drills, planting grass rather than harvesting it from the uncultivated prairie, raise livestock to diversify farm production and provide inputs such as manure,

plowing at different times of the year, choosing the best seeds, and various combinations of this advice. The Society's recommendations stemmed from its view that, although Iowa's soil had yielded bounteous harvests in the early years of settlement, its agricultural productivity had declined and threatened to continue its decline until Iowan farmers became impoverished.

In the mid-nineteenth century many Americans viewed the prairies of Iowa, then the western frontier, as a land of abundant productions that could be taken advantage of simply by living there, scratching the earth, and scattering a few seeds. As P. S. Cone of Muscatine County recalled in 1863, the prairie became a place where an individual could escape the constraints of older states and develop fuller farms. He explained, "for him who sits uneasily in his present abiding place, for him who is discontented with his forty acre side-hill farm, for men with large families who are circumscribed on their small estates by the broad acres of their more opulent neighbors, I say to such by all means come West."[80] Such views were typical. J. B. Grinnell made the point in an address to the Cedar Valley Agricultural and Mechanical Association. The West, he argued, offered greater egalitarianism: "The cheapness of the soil, and the small amount actually required for the plow and the cultivated meadow, brings a farm within the reach of most, if not all the industrious and economical."[81] It also allowed a more facile mode of cultivating the soil, greater independence from the labor of coaxing crops out of a rocky, marshy, and otherwise "hard sterile soil, annually requiring a large outlay in fertilizers," and the preservation of family life since land was as abundant as the land's fertility, he continued.[82]

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[80] P. S. Cone, "Experiences," in *Report of the Secretary of the Iowa State Agricultural Society, for the Year 1864* by Iowa State Agricultural Society (Des Moines, Iowa: F. W. Palmer, State Printer, 1865), 148. Hereafter the annual reports of the Iowa State Agricultural Society will be cited as I.S.A.S.R.

[81] J. B. Grinnell, "An Address, Delivered Before the Cedar Valley Agricultural and Mechanical Association, September 16, 1869 [1859], by Honorable J. B. Grinnell, of Grinnell, Iowa," in I.S.A.S.R., *1859*, 143.

[82] Ibid., 143.

Those who did move West to Iowa encountered a fertile land. As Hugh M. Thompson recalled in 1863, when he arrived in Iowa in "the summer of 1844 … the country was almost wholly in a state of nature. Pasturage around us was almost as boundless as the ocean itself, and the fertility of our soil was such that if we could only get the surface sod torn up during the summer, and loosened to the depth of a couple of inches, so as to have soil enough to cover the seed, we could look forward to a luxuriant crop of grain."[83] As settlement proceeded westward, others later remarked upon the same fertility. For example, in 1857 George Ordway, president of the agricultural society in Black Hawk County, reported that, although "This County has not been settled to any extent over five years—still there are some very excellent farms opened and well cultivated; producing unusually large crops of the best grain, together with some superior herds of stock."[84] Two years later L. W. Hart, secretary of the agricultural society in Buchanan County, immediately to the west of Ordway's Black Hawk County, testified that the soil there "produces abundantly with slight cultivation."[85] The next year, J. S. Church reported for Cerro Gordo County, still farther west, that "Small grains have yielded, with poor tilling, abundantly this year. Wheat from 25 to 35 bushels to the acre; oats 40 to 60 bushels to the acre."[86]

This fertility might persist for years. In an essay on the cultivation of wheat originally printed in the *Prairie Farmer*, published in Illinois, S. W. Arnold observed that "New land will produce from four to six crops with proper management without any diminution of product. I have been told of fields being cropped with wheat fifteen years in succession, and still produced good crops."[87] In an 1864 essay on the cultivation of grapes Samuel Bower of Benton County

[83] Hugh M. Thompson, "Experiences," in I.S.A.S.R., *1863*, 122.
[84] George Ordway, "Black Hawk," in I.S.A.S.R., *1857*, 199.
[85] L. W. Hart, "Buchanan," in I.S.A.S.R., *1859*, 193.
[86] J. S. Church, "Cerro Gordo," in I.S.A.S.R., *1860*, 355.
[87] S. W. Arnold, "Wheat Culture—Premium Essay," in I.S.A.S.R., *1860*, 292.

remarked, perhaps glibly, that "our land is rich enough without manure the first four or five years anyhow."[88]

As suggested by Bower's comment on the disuse of manure in the years immediately following the breaking of the prairie, Iowa's natural fertility may have contributed to the use of unsophisticated agricultural practices among most farmers. Although he offered no details, the author of Union County's report to the Iowa State Agricultural Society in 1858 noted that, "With regard to the general agriculture in our county, we have to report that it is yet in a crude state. The natural fertility of the soil, as yet, insures tolerable crops without much labor."[89] D. W. Kauffman, the author of Van Buren County's report for 1857, was more specific in explaining this tendency. As he put it, "The almost spontaneous productions upon our rich prairie soils, the cheerful contentment and healthy enjoyment of the free and healthy air he breathes, are so many causes to lull to sleep the spirit of improvement in the farmer."[90] J. W. Smith's report from Floyd County for 1863 provides some insights as to what Union County's "crude state" of agriculture may have meant: "It is the belief of many agriculturists, based upon experience, that a larger yield and better quality of wheat is usually obtained upon new broke prairie, and also often corn, by simply harrowing the land, without plowing…. Much of the present plowing is quite shallow. Sub-soiling is not practiced."[91]

Other county reports affirm continued fertility even with the use of crude agricultural practices. In 1857 C. J. F. Newell of Alamakee County reported farmers' shortsightedness and lack of concern for diversified farming practices that could take advantage of the byproducts of crop cultivation and stock raising. "Farmers generally sow to suit their own circumstances," he

[88] Samuel Bower, "Essay on Grape Culture," in I.S.A.S.R., *1864*, 190.
[89] J. F. Bishop, "Union," in I.S.A.S.R., *1858*, 410.
[90] D. W. Kauffman, "Van Buren," in I.S.A.S.R., *1857*, 420.
[91] J. W. Smith, "Floyd," in I.S.A.S.R., *1863*, 386.

wrote, "without regard to rotation of crops, and generally have a fair yield. Many consider their barn manure and straw useless, while others think otherwise."[92] From Poweshiek County, Arthur Carpenter attested that "Returning an equivalent for what is taken from the soil, is somewhat neglected, although the farmers of this county are said to raise superior crops."[93] Other reports suggest that such neglect – extensive, monocultural, and unimproved cultivation – was common in Iowa in the 1850s and 1860s. In Washington County, "our methods of cultivation are yet very imperfect," S. M. Cox said in 1858. "Little regard is given to rotation in crops, and farmers consult their immediate necessities, or the impulse of the day, rather than the needs of his farm, seed time, of work, &c., &c."[94] The next year W. H. Bigelow reported that in Woodbury County yields remained "more than average" even though "Some fields have been planted in corn for 12 years," which was just fine since "Want of means incident to a new country, prevents the adoption of that variety of articles and farm produce that is essential to successful farming. But few farmers are with us who do not labor under great disadvantages. The capital requisite to sheep growing and stock raising, and experimental farming is not abundant with us."[95]

The apparent ease of raising a crop in the fertile Iowa prairie had inculcated in Iowa's settlers a hesitancy to adopt more sustainable modes of agriculture and a willingness to relocate to increasingly westward land, and the Society worried about the consequences of a willingness to skim the soil year after year. David C. Shaw of Jackson County noted in 1857 that "The practice of attempting at cultivating too much ground, is too great a fault among our best farmers, which is probably owing to the productiveness of our soil."[96] James Laverty of Warren County warned of the effects that such practices inevitably would bring. "The soil is from one to four

[92] C. J. F. Newell, "Alamakee," in I.S.A.S.R., *1857*, 197-198.
[93] Arthur Carpenter, "Poweshiek," in I.S.A.S.R., *1857*, 405.
[94] S. M. Cox, "Washington," in I.S.A.S.R., *1858*, 421.
[95] W. H. Bigelow, "Woodbury," in I.S.A.S.R., *1859*, 416-417.
[96] David C. Shaw, "Jackson," in I.S.A.S.R., *1857*, 283.

feet in depth, and as rich as any in the west; but not guaranteed to stand the repeated draughts of successive crops from year to year without some aid from manure or deep tillage. The farmers have generally been farming too largely, and not deep enough to succeed well and save their soil. Shallow plowing is the curse of this county," he wrote in 1859.[97]

These individuals' own attitude toward the land and soil differed markedly from those they criticized. Members of the Iowa State Agricultural Society advocated techniques such as crop rotation, manure application, stock raising, hedge planting and fence building, the adoption of agricultural implements and machinery to plow deep and plant seeds more systematically, and others in order to preserve, maintain, and increase soil fertility as part of a more sustainable program of farm stewardship. J. M. Shaffer of Jefferson County assured the Iowa State Agricultural Society that, while many people who invested in the acquisition of new lands "have eaten out their living in the payment of taxes and interest, or what is not quite so bad, have abandoned their title to them, our farmers, the majority of them, have enriched themselves by substantial improvements" on lands they already owned.[98] One of the Society's presidents, Peter Melendy, stated in his official address at the 1865 state fair, "The most solid wealth of the country is *in* the land, and, by the better improvement of the soil, it is difficult to say to how great an extent the general wealth might be augmented."[99] By improving their mode of cultivation farmers could improve their ability to reap high yields and improve their ability *to keep* reaping high yields, in a "having their cake and eating it, too" fashion.

Agricultural improvement was not all about money, however. Two writers suggested more philosophical, ethical reasons for making cultivation more sustainable and thorough. First, in 1865 Eber Stone reflected on his experience as a farmer and argued that farmers should regard

[97] James Laverty, "Warren," in I.S.A.S.R., *1859*, 397.
[98] J. M. Shaffer, "Jefferson," in I.S.A.S.R., *1863*, 415.
[99] J. M. Shaffer, "September Meeting," in I.S.A.S.R., *1865*, 73.

their land's soil as a mine to which they should add from time to time. "The soil … is [Iowa's] mine of wealth," he asserted, "and care should be taken to preserve it intact, and while it yields up its treasures, feed and restore it."[100] He found such care uncommon, however, and he made sure to express his distrust in ordinary farmers' attention to such important environmental concerns. "Too often the present is allowed to subsist at the expense of the future. Too often the allurements of fancied, sudden gain overstep the bounds of reason," he wrote.[101] Through their shortsightedness, farmers tempted fate and brought upon themselves certain soil exhaustion, for "It is a law of the material world, established at the creation, and recognized by philosophy, that taking from exhausts, and adding to, increases a body. The soil we till is not exempt from its operation, and we cannot disregard its obligations with immunity, as sooner or later, the penalty will come, and perchance too late for profitable correction."[102]

That same year C. A. White lectured on the origins of Iowan soils; as he did so, he recapitulated the Bible's lessons that dealt with the God-ordained relationship between man and the world's natural resources, such as land. Indeed, he wrote, "The soil ought to be properly cultivated, for it was made for man."[103] White believed that every force ever exerted upon the natural world, including plant life, "has contributed to the formation of the soil, and without which it never could have existed."[104] He concluded that, since the reason for man's creation had been the cultivation of the earth, or since "the formation of the soil was so important a part of creation's plan, it certainly cannot be that it is man's mission to dwell upon it for a brief season, to exhaust its fertility, to destroy its vegetation, curse the earth with its presence and die;" indeed, man should cultivate the soil ever more perfectly, for "his mission will not be accomplished until

[100] Eber Stone, "Reflections," in I.S.A.S.R., *1865*, 275.
[101] Ibid.
[102] Ibid.
[103] C. A. White, "The Soils of Iowa, and Their Origin, …," in I.S.A.S.R., *1865*, 266.
[104] Ibid.

he has fully developed the resources of nature, caused her to bear the impress of his superiority, and added new charms to her primitive glories."[105] In fact, the Society suggested, farmers could pursue profits and improvement and need not choose between them. R. B. Quinton wrote to J. M. Shaffer in 1864 of his experience in farming that "A farmer must take into consideration both the profit and highest improvement of his farm in general. And I will here suggest that to be successful, he must not depend upon a few specialties; that mixed agriculture yields the most sure profit."[106]

By the mid-1860s this conceptualization of the land, together with a perceived decline in the fertility of Iowan farms, led many individuals whose writings the Iowa State Agricultural Society included in its annual reports to articulate a concern for Iowa's agricultural future. Hugh M. Thompson argued that "gradually, almost imperceptibly, a change has come over the whole, both the country and the people in it. Good crops, produced with little labor, and sold for a proportionably small price, had, as was naturally to be expected, a tendency to produce in many an indolent disposition, and the result was that many of the original settlers sold out and moved back, back, back, where new land, &c., could be had, as was the case in this county during the territorial condition of our own beautiful Iowa;" meanwhile, "those who had chosen to remain in their first Iowa homes, made the discovery first that cutting grass from Uncle Sam's domain could no longer be resorted to with profit, and land had to be converted into meadows."[107]

Suel Foster, who wrote an essay on "Agricultural Colleges and Schools" one year for the Iowa State Agricultural Society, concurred with Thompson, though he expressed the decline of soil fertility in much more dire terms. "It is a noted fact that the beautiful fertile fields of Iowa, with very few exceptions, yield less and less from year to year," he began. Foster worried,

[105] Ibid., 267.
[106] R. B. Quinton, "My Experience in Farming," in I.S.A.S.R., *1864*, 187.
[107] Thompson, "Experiences," in I.S.A.S.R., *1863*, 122-123.

"Shall we go into decline in the production of our soil, as some of the Slave States have? Where is the remedy? This decline of the soil, and poverty of the laborer, and consequently of every class in community, and decline of the State itself, must follow, or at least while our advance is rapid, it must be far less so under bad husbandry."[108] The nineteenth century was replete with such anxieties, as Drew Gilpin Faust has written in her analysis of agricultural jeremiads, not unlike Foster's, in South Carolina. "Because agriculture appeared to be a foundation of both social and moral order, perception of decline in its objective social and economic importance created considerable uneasiness among Americans already apprehensive about the widespread changes affecting their early-nineteenth century world," she explains, and the agricultural declension that caused Foster and Thompson to worry often "came to represent for many anxious Americans a far wider spectrum of uncertainties."[109]

The returns of the State of Iowa's periodic censuses in the 1850s and 1860s somewhat validate such concerns. In 1865 yields per acre of spring wheat, winter wheat, and corn across the entire state were 86.2%, 85.9%, and 82.7% of what they had been in 1856. This does not seem to have been much cause for alarm. After all, the demands of the Civil War depleted the labor available to remaining farmers, and cultivation techniques may have slipped during that stressful era.

A look at the average yield per acre of the same crops in 1865 versus 1856 in five of the counties that most contributed to the Iowa State Agricultural Society's rolls of officers, including its board of directors, suggests a different picture, although yields per acre for certain crops in certain counties either remained similar to their 1856 level or, in one case, even exceeded it. In 1865 yields per acre of spring wheat, winter wheat, and corn in Jefferson County reached 74.0%,

[108] Suel Foster, "Agricultural Colleges and Schools," in I.S.A.S.R., *1863*, 258.
[109] Drew Gilpin Faust, "The Rhetoric and Ritual of Agriculture in Antebellum South Carolina," *The Journal of Southern History* 45, no. 4 (Nov. 1979), 542.

65.8%, and 72.3% of their 1856 levels, respectively. Lee County's yields per acre were 77.7%, 59.2%, and 59.4% what they were in 1856, respectively; Mahaska County's were 36.0%, 113.9%, and 89.6%, respectively; Muscatine County's were 91.4%, 34.1%, and 58.1%, respectively; and Van Buren County's average yields per acre of spring wheat, winter wheat, and corn in 1865 were 6.1%, 74.9%, and 41.6% what they had been in 1856.[110] Even if blight such as that in 1858-1859, drought as in 1861-63, and the loss of labor due to the Civil War can totally account for such declines the residents of these five counties must have been alarmed and those involved in the Society had an opportunity to do something about it, to publicize their distress and seek what they thought of as solutions for it.

Many county reports from this time period pointed to extensive cultivation as the cause of low yields. In their opinion, farmers simply cultivated too much land to do it well and, in their race against the weather at the end of the growing and ripening season, were forced to leave crops in their fields. In 1857 D. W. Kauffman of Van Buren County ascribed the average corn yield of 36 bushels that he observed to "bad farming," while Robert M'Kee reported from Iowa County that he was "fully convinced, that as a general thing, our farmers undertake to cultivate *too many acres* and are by that means compelled to harvest *too few bushels* per acre."[111] J. M. Chambers of Linn County held a similar opinion: despite improvement among some farmers "in the mode of cultivating land," overall "the number of acres cultivated is looked upon … as a

[110] These figures were compiled from the State of Iowa censuses for 1856, 1859, 1862, and 1865. *The Census Returns of the Different Counties of the State of Iowa, for 1856. Showing In Detail, the Population, Place of Nativity, Agricultural Statistics, Domestic and General Manufactures, &c.* (Iowa City, Iowa: Crum & Boye, Printers, 1857); *The Census Returns of the Different Counties of the State of Iowa, For 1859. Showing the Population, Statistics, Domestic and General Manufactures, &c. To which is Appended a Table Showing the Population of Iowa for the several Years since 1836* (Des Moines, Iowa: John Teesdale, State Printer, 1859); *Census Returns of the Different Counties of the State of Iowa For the Year 1862, Showing in Detail, the Population, Agricultural Statistics, Domestic and General Manufactures, &c.* (Des Moines, Iowa: F. W. Palmer, State Printer, 1863); and *Census Returns of the Different Counties of the State of Iowa, as Returned in the Year 1865. Showing in Detail, the Population, Agricultural Statistics, Domestic and General Manufactures, and Other Items of Interest* (Des Moines, Iowa: F. W. Palmer, State Printer, 1865).

[111] Kauffman, "Van Buren," in I.S.A.S.R., *1857*, 421 and Robert M'Kee, "Iowa," in I.S.A.S.R., *1857*, 272.

matter of more importance than the number of bushels produced, or net profits per acre. Shallow plowing and a neglect to use the necessary fertilizers, is fast using up our once fertile and beautiful prairies."[112] From Adams County the readers of the Iowa State Agricultural Society's annual reports were assured that extensive cultivation had very real effects on corn yields; J. L. Ellis wrote that corn yields averaged 30 bushels per acre and went as high as 50, but overall "Farmers cultivate too much land to do it well; by thorough culture corn would average sixty bushels per acre in ordinary seasons."[113] Another county report to the state organization provides some insight into the relationship between low yields and extensive cultivation. If farmers did not prefer such methods perhaps, as George Beed of Franklin County suggested, "owing to the scarcity of labor, farmers have more land under cultivation than they can properly take care of, so that there is not as much raised to the acre as there might be with better care."[114]

Judging by the content of its annual reports the Iowa State Agricultural Society soon took it upon itself to offer farmers advice on how to "properly take care of" their land. Behind abstracts of reports from county agricultural societies, essays, speeches and reprinted articles make up the bulk of the Iowa State Agricultural Society's annual reports; those essays and articles encompass a broad range of topics. In the eleven-year time period of interest for this thesis, the Society included in its annual reports thirteen essays on cattle, seven on horses, one on goats, eleven on sheep, four on swine, and two on improved breeding of livestock in general. Recipients of the reports could also read three essays on wheat culture; four on corn; one on tobacco; two on grasses; six on sorghum and sugar manufacturing; twelve on fruits including apples, grapes, and pears; seven on timber cultivation, including orchards; one on flax; and another on onions. A reader could also find an essay on butter making and one on cheese making, and could

[112] J. M. Chambers, "Linn," in I.S.A.S.R., *1858*, 364.
[113] J. L. Ellis, "Adams," in I.S.A.S.R., *1864*, 300.
[114] George Beed, "Franklin," in I.S.A.S.R., *1864*, 321.

read one essay on flower cultivation, another on pisciculture, and nine on bee raising. Additionally, the Society included accounts of experiences with natural disasters and nuisances such as a June hail storm, pocket gophers, and the armyworm. It also printed contributions that offered advice on techniques such as manuring and fertilization, drainage, irrigation, plowing, and drilling. The Society made room for twelve recollections of long-time farmers, and for essays on important issues of the day that were related to agriculture but not, necessarily to the cultivation of crops and the raising of livestock *per se*, including fifteen essays on fences and hedges, three on agricultural education, and another that attempted to answer the question, "How Shall We Elevate Labor?"

The Society printed all these essays, speeches, and articles in an effort to educate farmers throughout the state of Iowa. As the author of one essay on fruits wrote, "Practical experience and knowledge is what is needed to develop our resources, and to this end I contribute my experience."[115] Those essays contained a wide variety of advice. Instead of the corrosive practices it believed were prevalent, writers and orators of the Iowa State Agricultural Society advocated intensive agriculture on smaller parcels of land to preserve soil fertility as a more sustainable alternative to extensive monocultural farming. The most critical and prominent suggestions the Society made were crop rotation and the application of fertilizers such as manure, but the Agricultural Society's advice for agricultural improvement included the construction of fences or planting of hedges, use of agricultural implements and machines, and giving attention to seed variety and the timing of such activities as plowing and planting. This chapter has determined the more proximate materialistic reasons agricultural societies advocated for reform of general farming practices, but underneath the agricultural societies' proposals lay an ideology that thrust

[115] Benjamin K. Palmer, "Small Fruits," in I.S.A.S.R., *1863*, 150.

farmers into the larger world rather than keeping their focus on the hyper-localism of their own farms. That ideology is examined in the next chapter.

CHAPTER 3

THE IDEOLOGY OF IMPROVEMENT

Organizations such as the Iowa State Agricultural Society did not consider only the benefits to the farmers then farming the land as it made its suggestions. An ideology that valued the land's ongoing fertility, the dignity of labor, and science and the progress of knowledge, and which looked to education to achieve these goals, served as the foundation for the advice given by the Society as much as its sense of agricultural declension. The Society felt assured that any farmer could become an improver like those active in the Society by following through on improvements already made but that seemed small, even negligible, in their reach. In 1863 in his essay on agricultural education W. Duane Wilson asked "those who sneer at and oppose the education of a farmer in his own business" whether they owned "a better plow than you formerly had? or have you a better hoe, or ax-handle, or pitchfork, or curry-comb? Did you ever look up better seed, or cattle? Did you ever patch up your leaky roof, or repair your broken fences? Did you ever sign a petition for a new road, or bridge, or for the repairs of either?" Assuming that they had, he answered, "*Just carry out your own policy*, take another step forward, and still another, and you will be surprised to find yourselves among the foremost of agricultural reformers. For if one little improvement, however insignificant, is necessary and profitable, how much more a greater improvement!"[116] Anyone, the organization believed, could put the Society's advice to use, anyone could profit from it, and, more significantly, everyone's condition as a member of

[116] W. Duane Wilson, "Agricultural Education," in *Ninth Report of the Secretary of the State Agricultural Society, to the Governor of the State, for the Year 1863* (Des Moines: F. W. Palmer, State Printer, 1864), 96-97. Hereafter the annual reports of the Iowa State Agricultural Society will be cited as I.S.A.S.R. Emphasis in original.

society would improve from it because of the ideology on which those agricultural prescriptions rested.

The Society frequently held, as D. P. Holloway put it in 1855, that "agriculture constitutes the broad basis upon which the whole superstructure of society depends for support."[117] That the Iowa State Agricultural Society should have held itself in such high regard is not surprising, as it was a society formed for the aggrandizement of the industry mentioned in its name. As factual statements, therefore, pronouncements such as Holloway's are suspect, despite the fact that many more Iowans (and Americans) were farmers in the 1850s and 1860s than were not. However, examining the Society's view of the relationship between agriculture and civilization provides a basis upon which we can understand the rest of the Society's ideology. In positioning agriculture as the center of all that was good in human life, the Society indicated that agricultural reform involved more than merely coaxing more kernels of grain out of patches of dirt.

Although agriculture provided a foundation for other economic pursuits, it had been neglected. According to Peter Melendy, one of the Society's presidents in our time period of interest, the superstructure that Holloway mentioned included "all the other branches of industry and enterprise upon which man is dependent for employment, both of body and of mind."[118] The writer of an article originally published in the *Country Gentleman* and reprinted in the Society's annual report for 1857 described the neglect of agricultural learning. "In no other department of human labor, perhaps, have so few investigations been made, capable of serving even as the foundation of further reasoning," he wrote, even though other areas of knowledge had been improved by scientific inquiry and experimentation. He continued, "While they are becoming more and more systematized, agriculture is yet at fault for a true theory. While science has scarcely

[117] D. P. Holloway, "Speech of D. P. Holloway, Before the Iowa State Fair, Held at Fairfield, Iowa, on the Tenth of October, 1855," in I.S.A.S.R., *1855*, 37.
[118] J. M. Shaffer, "September Meeting," in I.S.A.S.R., *1865*, 37.

left a process in mechanics of any kind, without important aid, the majority of farmers are still in the habit of regarding her as little better than a charlatan. The few who have hoped the most from her occasional researches, can but confess to some disappointment in their results."[119] A few years later Suel Foster, in his essay on agricultural education, wrote that everyone, regardless of their primary field of study, should receive some education about agriculture. In 1863 he confidently asserted that, since "the art of agriculture is the basis of all other arts … whatever calling in life a man is going to follow, agriculture should be studied, like the *Latin* for the literary scholar, or else his education has not begun at the foundation."[120]

Such comments address agriculture in general, as a part of human civilization. But the Iowa State Agricultural Society was made up of Americans, and they believed that agriculture was just as important in the United States – and just as neglected, if not more so – as anywhere else in the world. In 1863 W. Duane Wilson lamented that, although "all the pursuits of life are, more or less, mutually dependent, agriculture stands at the head of all, and the foundation of all," that while agriculture is "As the head is to the body, or the blood to the life," a different kind of economic activity had preempted the United States' patronage: "Commerce, the younger sister of Agriculture, has almost absorbed the attention and protection of State and Nation, because, probably, she has fascinated both by her contributions to revenue, and her persistent claims to their notice."[121] In Wilson's view, "Agriculture has been abandoned to private and individual exertions, and that, too, in the face of the fact that we are indebted to it for all the wealth and prosperity we enjoy."[122]

[119] "Wanted—An Experimental Farm," in I.S.A.S.R., *1857*, 113.
[120] Suel Foster, "Agricultural Colleges and Schools," in I.S.A.S.R., *1863*, 247.
[121] W. Duane Wilson, "Agricultural Education," in I.S.A.S.R., *1863*, 102.
[122] Ibid.

Historically, according to the Society's president in the year 1862, this relegation of agriculture to a second-class interest did not help civilization improve. George G. Wright said – warned, perhaps – in his address to the state agricultural fair that year, "No government ever achieved true national greatness that neglected to foster and encourage the industrial interests of the people or to encourage the masses in acquiring a knowledge of the natural laws essential to a rapid development of the riches buried in the life supporting soil. It is an adage that 'The best agriculture makes the greatest State, and the greatest State makes the most of her Agriculture.'"[123] As with the Society's belief that agriculture undergirded human civilization as a whole, so too their belief that agriculture supported other industries in the United States. "The man who tills the soil," D. P. Holloway said at the state fair in 1855, "… furnishes the means of subsistence to his own happy household, and to all who are engaged in the other departments of life."[124] M. B. Taylor of Chickasaw County expected in 1860 that such a relationship would also come about in Iowa, once local rivers were improved. "All we need is enlightened and scientific farmers to cultivate our rich prairie lands to furnish their surplus grains to the manufacturer in exchange for his wares to build up here, at the head of the Cedar Valley, one of the wealthiest, self-sustaining counties in the State," he anticipated.[125]

The United States had only recently begun to "make the most of her Agriculture." Referring to the creation of the United States Department of Agriculture and the passage of the Morrill Act, Wright elaborated, "it was not until recently that agriculture secured a separate bureau and distinct portfolio at our National Capital, and not until within a few months has a portion of our

[123] C. Childs, "History of the Fair," in I.S.A.S.R., *1861-2*, 178.
[124] Holloway, "Speech of D. P. Holloway, …," in I.S.A.S.R., *1855*, 40.
[125] M. B. Taylor, "Chickasaw," in I.S.A.S.R., *1860*, 358.

national domain been granted to endow an institution in each State where agriculture will be taught as a science."[126]

The additional attention that agriculture received was well deserved for, as Eber Stone wrote in his "Reflections" in 1865, the health of agriculture was a public matter. He explained, "Being the primary source of national wealth, power and greatness, [agriculture] becomes at once an object of public interest, and a proper question for legislative action. Government is deeply interested in the promotion of this extensive branch of industry, and should seek to secure the highest attainable perfection in this great fundamental basis of taxation, to keep pace with the spirit and wants of the time."[127] D. P. Holloway even wrote that, in addition to the fact that agriculture served as the country's economic bedrock, "It is the bulwark of our free institutions, while it is the source of our great and accumulating wealth."[128] In an address delivered during the Civil War's final days Wright told fairgoers that agriculture added to "national wealth and the means essential for the mighty struggle now before us;" agricultural work thus became a patriotic act.[129]

Compared to the mid-1850s, the United States government's recognition of agriculture as a matter of public interest was abundant. In the earlier decade, as D. P. Holloway put it, "our government has utterly, shamefully neglected its duty in regard to this great question of agriculture, while it has in too many instances patronized with a lavish and even a reckless hand, other and less important subjects," and he continued his excoriating commentary by noting that Presi-

[126] Childs, "History of the Fair," in I.S.A.S.R., *1861-2*, 178.
[127] Eber Stone, "Reflections," in I.S.A.S.R., *1865*, 273.
[128] Holloway, "Speech of D. P. Holloway, …," in I.S.A.S.R., *1855*, 40.
[129] George G. Wright, "Judge Wright's Address," in I.S.A.S.R., *1864*, 263.

dent George Washington and many, if not all, of his successors had called on Congress to promote agriculture, and most European countries supported agricultural schools.[130]

In addition to building up national wealth, thus securing the American economy, and serving the public interest by such means as provisioning the Union army, enlightened agricultural practices improved social conditions by equalizing the dignity in which all men worked. A writer for the *Dubuque Daily Herald* recalled of Wright's address to the 1862 state fair that he said that "a lofty and commendable emulation among farmers elevates the standing and character of their occupation, and the earnest support of their State and County Societies will increase the diffusion of practical knowledge, securing a more successful and intelligent culture of the soil as a predominate requisite to still greater social progress; and that an advanced state of agricultural science is consonant with and productive of a higher state of the other sciences and arts."[131] Just as the Iowa State Agricultural Society believed that agriculture supported the rest of civilization, it thought of, in the words of T. T. Pedergraft of Page County, "agriculture as the highest and most noble pursuit of our race, and its growth in importance and towards perfection as a science worthy the best energies and efforts of every agriculturist in the land."[132] That belief in the equal dignity of agricultural labor with other kinds of labor, including the traditional professions of law, medicine, and ministry, occupied one of the most important corners of the Society's ideology. That ideology, as stated at the beginning of this chapter, involved the dignity of labor along with sustainability and scientific knowledge.

I. Sustainability

[130] Holloway, "Speech of D. P. Holloway, …," in I.S.A.S.R., *1855*, 37-38.
[131] Childs, "History of the Fair," in I.S.A.S.R., *1861-2*, 177.
[132] T. T. Pendergraft, "Page," in I.S.A.S.R., *1863*, 444.

The Iowa State Agricultural Society's approach to its advice, especially crop rotation and manuring, most directly related to and best expose the Society's attitude toward stewardship of the land. However, writers who discussed the benefits of such techniques directly implicated an approach to the land that held its fertility as a valuable resource that should be conserved and, if possible, improved; they did not offer such advice solely for the sake of higher yields. Rather, as pointed out in Chapter 2, they wanted to improve their ability to reap high yields and improve their ability *to keep* reaping high yields, with all the social benefits of a stable agricultural system. Agricultural knowledge available in the mid-nineteenth century meant that any advice on how to maintain soil fertility centered on the effective use of manure.[133] In 1855 D. P. Holloway explained "the direct application of manures" as "the next important step in retaining the fertility of the soil" after crop rotations.[134] This importance rested upon "one general principle to be observed, and that is to return to the soil all the ingredients that have been taken from it in the culti-

[133] The historians Steven Stoll and Brian Donahue have examined the centrality of manure in other localities, namely, Massachusetts and Pennsylvania. See Stoll, *Larding the Lean Earth* and Brian Donahue, *The Great Meadow: Farmers and the Land in Colonial Concord* (New Haven, Connecticut: Yale University Press, 2004). Given the Iowa State Agricultural Society's emphasis on manuring and crop rotations, stated above, in Chapter 2, it is safe to say that the Society advocated what Stoll described as convertible husbandry (also known as mixed husbandry). He defined convertible husbandry as a system that "eliminated the fallow and made every farm into a manure factory, and under this system the cycling of fertile nutrients became the central ecological function of agriculture. In a word, by conserving its own resources, the old farm replicated in a managed sphere the nature that humans did not manage." Stoll, *Larding the Lean Earth*, 56. Stoll offers an example of such cycling: keeping "up to half of … acreage in some kind of pasture (permanent and temporary), with the rest of it in tilth. They converted their arable fields from one use to another in yearly rotations or courses [such as wheat or barley, followed by wheat or barley, followed by "clover or peas for nitrogen," followed by wheat or barley, followed by grass]. The return of nutrients in the form of manure resulted in larger crops of grain and fodder, which allowed for a greater number of animals to be kept on the same land, which created more manure—a positive feedback loop." Stoll, *Larding the Lean Earth*, 56. Such is a definition of traditional convertible husbandry, developed in England in the late seventeenth and early eighteenth centuries. Donahue uses a definition of convertible or mixed husbandry that is essentially the same but, in practice, differed in the details. The inhabitants of Concord, Massachusetts used the same principles, he writes, but had to apply those principles differently due to the constraints of their town's terrain. To make their soil more productive, he wrotes, "Concord farmers elaborated a new version of an older pattern of mixed husbandry that revolved around the movement of stock and manure – a version of infield-outfield husbandry typical of pastoral regions. Instead of closely integrating grain and grass on the same soils through legume rotations, they continued to rely on maintaining a balance between grain and grass in largely separate parts of the landscape. The productivity of their principal corn land depended entirely on their meadows. That was the nub of mixed husbandry in colonial Concord." Donahue, *The Great Meadow*, 193.

[134] Holloway, "Speech of D. P. Holloway, …," in I.S.A.S.R., *1855*, 42.

vation of crops. All cultivated plants contain some fifteen distinct ingredients, and the perfection of vegetable growth cannot exist until the soil shall possess each of these ingredients which enter into the composition of plants."[135]

Such advice and instruction was directed, most likely, toward the kind of farmers against whom the Society's members and correspondents railed, as described in Chapter 2, and of whom Legrand Byington wrote from Johnson County when he described at length in 1857 the contrast between his own methods and the current attitude toward manure among other farmers in his county. He explained, "While conceding individual exceptions, it is a disagreeable reality that the great majority of our cultivators do not devote one hour in a twelve-month to [manuring]. Upon my home farm, I not only contrive to make, and haul out annually, some hundreds of loads, but in addition, draw largely upon the neighboring stables of the town."[136] J. W. Smith probably had similar practices in mind when he wrote of Floyd County in 1863 that "Too little attention has been given to the economy and use of manures. … To say the least, it is unsightly and inconvenient to have the manure so deep about barns and stables as to render them hardly accessible at times."[137] He and many other contributors to the Iowa State Agricultural Society's annual reports, however, knew manure's benefits. Smith warned that, unless farmers hauled their manure out onto their fields, "soil and crop will deteriorate."[138] Others wrote that poor soil could be rehabilitated through the application of manure. "If the soil is not very rich, make it so by the application of manure," J. W. Moss confidently commanded readers of his essay on sorghum.[139]

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[135] Ibid.
[136] Legrand Byington, "Johnson," in I.S.A.S.R., *1857*, 324.
[137] J. W. Smith, "Floyd," in I.S.A.S.R., *1863*, 389-390.
[138] Ibid., 389.
[139] J. W. Moss, "Sorghum," in I.S.A.S.R., *1863*, 244. The next year another writer expressed the same confidence. B. Storch, "How To Have an Orchard," in I.S.A.S.R., *1864*, 266.

Concern about increasing soil poverty entered into many of the Society's farming recommendations. Robert L. Pell wrote in 1857 in the essay, "On Manure, Drainage and Irrigation" that, "If two farmers, living contiguous to each other, treat their land differently as respects cultivation and manuring, the difference will be observed by the most casual observer. That is to say, if one plows deep and manures high, and the other does neither, the highly cultivated land will draw all the floating gases from the neighboring land, and annually impoverish it until it becomes absolutely barren."[140] In 1861 the president of Henry County's agricultural society, C. S. Kenderdine, advised farmers that, "Although your land retains its dark color after cropping a number of times, still you take away an ammonia that requires a return, and by putting the manure on your fall wheat, you will double your crop for some years after."[141] He went farther, writing that "Another advantage, and one of considerable moment," to removing manure from the barns that collected it and applying it to the fields, was that he could reallocate one season's labor to another, since "I have that much out of the way in the fall, that otherwise would have to be done in the spring, provided I raised spring wheat, giving me more time for my oats, corn, sorghum, &c.[142]

As alluded to in Chapter 2, even rich soils such as those on the prairies of Iowa required manure, many in the Iowa State Agricultural Society believed, lest farmers become mired into a habit of not replenishing their soil with the nutrients they remove from it. For example, in 1863, in an essay on dairy husbandry, Asa C. Bowen stated that, "Notwithstanding the richness of the soil, meadow lands may be greatly improved form year to year by top dressing with barn yard manure."[143] As Norman Hamilton observed from Clayton County in 1863, however, this view

[140] Robert L. Pell, "On Manure, Drainage and Irrigation," in I.S.A.S.R., *1857*, 94.
[141] C. S. Kenderdine, "Henry," in I.S.A.S.R., *1861-62*, 96-97.
[142] Ibid.
[143] Asa C. Bowen, "Dairy Husbandry in Iowa," in I.S.A.S.R., *1863*, 158.

stood in opposition to common practice: "The idea was common that a soil so deep and fertile as ours could never need manure, but though now yielding well without manure, yet it is found by actual test that wheat, corn and grass are nearly doubled in yield by applying manure, either as a top dressing or by plowing it in."[144] Indeed, some in the Iowa State Agricultural Society contemplated the possibility of exhausting the rich fertility of Iowa's prairie soil if farmers did not take advantage of manure's restorative effects. In 1863 G. F. Kilburn of Adair County lamented that "Our farmers have not yet many of them learned the use of manures, but time and intelligence diffused among the people, will soon change some of the old notions of our people. Until this is done the exhausting process will go on, and our beautiful prairie fields, will deteriorate from year to year, while those which they need are suffered to waste."[145]

These protestations in favor of manure rested on a bank-like conceptualization of soil fertility, not unlike the mine of fertility posited by Eber Stone in 1856 and referenced in Chapter 2. This comparison is worth repeating, however, because in at least one instance the Iowa State Agricultural Society – directly, in the report of one of its committees – adopted the analogy that equated the soil's original fertility with the principal in a bank account, and the crop yields to the interest that it bore. In 1865 the Agricultural Society's Standing Committee on Tame Grasses reported that "Our proverbially rich soil is also greatly benefitted by ["top dressing meadows and pastures with stable manure"]; and it is strange that so little labor is expended in hauling out barn-yard manure, when it never fails to return a handsome interest."[146] Farmers should apply manure to their fields, in other words, to avoid drawing yields out of the principal amount of fertility, which would lead to diminishing returns in a negative feedback loop rather than the steady

[144] Norman Hamilton, "Clayton," in I.S.A.S.R., *1863*, 370.
[145] G. F. Kilburn, "Adair," in I.S.A.S.R., *1863*, 341-342.
[146] J. M. Shaffer, "Report of Standing Committee on Tame Grasses," in I.S.A.S.R., *1865*, 133.

or increasing returns that the positive feedback loop of mixed husbandry was expected to provide.

Aside from manure's direct effects on crop yields, the contents of the Iowa State Agricultural Society's annual reports suggest several related, indirect benefits of using manure. First, it could put the by-products of agricultural production to work on the farms from which they came, putting waste to good use. Explaining this point, in 1860 the winner of one of the Agricultural Society's essay premiums wrote, "as near as practicable, everything that grows on the farm should go back in the shape of manure. He who feeds stock garners up in his yards much valuable food for his land."[147] Second, since manure benefitted recently settled prairie lands just as it benefitted lands that had been under cultivation for years, decades, or even centuries, its use facilitated the advance of American civilization in the West. From Jackson County, David C. Shaw reported in 1857 that "It has been supposed the prairies did not need manuring, but that notion is of too old a date. It is true, we can raise fine crops without it, but at the same time, we can raise as much finer with it, as our eastern farmers can. Our prairies are rich and productive, but they need taming, just as the Indians do, to make them really useful."[148] Third, it allowed farmers to cultivate fewer acres because it increased crop yields; the cultivation of fewer acres, in turn, made the application of manure to whole farms possible even in the labor-scarce prairie West and made higher population densities in agricultural regions, which would have appealed to the agricultural fundamentalists described by Gilbert C. Fite. As Shaw explained, manuring "may be considered too expensive in this country, where every thing grows spontaneously, without work. Surely, it is desirable to save labor, and in fact, is the great aim of man, at the present day. It is said to be a poor rule that will not work both ways. What is the benefit of working 2 or

[147] "Second Premium Essay [on Corn Culture]," in I.S.A.S.R., *1860*, 311.
[148] David C. Shaw, "Jackson," in I.S.A.S.R., *1857*, 280.

3 acres, when 1 can produce the same amount by good cultivation?"[149] This confidence that the use of manure would ease demands on labor by decreasing the amount of land a farmer needed to cultivate to make a living appeared elsewhere. As V. Warren Baker of Floyd County explained in 1865, "the expense of hauling [manure onto fields], would, we believe, be fully repaid in the increased product of our fields, and the improved appearance of our farms."[150]

Most importantly, however, avoiding soil exhaustion by applying manure preserved the soil's fertility for future generations of farmers. In 1864 D. B. Clark explained this imperative in detail and disclosed the preference for intensive rather than extensive agriculture that was bound up with the use of manure. He began by expressing his dismay at common attitudes toward farming. "There is too great an error existing among the people in the West, about the general principle of farming," he wrote.

> Very many seem to think, and even say, that our soil is so rich that it will never need manure. The first settlers on the Mohawk and the Sciota bottoms thought so; they thought, as many of our western farmers do, that it was cheaper to move the stables and yards, than it was to haul out the manure; but the settlers of the Mohawk and Sciota found out years ago, that by taking off continually, and not replenishing, would not do. It would have been better for them, had they not let their rich ground get weary.[151]

Preventing "their rich ground [from getting] weary" would be better for future farmers, too, Clark argued. The prairie West owed the same obligation to future farmers that other regions owed. "It is as important to us to keep [the soil of Iowa] in a high state of productiveness, as it is in any other part of the United States. Let us leave the soil as good to our posterity as we found it, besides having the satisfaction of raising good crops whilst we occupy the land. It is better to

[149] Ibid., 281.
[150] V. Warren Baker, "Floyd County," in I.S.A.S.R., *1865*, 438.
[151] D. B. Clark, "General Farming," in I.S.A.S.R., *1864*, 210.

farm a little, and farm that little well, than it is to pass over a large tract and not half farm, and then not get half crops."[152]

II. Science

Support for scientific agriculture – using agricultural practices that had been reasoned out by theory and confirmed through experimentation – formed a second important part of the Iowa State Agricultural Society's ideology or perspective and, through the Society's discussion of scientific agriculture, an interest in the education of farmers emerges. In 1865 the Society's president, Peter Melendy, held that all the natural sciences, including agriculture, related to one another and all provided instruction. The progress of one, he said, advanced the others, and "there is scarcely any knowledge which would be superfluous to the tiller of the soil."[153] Yet the Society did not maintain that such knowledge should have an immediate relation to a specific farm task, that it should be wholly technical. Knowledge, or science, of a pursuit, one essayist published two years previously had written, should include "the theory on which it is based. It is well advised, 'study the *theory* if you would not remain a bungler all your life, for practice is nothing but applied theory.'"[154]

The application of theoretical knowledge to other practical problems (think of any technological innovation, from the wheel to steam power to the telegraph) had improved human life in the past, and the Society, particularly at the county level, expected the scientific practice of agriculture to increase farm production in a similar way. Dr. Jonathan Y. Hopkins of Mahaska

[152] Ibid.
[153] Shaffer, "September Meeting," in I.S.A.S.R., *1865*, 39.
[154] Ellen S. Tupper, "Essay on Bees—1st Premium," in I.S.A.S.R., *1863*, 214.

County reported in 1857 that local farmers only needed "scientific cultivation" in order to "be one of the best producing counties in the State."[155] Methods of scientific agriculture constituted agriculture's best chance at reaching its greatest potential, the secretary of the Mills County Agricultural Society wrote in 1858. He believed "that with scientific cultivation, such as may be reasonably looked for at no very remote period," – to be spurred into prevalence by the work of agricultural societies and state legislation – "…our State will be second to none in the galaxy of States, when all her agricultural and other resources are fully and fairly developed."[156]

That year proved to be an important one in articulating the importance of scientific agriculture to the Society. Two other contributors to the state society's annual report suggested that the adoption of scientific agricultural practices was not merely sufficient for prosperity, but necessary. First, in an essay on sheep, J. B. Grinnell wrote that he ascribed failed attempts at sheep husbandry to "ignorance of the business, associated with a desire to make a fortune *at once*."[157] Second, in an assessment of timber availability and soil fertility in Marion County, George Kruck wrote that "All that is wanting is scientific farming;" though he did believe that "our farmers are beginning to pay more attention to that kind of farming, as they certainly see the advantage and profit derived from it."[158]

The necessity of scientific agriculture did not necessarily lead to a pessimistic mindset, however. The writer of an essay that originally appeared in the *Country Gentleman* apparently believed that the only additive required to make agriculture a scientific line of work was a small amount of official support and effort. "A little of the same public generosity and scientific skill,

[155] Dr. Jonathan Y. Hopkins, "1857," in I.S.A.S.R., *1857*, 360. In writing that "By proper cultivation, and a discriminating rotation of crops, the county will be one of the best producing counties in the State," Hopkins suggested that by "scientific cultivation" he and others involved with the Iowa State Agricultural Society meant the kind of advice that it distributed on crop rotations, manuring, etc.
[156] C. Nuckolls, "Mills," in I.S.A.S.R., *1858*, 330.
[157] J. B. Grinnell, "A Prize Essay, Read Before the Iowa State Agricultural Society," in I.S.A.S.R., *1858*, 138. Emphasis in original.
[158] George Kruck, "Marion," in I.S.A.S.R., *1858*, 316.

bestowed upon an interest to which all classes are indebted, for the very bread they eat, would, by comparison, scarcely seem out of place," he wrote. "Indeed, had the money been laid out upon [astronomy], been applied with similar sagacity, to exploring the principles of [agriculture], Agriculture might have witnessed the triumphs recorded in the progress of Astronomy, and the farmer of our day been made the superior of Varro or Virgil, in more than the mere difference between the implements and machinery of their respective ages."[159]

For all the ease with which farmers could labor, however, some holdouts remained and certain elements of the Society doubted whether scientific knowledge could hold all the answers to agricultural problems. Additionally, the same writer who said that agriculture could be as impressive a field of knowledge as astronomy if only it received a fraction of the support received by the study of the stars, also doubted the extent to which agricultural knowledge could be systematized. "Agriculture is not one of the exact sciences," he wrote. "There are constantly recurring questions in every farmer's experience, which neither pencil nor paper, nor all the rules and formulae of the books can reach."[160] Indeed, no matter how much of the farm men could illuminate through theoretical science, Otis Whittemore wrote in 1863, "It is not an easy task to stimulate men on any subject by mere theory founded upon the imaginary speculation of the human mind." Therefore, "unless we can produce the proof by practical experience of our own, we fail of any good and permanent result."[161] Still another – in an essay on fertilizing the soil that was requested by the Society, no less – wrote that he had "very little faith in chemistry to analyze the soil."[162]

[159] "Wanted—An Experimental Farm," in I.S.A.S.R., *1857*, 116.
[160] Ibid., 113.
[161] Otis Whittemore, "Planting of Orchards and Ornamental Trees in Iowa," in I.S.A.S.R., *1863*, 238.
[162] B. H. Wilder, "Essay on Fertilizing the Soil," in I.S.A.S.R., *1864*, 179.

Even if the *Country Gentleman*'s writer and Whittemore could find satisfaction in science's applicability, the Society often did not believe that ordinary farmers used scientific methods very often. J. M. Shaffer reported in the "Secretary's Report" for 1865 that "The processes of agriculture are too generally conducted in an impiric [*sic*] manner. There are but few who can assign a satisfactory reason for any particular method that is followed by good results. There is a lamentable lack of knowledge of agricultural chemistry in the daily operations of the farm. Work is done after a prescribed method, because the same succeeded once or twice before…. Improved methods of tillage are not generally adopted."[163]

A variety of factors may have conspired to inhibit the ordinary farmer's use of "agricultural chemistry," or scientific agriculture generally. First, of course, farmers had to want to use it. One of the Society's correspondents from Jasper County reported in 1863 that the "greatest" of his county's many wants was "A deeper and stronger interest in agricultural matters as a whole, and a more scientific thoroughness in every branch of farming."[164] Second, regardless of how much farmers believed they wanted to use scientific methods of farming, they had to pursue them in fact. From Delaware County in 1857, Z. A. Wellman wrote that such action had not occurred: "Agriculture is not yet made a matter of science. Experiments are not yet resorted to, so test the different modes of cultivation." A third possible cause of farmers' failure to use scientific methods was their hostility to the expertise of "book farming," a common mid-nineteenth century term for scientific agriculture. D. B. Clark even referred to that hostility as "old fogyism," though it contained democratic elements, since it "says that there is no use in writing essays or treatises on the subject of agriculture, for any one can farm."[165] At this point education begins to occupy a place of its own in the Society's ideology. Like the project of making as

[163] J. M. Shaffer, "Secretary's Report," in I.S.A.S.R., *1865*, 8.
[164] J. A. Harris, "Jasper," in I.S.A.S.R., *1863*, 413.
[165] Clark, "General Farming," in I.S.A.S.R., *1864*, 207.

many agricultural discoveries as astronomy discoveries – one that required only effort – the Society believed that the remedy for ordinary farmers' distrust of expertise was simply education. "Farmers have been prejudiced against 'Book Farming' because we had but little or no 'agricultural literature,' until very lately," and what literature was available "was written by men who have a *heart* in the great work of agriculture, but they had no *hand* in it. They lacked experience, and hence their teachings were often at fault," Suel Foster wrote in an essay on how to make labor more dignified.[166] The answer, he stated, was for farmers to participate in the creation and organization of knowledge related to their lives. "'Farmers, write for your papers,' for farmers and farmers' sons and daughters are now reading the farmer papers, and they gather much good information by such reading. The more they read, and with their practical experience, they become much better able to judge correctly between correct instruction and incorrect," he advised.[167]

At any rate, the Society believed, a lack of scientific or systematic knowledge of agricultural methods created confused chaos. As the writer from the *Country Gentleman* wrote, "Every department of rural labor is now the subject of controversy, from our ignorance of those principles, which proper investigation and careful experiments might define, at least, with some degree of clearness…. the true economy, whether in doors or in the field, at the stable or upon the pasture, in the granary, the meadow or the garden—the whole is now involved in the great confusion."[168] One reason that the Society valued scientific tools and techniques in agricultural labor related to its conception of the land as a resource that, so long as its cultivators did not exhaust it completely, could be renewed. In 1860 John A. Kennicott acknowledged that "The fat earth still yields her rich abundance to the working son, who follows blindly the old course of his working

[166] Suel Foster, "How Shall We Elevate Labor?" in I.S.A.S.R., *1864*, 224.
[167] Ibid.
[168] "Wanted—An Experimental Farm," in I.S.A.S.R., *1857*, 114.

father—with something like skill, but nothing of science—and without knowing, that it is because of the wonderful fertility of our soil … that his labor is so well rewarded."[169] However, farmers should be proactive rather than complacent. He warned, "this will not last always, and many have already discovered their mistake in expecting it to last."[170] In a lecture on the composition of Iowa soils C. A. White painted a much more vivid picture of the "mistake" described by Kennicott. If farmers did not practice labor scientifically, "Iowa must soon cease to prosper, for just as surely as the waters of our rivers flow to the sea, just so surely will our richest soils cease to be productive if they are robbed of crop after crop without returning to them again the constituent elements of those fruits which we have received from them…. no nation or State can make permanent progress, or even long maintain its existence which does not till its soil in such a manner that each successive year shall find it as fertile as when it first yielded to the plow."[171]

The confusion that resulted from a lack of organized, tested agricultural knowledge obstructed the Society's desire to progress, as its members linked progress to the scientific practice of farming. In 1865 Eber Stone wrote that implements such as "the plow with the wooden mould-board," "the grass scythe and snath," and "the hand rake of other days" while once "good and useful … improvements," had now "fail to come up to the standard of progress and requirements of the present."[172] Instead, the application of scientific methods developed by men's mental faculties would meet those progressive standards and modern requirements. He wrote, "Mind has been called upon to remove the drudgery, and assist the physical powers in obtaining a livelihood, and right nobly has it answered the call of need, and come to the help of exhausted nature. Fair science has kindly reached out her hand to neglected worth," and the tools and tech-

[169] John A. Kennicott, "Mistakes of Tree Planters," in I.S.A.S.R., *1860*, 123.
[170] Ibid.
[171] C. A. White, "The Soils of Iowa, and Their Origin," in I.S.A.S.R., *1865*, 250.
[172] Eber Stone, "Reflections," in I.S.A.S.R., *1865*, 271.

niques of modernity would make "America … another name for progress" and would transform "the toil worn laborer of the past … [into] the liberated, intelligent freeman of to-day, released, refreshed and favored by the genius of invention."[173] The Society in general, in addition to its advice, labored to progress rather than to maintain the world as it was. At the annual fair – its main event – people "assembled … in that spirit of progress which characterizes the age in which we live. Improvement is the order of the day, and you in common with all other classes of your countrymen, fell the impelling influence that drives you onward and upward in the march of progression," D. P. Holloway said at the second state fair, held in 1855.[174]

According to observations collected by the Society, the 1850s and 1860s were two decades of increasing attention to scientific agriculture and the progress sought by the Society. In 1859 W. E. Callen of Appanoose County wrote to the state society that "the farmers seem more inclined to try farming on a scientific system," that they had made visible progress since the last year, and that their exposure to other ideas through the county's agricultural fair may have provided the forum for that exposure.[175] L. C. Sanders of Boone County also noticed marked improvement from the recent past. "The attention now given to the cultivation of the soil is more of that scientific and practical character than characterized the farmer of two years ago. An increasing interest is felt for information respecting the best method of cultivating the different crops, and farmers are experimenting, with a view of testing, by experience, the kind of culture best adapted to our soil and climate. Agricultural works are sought after, and the spirit of industry and laudable emulation seems to be the governing principle with the farmer."[176] By 1865 the president of the state agricultural society, Peter Melendy, could say in his address at the annual

[173] Ibid.
[174] Holloway, "Speech of D. P. Holloway, …," in I.S.A.S.R., *1855*, 35.
[175] W. E. Callen, "Appanoose," in I.S.A.S.R., *1859*, 167.
[176] L. C. Sanders, "Boone," in I.S.A.S.R., *1859*, 185.

fair that "the awakening spirit of the time is making itself felt in the agricultural districts; old prejudices are dying out, and the followers of this most ancient and noblest of all the arts, are becoming generally anxious for information, and eager for improvement."[177]

Similarly, some of the Society's members could write that prejudice against scientific agriculture was decreasing. In 1865 Eber Stone marveled that "Within a few years, how rapid has been the improvement, not only in scientific, but practical agriculture. Where once stood ignorance and prejudice, bold and defiant, rigidly adhering to notions and things of school-boy days, only because time-honored and familiar, battling for supremacy against consistent change in this leading pursuit of life, genius and skill have erected the magnificent structure of modern improvement."[178] That same year the secretary of the Society wrote that the Society's attempts to advance scientific agriculture in the minds of ordinary farmers had borne some fruit, and they had begun to take a more expansive view of the ways in which they could run their farms. He wrote, "there seems to be a disposition on the part of many to emerge from this routine practice, and conduct a farm on the sure basis of science…. It is truly gratifying to observe that a more liberal view of scientific farming is being taken by our people; and the day is dawning when the prejudice against 'book farming' shall be removed, and the agriculturist shall conduct his pursuit with the accuracy and certainty of success which attend all philosophical processes."[179]

As ordinary farmers' prejudice against agricultural science diminished, their interest in agricultural periodicals and educational institutions such as colleges of agriculture increased. For example, in 1857 John R. Needham of Mahaska County reported that "Farmers have learned to investigate for themselves, and are becoming more thoroughly acquainted with the science, which, above all others, interests them. Scientific farming is one of the wants of the age, and the

[177] Shaffer, "September Meeting," in I.S.A.S.R., *1865*, 38.
[178] Eber Stone, "Reflections," in I.S.A.S.R., *1865*, 270-271.
[179] Shaffer, "Secretary's Report," in I.S.A.S.R., *1865*, 8.

time is not far distant, when a thorough and practical education, will be as much a part of the farmer's training, as of any other department of business."[180] In the midst of the Civil War the Iowa State Agricultural Society's Board of Directors more lucidly explained this increasing interest in the institutions of scientific agriculture. "As an evidence of Agricultural advancement that is peculiarly gratifying, we mention the fact that the farmers of Iowa believe in scientific progress in the development of our unbounded resources" or proof "That an intelligent husbandry is destined to supersede the because-my-father-did-so plan is further evidenced by" the numbers of subscribers to various agricultural periodicals and other newspapers that also took it upon themselves to write something for farmers to read, in addition to the fact that

> They sustain the initiative which has been taken, to found an Agricultural College, and establish an institution which shall give to their sons a practical and scientific course of training, in their own particular branch of industry. The prejudice against 'Book-farming' is evidently giving way to the stern logic of facts; and the example is solitary, of a county, or rather a few persons of a county requesting the Legislature to withhold appropriations from their own institution. In its infancy now, it is designed and promises to become more fully than heretofore, a useful and popular auxiliary in developing the Agricultural resources of the State.[181]

Science had already improved agriculture substantially, even without formal institutions of learning. Indeed, the tools and techniques the Society thought of as "scientific" encompassed a broad range of resources. Suel Foster of Muscatine County, one of the Society's most ardent advocates for agricultural education, wrote in 1859 that new technologies such as agricultural chemistry or the subsoil plow or long crop rotations were substantially the same as older improvements such as "the old sickle and wooden plow." Age constituted the only difference between the two kinds of technique; they were both innovations. As he wrote, "these advances and improvements are simply *book farming*. If they have not been written and printed in a book already, they soon will

[180] John R. Needmah, "Mahaska," in I.S.A.S.R., *1857*, 351.
[181] J. M. Shaffer, "Report of the Board of Directors," in I.S.A.S.R., *1863*, 10-11.

be, and he who objects to *book farming* had better take the old sickle and wooden plow, for we do not make these improvements *first* ourselves. They are handed to us by book knowledge."[182]

Foster's rhetoric may have been an attempt to shame farmers into supporting scientific agriculture, in that he implied that one who objected to new innovations but not old ones was a hypocrite. The rhetoric that P. F. Bartle used in 1865 was more positive. Rather than implying hypocrisy or arguing that scientific agriculture would improve farmers' economic wellbeing, he argued that the dignity of farming as a profession increased along with farmers' application of science to agriculture. Those who attended fairs, read agricultural periodicals, and exchanged information with one another, he said, "so clearly manifested" their desire "to *learn*, to *improve*, and to *excel*. All this tends directly to elevate, dignify and render pleasing and profitable the agricultural calling."[183] Bartle had good reason to be positive. Two years earlier Henry Ford of Harrison County reported that ordinary farmers were taking an interest in discovering for themselves the principles of agricultural improvement and, in so doing, making it a more dignified pursuit. "In uniting with their manual labor more brain work," he wrote, they "elevat[ed] the science they have espoused, and write it themselves."[184]

III. Dignity

The Iowa State Agricultural Society's focus on the dignity of labor in addition to larger crop harvests and livestock herds (and, therefore, larger profits) compels the consideration of the

[182] Suel Foster, "Muscatine," in I.S.A.S.R., *1859*, 351. Emphasis in original.
[183] P. F. Bartle, "Address of P. F. Bartle, Esq., Before the Jasper County Agricultural Society, at Newton, and repeated by request before the District Agricultural Society, at Knoxville," in I.S.A.S.R., *1865*, 237. Emphasis in original.
[184] Henry Ford, "Harrison Co.," in I.S.A.S.R., *1863*, 397.

Society as an organization motivated by a coherent ideology, an intellectual system of thought that consciously integrated itself into the world around it. The Society's concern with the dignity of farming related not merely to amount of sweat a farmer dripped as he made his money, but rather with the political involvement that such laborers could not undertake at that time. In the mid-nineteenth century the Society believed (whether they were right or wrong is unimportant for this study) that even "In this truly democratic republic of North America, it is generally conceded that the laboring classes are not sufficiently respected; that they have not all the rights and privileges which they are entitled to in society, and in the laws, and the making and administering of the laws, of our country," as Suel Foster wrote in 1864.[185] In theory, all were equal, "for this is a land of freedom, a free press and a free ballot-box; and the laws, and the administration of the laws, are under the control of the people, and two-thirds of the people are of the laboring class. True; yet the condition of society, and of politics, is such that money and aristocracy rule in society and government."

The average farmer, however, did not help himself attain a higher level of dignity, Foster continued. He wrote, "It is said that the laboring classes place themselves below the professions, the merchants and the aristocracy. True they generally do, but they ought not to;" the great challenge was "How shall we elevate them in their own estimation?"[186] P. F. Bartle concurred with Foster's observations. Laboring Americans simply did not appreciate the scale of what they contributed to an aggregation of their country's resources and strengths. As he put it in an address the next year, "The farmer and mechanic seem not to realize fully, the powerful influence exerted by them upon the growth, stability, prosperity, and consequent destiny of our country."[187]

[185] Suel Foster, "How Shall We Elevate Labor?" in I.S.A.S.R., *1864*, 221.
[186] Ibid., 222.
[187] Bartle, "Address of P. F. Bartle, Esq., …," in I.S.A.S.R., *1865*, 238.

Farmers and mechanics as a class of persons may not have held their work as dignified, but some began to do so. As early as 1855 D. P. Holloway, whose address to that year's state fair has proven so useful for synthesizing the Iowa State Agricultural Society's ideology, noted that agricultural work was emerging from under the rock of indignity and some were beginning to hold it in higher esteem. "Agriculturists are arousing from their long slumber, and are awakening to their interest, and that of their common country—science and enterprise are forcing them to select whatever is adapted to peculiar soils, locations and climates, and what will most benefit the cultivator—elevate his character and standing;" he said.[188] He continued on, confident that farmers, who already ranked first in "usefulness," would soon "take the first rank in character."[189] This dignity, he said, required that "young men of talents and education, instead of engaging in either of the popular *professions*," to "devote their mental, as well as physical energies to the cultivation of the soil, and find in that occupation, the road to honor, fame, wealth and permanent happiness."[190] Closer to actual farmers, John C. Hogin wrote in his report for the Keokuk County Agricultural Society in 1858 that the feeling that "The agricultural interest has suffered much from the fact that almost any business was preferred to farming" was "constantly changing, and farming is beginning to be regarded as the choice vocation."[191]

Some of the Society's reports provide clues as to the cause of farming's increasing dignity. Perhaps the condescension into agricultural pursuits by members of the professional classes made them more respectable. As one essayist on sheep raising wrote that stock breeding "has reached quite to the dignity of a science or profession, since gentlemen of taste and talent have

[188] Holloway, "Speech of D. P. Holloway, …," in I.S.A.S.R., *1855*, 37.
[189] Ibid.
[190] Ibid. Emphasis in original.
[191] John C. Hogin, "Keokuk," in I.S.A.S.R., *1858*, 295.

made its study and practice a life pursuit."[192] Or perhaps, as agriculturists used applied more scientific knowledge scientifically, the members of other professions began to look on them as something closer to equals. "When will the mechanic, the merchant and the professional man learn that time, money and thought judiciously expended for the benefit of agriculture, will mete him a sure return by the general prosperity and success of that branch of industry upon which the success and prosperity of his particular occupation in a great measure depends?" L. D. Morse of Wapello County – who held a medical degree – asked rhetorically. "As soon, perhaps, as the farmer himself learns that scientific agriculture is something neither to be sneered at nor deemed distinct from practical agriculture," he answered.[193] Morse was not alone. The next year William Allen of Scott County testified that he looked "upon agriculture as the highest and noblest pursuit of our race, and its growth in importance, and towards perfection, as a science worthy the best energies and efforts of every agriculturist in the land."[194]

The Society's sources do not suggest that the increased dignity associated with farming was independent of real benefits. First, making agricultural labor dignified strengthened the country's foundation for prosperity and individuals' foundation for prosperity. P. F. Bartle maintained that "Labor is honorable, as it is the fountain of all wealth and of all happiness. By obedience to the Divine command, that man should eat his bread in sweat of his face, the glory of civilization adorns the earth, and commerce floats upon the most distant seas…. Upon it, nations, like individuals, are utterly and entirely dependent for their prosperity, and national prosperity is simply the result of individual labor. The humble and obscure toil of the laborer is the true source of the nation's greatness, her vast enterprises, and her boasted revenues."[195] Second, ag-

[192] Grinnell, "A Prize Essay," in I.S.A.S.R., *1858*, 138-139.
[193] L. D. Morse, "Wapello," in I.S.A.S.R., *1858*, 413-414.
[194] Wm. Allen, "Scott," in I.S.A.S.R., *1859*, 368-369.
[195] Bartle, "Address of P. F. Bartle, …," in I.S.A.S.R., *1865*, 237-238.

ricultural labor was inherently dignified. One county agricultural secretary wrote in 1857 that "no employment is more useful, dignified, and, certainly, none more interesting, than that of the agriculturist," even though "The farmer is not always true to himself and the dignity of his calling…. Is often heard complaining of his lot as one of unrewarded drudgery, and is seen struggling to place his sons in avocations where competence may be obtained without bodily toil; as if, in so doing, he was placing them in a more elevated position in society."[196]

[196] L. D. Morse, "Wapello," in I.S.A.S.R., *1857*, 434.

CHAPTER 4

THE CENTRALITY OF EDUCATION

Education tied together the ideological strands of sustainability, scientific knowledge, and the dignity of labor. Without learning, the ideology would never be realized. The Iowa State Agricultural Society, therefore, strongly advocated that farmers educate themselves. Such education came in a variety of ways, though prominent members of the Society most conspicuously agitated for an agricultural college. Only education could provide solutions to agricultural issues, from soil fertility to the social equality and dignity of farming as a profession, the Society looked to education. By not improving the stock of their knowledge, it held, farmers failed to improve themselves and their farms. Without education agriculture could not become more productive, more efficient, or more elegant, and consequently farmers would continue to be professionals less well regarded than lawyers, doctors, and ministers. As J. M. Shaffer said in an address in 1864, "prejudices must be overcome—obstacles in the way of progress must be broken down—the public mind must be educated thoroughly, before you shall see the golden dreams of the believer realized in the masses of the people."[197]

For such education the Society suggested several avenues, including farmers' clubs organized in townships, with fairs at that level in addition to the county and state agricultural societies; correspondence with the United States Department of Agriculture, other farmers' clubs, and county and state agricultural societies; the exchange of agricultural publications through; and encouraging children to attend the farmers' club meetings; experimental farms constituted another

[197] J. M. Shaffer, "Address to the Wool Growers of South-Eastern Iowa," in *Report of the Secretary of the Iowa State Agricultural Society, For the Year 1864* (Des Moines, Iowa: F. W. Palmer, State Printer, 1865), 171. Hereafter the annual reports of the Iowa State Agricultural Society will be cited as I.S.A.S.R.

suggestion; and one essayist wrote asked rhetorically, "Who would dispense with our common schools, and rely entirely on a few colleges, to impart knowledge to the rising generation?"[198] The Society frequently spoke on the importance of education in general – in short, "It is the power of mind that makes the improvements in Agriculture."[199] However, for a specific institution to educate the children of farmers and mechanics in the improving methods of scientific agriculture and a scientific approach to agriculture, instilling a sense of dignity in their labor along the way, the Society turned specifically to the Iowa State Agricultural College and Model Farm, created by an act of the Iowa General Assembly in 1858.

Several contributors to the Society's reports indicated that the poor agricultural methods, pointed to in Chapter 2, resulted from a lack of knowledge or education. J. M. Shaffer wrote in 1865, "More light is required as to fertilizing, subsoiling, under draining, surface draining, and on all the appliances and practices which force from the soil a more generous crop than can be obtained by methods deduced from experience only."[200] The writer of that year's report for Story County agreed that "Agriculture is in a backward state, and but few of the improvements of recent years are known to the masses of the farmers," and hoped that the state's new agricultural college could "exert a very favorable influence on all branches of productive industry."[201] A particularly "unfavorable season for farming, resulting in the almost entire failure of the wheat and oats crop," could elicit more favorable opinions of agricultural education among ordinary farmers, John C. Hogin wrote from Keokuk County.[202] The "unfavorable season" that year, he stated, did "much toward convincing the farmers that a thorough knowledge of their business is neces-

[198] On farmers' clubs and common schools see H. G. Neal, "Agricultural Education—What Is It and How Shall It Be Obtained?" in I.S.A.S.R., *1864*, 182-183. On experimental farmers see "Wanted—An Experimental Farm," in I.S.A.S.R., *1857*, 115.
[199] Suel Foster, "Agricultural Colleges and Schools," in I.S.A.S.R., *1863*, 258.
[200] J. M. Shaffer, "Secretary's Report," in I.S.A.S.R., *1865*, 8.
[201] John Scott, "Story County," in I.S.A.S.R., *1865*, 518.
[202] John C. Hogin, "Keokuk," in I.S.A.S.R., *1858*, 294.

sary to success; that a farmer should be educated for his business, as much as a lawyer or a physician."[203]

Like the practices of law and medicine, the practice of agriculture did not constitute a natural calling at which anyone could labor and achieve the same results as anyone else. Farming required training. Eber Stone reflected in 1865, "The professions require schooling, and the trades apprenticeships. Are men natural farmers? Far from it. They need instruction to wisely direct the hand of willing toil."[204] Agricultural education, Melendy said, was even more important since a large (and growing) population labored in agricultural work. "The time … is peculiarly favorable for the increase and diffusion of agricultural knowledge. The growth of our population requires it," he explained. "Practical men are anxious to receive instruction—scientific men are eager to impart what they already know, and to make still further researches for the purpose of clearing up what is yet but imperfectly understood."[205] The prevalence of unimproved agricultural practices also made agricultural education important. Holding that unlearning errors is more difficult than learning the proper way to labor, H. G. Neal wrote that "correct information" should be diffused "among farmers *generally*, if we expect soon to revolutionize our present slovenly and wasteful mode of farming."[206]

Contemporary modes of education helped little, the Society believed. Scientific discovery did not depend on a degree from one of the literary colleges that dispensed classical education to its students in the same way that colleges had for centuries, Suel Foster wrote in 1863,

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[203] Ibid. Similarly, in 1863 Norman Hamilton wrote that in Clayton County the "great want" was "knowledge of our business—brains to direct our labors, skill, science, fact and the using of our reasoning faculties concerning *our* 'Department of Agriculture.'" Norman Hamilton, "Clayton," in I.S.A.S.R., *1863*, 371. To provide an example for a specific area of knowledge important for a farm, Lee County reported in 1860 that "a want of the proper knowledge of the treatment necessary to grow the plant successfully" led to the failure of efforts to cultivate hedges. "Lee," in I.S.A.S.R., *1860*, 389. H. W. Briggs came to a similar conclusion about sorghum and knowledge related to cultivating and refining it. See H. W. Briggs, "Davis," in I.S.A.S.R., *1858*, 237.

[204] Eber Stone, "Reflections," in I.S.A.S.R., *1865*, 273.

[205] J. M. Shaffer, "September Meeting," in I.S.A.S.R., *1865*, 39.

[206] H. G. Neal, "Agricultural Education—What Is It and How Shall It Be Obtained?" in I.S.A.S.R., *1864*, 182.

pointing to several examples of scientists who had not attended college. "Hugh Miller, the great geologist, was a stone cutter. Dr. Livingstone, who has lately opened to the world the interior of Africa, was a poor weaver…. Franklin, Burritt, and a host of men in our own country, of great original mind and thought, came up without the advantage of a classic education. Body and mind are so intimately connected, that when the body is feeble, the ambition of the mind is impaired."[207] Further, practical education in the United States lagged behind that in Europe; "While we Americans are very apt to take up all improvements and advances of civilization, we have been slow to adopt agricultural education, while nearly all the nations of Europe have established such institutions."[208] Just like the practical education required by other professions, however, agriculturists should learn about theirs rather than receiving "a limited education in the common, very common school," as D. P. Holloway said. He went on, "Education of the right kind is as essential to the agriculturist as it is to any other profession or avocation in life; and until this education is acquired, the farmers of this country will not occupy the high position they ought to occupy in securing the common prosperity of all, and our free institutions."[209] Public institutions of agricultural education had some precedent. Suel Foster argued that those who argued against government assistance for "individuals in their occupations and education … forget that the sixteenth section in every township was granted for the beginning of our education; and this College grant [the Morrill Act] is only a step further in advance for the same kind of education;" further, individuals received a great deal of support from the government, "such as the securing of copy-rights, and patent rights, and even to carry letters, papers and messages, and many

[207] Foster, "Agricultural Colleges and Schools," in I.S.A.S.R., *1863*, 257.
[208] Ibid., 247.
[209] D. P. Holloway, "Speech of D. P. Holloway, Before the Iowa State Fair, Held at Fairfield, Iowa, on the Tenth of October, 1855," in I.S.A.S.R., *1855*, 36.

other things and property, from one individual to another,—quite as much of an individual or private business as to grant lands for the schools."[210]

Above all, the cause of agricultural education constituted a concern for the future. As future farmers, farm boys should receive advice early, C. Augustus Haviland wrote. They "are the ones who are soon to take [their] fathers' places, to manage the farm, and become in fact the dependence of the nation. It is necessary, therefore, that [they] should start right; and if you start right there is very little danger but that you will in the end come out right."[211] Yet the future had potential already. Peter Melendy stated in his address to the fair one year that, although "The proper education of the yeomanry has been neglected," "experimental agriculture has been, in general discouraged," and the United States lacked attempts to improve "the method of culture, until of late, while the other important classes of the community special associations have been created," interest in agricultural education had increased.[212] Melendy was "glad to announce to-day that our General Government, and the public mind, have been awakened, and the establishment of Agricultural Colleges, in many of the States, is a manifestation of the interest now felt upon the subject, the influence of which will produce incalculable good," which included the encouragement of "both practical ingenuity and scientific zeal to exert themselves in this most valuable branch of National and State industry."[213]

Materially, the Society expected an agricultural college to lead to the improvement of agriculture and, from there, abundant productions on a regular, sustained basis. Knowledge and experimentation provided a basis for improvement. Writing for the Cedar Valley District Agricultural Society, Peter Melendy took "advancement … in the improvement of field culture, the

[210] Foster, "Agricultural Colleges and Schools," in I.S.A.S.R., *1863*, 253.
[211] C. Augustus Haviland, "Words to Boys," in I.S.A.S.R., *1864*, 193.
[212] Shaffer, "September Meeting," in I.S.A.S.R., *1865*, 38.
[213] Ibid.

introduction of new agricultural implements, and in the several kinds of stock, the orchard and the garden" as a sign that "There is evidently an increasing tendency in the minds of our farmers to read, investigate and make experiments."[214] Thomas Wardall, who penned an essay on grass cultivation, took Melendy's observations one step farther. Since improvements result from experiments, he wrote, everyone should undertake agricultural experiments. He challenged his readers, "as nearly all improvements are the result of experiments, let none fear or spare the necessary expense of such experiments with the grasses, as his particular locality and soil may seem to indicate as being necessary to success, that he may add something to the common stock of facts, which this age demands, and which may soonest be expected as a result of the combined efforts of the many."[215]

A few writers even speculated about the specific returns on agricultural education. In one address at the fair George G. Wright took stock of the United States Census returns from 1850 and 1860. "Statistics show a decennial increase from 1850 to 1860 of about 70 per cent. in wheat, over 40 in corn and hay, in slaughtered animals over 90, in fruit more than 150, and all other products in as large proportions," he noted. "And yet this astonishing advance will be greatly accelerated as agricultural knowledge becomes more generally diffused, as we multiply labor saving machines and learn more of the different properties of the soil."[216] If Wright offered farmers the macroeconomic view, Suel Foster put the results of agricultural improvement through education into microeconomic terms and explained the benefit for an individual household. Foster assumed that a farmer aged 60 years, who "has been learning all his life," could "have added ten per cent. more to the income of his farm, by the stock of knowledge he has at 60. It is only a small farmer who produces but $500 worth in a year, for his family, taxes and

[214] Peter Melendy, "Cedar Valley District," in I.S.A.S.R., *1863*, 359-360.
[215] Thomas Wardall, "The Grasses," in I.S.A.S.R., *1863*, 311.
[216] C. Childs, "History of the Fair," in I.S.A.S.R., *1861-2*, 178.

improvements of farm; ten percent. added to this would, in 40 years of his farming, amount to $4,000, if put to a moderate interest!"[217] Naturally, then, "the young farmer" should remain at "The farm and common school until he is 17; one year at a high school, [and] two or three years at our Agricultural College."[218] D. W. Kauffman summarized these expectations. "Increased interest will increase enquiry, and a people enquiring after useful knowledge, to be put into practice, will reap an abundant harvest and obtain a rich reward," he explained.[219]

The Society expected a few other social and economic benefits (to say nothing of the public benefits, which will be discussed later in this chapter) to accrue from a system of agricultural education. Peter Melendy wanted to instill agricultural education for the sake of improving farmers' home environments; agricultural education would increase the homestead's domesticity, he said. It would "serve to awaken in the breast of the agriculturist a love for his prairie home, amid lowing herds and downy flocks, prancing steeds, waving harvests and golden fruits. May every farmer make home more attractive—every homestead should be a paradise, a bower of beauty and happiness."[220] He continued, extolling the farm's landscape in poetic language.

Agricultural colleges also would lead to more sustainable land use, mentioned in Chapter 2 as a cause of great concern for the Society. The economic profits from improvements, in other words, would not arrive at the expense of the land's ability to keep delivering those profits. Soil fertility would remain intact or even improve. In 1863 Suel Foster conservatively estimated the results the agricultural college's effects on agricultural methods. Farming would not be perfected, despite colleges' efforts, he wrote. However, he said, "we expect its tendencies will be good, and that it will lead the students to improve much of their and our carelessness, slovenish, skim-

[217] Foster, "Agricultural Colleges and Schools," in I.S.A.S.R., *1863*, 252.
[218] Ibid.
[219] D. W. Kauffman, "Van Buren," in I.S.A.S.R., *1857*, 420.
[220] Shaffer, "September Meeting," in I.S.A.S.R., *1865*, 43.

ming, wasteful modes of farming."[221] Another frequent contributor to the Society's literature, W. Duane Wilson, offered much the same opinion that same year, and pointed to agricultural education as the remedy for the intoxicating effects of abundant yields with little effort. His explanation is long, but lucid:

> Many persons conceive that the art of husbandry for the most part, consists in restoring, or creating, fertility, which in new lands is the gift of nature. But the fact is, that fertility, without good management, like a savage in power, and subject to no civilized regulation, as often exerts itself mischievously and profitably. It frequently ruins by desultory and misapplied operation. Weeds, and other worthless products, are its offspring. These, in many cases, might be prevented, destroyed, or converted into benefits, with well directed systems, and affords to us another proof of the indispensableness of *educating* the farmer in his own calling.[222]

In the Society's view, agricultural education should embrace many areas of knowledge. This view is complicated by the fact that H. G. Neal was correct when he observed that the definition of agricultural education was not well articulated, that one person might use it and three others would agree even though they did not have "any idea of agricultural education other than that established in colleges established for that purpose."[223] However, the Society's reports provide a guide as to what "agricultural education" meant.

More than anything else, education – including agricultural education – dealt with broadening the mind, conditioning it to think scientifically. Such had always been the aim of education in literary colleges that used a classical education, agricultural education offered an innovation in that, with its attention to the application of learning, it combined the education of the mind with the education of the body. This model was more effective, W. Duane Wilson wrote, and should have come earlier: "We ought, long ago, to have remembered, that even a tad-pole confined in darkness will never become a frog; and that an infant, deprived of light, will become

[221] Foster, "Agricultural Colleges and Schools," in I.S.A.S.R., *1863*, 251.
[222] W. Duane Wilson, "Agricultural Education," in I.S.A.S.R., *1863*, 99-100.
[223] Neal, "Agricultural Education" in I.S.A.S.R., *1864*, 181.

a deformed idiot."[224] Wilson defined education very broadly. "Taken in its most comprehensive sense," he said, "it has a latitude of signification that aims at all possible perfection in whatever business we undertake. It may be defined as useful knowledge—practical training—culture—growth—discipline—learning to think—learning to act—educing, or development of mind or body, or both—fitting one for the business of life, &c."[225] One of the most limiting definitions of agricultural education – Neal's – still allowed a broad approach, considering the Society's holding that agriculture bore upon all other areas of life and provided them with an essential foundation. He wrote that "to impart an *agricultural* education to our children is to enlighten their understandings and form such habits as will fit them to become intelligent agriculturists."[226]

In fact, the Society may even have opposed a narrow view of agricultural education. Suel Foster wrote that "keep[ing] farm accounts" did not require a collegiate course of study.[227] College education had a greater value than that. "We do not expect that any system of education is solely for the purpose of learning any particular art or occupation, but it is also for the improvement of the mind, and storing it with knowledge. Knowledge is power, and I am sorry to say that the farmers lack both knowledge and power."[228] Indeed, according to Peter Melendy, agricultural education was concerned with the individuals who would attend them rather than just the ones who would attend for a while and return to their agricultural labors. He said in 1865 that agricultural colleges were "an enterprise that looks to the liberal education of the largest body, and associates it with the most influential, powerful, independent and wealthy combination on the face of the earth," whose aim was "to educate each and every one so that he can apply the knowledge which he has acquired to some valuable purpose, and thus be enabled to follow with pleasure and

[224] Wilson, "Agricultural Education," in I.S.A.S.R., *1863*, 96.
[225] Ibid.
[226] Neal, "Agricultural Education," in I.S.A.S.R., *1864*, 182. Emphasis in original.
[227] Foster, "Agricultural Colleges and Schools," in I.S.A.S.R., *1863*, 251.
[228] Ibid.

profit the avocation he may choose. We should so educate the rising generation in the application of science to husbandry as to impart an interest and delight in the profession which no eloquence in the lecturer could do, and serve to awaken in the breast of the agriculturist a love for his prairie home, amid lowing herds and downy flocks, prancing steeds, waving harvests and golden fruits."[229] The Society's reports also indicate an overt desire to add to education as it was imparted in the mid-nineteenth century, not to refocus it entirely. The kind of education advocated by the Society for farmers "differs but little from the proper education of any other man," wrote our essayist for the *Country Gentleman*. "But we must have a farm-observatory, an experiment station of the proper kind, before we can hope to shed that light on Agriculture, and extend that aid to the farmers, of which they are now most in need," in addition to a traditional liberal or classical education.[230]

A few contexts did mention specific courses of study, although those courses were very diverse. In 1863 W. Duane Wilson articulated the virtues and expansive potential of a person who studied many disciplines: he would be an agent of progress. He wrote on this point at length, suggesting that any course of study was appropriate, as long as the objective remained to eradicate opposition to progress:

> If he study the fine arts, such as Architecture, Gardening, Painting, Sculpture, Music Poetry, Romance, &c., he must be self-reliant and investigative, creating new forms of beauty, inspiring new strains of melody, and spreading his wing of fancy above the brightest cloud in the highest heaven of invention. If he study the pure mathematics, as Arithmetic and Geometry, or the Physical Mathematics, as Mechanics, Pneumatics, Astronomy, &c., he must search for the key to all calculation, unravel the intricacies of the most knotty problem, discover the path to fresh discoveries, and cease to smatter where Nature cheerily cries, 'Come on!' Or in Ethics, as Moral Philosophy or the laws of Nature and Nations, let him push his pathway until he discovers the lowest stratum at the foundation of, or the highest impulse to, all true morality—collecting, in every case, the scattered rays

[229] Shaffer, "September Meeting," in I.S.A.S.R., *1865*, 42-43.
[230] "Wanted—An Experimental Farm," in I.S.A.S.R., *1857*, 117.

> of the burning orb within, and pouring their focal power with melting heat, upon the very centre of attack. If nature abhors a vacuum, her hatred for stagnant fogyism is just as intense and hearty. She herself never rests.[231]

Some members of the Society even feared that the progress of farmers in other states would threaten those in Iowa if an institution such as the agricultural college did not receive support. Suel Foster worried from Muscatine County in 1859 that, since "The spirit of agricultural education has taken hold in nearly every state[,] We must receive it, and let our sons advance in this most useful line of educated knowledge or we shall fall behind."[232] Conveniently, he wrote, creating an agricultural college only required carrying "the common school system," which even "the old fogies … would be ashamed to rebel against," "one step farther."[233]

Second, reading on a variety of subjects in a variety of media would "tend to elevate labor," Foster wrote. "Read agricultural papers, horticultural periodicals; get some books on both these subjects; read other books and newspapers, such as will give good instruction or thought, and not bad…. Lastly and firstly, read the Bible … for its most ancient history, for its very ancient and peculiar style of literature, for its high moral instruction; for its religion, because it is the religion of our country."[234]

H. G. Neal brought together several strands of thought involving science, dignity, and civics in his essay on agricultural education. Agricultural colleges would dispel "ignorance and superstition," because at the agricultural college "conjectures shall give place to facts demonstrated by a series of carefully conducted experiments."[235] If agricultural colleges could so educate their students that they became "qualified to impart instruction on the great fundamental principles there established and shall go forth to mingle with the farmers in every county and

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[231] Wilson, "Agricultural Education," in I.S.A.S.R., *1863*, 101-102.
[232] Suel Foster, "Muscatine," in I.S.A.S.R., *1859*, 351.
[233] Ibid., 351-352.
[234] Suel Foster, "How Shall We Elevate Labor?" in I.S.A.S.R., *1864*, 226.
[235] Neal, "Agricultural Education," in I.S.A.S.R., *1864*, 185.

township in the State, to communicate those truths by lectures and otherwise, to the rising generation; then we may reasonably hope to see our calling elevated to its proper place and rank among the sciences, and *that* honor bestowed upon it, which has hitherto existed principally in the imagination of the Poet and the Philosopher."[236] Finally, Neal wrote, farmers would become more involved in politics and the formulation of policy rather than largely standing on the sidelines by voting only. "The Agriculturist [will] exercise a controlling influence in the councils of our State and Nation," he hoped.[237]

One of the results looked for in an agricultural college was the addition of practice to the theory of agriculture – in other words, making it scientific by verifying through experience what theorists had already worked out. The state agricultural college, Eber Stone wrote, ought "To reduce to practice, and prove the merits or demerits of different theories, to introduce and demonstrate the comparative worth of various kinds and breeds of stock, to best the adaptability of valuable seeds and plants to our soil and climate, and ascertain the best modes of culture."[238] It should do this, he said, in addition to imparting knowledge already acquired, for "we need one that combines the advantages of both."[239] One could even argue, as W. Duane Wilson did, that the state agricultural college would exist to conduct experiments of the kind for which ordinary farmers did not have the time or resources. At an agricultural college, he wrote, "other men endure the labor and toil of perfecting the best systems, and you have only to go and avail yourself of them."[240]

As mentioned before, the Society held that scientific agriculture was necessary. Without scientific agriculture, a farmer could not even benefit from the failures caused by his inattention

[236] Ibid. Emphasis in original.
[237] Ibid.
[238] Stone, "Reflections," in I.S.A.S.R., *1865*, 272-273.
[239] Ibid., 273.
[240] Wilson, "Agricultural Education," in I.S.A.S.R., *1863*, 101.

to scientific methods: "Few horticulturists tell their own mistakes, or know all of their neighbors', and yet *failures* should be teachers—often more than successes. There can be no failure without a cause, while accident is often the parent of success. The fact in either case is worth knowing; but *the reason* is the main point. And here, the most of us grope in the dark," John A. Kennicott lamented.[241] Yet, most farmers considered their labors "a sort of hereditary art, very easy to learn, by a little practice; and all the more certain to prove profitable, the less one knows of anything else," John A. Kennicott wrote in 1860, and so "Our education does not give us the data from which reliable conclusions should start."[242] That data was important, the Society's Standing Committee on Tame Grasses said in 1865. J. M. Shaffer, chairman of the committee, wrote that farmers must "know the specific reason for every process conducted on his farm" in order to "deduct a general rule that will serve as a guide to the farmer next year or for the years following;" knowledge of those rules would "speed the day when [farmers'] calling shall be rescued from the dim and uncertain light of mere practical teaching by experience, to the mid-day lustre of scientific certainty." [243] P. F. Bartle believed that agricultural education constituted another, noble form of discovery of the world, not unlike voyages of exploration. Studying at an agricultural college, in his view, resembled rolling back a fog: "agricultural education is to the farmer a secret power by which he raises the veil that hangs over the silent, mysterious workings of Nature in the products of the soil, and by it as his compass and beacon light, he goes to his labor; he turns the furrow, sows the seed, and sits down at nightfall, with an assurance of a rich reward at harvest time."[244] If the state agricultural college succeeded in educating all or, at least, many young farmers so that they could proceed past the veil over knowledge, "then will be ush-

[241] John A. Kennicott, "Mistakes of Tree Planters," in I.S.A.S.R., *1860*, 122. Emphasis in original.
[242] Ibid.
[243] J. M. Shaffer, "Report of the Standing Committee on Tame Grasses," in I.S.A.S.R., *1865*, 134.
[244] P. F. Bartle, "Address of P. F. Bartle," in I.S.A.S.R., *1865*, 231.

ered in the farmers' millennium, with blessings and the cheering light of a brighter sun upon their broad and teeming acres."[245]

Some farmers, of course, might see agricultural education in a college setting as a bad thing, and others as a good thing. W. Duane Wilson pointed this out in his essay on the subject. He explained, "To the old plodder in husbandry, who still lives in the cabin of his ancestors, and *knows* no way but theirs, and *cares* for no other," and agricultural education suggests only "books, and learning, and schools and teachers, and windy theories; and he resolves that no such invaders shall attack *his* citadel—for has he not tilled the ground, and raised cattle, and prospered 'in the way our fathers trod?'"[246] By contrast, Wilson wrote, others thought that agricultural education was "suggestive of a new and glorious era, of progress and blessing, of a farmer's millennium, and the cheering light of a brighter sun upon their teeming acres."[247] The Mahaska County report for 1857, however, suggested that the second group Wilson described was increasing in size. John R. Needham wrote that "Farmers have learned to investigate for themselves, and are becoming more thoroughly acquainted with the science, which, above all others, interests them. Scientific farming is one of the wants of the age, and the time is not far distant, when a thorough and practical education, will be as much a part of the farmer's training, as of any other department of business."[248]

In addition to contributing so much to the Society's views on agricultural education, Wilson opened his essay on the subject with a lengthy discourse in which he held that the use of experimentation to investigate nature – or, as he put it, "that the human mind is seeking to burst the bonds which have confined it, invading every field, turning every leaf, and setting no bounds to

[245] Ibid., 232.
[246] Wilson, "Agricultural Education," in I.S.A.S.R., *1863*, 96. Emphasis in original.
[247] Ibid. The reader will notice the similarity between Wilson's remarks and those of Bartle, delivered two years later.
[248] John R. Needham, "Mahaska," in I.S.A.S.R., *1857*, 351.

its daring enquiries—recounts the grandeur of nature, interrogates pertinaciously touching its creation, demands the secret of the formation of the atmosphere, the light, the mountains, the animals, and the plants" – was the greatest aspect of the mid-nineteenth century.[249] By conducting experiments, he wrote, "The temple of *Truth* is illuminating her walls, and about her altar innumerable votaries are bending. *Nature* is unfolding her beautiful proportions, and we look on amazed at her hidden wisdom. The chemist in his laboratory is beguiling the secrets from her breast, and the sage in his study cries "Eureka" with the overjoyed Grecian."[250]

Scientific agriculture would also increase farmers' dignity as a profession. As John F. Dillon told the Union Agricultural Society in 1864, "Nothing tends more … to elevate and dignify and render profitable the agricultural calling" than "a design and desire to profit by each other's knowledge and experience, to learn, to improve and to excel."[251] Although he directed his remarks toward the fair at which he spoke the state agricultural college, as a more ongoing institution designed to disseminate such knowledge and experience, encapsulates his meaning. Another speaker before a district agricultural society found that "productive labor is esteemed honorable where a community is aroused to the worth of practical education for man with his varied want."[252] Because of this correlation he argued for an investment in colleges of agriculture similar to the extensive support given by European governments.

To the extent that agricultural education could be found in the United States, it tended to lend dignity to labor. The faculty of such colleges, Suel Foster wrote, would be "a class of men who will have no superior in 'self-respect' and in the respect of the world," and the colleges would require all their students to labor "for health, for economy, for instruction, and to make

[249] Wilson, "Agricultural Education," in I.S.A.S.R., *1863*, 95.
[250] Ibid. Emphasis in original.
[251] John F. Dillon, "Agricultural Address," in I.S.A.S.R., *1864*, 120.
[252] J. B. Grinnell, "An Address, Delivered Before the Cedar Valley Agricultural and Mechanical Association, September 16, 1869 [1859], by Honorable J. B. Grinnell, of Grinnell, Iowa," in I.S.A.S.R., *1859*, 154.

labor respected, for second only to our religion in sacredness is that of labor, for it is our earthy existence."[253] Foster had made substantially the same point in his essay on agricultural education from the previous year; that text, however, strikes at the civic implications of dignity. He wrote about his visit a few years previously to Pennsylvania's agricultural college, and noticed that all students, regardless of urban or rural, wealthy or poor origin, were required to work. He praised that arrangement since, the dignity of labor did not involve mere esteem, but entailed equality.[254] Thus, agricultural colleges could function as a social and political leveler. Such leveling brought society and politics more into line with Foster's ideal – a society and system of politics in which "Labor *educated* and labor *respected* [was] one of the chief corner-stones of our Nation, our State, our Churches, our schools, our family education, and our family religion, for it is, in fact, the broad foundation upon which all these institutions rest," and that foundation "must be better polished by education."[255]

Finally, proposals for agricultural reform touched on the civic world of public affairs and politics just as they improved agriculture to make its productions more efficient and made it more scientific to do so and to elevate it in the eyes of non-farmers. Agricultural colleges, by requiring all students to work, would make their students healthy – healthier than traditional colleges whose curriculum did not require practical application outdoors. Foster explained that, "while the ordinary course of a classic education *ruins [health]!*... There is no exercise that so thoroughly brings every bone, sinew and muscle into good, healthful exercise as the cultivation of the earth."[256] Indeed, even if students ended up pursuing some way of life other than agriculture, they still reaped the moderating benefits of having labored at the agricultural college. "The

[253] Foster, "How Shall We Elevate Labor?" in I.S.A.S.R., *1864*, 224-225.
[254] Foster, "Agricultural Colleges and Schools," in I.S.A.S.R., *1863*, 256-257.
[255] Foster, "How Shall We Elevate Labor?" in I.S.A.S.R., *1864*, 225. Emphasis in original.
[256] Foster, "Agricultural Colleges and Schools," in I.S.A.S.R., *1863*, 256.

tendency of the study is good and only good," Foster explained, even "If [the farmer's son] wishes to become a doctor, lawyer, merchant or mechanic, [for] this knowledge of agriculture will be with him throughout life, and instead of going through life without a star of hope in his declining years—recklessly on to a dissipated, premature grave,--he will have the love of the farm and seek its peaceful retirement. Such an education would restrain many a man from thoughtless dissipation."[257]

The moderation inherent in an agricultural education would not benefit only the recipient, however. Foster also expected an agricultural college to create virtuous people – virtuous in the older sense of sacrificing one's own welfare to the needs of the public of which one was a member. Foster wrote that, since "the art of agriculture is the basis of all other arts," he had thought "Before the great wear of the rebellion … that if I should devise a plan to make a nation of great men, a people of industry, frugality, health, independence, great resources of war, and yet capable of living in peace with all the world, and therefore to stand for ages, I would establish an Agricultural School" in every county of every state.[258] Foster's connection between agriculture and a peaceful society made agricultural education a civic act, and a proactive one at that. J. B. Grinnell said in 1859 that "It becomes a duty to seek a *broad and liberal culture* and CREATE A SENTIMENT WHICH WILL DIGNIFY LABOR…. The power of a people lies in its mind…. A people with generous culture will be forewarned to danger to their institutions and strike at the evils which threaten, rather than be thrown into a frenzy by passionate and mercenary appeals…. We are moulding institutions, rather than founding, where there is none; and they should be such that 'heaven will look down to see.'"[259]

[257] Ibid., 252-253. Emphasis in original.
[258] Ibid., 247.
[259] Grinnell, "An Address, …," in I.S.A.S.R., *1859*, 153. Emphasis in original.

The civic aspects of agricultural education might have real effects, the Society believed. To return to Suel Foster's instructive essay from 1863, it was conceivable that a system of agricultural education throughout the United States of the kind for which President George Washington appealed in his Farewell Address may have prevented "*this anti-republican and suicidal rebellion*," though he may have used the rhetoric more to make his point than out of truth. In any case, agricultural education that incorporated civic, public-minded learning would lead farmers to join the political class of Americans, and participate more in public affairs. In his "Reflections," Eber Stone's patience had reached its end. "Long enough has ["the hand of instructed labor"] stood on the back-ground of society without assuming the dignity and importance his calling deserves; long enough has he reverently stepped in the beaten foot-paths of ancestry without looking on this side or that, for a shorter or safer road to success."[260] Now, however, in 1865, "A liberal government and educated toil are fast allowing him that time for repose and study, so long denied him, yet so essential to health of body and vigor of mind, and he still accomplishes the same great purpose."[261]

Institutions of education could act as the Society's agents and provide a home for its view of the world, implementing the multi-dimensional ideology that guided the Society as it drummed up support for the scientific improvement of agriculture and offered solutions to the challenges that farmers faced as they cultivated the earth. The Society sought to institutionalize and perpetuate its activities through a variety of activities and institutions, such as state and county agricultural fairs, farmers' clubs created at the township level, the distribution of patent

[260] Stone, "Reflections," in I.S.A.S.R., *1865*, 274.
[261] Ibid.

office seeds, agricultural periodicals and books, the state geological survey, and the United States Department of Agriculture. One of the most enduring of those, and of particular interest to this thesis, is the Iowa State Agricultural College and Model Farm, whose leaders have since its inception constantly re-articulated and reframed the College's mission. As it is an ongoing public institution, enrolling more than 30,000 students annually, the earliest expressions of the mission of the Iowa State University of Science and Technology, which was supposed to improve agriculture scientifically, elevate the dignity of agricultural labor, and bring ordinary farmers into public life, forms the subject matter of the next chapter.

The Iowa State Agricultural College most unified the strands of the Society's ideology and worked year-round on its behalf through its instruction of young minds not previously steeped in unsustainable, unscientific, and undignified agricultural practices and through the experimentation on its model farm. It is the brightest star in the constellation in which the Society took an interest in order to reify its message. Created in 1858 by an act of the Iowa General Assembly and given the lands donated by the Morrill Act of 1862 a few years later, the College did not officially open for instruction until 1869. But this thesis only studies the period up to 1865, since the College's Board of Trustees operated the model farm as a rental farm with the aim of accumulating an endowment sufficiently large to provide the College's operating revenues, making it independent of state funds except for the construction of buildings. Since the College was so operated during the time period of interest – since really it existed only as a concept – we can engage its ideas without having to worry about details of the College's management.

That said, this thesis would be remiss if it left unconsidered the other vehicles or mechanisms of agricultural education that the agricultural societies of Iowa supported in the mid-nineteenth century, so the next chapter deals with those that were not the College – fairs, agricul-

tural periodicals, Patent Office seeds, farmers' clubs, the United States Department of Agriculture, and the State of Iowa's geological survey. All these organizations worked to educate and to encourage farmers' self-education, and therefore they all drew on the Society's mutually supporting ideological threads.

CHAPTER 5

THE PLOWSHARES OF CHANGE

The Iowa State Agricultural Society could not rely solely upon its annual reports to push its vision of agricultural improvement and fidelity to the land's natural resources forward. That required a set of institutions that could draw people in by spurring their interest and offering certain enticements. Each of these institutions served a different function, but all drove at the same thing: they brought farmers together, allowed them to share their experiences and discoveries, and by their work fostered the ideology held by the Iowa State Agricultural society and others like it. Fairs provided a once-yearly opportunity for the best farmers to display their products and for visitors to take in as many experiences as there were visitors. Agricultural periodicals offered farmers a way to stay in touch with developments throughout the year. Seeds distributed by the Patent Office and, later, the United States Department of Agriculture, allowed them to experiment with crops and crop varieties they might not have otherwise encountered or acquired, testing their viability in the Iowa soils and climate. Farmers' clubs organized on the township level fostered collaboration with neighbors in addition to farmers from elsewhere in the county or state and ensured that any farmer, no matter his circumstances or location, could keep up with the ideas of agricultural improvement, even if he could not attend a county or state agricultural society meeting. Finally, the geological survey commissioned by the State of Iowa held as its object the analysis of the soils within the state, so that farmers could decide what crops to plant, where.

I. Fairs

Agricultural societies in the mid-nineteenth century were most visible at their annual fairs, which drew exhibitors and spectators from across their regions. Other mechanisms of agricultural education aside, fairs occupy a significant place in this analysis because they so fully communicate agricultural societies' objectives. The success of the fair often measured or even constituted the success of the fair's sponsoring agricultural society. In 1859, for example, William T. Lowrey of Lee County judged "from the interest which our farmers and citizens generally have manifested in the county Fairs, and the success which attended our last Fair," in spite of recent crop failures and economic depression, that "we have great reason to believe that the organization is working much good for the agricultural interests of our county."[262] Similarly, the Des Moines County Agricultural Society hoped that a successful fair would follow increased interest in their society: "The farmers and mechanics in this county are beginning to manifest a decided interest in the Society, and we hope to be able to present a report of the best fair held in Iowa," George H. Lane explained.[263]

Further, by holding the annual fair at a permanent location purchased by the society, it could help stabilize itself during the volatile late 1850s and early 1860s. The Dubuque County Agricultural Society perceived that "we have accomplished more than in any former years since our organization, by fitting up permanent Fair grounds, thus placing our Society in a position to offer larger premiums, and thereby make our Fairs more interesting and attractive than they have

[262] William T. Lowrey, "Lee," in *Sixth Annual Report of the Iowa State Agricultural Society, to the General Assembly, For the Year 1859* (Des Moines, Iowa: John Teesdale, State Printer, 1860), 294. Hereafter the annual reports of the Iowa State Agricultural Society will be cited as I.S.A.S.R.
[263] George H. Lane, "Des Moines," in I.S.A.S.R., *1859*, 228.

been heretofore."[264] Floyd County concurred, and explained the logistical problems associated with a rotating fair location: "To obtain the use of several rooms or buildings, as is sometimes necessary, to have live stock in one place, the driving elsewhere, agricultural implements perhaps in another, increases labor, detracts from the interest, and lessens the receipts."[265]

Fairs served a variety of purposes, all of which closely follow the ideology of agricultural societies at midcentury. They existed to provide visitors with information, to provide them with a forum to exchange information, to encourage a scientific approach to the progress that agricultural improvement would bring as opposed to provincial prejudices, and to make farmers aware of their rightful, equal place in the American political system. Indeed, annual fairs "serve as a stimulus to renewed energy and persevering action," their "effects … upon the minds of the people … hav[ing] been highly beneficial to the cause of agricultural improvement," as L.C. Sanders of Boone County elegantly put it.[266] Agricultural societies expected the backward agricultural conditions that distressed them, discussed in Chapter 2, to improve with farmers' involvement in their county and state societies' fairs. M. B. Taylor of Chickasaw County lamented in 1860 that "There are very few scientific or thorough-going farmers among us, as yet. The larger class have thought it best to devote all their energies to increasing the number of acres cultivated, rather than to endeavoring to increase the quality and quantity of the products of any particular number of acres by scientific agriculture."[267] He remained hopeful, however, "that the stimulus of an agricultural competing society in our midst, may do much to correct this evil," since it would teach "the lesson so hard to learn—namely, that the quality and quantity of the product of an acre

[264] E. R. Shankland, "Dubuque," in I.S.A.S.R., *1863*, 380.
[265] J. W. Smith, "Floyd," in I.S.A.S.R., *1863*, 391.
[266] L. C. Sanders, "Boone," in I.S.A.S.R., *1858*, 209.
[267] M. B. Taylor, "Chickasaw," in I.S.A.S.R., *1860*, 358.

well tilled is, in every respect, of more consequence to the farmer than the number of acres out of whose bowels an unwilling tribute is yearly wrung."[268]

Officially, the Iowa State Agricultural Society characterized its fairs as a lofty pursuit. George G. Wright, president of the Society, said in 1863 that the fair's exhibitors and visitors "assembled … to improve and be improved—to pass a week in agreeable and pleasant social enjoyment, to receive renewed evidence of the kindness and hospitality of friends, and, above all, to assist in the great work of building up and sustaining the diversified industrial interest of our State."[269] The next year, he said, "We are here for high, practical purposes."[270] To achieve those purposes, he went on, the fair should be viewed as an educational forum. Wright asked that his "fellow citizens … accept this Fair as a school" in his address at the state society's fair in 1864.[271] He implored and challenged them not to view the exhibits "thoughtlessly, carelessly, or indifferently" or with "idle curiosity, but as rational, inquiring beings."[272] They should discuss with their "neighbors and friends the merits and demerits of" the sights, for they "are here to compare views and learn, and you ought to actively improve the time allowed you."[273] They should attend the public discussions held in the evenings and "present your experiences upon all those subjects which are so intimately connected with your welfare and prosperity as farmers; in a word, omit no opportunity or means for improvement."[274]

Two county agricultural societies also explained the fair-as-education perspective at length. Like Wright, John R. Needham of Mahaska County and J. M. Shaffer of Jefferson County framed the significance of their fairs in terms of their educational, improvement value rather

[268] Ibid.
[269] "Proceedings of the Board of Directors," in I.S.A.S.R., *1863*, 20-21.
[270] George G. Wright, "Judge Wright's Address," in I.S.A.S.R., *1864*, 257.
[271] Ibid., 261.
[272] Ibid.
[273] Ibid.
[274] Ibid., 261-262.

than the monetary value of the knowledge imparted to their attendees or of the premiums received by the best exhibitors. Clearly, the view of the fair as an educational institution fundamentally valued the process of education – scientific inquiry and experimentation, farmers' exchange of ideas among themselves, and the resultant broadening of ordinary farmers' perspective – as a necessary step to any final result. Needham explained in 1857 that fairs "have caused many producers to investigate for themselves; and have been the great inducement to emulation among those engaged in farming and stock raising. The consequence is, that great improvement have been made in nearly every department of agricultural operations."[275] The improvement he described was as much intellectual as physical: "Scores of individuals who were plodding along in the imperfect mode, taught them by their fathers, have now come to the knowledge, that, with a given amount of labor, judiciously expended, they can produce much more than they could under the old system. They have learned that farming is as susceptible of improvement as any other department of industry, and that for the tiller of the soil to become scientific, in his branch of business, is the shortest way to wealth and prosperity."[276] At this point, fairs enter Needham's assessment. He concluded that "Nothing, perhaps, more vividly impresses this on the mind, than the comparisons that are made at agricultural fairs, where the best modes of tilling the soil are learned, and where every improvement of a valuable character is sure to be brought to light."[277]

J. M. Shaffer of Jefferson County also described the fair's educational, intellectual objectives at length. In his view, any farmer who raised "a superior animal" should show it at the fair.[278] Any who tested new varieties of seeds, "tried new methods of culture," or tinkered with "some novel machine that promised good results" and failed still ought to present their experi-

[275] John R. Needham, "Mahaska," in I.S.A.S.R., *1857*, 354.
[276] Ibid.
[277] Ibid.
[278] J. M. Shaffer, "Jefferson," in I.S.A.S.R., *1863*, 418.

ences at the fair so that "many may avoid like disaster."[279] If any "succeeded by especial tillage and toil to produce a superior crop of grain, or grass or vegetables," or devised a new farm implement, then "They should spend a day in bringing the intelligence of the one, and a sample of the other that their countrymen may be profited."[280] Further, the women in a farmer's life should also show their "useful, beautiful and comfortable" productions of "domestic and household economy."[281] Shaffer offered a thorough explanation of this all-encompassing exhortation to exhibit at the annual fair that merits full quotation:

> All should meet to make the Fair a Festival and constitute it an occasion for giving and receiving information; for bringing mind into contract with mind, and for diffusing knowledge that will add to the wealth, comfort and ease of all who receive it. A member of an Agricultural Society should, during the year, keep steadily in view the idea of teaching something valuable, and learning something that will put money in his pocket, pleasure in his heart, and thoughts in his brain, while in attendance upon the Fair. All mercenary and sordid motives must be laid aside. A county Fair should not be a place to make money directly. The small contribution made for admission to the privileges of the Society, should be regarded as a donation or as a price, if you choose, for what he shall see and learn. The premium in money is well enough; but it is the very last and least consideration which should urge an individual to become a competitor. His highest objects should be to learn and communicate with his neighbors, on these subjects of vital interest to himself.[282]

Thus do the increase of knowledge, educational fellowship, and a rejection of immediate profit become the most substantial reason for agricultural fairs' existence.

By making their fairs primarily instruments of increasing the amount of knowledge in a society and expanding the scope of that knowledge, filling in the gaps, agricultural societies made themselves engines of progress. At the fair, P. F. Bartle said, farmers and mechanics meet "upon the common ground of brotherly friendship, and in that spirit of progress that so truly

[279] Ibid., 418-419.
[280] Ibid., 419.
[281] Ibid.
[282] Ibid.

characterizes the age in which we live."[283] While in attendance they were "offered new and true evidences of the energy and resources of our country, and of the marked improvement in the scientific culture in every branch of Agriculture, deployed skill and taste in manufactures, mechanics, and the fine arts, and in every employment that tends to elevate, enrich, energize and make happy our people."[284] P. Melendy of the Cedar Valley District Agricultural Society defined Bartle's age of progress. Intense involvement in agricultural fairs, he wrote, demonstrated that "The world is moving and asserting itself; the times are pushing improvement on the very heels of improvement; men scrutinize the work of one another, and if possible, make improvement, modify, substitute, until every department of active life and labor is represented in the highest state of perfection of human genius."[285] Such movement and assertiveness could be very forceful, as when William Cook of Linn County expressed his thoughts with a certain measure of conceit and perhaps overconfidently. He held that such a large proportion of the population imbibed the spirit of progress that the proposition "That agricultural exhibitions are a benefit to communities and nations needs no argument, and there is scarcely to be found a person so ignorant and behind the age as to doubt it."[286]

The agricultural societies' annual meetings at fairs presented an opportunity to "awaken" interest in agricultural reform and improvement among ordinary farmers who would not ordinarily pursue such changes. In some writers' view, such opportunities went untaken and evaporated. For example, J. M. Chambers of Linn County observed in 1858 "that these fairs have been the source of much improvement in the various branches of industry in the county, and they are now looked upon as a thing not to be dispensed with," and his county agricultural society had done

[283] P. F. Bartle, "Address of P. F. Bartle," in I.S.A.S.R., *1865*, 229.
[284] Ibid.
[285] P. Melendy, "Cedar Valley District," in I.S.A.S.R., *1859*, 202.
[286] William Cook, "Linn," in I.S.A.S.R., *1864*, 354.

much to create "a spirit of emulation in the improvement of stock," though it provided disappointing in that "it has not received the full practical strength of which it is susceptible."[287]

Perhaps he was too harsh, or too impatient. Other writers conveyed in their county agricultural society reports their full appreciation for their fairs. In Marion County fairs encouraged discrimination on the part of the farmer: "The effect of these exhibitions, has had a tendency to cause people to feel more interested in improving the condition of their stock, and in being more particular in selecting their seeds, and to pay closer attention to farming in general."[288] A few years later, Henry C. Laub of Crawford County offered an almost identical opinion.[289] More energetically, at Cerro Gordo County's first fair "The exhibition of articles was larger than expected. The conversation of farmers, mechanics, dairymen, &c., was highly entertaining and instructive, and a spirit of emulation was kindled in the breast of every one present, and all went to their respective homes feeling that the enterprise was a fixed fact, and promising to be on hand in 1861 with improvements on the several entries of this year."[290]

The fairs' attractions, demonstrations, and opportunities for fellowship led some skeptical farmers to explore or dabble in the reforms suggested by the agricultural society that put on the fair. L. D. Morse of Wapello County reported identified "the awakening among farmers of a little more pride, interest and emulation in their calling" as "one of the most important advantages growing out of state and county fairs."[291] This assessment cannot be surprising, however, since diffusing methods of and reasons for agricultural improvement throughout the county and state would have required Iowa's agricultural societies to persuade the farmers they criticized as

[287] J. M. Chambers, "Linn," in I.S.A.S.R., *1858*, 361-362. He went on to take specific issue with the awards committee's apparent practice of not elaborating on the reasons for which an exhibitor would win a prize, instead merely declaring winners. He explained, "If these committees would write out their decisions, and the reasons for them, a vast amount of information would thereby be collected which could be disseminated with the most salutary results."
[288] George Kruck, "Marion," in I.S.A.S.R., *1857*, 364.
[289] Henry C. Laub, "Crawford," in I.S.A.S.R., *1860*, 359.
[290] J. S. Church, "Cerro Gordo," in I.S.A.S.R., *1860*, 354-355.
[291] L. D. Morse, "Wapello," in I.S.A.S.R., *1857*, 434.

backward and reluctant as a matter of course, eventually. Still, fairs themselves were an important way of overcoming prejudice and skepticism. In Harrison County, for example, "Many who had stood aloof heretofore came out and took hold with us" at the annual fair.[292]

Summarized above, agricultural societies could use their fairs to work on farmers' sympathies in a variety of ways, including demonstrations of example and offering knowledge already procured, by providing a forum for the exchange of ideas among people who might not see each other with any regularity during the rest of the year, and by creating a stage on which farmers could engage in a friendly competition with one another, thus associating agricultural improvement with pride. The first of these, simply offering knowledge, is, of course, the most obvious way to show farmers the path to improvement.

The president of the state agricultural society, George G. Wright, defined the practical, immediate purpose of the fair in his address on that occasion in 1860. In his view from the top of the organization, fairs should bring the public matter of agricultural improvement into a public space – the fair – rather than relegating to individual farmers a responsibility for which they were woefully unprepared. According to the account of the *Iowa City Republican*, which the Iowa State Agricultural Society reprinted in its annual report, he began by defining the fair in terms of what it was not, thereby dispelling the most common misconceptions about the fair. He explained that the agricultural society did not hold fairs "merely for the *distribution of premiums* nor the *show of our skill and handicraft*, nor the *healthful enjoyment* which the inspection of the articles exhibited afforded, not yet for the purpose of enjoying the hospitality which on such occasions was extended."[293] Rather, fairs existed to reify theory, to bring it into being. Wright explained that fairs should "*embody into practical, material form, the ideas* which would *else exist*

[292] "Harrison," in I.S.A.S.R., *1860*, 335.
[293] "History of the Fair," in I.S.A.S.R., *1860*, 57.

only in the minds as theories; that as practical men and women, we may derive lasting and solid advantage and instruction."[294]

He preferred that the Society, its members, and interested farmers take action rather than merely theorize ideas that lived untested or discover new scientific concepts and yet not adapt them to actual needs. Indeed, Wright held those who could hammer the raw material of ideas into the folded steel of a solution in high regard. "Mere abstract truths and theories were of little use in the world until they were wrought out into practical result, and a Fair should, therefore, be a practical work-shop; a place where facts were materialized so that they could be seen and felt and handled. He who can thus embody ideas, whether in iron or marble or upon the canvass; in the production of animals of use, or things of beauty and job, is *the man* for the times; is *King* among his fellows," he explained.[295] That is not to say that he argued that farmers should embark upon a course of agricultural improvement in order to lord it over their less foresighted or less well-off neighbors, for the very next sentence of the *Republican*'s account of his address indicates that he wanted all Iowan farmers to be kings. Those who practiced theoretical advances would be the men "for the times," and kings "among [their] fellows. … Thus our annual State Exhibitions *should* be the active agents in developing and establishing the material interests of our State."[296] In Wright's view, agricultural improvement should belong to the whole of Iowa, not select individuals.

Such reification, such opportunity for observing a better way, was a basic but necessary preliminary to farmers taking their agricultural improvement into their own hands. The *North-Western Farmer*, in its account of the fair in 1859, that capitalizing on those opportunities constituted the best use of a visitor's time. The paper explained, "We accumulate practical knowledge,

[294] Ibid.
[295] Ibid.
[296] Ibid.

to a great extent, by observation; and we cannot observe and reflect profitably upon things we have not seen. No man, and especially no woman, could spend a few hours better, in view of the good every day home life most of us try to lead, than by devoting them to an examination of the evidences and female skill and industry to be seen on such an occasion at a public fair, and particularly such a one as this."[297]

The Iowa State Agricultural Society itself explained the issue in simpler terms, driving at the ideally supplementary and complementary nature of knowledge placed on display at the fair. In 1858 the Board of Directors advised that "A correct picture of a superior animal is a good thing, and a treatise upon how to breed and rear it, is a very valuable thing—but to see and handle the animal itself and compare it with others by its side, teaches a lesson that no man can avoid profiting by and that no man will ever forget."[298] In the Board's view farmers should interact with physical manifestations of the results of theories worked through with intellectual power.

Agricultural societies may have used their fairs as a key method of distributing information to farmers, but one author's comments on the results of the exchange facilitated by fairs suggests that agricultural societies cared more *that* their fairs could give farmers ideas on how to improve their practices rather than *what* fairs could give farmers. Rather than seeking to improve only certain aspects of farming along already settled lines, agricultural societies undertook a total reformation of agriculture and deeply cared about its context, about its ideological basis and relation to the rest of the world. As Eber Stone of Humboldt County put it, the primary "interesting and beneficial feature" of the fair "is disseminating improved modes of culture; tested by studious experiment and observation, carefully gathering up the varied facts of individual ex-

[297] "History of the Fair," in I.S.A.S.R., *1859*, 71.
[298] J. H. Wallace, "Report of the Board of Directors for 1858," in I.S.A.S.R., *1858*, 6.

perience, appropriating the many available means of information in relation to farming, and a wise interchange of practical ideas, thoughts and suggestions with one another."[299] Even though agricultural societies had specific reforms in mind, then, it prized above specific recommendations those that were arrived at through honest, deliberate, and careful experimentation and consideration.

Some farmers thought of the fair itself as an experiment to be seen in action before investing themselves in its outcome by conducting experiments, raising improved breeds of cattle, and reporting their successes and failures to their fellows. John R. Needham of Mahaska County reported on the unease of farmers there in 1852. "Many of the farmers had never attended an exhibition of this kind, and they regarded an Agricultural Fair, as a novelty which they wished to see tested, before taking an active part," he explained.[300]

Fairs derived a larger share of their value from the fact that they functioned as forums for association with other farmers and the exchange of knowledge – from the fact that they were a mechanism for agricultural education – than from the fact that they provided a space to display new achievements. Value came from farmers' ability to discuss at a fair those achievements with the farmers who made them. Suel Foster of Muscatine County wrote in 1859 that "the association of men together" occurred at a fair in addition to "the exhibition of the best of useful products, stock and manufacture articles."[301] He defined that "association" as "the interchange of ideas, and advance by additional information—adding the acquired knowledge of others to that of our own."[302] His definition could only mean that, in his view, the great purpose of a fair was education. Indeed, he extolled such association in the most vivid terms. They are "the fore-

[299] Eber Stone, "Humboldt," in I.S.A.S.R., *1865*, 452.
[300] Needham, "Mahaska," in I.S.A.S.R., *1857*, 349.
[301] Suel Foster, "Muscatine," in I.S.A.S.R., *1859*, 350.
[302] Ibid.

runner and the foundation of the light of the printing press—the wonderful improvement and advance of this century, and in our present generation, the great moving power in agricultural improvement, stirring us up in the dandruff of our hair, through the cranium and the subsoil the brain down to the neck bone. It is mental culture" – education – "that is moving the world, keeping it stirred up, finely pulverized, moistened and warmed in every thought, word and deed."[303]

The state agricultural society agreed with Foster's assessment. In 1865 its secretary wrote in his contribution to the society's annual report that the significance of the fair as an opportunity for exchange, association, and interaction lay in a field far beyond the significance of any other benefit to the fair. He wrote, "There can be but one opinion as to the benefit of these agricultural meetings. They afford opportunity for an interchange of sentiment; for the examination of newly introduced implements and of improved stock; and present at a glance the average industry, skill, and thrift of the people."[304] Exchange allows one to import others' experience into his or her own analysis of his or her own problems. Fairs fostered the acquisition of a library's worth of colleagues, perspectives, and methods of approaching difficulties or problems, since no two individuals could ever have identical experiences. A person could always learn more. Dr. J. M. Shaffer explained in an address to an association of wool growers in southeastern Iowa that, in fact, individuals needed the presence of and interaction with other individuals in order to improve, to progress. He said,

> Single and individual effort, in any direction, while it may not be entirely barren of useful results, cannot accomplish what a combined display of thought, power and intelligence may achieve. A single person has his experiences, his successes, failures, trials; and they may prove a future trustworthy guide to him alone, but unimparted to others by virtue of association with them, the same experiences, costly, toilsome, and difficult, must be made by another and yet another, to arrive at correct conclusions. If on the other hand he had pointed out with care and fi-

[303] Ibid.
[304] J. M. Shaffer, "Secretary's Report," in I.S.A.S.R., *1865*, 16.

> delity, the rocks upon which is expectations were well nigh broken; if he had warned others to shun the dangers which retarded his progress, he would have become a blessing, and his experience a beacon light around him, and a guide to the generations following. No man can stand alone. His wants, his capacity for improvement, his very nature, demand certain props and supports at every stage of life.[305]

Association and exchange in the forum of a fair could empower farmers, and was as much about intellectual self-improvement as making agricultural advancements.

Agricultural societies may have believed fairs to be so valuable for the opportunities for association that they provided because, in the ordinary course of a farmers' day, he probably did not encounter many others in a way conducive to the discussion of his latest experiment with a crop, livestock, or a machine. As D. W. Kauffman of Van Buren County observed in 1857, "Farmers have but few opportunities of discussing with each other their respective plans and of interchanging sentiments, as they are necessarily scattered over the country and are somewhat isolated from each other, and it is in this that these fairs are of so much value and importance."[306]

Some writers suggested that engagement with a fair's displays and participation in the exchange of knowledge and understanding there as the criteria of a *bona fide* farmer. Insofar as agricultural societies sought to make laborious pursuits such as farming more dignified (detailed above in Chapter 3) they sought to make it a profession. Accordingly, J. B. Grinnell said in an address to a district society in 1859, farmers owed their fellow farmers professional reciprocity due to a professional interest and their own material wellbeing. "Exchange, so far from being a loss, becomes the road to improvement and wealth. The cornfield of a neighbor may have corrupted yours; and the next neighbor, with a superior variety, will take great pleasure in an exchange; and whether possessed of grains, roots or animals, will exchange and distribute with the

[305] J. M. Shaffer, "Address to the Wool Growers of South-Eastern Iowa," in I.S.A.S.R., *1864*, 158.
[306] D. W. Kauffman, "Van Buren," in I.S.A.S.R., *1857*, 420. Note that he made no mention of the experiments themselves or their outcomes. Whatever information and insights farmers exchanged and interrogated was valuable, it seems, as long as long as they exchanged and interrogated it.

same beneficent intent that the great Father of all distributes the dew and the rain," he explained.[307]

Grinnell found exchange so vital because he disputed the notion that farming was an occupation to which a people were born. Genuine, farmers he said, were not like the poets, who "are born, not made; … of farmers the converse is true—they are made, and not already born."[308] Making farmers required intellectual exchange. Farmers, he said, must think about their work and about the work of other farmers and constantly apply their minds to their labors. Exchange and participation provided the impetus and energy necessary to improve: At a fair, he said, "mind sharpeneth mind as 'iron sharpeneth iron.' Association, and comparison of views stimulate; and, as of old, we may not muse by blazing hearth-stones until drowsiness closes the long evening revery."[309] That farming should require farmers to exert their minds along with their muscles presented them with an opportunity to embark upon the path toward improvement and to confer with farmers everywhere as they decided their steps toward it. "The age invites us to heat the blood by debate and thought, and offers the privilege of comparison of views, not with our near neighbor alone, but with the most gifted and successful of our profession in all our older States, across the ocean, and in the islands of the sea," he explained.[310]

The Iowa State Agricultural Society held from the beginning of its existence that farmers' interactions with one another inevitably led to improvement and that a failure to add to the whorls of exchange constituted a rejection of their own improvement. At the second annual fair, held by the state society in 1855, D. P. Holloway stated that farmers' mere "presence here today, is to still advance in this progression—to learn from each other, by comparing your respec-

[307] J. B. Grinnell, "An Address, Delivered Before the Cedar Valley Agricultural and Mechanical Association, September 16, 1869 [*sic*], by Honorable J. B. Grinnell, of Grinnell, Iowa," in I.S.A.S.R., *1859*, 150.
[308] Ibid., 148.
[309] Ibid.
[310] Ibid.

tive theories and practices, what is the best plan of cultivation. … Thus by personal intercourse you learn from each other."[311] As a matter of course, like traveling by train to the next railway station, learning "what is the best plan of cultivation" led to the adoption of the best plan of cultivation. That same year the state society agreed with his opinion in its introduction to its annual report. Only by participating in the exhibitions, it wrote, could farmers benefit from them. Remaining a viewer would not help them. The large disparity between the number of exhibitors and the number of spectators "should not be," for "The object, the principal object of the Fair is to bring the Stock, the Productions, the Fruits, the Mechanical Skill, the artistic excellence, [the] household economy, of all parts of the State into comparison; that the advantages and disadvantages, the superiorities, and deficiencies of one part may be compared with those of another part. From this comparison results all the benefit which our Fair may produce; and if thousands come merely to look on, they cannot expect to be so profited as if themselves were competitors."[312] In other words, those who visited the fair would learn as much from others as they tried to teach others.

Agricultural societies used friendly competition to encourage the exchange of ideas at the fairs. With the promise of small monetary awards and the pride of having won a competition, perhaps farmers would be more likely to enter their crops, livestock, and machines or to write an essay on their successes or failures or to speak up during a discussion one evening. At the fair in 1865 the president of the Iowa State Agricultural Society, Peter Melendy, reiterated the interpretation of the fair as an instrument of education. "These gatherings tend to stimulate us all; to strengthen the feeble and enlighten the ignorant," he said. "May we all receive encouragement in thus assembling in our becoming pride to examine the Agricultural, Horticultural, and Me-

[311] D. P. Holloway, "Speech of D. P. Holloway, Before the Iowa State Fair, Held at Fairfield, Iowa, on the Tenth of October, 1855," in I.S.A.S.R., *1855*, 36.
[312] "Introductory," in I.S.A.S.R., *1855*, 4.

chanical productions which this bountiful year has brought forth in such unequaled abundance; to witness the rare display of domestic animals; to admire the handiwork of our noble women; to examine new inventions and improvements in machinery; to talk together and form friendships; to gather new ideas, and to ennoble the mind by inculcating the principles of taste, as shown in the floral exhibitions, and in the display of fine arts. … may the fair be eminently an occasion of thought."[313] The formation of friendships, gathering of new ideas, and ennobling of the mind resulted from "the spirit of emulation," because fairs "stimulate us, [and] excite us, to put forth our noblest efforts in developing our Nation's wealth, our State's prosperity, and our individual glory."[314]

County fairs also introduced a little competition into their fairs for the sake of advancing their educational role. In Henry County Warren C. Jones believed that fair exhibitions spurred agricultural improvement onward "By creating a just competition between producers. … Bringing into competition before an assembeled [*sic*] public, machinery, implements of husbandry, manufactures, &c., to pass the scathing ordeal of public opinion, more labor and care are bestowed upon them than there would have been had there been no exhibition. Thus, these exhibitions are beneficial, by stimulating producers to excel in their every department" and by giving them "a wholesale mode of advertising articles."[315] Competitions coupled with exhibitions forced farmers to be painfully aware of their methods as well as those of other farmers, since winning a competition naturally requires awareness of one's competitors, as a mere exhibition could not do. This brought farmers into a context larger than their own farms. Such awareness, agricultural societies believed, would encourage farmers to improve their products and methods such as crop rotations or manuring. David C. Shaw of Jackson County believed that the com-

[313] J. M. Shaffer, "September Meeting," in I.S.A.S.R., *1865*, 41-42.
[314] Ibid., 42.
[315] Warren C. Jones, "Henry," in I.S.A.S.R., *1857*, 256.

petitive aspect of a fair was what would make it so successful. He wrote, "Probably there is no course of operation causing more success in enlisting an interest, than our agricultural Fairs, which create a little strife, for the palm; therefore causes a more correct course of procedure, to prepare and be able to succeed, than would otherwise be the case."[316]

George G. Wright, president of the Iowa State Agricultural Society in the early 1860s, identified a broad range of functions the annual fair of an agricultural society should not have. Certain events should not occur so often that they detracted from the fair's primary purpose. As Wright put it, "This is not an arena for gaming of any description. This is not the place for political jugglery or partisan favoritism. It is not the occasion for indulging in personal prejudices, nor the time to accommodate friends at the expense of right and the work before us. Neither is it the time for sport—sporting scenes and hilarity alone."[317]

In that and another address Wright focused most on his view that the fair should not prioritize entertainment. Although visitors to the fair spent time with people with whom they may not have mingled in a long time, did not labor on their farms, and took in exhibitions they could not see at home, he said, "Our fairs are not holidays, or days exempt from labor within the original meaning of the term."[318] Of course, a fair did incorporate some aspects of entertainment from time to time. This frustrated George Huston, the author of an essay from 1864 on the cultivation of fall wheat. "Truth will compel the candid man to answer" that fairs did not impart the knowledge they promised, he complained. "Instead of realizing that which they expected, agricultural fairs have degenerated into 'fast horses,' 'trotting nags,' and 'fast riders,' and farmers go

[316] David C. Shaw, "Jackson," in I.S.A.S.R., *1857*, 283-284.
[317] Wright, "Judge Wright's Address," in I.S.A.S.R., *1864*, 261.
[318] Ibid., 258.

begging in other directions for the information they so much need; for we are still in the dark as to how fall wheat shall be planted so as to insure a good crop," he wrote.[319]

Wright deflected Huston's criticism in an address delivered in January 1865, his farewell address to the Society's board of directors, by maintaining his earlier position. If the fair turned into an entertainment venue, he warned, the Society would compromise the progress it had made in making farming a dignified profession. He would not, he said, for the sake of money "forfeit the good will and cordial cooperation of the moral, representative men of the State. I would acquire the necessary means by a *Fair in its legitimate* and just sense—and not by bringing into our enclosure shows, games and entertainments, demoralizing in their tendency and only calculated to divert the attention of the crowd from the higher aims and purposes of our exhibition. It is true that in this way we add *something* to our treasury—but it is at the sacrifice of the manhood and true character of our institution."[320] The pursuit of money by offering or focusing on entertainment undermined agricultural societies and the improvement they advocated in the estimation of the people they tried to help and whose support they needed.[321] By pursuing money "We do not assist in strengthening the claims of our Society upon public confidence. We do not keep it up to that standard of excellence—upon that high ground which it must occupy to achieve lasting and permanent success."[322] Wright concluded this thought by disparaging common passions and baser interests and reasons for attending the fair. "I know we cannot sustain an institution like ours, if we have to rely upon the thoughtless, inconsiderate throng, who think more of mon-

[319] George Huston, "Fall Wheat," in I.S.A.S.R., *1864*, 213.
[320] "Proceedings of January Meeting, 1865," in I.S.A.S.R., *1864*, 64-65. Emphasis in original.
[321] In 1860 the *Iowa City Republican* wrote on the necessity of farmers' involvement for a successful fair and for the advance of agricultural improvement. It asked rhetorically, "Do not our Farmers yet understand that we *can not* have Fairs which shall be full and satisfactory, unless every man feels some measure of personal responsibility in the matter? *This is so*. Let the premiums go to the dogs, if need be, but let our Farmers awake to the importance of showing every good thing they have, little or big, important or unimportant, that the public good may be consulted, and every man's interest advanced." "History of the Fair," in I.S.A.S.R., *1860*, 65-66. Emphasis in original.
[322] "Proceedings of January Meeting, 1865," in I.S.A.S.R., *1864*, 65.

keys and human and animal monstrosities than of the great moral, economical and practical lessons taught within our halls and scattered in the richest profusion over our grounds," he said.[323] Perhaps his brutal honesty reflects a personal adherence to the Society's mission to make the elitism of agricultural improvement, dignified farming, and politically involved and publicly concerned farmers available to everyone.

In addition to criticizing entertainment at the fairs, Wright sounded on a second theme as he explained what the fair should not be. Since knowledge leads to progress, he said, money-making should not occupy fairgoers' minds. Money should be present, he conceded: "Far be it from me to favor a policy which denies to a competitor a full and liberal premium upon any article exhibited. I would if possible offer such pecuniary inducements as would justify any citizen from the remotest parts of this or other states in bringing with him whatever he should esteem from his stable, orchard, shop or dairy."[324] But money should not be their motive. That, he said, must be "nobler than dollars and cents."[325] Wright offered many examples of behavior that would detract from the ennobling education that the fair should offer. Men "detract from the true interests and dignity of the occasion, and bring reproach upon the aims of those who honestly and faithfully endeavor to keep up the character and usefulness of such exhibitions," he said, insofar as they "think more of the premiums than of the honest verdict of the committee and the thinking, reflecting, watchful, learning hundreds around them, as they love to boast of the dollars carried home, rather than the conscious excellence of their exhibited articles, as they work and manage to get the paltry premium rather than to develop and bring to public scrutiny and criti-

[323] Ibid.
[324] Wright, "Judge Wright's Address," in I.S.A.S.R., *1864*, 258.
[325] Ibid.

cism, the various and many articles and their excellencies offered for exhibition."[326] He challenged farmers to adopt

> the purpose of accomplishing a practical good, to excite others to follow their example, to give to the world a credence of what may be done by genius, industry and care, to let others know that this grain is better than that, this greed of cattle or stock of horses is more profitable than another, the method of cultivation preferable to that of our neighbors, and in a word to obtain lasting benefit by seeing what others bring, showing what we have, and by a mutual, free and candid interchange of views, experience and plans, helping each other in the great work of improvement, and thus add to our social and moral happiness and progress

instead of seeking money and bragging rights.[327] Rather, exhibitors should enter the fair's "friendly field of competitions."[328]

To a certain extent, however, agricultural societies must accept the behaviors and spectacles they criticized in small doses. Properly regulated at the fair, they could be the less bad alternative to eliciting no interest among farmers in Iowa and thereby making agricultural societies irrelevant and delaying agricultural improvement. George H. Lane of Des Moines county attributed the success of the fair held by his agricultural society in 1863 "to two causes: First, abundance of money, and second, liberal advertising and extra attractions," which included a contest for boys, which required them to climb a twenty-foot-high pole with a silver watch affixed to the top, and a mule race.[329] Incorporating such affairs into the fair, he wrote, was a pragmatic move to achieve a greater good. He conceded that "there things [are] humbugs, but there is an element in the 'peoples' that demands something of this kind, and our experience teaches us that it is to our interest to afford them facilities," though he did ask for other agricultural societies' experiences with offering entertainments at their fairs.[330] James Grant of Daven-

[326] Ibid., 258-259.
[327] Ibid., 259.
[328] Ibid..
[329] George H. Lane, "Des Moines," in I.S.A.S.R., *1863*, 378.
[330] Ibid.

port believed that horse races were necessary to test the measures of different breeds of horse, not just an effective, entertaining way of drawing visitors to the fair. Speed made horses valuable, he wrote, for "The horse that can plow an acre, while another is plowing half an acre, or that can carry a load of passengers ten miles, while another is going five, independent of all considerations of amusement, haste, or what is commonly called fancy, is absolutely worth twice as much to the owner as the other."[331] Naturally, one could only observe such abilities in a race: "Speed and endurance can only be tested by trials on the race course," and so agricultural societies must "place themselves above the petty puritanical cant that horse racing is immoral in its tendencies," and host races and offer premiums accordingly.[332]

The promise of profits and monetary awards also drew potential exhibitors to the fair. Even George G. Wright recognized the necessity that the agricultural improvements shown at the fair promise higher returns than farmers' current methods. "With the pleasures of the occasion, we must not omit to make it profitable. Each one ought to determine to learn something, and thus realize and appreciate the advantages of such exhibitions," he acknowledged.[333] Similarly, the premiums offered for exhibiting the best livestock, chronicling the best success with a method of cultivation, or designing the best farming implement should be large enough to make entering the contest worthwhile. Wright took stock of reality in his farewell address, noting that "as a rule, the more money and the larger the premiums, the greater the competition and the more gratifying the success. While men ought to be, and in many instances I know are, actuated by other than merely sordid motives, yet without the money inducement we are satisfied that the gates of our fair grounds would rust upon their hinges and our halls decay from non-use."[334]

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[331] James Grant, "The Blood Horse," in I.S.A.S.R., *1864*, 133.
[332] Ibid., 137.
[333] Wright, "Judge Wright's Address," in I.S.A.S.R., *1864*, 257.
[334] "Proceedings of January Meeting, 1865," in I.S.A.S.R., *1864*, 64.

In keeping with Wright's recognition that prizes of money often enticed farmers to exhibit their products, the *Iowa City Republican* argued that agricultural societies should allocate premiums based on the importance of the exhibited product. The *Republican* lamented the fact that in 1860 "In the grain and seed department only $28 are offered in premiums; while in photographs and ambrotypes an equally large sum is offered, and in the department of flowers, three or four times as large an amount of premiums is awarded."[335] The newspaper proposed that, since "wheat, corn, and other great staple products, [are] the *bank* of the farmer, and the staff of life, [they] should command as good premiums as a fair maiden daguerreotyped or a rose stealing with its fragrance the *senses* of the committee;" the former "are the great columns that sustain the temple of Agriculture itself," while the latter "are but graceful and sweetly scented vines that twine about the columns, imparting to the entire structure additional grace and beauty."[336] Others suggested other areas in which to offer larger premiums. The *North-Western Farmer* wrote in 1859 that the state agricultural society offer "a premium … for the best set of tools adapted to *deep* culture" and that the society hold two plowing matches rather than one, "one for deep and the other for ordinary plowing," since "deep plowing is such an important consideration in successful agriculture."[337] Additionally, one individual argued in a discussion in January 1860 that the Iowa State Agricultural Society could "encourage the introduction of foreign grasses by offering premiums;" an essayist wrote in 1863 that "our State Agricultural Society ought to offer more inducement to the fruit growers, and not treat them as such a secondary object;" and in 1855 the Society's board of directors arranged "the list of premiums, to offer more money in

[335] "History of the Fair," in I.S.A.S.R., *1860*, 85.
[336] Ibid.
[337] "History of the Fair," in I.S.A.S.R., *1859*, 64, 79. Emphasis in original.

proportion to this class [swine] than in any other, to induce a large competition, and to pay for the expense and trouble of bringing animals to the Fair."[338]

II. Agricultural Periodicals

If an agricultural society's fair is analogous to going to church on Sundays, agricultural periodicals correspond to daily Bible devotions. To supplement and bring meaning to the annual fairs, with their spectacle of exhibitions, addresses, and premiums, county and state agricultural societies turned to newspapers and agricultural periodicals. Regularly published, they would remind farmers of the progress, education, and economic and civic well-being that should attend agricultural improvement.

To spur interest and, from interest, improvement, county agricultural societies as well as the state agricultural society gave subscriptions to agricultural periodicals as premiums at their annual fairs. In 1856 in Mahaska County "Several hundred copies of the 'Farmer,' 'Cultivator,' and other papers, were … offered as part of the premiums."[339] Van Buren County's distribution of agricultural periodicals dated to its earliest attempts to sustain an agricultural society. In 1842 it offered sixteen "copies of *Prairie Agriculturist* (published at Chicago)," and the next year it offered eighteen.[340] By 1856 Van Buren County awarded sixty copies of the *Iowa Farmer* at the fair.[341] Henry County ordered many copies of several periodicals: "North-Western Farmer, 20

[338] On premiums for grasses, see Mark Miller, "Agricultural Discussions at the January Meeting, 1860," in I.S.A.S.R., *1859*, 98; on premiums for fruit, see G. Blocklinger, "Essay on Grape Culture," in I.S.A.S.R., *1863*, 297; on premiums for swine see I.S.A.S.R., *1855*, 14.
[339] Needham, "Mahaska," in I.S.A.S.R., *1857*, 353.
[340] Kauffman, "Van Buren," in I.S.A.S.R., *1857*, 410, 412.
[341] Ibid., 417.

copies; American Agriculturist, 20 copies; Valley Farmer, 20 copies; Genessee Farmer, 75 copies" in 1858.[342] The behavior continued, as the Delaware County Agricultural Society "distributed as premiums 50 copies of the Prairie Farmer, published at Chicago, Ill., and 37 copies of the North-Western Farmer, published at Dubuque, Iowa" in 1857.[343] In 1859 Union County ordered thirty copies of *Pioneer Farmer* and sixteen of *North-Western Farmer* to give as premiums at its fair.[344] Chickasaw County awarded fifty-three copies of the *North-Western Farmer* at its fair in 1860 and, in 1863 in Floyd County, "Quite a number of Premiums were also paid in Agricultural Books and Reports."[345] In 1865 Clinton County noted that "We have found it an attractive feature to offer for many of the smaller premiums some good paper, as the *Iowa Homestead*. We distributed some 24 copies of this valuable paper to some of our contributors as premiums," and added that it "Would say to others to go and do likewise," though clearly in many cases others had been doing so for a long time.[346]

The state agricultural society also disseminated agricultural periodicals. First, the state agricultural society resolved in 1856 to "subscribe for two hundred copies of the Iowa Farmer, at the club prices for vol. 4, to be distributed by the officers of the County Societies of this State among such members of the same as they may think preferable to be the readers thereof."[347] It also recommended periodicals to individual farmers; in 1858 the Board of Directors resolved that "the Iowa Farmer and North-Western Farmer were … worthy of [the people of Iowa's] support."[348] Second, it offered agricultural periodicals as fair premiums just as county societies did, albeit in a different way. Instead of making periodicals a premium in their own right, the Society

[342] Warren C. Jones, "Henry," in I.S.A.S.R., *1858*, 254.
[343] J. A. Marvin, "Delaware," in I.S.A.S.R., *1859*, 219.
[344] J. F. Bishop, "Union," in I.S.A.S.R., *1859*, 380.
[345] Taylor, "Chickasaw," in I.S.A.S.R., *1860*, 357 and J. W. Smith, "Floyd," in I.S.A.S.R., *1863*, 391.
[346] W. W. Sanborn, "Clinton," in I.S.A.S.R., *1865*, 391.
[347] "Proceedings of the Board of Directors," in I.S.A.S.R., *1856*, 2.
[348] "Transactions of the Board of Directors," in I.S.A.S.R., *1858*, 22.

resolved in 1860 "That all persons having premiums awarded to them to an amount exceeding three dollars, shall leave one dollar in the treasury, to be expended in the payment of an Agricultural paper, to be forwarded to the proper address."[349] It passed a similar resolution in 1863, which stated that "the 'Iowa Homestead' shall be a part of every premium amounting to $5 and over, provided that no competitor shall be required to take more than one copy."[350] Premiums were generally worth less than five dollars, so one would have had to win several prizes in 1860 to collect three dollars, and the premiums worth five dollars and above would have gone to the exhibitors of the best live stock, so the recipients of agricultural periodicals at the state fair may have been those who needed them least, but the intent of the Society is clear: provide as many as possible. Indeed, the Society may have expected that providing them to the best agriculturists would facilitate their leading unimproved farmers by example.

Agricultural societies contributed to the public forum provided by agricultural periodicals in their own right. They did not merely forward them to a final destination. In 1857 in Henry County, for example, Warren C. Jones verified his opinion on sub-soil plowing by "propound[ing] the inquiry through the columns of the Home Journal, a widely disseminated paper, throughout our county."[351] He also wrote an article for "the September number of the Iowa Farmer and Horticulturist … detailing an actual experiment with this corn; it is called, King Philip or Brown corn."[352] That same year the Madison County Agricultural Society even published its entire proceedings "in the Winterset *Madisonian*."[353] On special occasions societies would even produce their own special issues, as when Henry County "appointed" a committee "to

[349] "Minutes," in I.S.A.S.R., *1860*, 14.
[350] "January Meeting," in I.S.A.S.R., *1863*, 83.
[351] Jones, "Henry," in I.S.A.S.R., *1857*, 257.
[352] Ibid., 258.
[353] Elias Stafford, "Madison," in I.S.A.S.R., *1857*, 347.

write, and publish an address, to the citizens of Henry county upon the subject of Agriculture."[354] Newspapers also published such addresses; in Wapello County "The Secretary, J. W. Norris, was requested to deliver an address at the next meeting, which was held in June [1863], and the address delivered," after which it "was published, by request, in the *Des Moines Courier*."[355]

Newspapers themselves took some interest in agricultural societies, commonly reporting on the events of their annual fairs. In 1856 the Tipton *Advertiser*, the St. Louis *Democrat*, and the *North-West Farmer* reported on the state society's fair; in 1857 the list of newspapers making such reports included the Burlington *Hawkeye*, Dubuque *Express and Herald*, Keokuk *Daily Post*, Oskaloosa *Herald*, Cedar Valley *Times*, and the *Iowa Farmer*.[356] In some cases, the newspaper editors played a role in creating and sustaining agricultural societies. John R. Needham wrote in 1857 that "The question of organizing a society in Mahaska county, for the promotion of agricultural knowledge, was first publicly agitated, in the fall and winter of 1851 and the spring of 1852, by the editor of the Oscaloosa [*sic*] *Herald*, which paper, at that time, was the only one published in the county."[357] Meanwhile in Van Buren County "the editor of the *Western American*, L. D. Morris" made "the first call toward an agricultural organization that resulted in permanency" there.[358] At actual meetings of the state agricultural society newspaper editors sometimes served as alternates in the absence of a county's delegate. For example, in 1856 "Judge Lovel, of Dubuque, being absent, the Editor of the 'North-Western Farmer' was on motion invited to represent that County in the present meeting of the Board," while "The absence of Mr. Thompson, of Linn, was in like manner supplied by Mr. Enos, the Editor of the 'Cedar Val-

[354] Jones, "Henry," in I.S.A.S.R., *1857*, 250.
[355] Morse, "Wapello," in I.S.A.S.R., *1857*, 427-428.
[356] "The Fair," in I.S.A.S.R., *1856*, 21-22; "Newspaper Reports of the State Fair," in I.S.A.S.R., *1857*, 69-70.
[357] Needham, "Mahaska," in I.S.A.S.R., *1857*, 347.
[358] Kauffman, "Van Buren," in I.S.A.S.R., *1857*, 413.

ley Farmer.'"[359] Other publishers editorialized on the merits of agricultural societies. Richard H. Warden, editor of the *Des Moines Courier* in Ottumwa, wrote in January 1852 that "Every farmer and mechanic in the county should become a member" of the Wapello County Agricultural Society and, according to that society's correspondent with the state society, the next week penned "a call for a meeting; which is followed by a somewhat lengthy editorial, setting forth the importance and advantages of such an organization, and calling attention to the inducement offered by the Legislature at the previous session, for their establishment."[360]

The mutual interest of agricultural societies and agents of the agricultural press led to many benefits. Before those benefits could be realized, however, farmers had to adopt a receptive stance to agricultural periodicals. Awarding them to the winners of fair exhibitions could serve that purpose, leading farmers to have a greater interest in their content. In 1857 the Mahaska County Agricultural Society reported that offering agricultural periodicals at their fair "have been the means of increasing the demand for such reading to a very considerable extent."[361] Two years later, in 1859, the Hardin County Agricultural Society explained its success with agricultural periodicals in greater detail. Through their distribution the Society "intended to interest and awaken zeal in the particular department in which they were awarded."[362] By 1859 this scheme "gives *universal* satisfaction, and has a stimulating, life-giving effect which can be obtained in no other way;" indeed, the Society's board of directors intended "to offer these periodicals and publications that they shall have a direct interest for the class of persons to whom they are offered, that they will take further interest in future competition."[363]

[359] "Proceedings of the Board of Directors," in I.S.A.S.R., *1856*, 7.
[360] Morse, "Wapello," in I.S.A.S.R., *1857*, 426.
[361] Needham, "Mahaska," in I.S.A.S.R., *1857*, 350-351.
[362] J. M. Scott, "Hardin," in I.S.A.S.R., *1859*, 248.
[363] Ibid., 248. Emphasis in original.

Once farmers held the agricultural periodical in their hands, then, they could be educated. The hope of spreading agricultural knowledge constituted many agricultural societies' motivation for offering them as premiums. Marshall County, for example, offered "Some 85 copies of agricultural papers … as premiums at the [1859] fair" in the "hope that benefits may result the coming year from the dissemination thus of agricultural knowledge."[364] Cumulatively, interest and knowledge would lead to the improvement of agriculture. Education, then, lay in the background of whatever benefits the circulation of agricultural periodicals would eventually provide.

The encouragement of a more expansive mode of thinking and an awareness of the interdependence of the world in which they lived and practiced their vocation constituted a second reason to recommend agricultural periodicals to farmers. Surely, the directors of the Henry County Agricultural Society resolved in 1858, anyone who read an agricultural periodical on a regular basis would transcend the narrowness of his original thinking and encounter great expanses of insight into his vocation. One of their number, C. Kenderdine, explained that "The Press disseminates pure agricultural literature … amongst our farmers, elevates their minds above the passion for the mere sordid dollar; cultivates within them a love for the beauties of nature."[365] As a result of this elevation and cultivation, "their minds [rise] above the furrows they are turning, from nature up to Nature's God, the giver of the bounteous harvest."[366] Essentially, they began to view their individual farming practices as part of a larger whole. By reading agricultural periodicals, farmers would realize that their lives and productions existed within a macroeconomic, social, and political context. The practical result of such realizations, according to Kenderdine, was that "The prejudice against what is termed Book Farming, is fast giving way," and that more farmers tended to adopt the agricultural model advocated by the agricultural press,

[364] William Bremner, "Marshall," in I.S.A.S.R., *1859*, 340.
[365] Warren C. Jones, "Henry," in I.S.A.S.R., *1858*, 253.
[366] Ibid.

namely, "less acres, and cultivate them better," even by those "who formerly thought that they could cultivate 'all out o'doors.'"[367] Evidently exposure to an expansive, contextualized sense of agriculture and individual farmers' role in the world would lead farmers to become the very definition of improvement: more, with less.

The spirit of progress articulated by Kenderdine in Henry County existed elsewhere, too. The Muscatine County Agricultural Society also felt it. As Suel Foster observed, the nineteenth century in general was obsessed with progress, though agriculture lagged far behind all other disciplines and areas of knowledge. He wrote, "We live in a wonderful age of invention and improvement, and agriculture is the last to catch the spirit of 'go ahead.' But we have caught the spirit fairly," and so they had amassed an impressive collection of agricultural periodicals and treatises.[368] By his count he had in his "little library case … more than 40 bound volumes upon [agriculture and horticulture], whereas … 50 years ago, I believe, scarcely five could have been found published upon the whole continent."[369] Because of agricultural periodicals' availability, the Scott County Agricultural Society argued, "Farmers should read more, write more, and exchange experiences more frequently;" in short, "no farmer should be without one or more of these welcome weekly messengers," and farmers should participate in the forum that the periodicals provided.[370]

The conversation on agricultural matters that the press provided proved to be a salient point in the agricultural societies' proffered palette of advice to farmers. T. T. Pendergraft of Page County wrote in 1863, even under the duress of the Civil War, all farmers "should exchange experiences more frequently," and "no farmer should be without one or more of these

[367] Ibid, 253.
[368] Foster, "Muscatine," in I.S.A.S.R., *1859*, 351.
[369] Ibid.
[370] William Allen, "Scott," in I.S.A.S.R., *1859*, 368.

welcome weekly messengers."[371] Those messengers provided farmers with vital information; through them "the markets of the whole world are communicated to the farmer" and he can therefore know "what is going on abroad."[372] Some individual farmers might possess the ability to take the pulse of markets on their own or the knowledge necessary to decide which crop rotations worked best on which soils and other techniques of improvement – manuring, hedging, breeding, and the like – but agricultural periodicals would lead to greater egalitarianism by making that knowledge available to others. "Agricultural Papers … have done more for the farmer, than all other means [of improvement] put together, for, without it and without them, other means must have failed of general dissemination. By their success in eliciting this experience [had by some farmers] more than any thing else, are their respective claims upon the farmer to be ranked," the author of an article in *Country Gentleman* explained.[373]

Aside from the economic benefits of knowing when markets were elevated and when they were depressed, and knowing the best agricultural practices, farmers' place in civic life would improve if they read and participated in agricultural periodicals. Suel Foster posed the rhetorical question in his 1864 essay on the dignity of labor, "Why have not the laboring classes the proper influence and control of society and the government of our republican country?"[374] He answered by acknowledging that "The press in this country … has a powerful influence," and that farmers had "very little to do with the *printing press*."[375] Farmers and mechanics, he wrote, "ought to write more for the press, for the political, literary and religious papers; but the laboring classes are not sufficiently educated to write," and editors could not very well publish illiterate

[371] T. T. Pendergraft, "Page," in I.S.A.S.R., *1863*, 444.
[372] "The Fair," in I.S.A.S.R., *1857*, 18.
[373] "Wanted—An Experimental Farm," in I.S.A.S.R., *1857*, 114.
[374] Suel Foster, "How Shall We Elevate Labor?," in I.S.A.S.R., *1864*, 223.
[375] Ibid.

ramblings.[376] In order for the people to govern, as he believed they should, "they must have a higher class of education."[377] That they did not, he believed, was richly ironic: "Nothing appears more extraordinary to me—the history of the events of this republic, this industrial nation, which has in a single century chiefly been wrought out of the wild wilderness, and become one of the most enlightened and powerful nations of the earth, and far in advance in the intelligence, enterprise and ingenuity of its laboring class, that the wise leaders of our government and society should so long have neglected it, to advance the education of our laboring classes," even after "Washington, Jefferson, and all the patriotic fathers of our country" advised that the United States "foster and encourage, educate and elevate the laboring classes," especially agriculture, "upon which all other classes are built."[378] By taking an interest in publications that dealt with their own vocations, perhaps, farmers would develop an interest in other periodicals that touched on avocational subjects, such as government, and claim the dignity, advancement, and political power that rightfully were theirs.

In addition to the education farmers and the encouragement of friendly competition among them, the Delaware County Agricultural Society's remarks on this point suggest that agricultural periodicals could lead non-farmers to regard agricultural production with interest; J. A. Marvin, their secretary, wrote that offering agricultural periodicals at the annual fair would "greatly tend to increase the interest in agricultural pursuits," educating non-farmers about the importance and complexity of agricultural production in addition to teaching farmers how to perform their own work.[379] The Delaware County Agricultural Society indicated the public benefit of such an increased interest when it expressed its belief that periodicals distributed via the fair

[376] Ibid.
[377] Ibid.
[378] Ibid., 223-224.
[379] Marvin, "Delaware," in I.S.A.S.R., *1859*, 219.

would "be of more value to the community than the distribution of money premiums alone."[380] The operative word in that statement, of course, is "community," strongly suggesting that the education of a community's members through a medium that could circulate from homestead to homestead would provide more encouragement for them to improve their ways than would a small amount of money given to individual exhibitors.

Their projected benefits aside, agricultural periodicals did not provide useful information on all occasions. They disappointed some agricultural societies. The Hungarian grass tested in Scott County, for example, "has not given as general satisfaction as the very flattering reports published by Agricultural and other Periodicals had led us to expect."[381] The state society also expressed its dismay, its board of directors reporting that "We never can expect any *general* improvement in the rearing of horses till our people become better informed on the different breeds and families that are desirable, and it is an unfortunate fact that the agricultural press, to which we look for information on all subjects connected with stock raising, as well as tilling the ground, as a general thing, either know but little or horses, or else are very careful to keep their knowledge to themselves."[382]

Even when actual farmers contributed to agricultural periodicals, D. P. Holloway explained in his address at the Iowa State Agricultural Society's second annual fair, ordinary farmers were not disposed to believe the advice given. "If a farmer of Iowa, were to write an article for the excellent agricultural paper, published in your own State, The Iowa Farmer, many would read, and however true might be the facts detailed, and however plain be the course described, to produce the result announced, they would throw it aside, and say it was nothing but 'book-farming—men that write for the papers do no work—they knew nothing about farming,'" he an-

[380] Ibid.
[381] Henry G. Neal, "Scott," in I.S.A.S.R., *1858*, 398.
[382] "Report of the Board of Directors for 1858," in I.S.A.S.R., *1858*, 14-15. Emphasis in original.

ticipated.[383] Holloway lamented such an outcome as "false prejudice" that "should not be entertained," and he assured his audience that those who wrote for agricultural periodicals were sincere.[384] "The farmer who writes for your paper," he asserted, "tells you just what he would, were he sitting at your fireside, in social conversation, and his remarks ought to be as implicitly relied on."[385]

III. Federal Action

The work of the Iowa State Agricultural Society also related to that of the federal government's patent office and, later, Department of Agriculture, which distributed small quantities of seeds throughout the United States for experimentation, to see which varieties of which crops grew best under which conditions in which environments. The Society naturally took an interest in such tests and requested that county agricultural societies furnish the relevant data in their annual reports to their state-level superior. The Society funneled seeds to farmers through a hierarchy. "The system has been adopted of furnishing [the Patent Office] annually with a list of the Presidents and Secretaries of the different County Societies, with the request that whatever may be intended for those Societies be forwarded directly to them," the Board of Directors explained.[386]

When the results came in, the success of the trials varied widely based upon year, location, and crop. Describing the success of Patent Office seeds generally, S. L. Eddy of Jackson

[383] Holloway, "Speech of D. P. Holloway, …," in I.S.A.S.R., *1855*, 36.
[384] Ibid.
[385] Ibid.
[386] "Report of the Board of Directors," in I.S.A.S.R., *1861-2*, 5.

County reported that experiments yielded "good results, in many instances," and "are considered a valuable acquisition to our former list of seeds;" similarly, W. E. Callen of Appanoose County reported the next year that "Several packages of Patent Office seeds" delivered "satisfactory" results.[387] Residents of Black Hawk County who received seed packets "tried" them "in most instances with good success."[388] In Jackson County, the seeds distributed by "the agricultural department at Washington" – which, when it was created in 1862 by an Act of Congress, took over the Patent Office's seed distributions – did "an unlimited amount of good to the country."[389] Other reports were more specific, stating which varieties grew best or detailing methods of cultivation. From Davis County, for example, J. Kister relayed the report of Harrison Morgan, who "raised near half a bushel of the Bald Barley," which "grew strong and well."[390] The next year the Henry and Wright County agricultural societies corroborated Morgan's testimony, writing that it "does well" and "is considered a valuable acquisition," respectively.[391] The Society's correspondent in Kossuth County reported in 1858 that "The 'Early China Bean' promises well; also some varieties of turnips."[392] Perhaps Samuel Bell of Polk County received one of the turnip varieties that succeeded in Kossuth County. That same year the Polk County Agricultural Society reported that Bell received a variety called "Purple Top'd Scotch," of which he sowed not more than "a table-spoonful … on the ground, the area of which did not exceed 15 square rods," and which yielded "1600 pounds."[393]

Others found the seeds' success limited. In Louisa County in 1859 "[t]he grains that have been received, have generally failed almost entirely" even as "The garden and vegetable seeds

[387] S. L. Eddy, "Jackson," in I.S.A.S.R., *1858*, 266 and W. E. Callen, "Appanoose," in I.S.A.S.R., *1859*, 169.
[388] George W. Couch, "Black Hawk," in I.S.A.S.R., *1859*, 182.
[389] Willard S. Eddy, "Jackson County," in I.S.A.S.R., *1864*, 345.
[390] J. Kister, "Davis," in I.S.A.S.R., *1859*, 214.
[391] "Henry," in I.S.A.S.R., *1860*, 373 and "Wright" in I.S.A.S.R., *1860*, 406.
[392] Lewis H. Smith, "Kossuth," in I.S.A.S.R., *1858*, 301.
[393] Isaac Cooper, "Polk," in I.S.A.S.R., *1858*, 376-377.

have given good satisfaction."[394] Similarly, in Adair County in 1863 "some of the varieties [from the Patent Office] are no better than those we have," though "many are superior to any thing we have had previously."[395] Jackson County's report from 1859 offers a stark juxtaposition of the seeds' various successes. As Willard S. Eddy reported, "The Tuscan Straw Hat wheat has been tried and is not liked, the berry being shrunken and light and the yield small. Italian Barley produces well and is a very handsome and heavy grain. King Philip corn promises fair, ripening early and regarded as a sure crop and makes an excellent cross with our common dent corn and ripens some three weeks earlier. The Ice Cream Watermelon is an excellent variety and good producer."[396] In some instances the results obtained by individual farmers vis-à-vis their fellow experimenters held more of interest than the comparative results of different kinds of plants. From Poweshiek County, for example, Arthur Carpenter reported in 1858 that "[t]ere have been many kinds of seeds received from that source, and many of them have succeeded well; but they do not succeed equally well with all."[397]

In other settings the Patent Office seeds primarily led to disappointment, as in Johnson County in 1858. M. W. Davis reported that such seeds had "been distributed in large quantities throughout the county; but only occasionally has there been a variety obtained that was an improvement."[398] Scott County had a similar experience that year, as they "sowed some oats, labeled Potato Oats, from England, but those who professed to be familiar with the potato oat, say it bears very little resemblance to that. It is at least two weeks later in ripening than our common oats, and this year came to naught."[399]

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[394] L. Chase, "Louisa," in I.S.A.S.R., *1859*, 311.
[395] G. F. Kilburn, "Adair," in I.S.A.S.R., *1863*, 343.
[396] Willard S. Eddy, "Jackson," in I.S.A.S.R., *1859*, 262.
[397] Arthur Carpenter, "Poweshiek," in I.S.A.S.R., *1858*, 386.
[398] M. W. Davis, "Johnson, "in I.S.A.S.R., *1858*, 280.
[399] Neal, "Scott," in I.S.A.S.R., *1858*, 402.

Even with these often disappointing results the Iowa State Agricultural Society looked to seeds from the Patent Office as one source of agricultural reform. By offering a way for the ordinary farmer to procure new seeds with which to experiment, anyone could participate in the pursuit of new and improved agricultural knowledge. Patent Office seeds, therefore, held a great deal of promise as a practical source of knowledge and an opportunity for almost anyone to join the active pursuits of an agricultural society, and agricultural reformers favored such trials to theoretical reasoning that did not draw on experience. As Willard S. Eddy of Jackson County wrote in 1864, "One good and improved kind of wheat, corn or other staple grain introduced does more for the material prosperity of our farmers, than hundreds of speculative essays on farming."[400] The state society's leadership agreed, and trusted "that out of the vast amount of trash that is distributed through the agency of the Patent Office in the shape of seeds—that out of a thousand some one thing might prove valuable."[401]

The Society's exhaustive annual reports provide a few clues as to the causes of the Patent Office seeds' failure. Depending on the fault found, one could lay (or heap) blame upon individual farmers, the Patent Office, or a factor beyond anyone's control – the climate and environment of Iowa itself. Farmers' interest in having the seeds and using them to conduct experiments presented the first hurdle to the derivation of information from the Patent Office, and farmers' interest varied greatly. Many counties reported that farmers regarded the seeds with at least some interest, including, in 1858, Jones, Keokuk, Marshall, and Woodbury Counties and, in 1859, Delaware, Humboldt, Kossuth, and Wayne Counties.[402] That interest must have been high in

[400] Eddy, "Jackson," in I.S.A.S.R., *1864*, 345.
[401] "Report of the Board of Directors," in I.S.A.S.R., *1861-2*, 5.
[402] J. S. Dimmitt, "Jones," in I.S.A.S.R., *1858*, 291; John C. Hogin, "Keokuk," in I.S.A.S.R., *1858*, 297; William Bremner, "Marshall," in I.S.A.S.R., *1858*, 321; William H. Bigelow, "Woodbury," in I.S.A.S.R., *1858*, 440; Marvin, "Delaware," in I.S.A.S.R., *1859*, 222; M. D. Collins, "Humboldt," in I.S.A.S.R., *1859*, 253; Lewis H. Smith, "Kossuth," in I.S.A.S.R., *1859*, 292; W. W. Thomas, "Wayne," in I.S.A.S.R., *1859*, 407

some cases; in Woodbury County "Seeds from that source are sought after with avidity," and in Wayne County "There is getting to be a lively interest felt with a good many of our folks."[403] J .A. Marvin, writing for Delaware County, suggested that some farmers even used the seeds for their intended purpose: "Many of our people have given considerable attention to the experimenting with new and rare seeds and I have no hesitancy in saying that [they] have received their due attention."[404]

Other farmers remained open to the possibility of using the seeds and perhaps conducting experiments with them even though they did not seek them out. Wapello and Webster Counties commented on this ambivalence in 1858, the former writing that "[s]eeds from that source are welcome, but not, apparently, much sought after," and the latter indicating that "[s]eeds from that source are not generally sought after, but some of our farmers would give them much attention."[405] Wayne County farmers' interest in the seeds, mentioned above, grew considerably over the course of a year. Eighteen fifty-nine was the year of "lively interest," but as recently as 1858 "[t]here has not been much attention paid to Patent Office Seeds yet, but they are being sought after for the next year's operation. Meanwhile, residents of Monroe and Harrison Counties sought samples of the Patent Office seeds even though such seeds had not been introduced into those counties.[406]

Not everyone made such reversals or experienced such a change of heart. In 1858 Buchanan and Winneshiek Counties reported that farmers there made no attempts to obtain seeds from the Patent Office, and the author of Mahaska County's report wrote that farmers there did not conduct "any experimenting with seeds from the Patent Office. If we have had any from this

[403] Bigelow, "Woodbury," in I.S.A.S.R., *1858*, 440 and Thomas, "Wayne," in I.S.A.S.R., *1859*, 407.
[404] Marvin, "Delaware," in I.S.A.S.R., *1859*, 222.
[405] L. D. Morse, "Wapello," in I.S.A.S.R., *1858*, 418; N. W. Neat, "Webster," in I.S.A.S.R., *1858*, 431.
[406] John G. Douns, "Harrison," in I.S.A.S.R., *1859*, 250; P.T. Lambert, "Monroe," in I.S.A.S.R., *1859*, 346.

source, it must have been very limited."[407] The state agricultural society judged that year that "In some few instances they are sought after, but generally the people are indifferent as to whether they try them or not."[408]

Taking an interest in Patent Office seeds did not mean that they would treat them as the subject of an agricultural experiment, either. William Bremner of Marshall County reported in 1859 that "Some are desirous of obtaining such seeds, but I am not aware that any one is prepared to receive them and experiment with scientific accuracy."[409] In Scott County the conditions to which experimenting farmers exposed their Patent Office seeds differed but little from their usual crop varieties. "I am not aware that any one is very anxious to obtain seeds from [the Patent Office], yet enough are found willing to give them a fair trial, if sowing and planting at the same time and in the same manner that we sow our ordinary crops, is considered a fair trial," Henry C. Neal wrote.[410]

Farmers regularly misunderstood the objective of the Patent Office seeds. In Louisa County, for example, even though "a respectable number" sought the seeds "from a desire to introduce whatever may be found really worthy," "very many" people "sought … [them] with great avidity … because they are 'cheap,' from the source."[411] Some farmers' inversion of the order of operations associated with the Patent Office seeds may have worked greatest to undermine the effectiveness of the experiment in grassroots experimentation. One of the state agricultural society's correspondents, from Muscatine County, lumped the untried Patent Office seeds into a group with other aspects of agricultural reform. As he wrote, "Some one speaking of the

[407] L. W. Hart, "Buchanan," in I.S.A.S.R., *1858*, 223; J. E. B. Morgan, "Winneshiek," in I.S.A.S.R., *1858*, 435; J. Y. Hopkins, "Mahaksa," in I.S.A.S.R., *1858*, 309.
[408] "Report of the Board of Directors," in I.S.A.S.R., *1858*, 10.
[409] Bremner, "Marshall," in I.S.A.S.R., *1859*, 341-342.
[410] Neal, "Scott," in I.S.A.S.R., *1858*, 402.
[411] John B. Brigham, "Louisa," in I.S.A.S.R., *1858*, 371.

follies of the agricultural department of the Patent Office, in the presence of a friend of mine, said: 'Who knows the value of a single seed or of a new idea?' It is these new ideas that are bringing to us these new seeds, the new animals, and the new improvements."[412] Farmers in Iowa County similarly believed themselves to be the recipients, rather than the source, of agricultural reform. Robert M'Ker reported that "people are quite anxious to get [Patent Office seeds], hoping to get something new and valuable."[413] This desire to receive, rather than to create or assist in creating, to take part in ongoing agricultural reform, ran in the opposite direction of the Iowa State Agricultural Society's broad goal of establishing many forums for the exchange of agricultural and related ideas, a goal not unlike the Enlightenment-era "republic of letters" in which *philosophes* around the world formulated and debated ideas with one another through personal interaction and published exchanges, a goal that empowered farmers to take ownership of agricultural reform and their destinies, rather than conferring reforms upon them. Other farmers may have hesitated to accept distributions of Patent Office seeds out of political concerns, not wanting to appear corrupt. Isaac Kneeland of Lucas County explained in 1859 that seeds from the Patent Office "have not been distributed amongst our best farmers, as their votes could not be changed by such bribes, and consequently very little attention has been paid to experimenting with them."[414] However, he went on, "[w]e have good and reliable farmers that would like very well to receive any valuable seeds from that source, and would do the best they can with them."[415]

Of course, when farmers did use the seeds to test new varieties of seed and the experiments went awry and failed, farmers occasionally deserved the blame. In Poweshiek County, for

[412] Foster, "Muscatine," in I.S.A.S.R., *1859*, 351.
[413] Robert M'Kee, "Iowa," in I.S.A.S.R., *1859*, 257.
[414] Isaac Kneeland, "Lucas," in I.S.A.S.R., *1859*, 317.
[415] Ibid.

example, Patent Office seeds "have been cultivated to some extent, but have not received that care and attention which would be likely to produce very satisfactory results."[416] Farmers in Tama County had not established themselves well enough to concern themselves with the pursuit of knowledge beyond that which they already carried in their heads. They welcomed seeds from the Patent Office, A. J. Wheaton wrote, "but ours is a new county, and I suppose little time is found for trying experiments."[417]

The Patent Office itself bore some of the blame for farmers' lack of interest and success. Many contributors to the Iowa State Agricultural Society's reports implicated the late arrival of seeds in experiments' failure and farmers' nonchalant attitude toward them. The Society's board of directors reported in 1858 that the Patent Office was out of touch: "What few seeds are sent us generally come out of season; and the experience of the Secretary is, that any requests or correspondence addressed to that department is treated with the utmost indifference and neglect."[418] The Patent Office's tardiness could occur in any season. That same year Allamakee County wrote that seeds arrived "generally so late in the spring that they could not have a fair trial."[419] Transferring the seed distribution program to the Department of Agriculture after its creation in 1862 evidently did not improve their timeliness, for in 1864 in Franklin County "[t]he packages of wheat (winter wheat) sent by the Agricultural Department at Washington do not generally arrive until the latter part of September or in October, and consequently the wheat does not get a sufficient start before winter sets in to withstand the frosts, and therefore does not get a fair trial."[420] To make matters worse, the Patent Office may have alienated farmers by paying little attention to the kinds of seeds it sent to which climates. Warren C. Jones of Henry County wrote

[416] C. W. Fenner, "Poweshiek," in I.S.A.S.R., *1859*, 360.
[417] A. J. Wheaton, "Tama," in I.S.A.S.R., *1859*, 374.
[418] "Report of the Board of Directors," in I.S.A.S.R., *1858*, 10.
[419] C. J. F. Newell, "Allamakee," in I.S.A.S.R., *1858*, 197.
[420] George Beed, "Franklin," in I.S.A.S.R., *1864*, 321.

in 1858 that "[t]he indiscriminate sending of seed of all qualities, adapted to all latitudes [rather than to Iowa's], have rather turned public opinion against them."[421]

The Society itself may have contributed to the lack of interest and success in experimenting with Patent Office seeds by its spotty management of their distribution. The limits of nineteenth-century communication and influence become evident when one reads from Louisa County's report from 1858 "that from 'somebody's' bad management, we have no further report to make under this head [of the Patent Office seeds]. The old Secretary informs me that he received last year, in exchange for a large quantity of seeds distributed by him, a very large number of *promises* to return him a report of their mode of cultivation, and the results; but all have proven barren promises."[422] Even the judicious exercise of discrimination in the choice of recipients did not always yield information. In Jefferson County, J. M. Shaffer reported, "The seeds from the Patent Office are distributed carefully, and that is the last we hear of them."[423]

After Congress organized the Department of Agriculture in 1862, it performed the Patent Office's seed distribution functions. As with the Patent Office, the results were mixed and support for the program and Department varied. Jackson County had one of the only overwhelmingly positive experiences with the Department of Agriculture. The seeds it received were "as a general thing … good seed and well improved, so that our county has been greatly benefitted, and the State at large. We consider it a good institution, and one productive of good and lasting results."[424] Fortunately, support for the Department did not depend on the success of its seeds. In Floyd County "[t]he result has not always been very flattering, but the Commissioner seems to

[421] Jones, "Henry," in I.S.A.S.R., *1858*, 258.
[422] John B. Brigham, "Louisa," in I.S.A.S.R., *1858*, 371. Emphasis in original.
[423] J. M. Shaffer, "Jefferson," in I.S.A.S.R., *1858*, 276.
[424] Willard S. Eddy, "Jackson," in I.S.A.S.R., *1863*, 410.

be doing a good work," J. W. Smith wrote in 1863.[425] Further, while some seeds yielded well, others failed, even when sent to the same location. The secretary of the Buchanan County Agricultural Society, L. W. Hart, wrote that he "distributed quite a good many seeds from the Agricultural Bureau at Washington, but not with very good success. The tabacco [*sic*] seed failed entirely; it was bad seed. Many of the garden seeds were successful—Beets, Cabbage and Turnips."[426]

The transfer of the seed program to the Department of Agriculture did not, evidently, resolve the problems the Patent Office faced. In Cedar County at least, wheat samples arrived late; reaching its destination on "the last day of October," it was "too late to sow this Fall."[427] Indeed, Iowa County reported that the delayed delivery of seeds from the Department presented "the *greatest* difficulty with them."[428] The Department itself made mistakes from time to time, labeling packages incorrectly, which meant that "we sometimes sowed Spring Wheat in the Fall, and vice versa, both a failure."[429] Other seeds arrived that were "not … adapted to this climate or to the wants of the people," even though some of the seeds in the same shipments were "valuable and have succeeded well."[430] Farmers' own errors in cultivating the seeds could have contributed to their failure, T. H. Kelsey of Benton County admitted in 1863. "Seeds distributed by the Agricultural Bureau nearly all germinate, but something is the matter that they do not all do well. It may be in the climate or our peculiar way of planting or taking care of them when planted, as it is generally the case the seed is put into the ground, and if it grows all right, and if not all the same; or it may be old and worthless seeds, with not substance enough to nourish the germ," he

[425] J. W. Smith, "Floyd," in I.S.A.S.R., *1863*, 390.
[426] L. W. Hart, "Buchanan," in I.S.A.S.R., *1863*, 348.
[427] A. Holtslander, "Cedar," in I.S.A.S.R., *1863*, 359.
[428] Robert McKee, "Iowa," in I.S.A.S.R., *1863*, 404. Emphasis in original.
[429] T. H. Kelsey, "Benton," in I.S.A.S.R., *1863*, 357.
[430] B. P. Conkey, "Fayette," in I.S.A.S.R., *1863*, 384.

explained, elaborating on other potential barriers to the seeds' success, which also included "fly, bug and rust."[431]

Despite these mixed results, agricultural societies continued to support the seed program. Even though their seed trials bore no fruit and "not one sort in a hundred possesses any extraordinary merit," Clayton County held that "if one in a hundred does, it will perhaps justify the outlay."[432] Similarly, Henry Ford reflected in 1863 that, on the whole, "I think considerable good has … resulted from a distribution of those Seeds. While many packages may prove worthless, once in a while one is found that richly repays the outlay one has made upon the worthless ones."[433]

Significantly, he continued that the exhibition of successful seeds at agricultural society fairs constituted one of the ways to ensure such rich repayment: "A good way is to have each one who receives Seeds, report the result of his experience, and a sample of what he has grown from the Seeds at the next Fair."[434] The Department of Agriculture already collected and published "monthly reports upon the condition of the crops of the Country," which Iowa County believed "will certainly prove to be of great value," but farmers should involve themselves in such work.[435] Indeed, the author of that report argued that the discovering and assembling the best knowledge of scientific agriculture required farmers' participation. The Department's monthly reports "will certainly prove to be of great value," he wrote, "especially if the *farmers* of the County generally *will* take an interest in the matter; but in order to develop its greatest value to the farming interests, the farmers *must* ORGANIZE."[436]

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[431] Kelsey, "Benton," in I.S.A.S.R., *1863*, 357.
[432] Norman Hamilton, "Clayton," in I.S.A.S.R., *1863*, 371.
[433] Henry Ford, "Harrison," in I.S.A.S.R., *1863*, 401.
[434] Ibid.
[435] McKee, "Iowa," in I.S.A.S.R., *1863*, 404.
[436] Ibid. Emphasis in original.

Not everyone possessed such unqualified support for the Department of Agriculture. In an essay on schools and colleges of agriculture, Suel Foster wrote in 1863 that the federal government insulted ordinary farmers by "begging … hundreds of men all over this broad and rapidly growing Agricultural country, to figure, work and write as Agents of our noble Government, to gather and transmit to the Government, valuable statistics and information of the 'condition of the crops,' climate, soil, products and seasons" and yet not paying them "*the postage* on the documents thus gratuitously obtained. … while all other Departments of the Government frank their returns!"[437] A problem of political representation cause the disparity between the federal government's concern for itself and its concern for its unofficial assistants. Foster held faith that "[i]f Members of Congress were the true representatives of the farmers—of the Agriculture, which is three-fifths of our whole country—if three-fifths of the Members of Congress were farmers, this great interest would be more respected and better provided for."[438]

A favorable opinion more like that of county agricultural societies predominated over Foster's negative view in the state society, which expressed its appreciation for the Department of Agriculture's work in a series of resolutions made in the last years of the Civil War. The Society's directors resolved "[t]hat we do hereby approve …, and that our Senators and Representatives be requested to give said department a liberal support, and to enlarge its powers and usefulness," simply because it existed.[439] The Society's supportive resolution became more substantial the next year. Asserting that "It is due to the encouragement and development of the agricultural and industrial interests of the country, that there should be a full, free and cordial co-operation between the several organizations and departments having in view such development and encouragement" and that the Society ought to "give our approval, and extend our influence in aid

[437] Suel Foster, "Agricultural College and Schools," in I.S.A.S.R., *1863*, 257-258.
[438] Ibid.
[439] "January Meeting," in I.S.A.S.R., *1863*, 80.

of the efforts of the government to protect and foster labor and its results," the Society resolved the same as it had in 1863, adding that it thanked the commissioner of the Department and his chief clerk and requested the Department's assistance in amassing a library of texts on agriculture.[440] In 1866 the Society increased the vigor of its by that time annual resolution. Congress "has rescued the controlling interest in our prosperity, from the secondary position which it so long occupied" by organizing the Department of Agriculture, the Society stated, and it also praised the appropriations which were larger than any received by Agriculture in the past, and observed that "The results flowing from such department of agriculture are already beginning to be felt in the rapid stride of agricultural science toward perfection."[441]

IV. Farmer's Clubs

If any farmer could conduct experiments with the Patent Office seeds, he could exchange the information he gleaned from his efforts with other farmers in local farmers' clubs. In addition to advocating that farmers give some of their attention to their state and county agricultural societies, the Iowa State Agricultural Society frequently expressed the hope that farmers would form even more local clubs around their townships or school districts. Such organizations could provide yet another way for farmers to acquire the knowledge necessary to improve their land, crops, and stock and to pass that knowledge on to others.

The Iowa City *Republican* argued in its history of the 1860 state fair that, until groups of ordinary farmers formed such clubs, agricultural progress would fail to reach its full potential.

[440] "Proceedings of January Meeting, 1865," in I.S.A.S.R., *1864*, 89-90.
[441] "Proceedings of January Meeting," in I.S.A.S.R., *1865*, 89.

The paper warned, "Until the general formation of clubs throughout the State, and the consequent discussion of these topics is common in every township, we cannot expect the best results."[442] The *Republican* went on, pressing the Iowa State Agricultural Society to support the creation of farmers' clubs actively.

The Society, however, needed no such exhortation, for its elements conspicuously advocated for agricultural societies smaller than those that existed at the county level. In 1859, for example, D. J. S. Dimmitt identified farmers' clubs with the pursuit of agricultural improvement and reason to be optimistic about agricultural fortunes. He wrote, "The agricultural interests of Jones county are looking up. Agricultural Clubs, through the instrumentality of the Rev. S. A. Benton and your honorable servant, have been formed in more than one half of the townships in the county; and one of them, (Greenfield,) held a fair just a day or two before the county fair."[443] H. G. Neal believed that societies that encompassed the most mundane – yet critical – of farm activities could deliver significant results. "If anyone doubts the beneficial effect of … plowing matches, let them contrast the regular, straight, deep furrows, to be seen wherever an interest is taken in them, and the ordinary crooked, cut-and-cover system of plowing so common throughout the country, and the superior crop produced on the former, and he will doubt no longer," he challenged his audience.[444]

Farmers' clubs could also form a mechanism for cooperative, community support in dire seasons. During the difficult year of 1858 the Society's board of directors "would most heartily commend the suggestion of Mr. Stuart, in the Lee county report, for farmers to club together and

[442] "History of the Fair," in I.S.A.S.R., *1860*, 54.
[443] D. J. S. Dimmitt, "Jones," in I.S.A.S.R., *1859*, 284.
[444] H. G. Neal, "Agricultural Education—What Is It and How Shall It Be Obtained?" in I.S.A.S.R., *1864*, 184.

send one of their number to Canada, Michigan or Wisconsin and select new varieties in such quantities as to supply each member of the club with several bushels [of wheat] to start with."[445]

Perhaps most important of all, by their local fellowship on agricultural matters and their cooperative search for a systematic body of agricultural knowledge, participation in farmers' clubs could lead farmers to adopt a more favorable disposition to expertise from elsewhere in the state or the country, whether it be from yeomen or professionals. Due to the presence of almost certainly friendly faces that a farmer encountered on a regular basis and the neighborliness attached to assisting the other farmers in one's immediate vicinity, the Board of Directors wrote in 1859, they tended "to bring out all that class of farmers who never read an agricultural paper, or attended an agricultural exhibition; and before they know it, they are drawn into the discussion, and in order to sustain their views, they immediately begin to 'look up the authorities,' and a file of some agricultural newspaper is borrowed from a neighbor, that its fund of information may be consulted on the question at issue."[446] The Iowa State Agricultural Society recognized that people hold more power than hard facts, and that its work depended on relationships among those who had information and those who did not. By encouraging ordinary farmers to acquire new knowledge and the means to improve from interaction with their neighbors, the Society worked to enlarge their minds and the scope of their understanding via the path of least resistance in addition to participation in county, state, and federal programs. The Directors continued the above thought with optimism: "The result of all this is, the newspaper is at length subscribed for; all that prejudice against 'book larning' is dissipated, and the man begins to realize that there were other people who lived in the world besides his grandfather."[447]

[445] "Report of the Board of Directors for 1858," in I.S.A.S.R., *1858*, 7-8.
[446] "Report of the Board of Directors for 1859," in I.S.A.S.R., *1859*, 11.
[447] Ibid.

V. Geological Survey

To use Iowa's fertile soils in the most profitable yet sustainable way, the Iowa State Agricultural Society believed, farmers must know what they were made of. Different crops would take and return different nutrients to the soil, and farmers should understand their soil's starting point in order to employ the best crop rotations. In the late 1850s the State of Iowa commissioned a geological survey to discover the local variations in soil composition. Some elements of the Society supported that endeavor by the state government in addition to supporting federal programs such as the seed distributions from the Patent Office and Department of Agriculture. Iowans already possessed enough familiarity with their environment to know that their soils were "unsurpassed by any," but they also ought to have a "scientific examination of them," a systematic analysis, because "[a]mong the different branches of science there are none more directly related to agriculture than geology and chemistry, a proper application of them being essential to a full comprehension of its principles."[448] By finding a science to the soils of Iowa, the state could begin to find a science to its agriculture; working from a series of known principles that delineated what results would obtain from their inputs, farmers could more intelligently (i.e., profitably and sustainably) cultivate their land.

The geological survey began in 1855 under the direction of Professor James Hall of Albany, New York, but the economic collapse and famine of 1858, in addition to the Civil War, constrained the State's resources and forced it to discontinue the work. Many years intervened and, after the war, when "Peace is now happily again restored, and our nation is entering upon a career of prosperity, such as it has never yet enjoyed," C. A. White called for its completion so

[448] C. A. White, "The Soils of Iowa, and Their Origin, " in I.S.A.S.R., *1865*, , 262-263.

"that the incoming millions may know of our hidden wealth."[449] Hall's survey of Iowa's geology only reached "the *east half* of the State … and has failed to give us anything whatever in relation to its agricultural geology. This work for the east half, together with the complete exploration of the west half of the State, yet remains to be accomplished."[450] In other words, not only did Hall's interrupted report deal with only half of the state, but its contents were not especially useful to agriculturists.

White suggested many specific alternate inquiries. The geological survey should

> Ascertain as carefully as possible the character, outline and extent of our coal-field, gypsum and other geological formations; the peat deposits of northern Iowa; the various mineral deposits, including petroleum and brine-springs; examine and report upon our brick, pottery and furnace clays; our quarries of rock for building and other purposes; our limestones for lime and hydraulic cement; make physical examinations and analyses of our soils, together with observation on their adaptation to the growth of crops, and of certain varieties of forest trees in sections where timber is now scarce, &c., &c.[451]

More than a geological survey, White wanted a Domesday Book for the inventory of Iowa's natural resources. Exploring such matters might satisfy the demands that the people of Iowa, he wrote, ought to make: "that the work be resumed and completed in such a manner as to give to the citizens of the State the greatest possible amount of practical information in relation to its resources."[452] Further, any resumption of the geological survey should avoid the errors Hall made in his earlier contribution, including its alienation of the very people who commissioned it. In White's view, Hall's report "was eminently scientific, and received high commendations from scientific men" in Europe as in the United States, but ultimately was not practical enough for the farmers who would benefit most from it.[453] "To the people of the State," he continued, "it has been in a measure a 'sealed book' in consequence of its abstractly scientific character, and has

[449] Ibid., 263.
[450] Ibid. Emphasis in original.
[451] Ibid., 263-264.
[452] Ibid., 263.
[453] Ibid.

consequently been so unsatisfactory to them that the legislature has heretofore refused to continue the work, the most especially as our country has been so much disturbed for the past few years."[454]

Acting on these concerns, avowedly seeking to "more fully develop[e] the agricultural and mineral resources of this State," at the Society considered a resolution requesting that the General Assembly give "special attention … to the importance of having the Geological Surveys of this State completed" and that it "take immediate steps to employ some suitable person or persons to complete such surveys" at the Board of Directors' meeting in January 1866.[455] The resolution lost, but that it came up and that an essay on the subject met with enough approval for the Society to include it in its annual report demonstrate that projects such as the geological survey formed yet another piece in the kaleidoscope of the Iowa State Agricultural Society's program of developing agriculture into a science and making scientific knowledge acceptable to the lay practitioners of agriculture, the ordinary farmers.

[454] Ibid.
[455] "Proceedings of January Meeting," in I.S.A.S.R., *1865*, 93.

CHAPTER 6

THE DRAFT HORSE OF CHANGE

Whereas the other institutions of agricultural improvement and reform patronized by the Iowa State Agricultural Society either were imposed from above, such as the governmental projects of the Patent Office, United States Department of Agriculture, and geological survey or of elites such as agricultural periodicals, or infrequent and part of the network of agricultural societies in Iowa, such as fairs and farmers' clubs, the Iowa State Agricultural College and Model Farm could take on a life of its own. It could combine the Society's ideals and even its personnel and yet also involve parties unreached by agricultural societies and representative of other interests. As an institution of education *per se* it would reach out to the farmers of the future and, insofar as it educated them, have a role in molding the world in its own image. These possibilities made the College a unique institution and gave it an independent existence, unlike other mechanisms of agricultural education and improvement, discussed in Chapter 5, which were subsets of larger organizations. The annual fair of the Iowa State Agricultural Society and the packets of seeds distributed by the Patent Office may have played a role in educating farmers so that they could improve their techniques, for example, but agricultural improvement was their goal. The education of agricultural improvement, however, was a goal that belonged exclusively to the College.

The Iowa General Assembly enacted the Iowa State Agricultural College and Model Farm into existence in the spring of 1858. Until 1869, when it officially opened for instruction, it developed slowly. This was deliberate. The Board of Trustees eschewed a desire to rush the College's opening on order to put it on a more secure financial footing and to give themselves

time to find the best personnel to operate both the farm and the college. As the Board's members took their incremental steps, however, they did perform some of the same functions as the Iowa State Agricultural Society, which held agricultural education in a college setting to be so essential to making agriculture a science and improving its productions, dignifying agricultural labor, and enabling farmers to become citizens in the Aristotelian sense by having a share in the government, and to a certain extent the College also re-articulated its mission.

Such overlap will not come as a surprise, since many of the individuals quoted in this chapter contributed extensively to the Society's annual reports. Further, many of the Society's officers and most prominent individuals sat on the College's Board of Directors. M.W. Robinson, involved with the College in 1859 and 1861-65, served on the Society's Board of Directors in 1855 and 1863-65. P. Cadwell, involved with the College in 1865, served on the Society's Board of Directors in 1863 and 1865. Peter Melendy, involved with the College in 1861-1865, sat on the Society's Board of Directors in 1858-1862, served as its vice president in 1864-1864, and became president of the Society in 1865. Richard Gaines, involved with the College Board of Directors in 1859 and 1861-62, served on the Society's Board of Directors in 1858. Suel Foster, who wrote many essays for the Society's annual reports, was involved with the College in 1859 and 1861-1865. Timothy Day, on the College's Board of Directors in 1859 and 1861-62, sat on the Society's Board of Directors in 1855 and 1863-65. Finally, William Duane Wilson was involved with the College in 1859 and 1861-1865 and served as the Society's corresponding secretary in 1856.

In 1860 William Duane Wilson, secretary of the College, explained that although the General Assembly created the College not long after its supporters offered proposals it constituted "a great work … to be accomplished, and to do it as it should be done, more time is required

than many suppose."[456] Future general assemblies would have to take at least an equal interest in the College's work. "Another legislature will have to act upon the measure," he cautioned, "and a handsome appropriation will be required from it before another step can prudently be taken towards making our Institution what it was designed—*to educate the youth of the State in enlightened practical Agriculture*."[457] Until then the College could perform few functions; the farm associated with it, however, could. Suel Foster advised that although he "would certainly be opposed to undertaking much until we get the right man to manage such farming," the Board of Trustees could hire "a good, common farmer, to make some common place experiments, [which] might be very profitable: such as plowing four, eight, twelve, and sixteen inches deep—in June, July, August, and so on in as many different months as the frost will permit."[458]

Foster offered a few justifications for his advice; in short, circumstance had thwarted any efforts to give the College more attention and care from the state. The College had "expected that the Legislature of 1860 would have made an appropriation sufficient to commence the erection of suitable College buildings, but as the financial condition of the State would not justify it, an appropriation was not asked for nor was one made."[459] At the next meeting of the General Assembly, in 1862, "the whole finances of the State were needed to meet the extraordinary expenditures incident to the suppression of the rebellion."[460] The economic crash of 1858 and hardship that year brought on by crop failures, together with the Civil War, had done their work. The Board of Trustees, however, had enough patience to get through the war before asking too much of Iowans. Peter Melendy, the College's secretary in 1865, explained that, "[b]eyond the

[456] Wm. Duane Wilson, *Second Annual Report of the Secretary of Iowa State Agricultural College and Farm* (Des Moines, Iowa: Iowa State Agricultural College and Farm, Secretary's Office, 1861), 4.
[457] Ibid.
[458] Suel Foster, "Report of the President," in *Fourth Annual Report of the Secretary of the Iowa State Agricultural College & Farm* (Des Moines, Iowa: Iowa State Agricultural College and Farm, Secretary's Office, 1863), 2.
[459] Ibid.
[460] Ibid.

expenditures necessary to place the farm under a fair state of cultivation, the Trustees did not feel justified in making appropriations from the limited amount in their hands," and instead "preferred reserving the best of the assets for an endowment to meet the expenses of the Institution when in operation, hoping that when it had the ability the State would make the needed appropriation for college buildings."[461]

Even during the College's stunted years, it involved itself with other organizations that advocated agricultural improvement – the same organizations in which the Iowa State Agricultural Society took an interest. In 1862, for example, the Board of Trustees adopted several resolutions, including one asking Iowa's congressional delegation to oppose the abolition of the United States Department of Agriculture; a second to create a committee to write articles on the benefits of agricultural education at the College for agricultural periodicals, since "[t]The masses of our farmers are not fully awake to the great importance of their interests in the improvement of agriculture, and their obligations in helping to permanently establish our College, and in taking some active part in this great work, which will so greatly benefit the yeomanry of our young State;" and a third to publish that year's report of the Board of Trustees in the *Iowa Homestead*, print 3,000 copies as pamphlets, "and requesting the press of the State generally to give the same all possible publicity."[462] The College also sought better statistics of agricultural production, since contemporary schemes to collect them meant that those compiled by "township Assessors … have to pass through careless and incompetent county officers to be compiled, footed up, and returned."[463]

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[461] Peter Melendy, "Report of the Secretary of the Iowa Agricultural College and Farm," in *Report of the Proceedings of the Board of Trustees of the Iowa Agricultural College and Farm for the year 1865* (College Farm: Office of the Secretary and Superintendent of the Iowa State Agricultural College and Farm, 1866), 7.
[462] Wm. Duane Wilson, "Miscellaneous Resolutions, &c., Adopted," in *Fourth Annual Report … of the Iowa State Agricultural College & Farm*, 13.
[463] Wm. Duane Wilson, *Fifth Report* (Des Moines, Iowa: Office of the Secretary of Iowa State Agricultural College and Farm, 1864), 64.

The College also prodded farmers to associate themselves into township-based farmers' clubs. In a circular sent out with samples of seeds Wilson "respectfully commend[ed] to the serious consideration of, and adoption by our farmers and others, the following suggestions," first of which was "the organization of Farmers' Clubs," which were "the especial correspondents of this office, and the first to receive the benefits arising from the general distribution of seeds, etc., as was the case last year."[464] A committee of assemblymen appointed to visit the College in 1863 also saw benefits to the formation of farmers' clubs. The committee wrote that farmers' clubs, "Having for their object discussions on Agricultural topics, and eliciting the results of the experience of its members in farming, rearing stock, &c., [farmers] are beginning to be appreciated more and more every year," even though it quickly added that "The beneficial results growing out of such organizations where they are well conducted and regularly attended, are not properly appreciated by our farmers."[465] Perhaps to encourage the formation of farmers' clubs the committee enumerated eight benefits they provided, and anticipated that "[i]f Iowa had but one good Farmers' Club in every organized township in the State, this fact, if known to those looking to the West for their future homes, would impress them so favorably in regard to our standard as an agricultural people, that they would hasten to find a location under the bright rays emanating from such organizations."[466]

The College also became something of a hub for the distribution of samples of seeds from the United States Patent Office and other sources.[467] Not long after the College was created some manufacturers of agricultural implements offered to donate their devices to the College so

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[464] Wm. Duane Wilson, *Third Annual Report of the Secretary of the Iowa State Agricultural College to the General Assembly of the State of Iowa, February, 1862* (Des Moines, Iowa: Office of the Secretary of Iowa State Agricultural College and Farm, 1862), 76.
[465] B. F. Gue, Chas. Paulk, and John Russell, "Appendix," in *Fifth Report*, 85-86.
[466] Ibid., 86-88.
[467] Wilson, *Third Annual Report … of the Iowa State Agricultural College*, 4-6; other sources within the College's annual reports detail the seed distributions from year to year.

that the latter could test them "in the most satisfactory manner, and if found valuable, [attest to] the fact to our farmers;" the College found such a "prospect for providing the farm with the best implements of husbandry … very flattering."[468] A profit motive also entered the College's interest in experiments with timber cultivations and bee culture.[469]

Making the College's work useful required the cooperation of ordinary farmers. The College believed that their cooperation would benefit both themselves and the state. Most farmers might not want to answer the circulars sent with samples of seeds, Wilson wrote, "yet it is hoped that they will apply themselves to the task for their own benefit, with the reflection that they are only performing a duty which they owe to each other as well as to the general agricultural interests of the State, and one which will doubtless repay them amply for any trouble or expense incurred."[470] One form of compensation to those who replied to the College's bestowing of its resources could find their data, and the data of all the other respondents, "condensed and arranged for publication in [the] Report to the Legislature," and so they would "obtain a mass of important information, more than sufficient to remunerate them for their outlay of time and labor."[471] This made College programs such as seed distribution a public service, not merely a self-interested project. Wilson hoped "that *all* will recognize the object of the State, and enter heartily in co-operating with it, from a desire to promote their own and the public good…. Without the aid of such liberal and public spirited men, I cannot expect to accomplish, very satisfactorily to myself at least, the duty assigned me…. It is sincerely to be hoped that there will be no

[468] Wm. Duane Wilson, M. W. Robinson, and Samuel J. Kirkwood, "Report of the Secretary of Iowa State Agricultural College and Farm," in *First Annual Report of the Secretary of the Iowa State Agricultural College, to the General Assembly of the State of Iowa, For the Years 1858 and 1859* (Des Moines, Iowa: John Teesdale, State Printer, 1859), 5.
[469] On timber, see Peter Melendy, "Land Commissioner's Report," in *Fourth Annual Report … of the Iowa State Agricultural College & Farm*, 12. On bees, see Peter Melendy, "Recommendations," in *Report … of the Iowa Agricultural College and Farm for the year 1865*, 42.
[470] Wm. Duane Wilson, "Circular In Regard to Seeds, &c.," in *Third Annual Report … of the Iowa State Agricultural College*, 77.
[471] Wm. Duane Wilson, *First Annual Report … of the Iowa State Agricultural College* …, 15.

difficulty in finding a few intelligent, public spirited farmers and gardeners in each County," to report on the results obtained by the cultivation of the College's test seeds.[472]

Public-spirited farmers could not sustain the College on their own, though. Public, governmental support was also necessary. Wilson argued that the General Assembly should endow the College with resources commensurate with the magnitude of the interest it worked for, writing that "as [the College] represents the leading of the State, it should at least be fostered to an extent equal to any of the others."[473] Such support, he also stated, was a matter of state pride and position vis-à-vis other states. "*We must not stop here*, is the hope of every well wisher to the prosperity of our highly favored State, and it is not necessary that we should," he wrote. "Our reputation also, as an enlightened agricultural people will suffer in the eyes of her sister states if the effort is now abandoned."[474] Wilson's pleas and explanations did not mean that he doubted whether the College had enough popular support, even though "a large portion of our people are not sufficiently informed in regard to the advantages of such institutions, to make up their minds how far it is prudent to move in the matter."[475] Notwithstanding the ordinary farmer's lack of information Wilson "hoped … that the friends of the Farmers' College will present to the next Legislature some evidence of the desire of the people of the State for an appropriation of money to place it upon a firm foundation," and if the College's allies failed to do so, those farmers who did know about the College's work and who communicated to him "their wishes in personal interviews … over a large portion of the State," would.[476] Communication of the kind that could facilitate the exchange of knowledge was key to the College's utility.

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[472] Ibid. Emphasis in original.
[473] Wilson, *Second Annual Report ... of Iowa State Agricultural College and Farm* (Des Moines, Iowa: Iowa State Agricultural College and Farm, Secretary's Office, 1861), 7.
[474] Ibid., 5. Emphasis in original.
[475] Ibid., 4. The numbers of responses to the annual distribution of seeds received by Wilson also demonstrates his comments. In reports throughout the early 1860s he lamented low response rates.
[476] Ibid.

Like the Iowa State Agricultural Society, the Iowa State Agricultural College and Model Farm held that knowledge about agricultural successes and failures was crucial to providing consistent help to farmers. In a circular seeking data on corn and wheat production Wilson expressed his confidence that one farmers could repeat another's successes if only he had the relevant information. "If a farmer can raise without much extra exertion 75 or 100 bushels of corn, or 20 or 30 bushels of wheat to the acre, another may do the same if informed how it was done—and even the most successful in Iowa may improve upon his culture, if he is made acquainted with the mode of arriving at greater results elsewhere."[477] Disclosing the results of failed experiments, too, would empower farmers to make informed decisions. Wilson wrote again, "It is to be regretted that our farmers do not understand that to report the causes of failure is as important as to give the reasons for success in the cultivation of nay seed. By giving the whole process of cultivation, the public can judge better whether the failures were not such as could have been overcome."[478] He could not repeat the necessity of information, regardless of an experiment's outcome, enough; in his letter directly to the General Assembly he argued the same point, insisting that "[t]o those who have taken the pains of giving the information desired, and that too, wholly at their own expense, are the farmers of the State indebted for the valuable information given in this report."[479]

The College's annual reports, of course, constituted one form of education, but the College looked forward to the days when it would actually teach students. Consequently, even though it had no instructional role in the first decade of its existence, it still articulated a vision of what "agricultural education" should include. The College reports indicate that the Board of

[477] Wm. Duane Wilson, "Corn and Wheat," in *First Annual Report … of the Iowa State Agricultural College* …, 61.
[478] Wilson, *First Annual Report … of the Iowa State Agricultural College* …, 85.
[479] Wilson, Robinson, and Kirkwood, "Report of the Secretary of the Iowa State Agricultural College and Farm," in *First Annual Report … of the Iowa State Agricultural College* …, 108.

Trustees, like the Society, believed that agricultural education should be broad, that it was necessary to improve agriculture along scientific lines and increase production, the dignity of labor, and contribute to progress.

In 1862 the College's land commissioner, Peter Melendy, argued that "educated labor" provided the foundation for American prosperity. "The whole history of our the prosperity of our country," he wrote, "whether general or sectional, social or political, demonstrates the assertion that not to soil or climate, to sea or land, to zone or temperature, are we indebted for the wonderful display of genus and skill, but to the elevating influence of educated labor," he wrote.[480] Others had used data to make this argument in earlier reports. Wilson wrote for the first report that improved farming yielded better results than average farming. Comparing census returns to the reports received by the College, he found that, for spring wheat, "we have an average of over 31 bushels per acre, in a season the average product of which was but a fraction over 4 1/8 bushels per acre, as reported in the Census. Of Corn we have an average yield of near 74 bushels to the acre, whilst the Census returns of that year, 1858, give us but 23 1/3 bushels as the average per acre throughout the State."[481] He also noted in 1860 that agriculture "is … practiced most successfully … in those countries where Farm Schools and Colleges exist to the greatest extent," such as the European states of "'Proud old England, energetic Scotland, rising Ireland, extended Russia, decaying Austria, little Denmark, and despotic France.'"[482]

For all the association between education and prosperity, the College agreed with the Society that agricultural education lagged far behind the condition in which it ought to be. In 1865

[480] Melendy, "Land Commissioner's Report," in *Fourth Annual Report … of the Iowa State Agricultural College & Farm*, 3.
[481] Wm. Duane Wilson, "Comparisons and Deductions," in *First Annual Report … of the Iowa State Agricultural College* …, 90.
[482] Wm. Duane Wilson, "To the Farmers of Iowa," in *Second Annual Report … of Iowa State Agricultural College and Farm*, 6.

Melendy, then secretary of the Board of Trustees, asserted the familiar refrain that "[t]he education of our farmers as such, beyond every other class of our community, is the worst provided for, hence none are more liable to imposition as the result of their ignorance of scientific instruction. No branch of human industry is suffering so much for want of the application of scientific principles in its various operations as is Agriculture at the present time."[483]

This lag caused the lag in production among unscientific or unimproved farmers, who needed to unify agricultural science with agricultural practice. In response to contemporary needs, then, the College would combine science with practice when it educated students. In a statement repeated two years later Wilson broadly articulated the College's mission: "*to associate a high state of intelligence with the practice of Agriculture and the industrial or mechanic arts, and to seek* to make use of this intelligence in developing the agricultural and industrial resources of the country, and protecting its interests."[484] Even if some people interpreted this objective narrowly the Trustees proved to understand it broadly. Wilson went on to give a more extensive definition. He explained that, "[a]s a purely educational *institution*, its course of instruction is to include the entire range of the Natural Sciences; but will embrace most especially those that have a practical bearing upon the every day duties of life, in order to make the student familiar with the things immediately around him, … since Agriculture, more than any other of the industrial arts, is important to man, and since, for the complete education of its principles more scientific knowledge is required than for all other industrial arts combined, it follows that

[483] Melendy, "Report of the Secretary of the Iowa Agricultural College and Farm," in *Report … of the Iowa Agricultural College and Farm for the year 1865*, 15-16.
[484] Wm. Duane Wilson, "Object of the Institution," *Fifth Report*, 5. Emphasis in original. This articulation seems narrower than others advanced by the Board of Trustees. Melendy offered another narrow interpretation in 1862, when he noted that, through the State University of Iowa, "We have provided for the literary culture of our youth. Let us then have a well endowed Agricultural College, to prepare the young men for understanding, as farmers, the natural elements with which they are to deal, and for producing and applying the artificial elements for the improvement of the soil." Melendy, "Land Commissioner's Report," in *Fourth Annual Report … of the Iowa State Agricultural College & Farm*, 3.

this should receive by far the highest degree of attention."[485] Wilson's expansive agricultural education would "not only afford the student the *facts* of science, but will discipline his mind to habits of thought, and enable him fully to comprehend the abstract principles involved in the practical operations of life."[486]

The College was realistic about the reach that it could have. Wilson recognized that the College simply could not educate all the farmers' sons in Iowa. It could, however, equip those it did educate with the mental ability to act as missionaries of sorts, bringing knowledge and scientific reasoning back to their communities. He explained, "it is not deemed possible to educate every agriculturist, artisan, mechanic, and business man in the State, but to send out a few students educated in the college course, that they, by the influence of precept and example, may infuse new life and intelligence into the several communities they may enter."[487] In other words, the agricultural college would prepare its students for public prominence, even if it accrued to them for their ability to shape economic realities into prosperity; it would make them leaders.

Agricultural colleges, Melendy wrote in 1865 using language originally employed by Wilson in 1860, should impart learning in all areas of knowledge related to agriculture to cultivate both practical skills and mental power. The two of them explained that agricultural colleges such as Iowa State "are intended to develop and adapt a system of instruction which shall embrace to the fullest extent possible those departments of all sciences which have a practical or theoretical bearing upon agriculture and agricultural interests" in order "to afford good mental discipline" and "a larger share of practical knowledge peculiarly adapted to the necessities and

[485] Wilson, "Object of the Institution," *Fifth Report*, 5. Emphasis in original.
[486] Ibid. Emphasis in original. Thus, the Iowa State Agricultural College and Model Farm was to provide liberal education *plus* practical education in agriculture, not one or the other. Individuals such as Suel Foster, Peter Melendy, and W. Duane Wilson, who all became important to the College, made such remarks in the venue provided by the Iowa State Agricultural Society (see Chapter 4).
[487] Ibid, 6.

calling of a farmer, and which none of the other classes of colleges are competent to perform." This combination was desirable, Melendy and Wilson wrote. It simply *ought to be*. "Science and art should go hand in hand," they wrote. "We find men all over the enlightened world working at agricultural sciences, who know too little about agricultural *practice*, whilst almost the entire agricultural community know nothing about science. These great interests can only be effectually united in agricultural institutions of learning, where all that science teaches can be brought before those who are devoted to agricultural practices."[488] Further, the Trustees believed, the Morrill Act of 1862 justified their broad definition of agricultural education. In 1862 Melendy explained, in his capacity as the land commissioner responsible for selecting the lands granted to Iowa for the purpose of endowing a college of agriculture and mechanic arts, that with the enactment of the Morrill Act he felt "more than ever the necessity of prompt and decisive action on the part of the Board of Trustees, to do all in their power to advance agriculture in our State, and contribute to make agricultural education the watchword of the age, for agriculture is the embodiment of all the physical sciences."[489]

By so broadly educating farmers' sons, the Iowa State Agricultural College and Model Farm would add to the nation's prosperity, increase the dignity of labor, and ensure that the era of progress continued. Melendy quoted an unknown author who wrote, "'Let it be ours to give to the farmer, the tiller of the soil, amid all his labors, a well furnished, well disciplined mind; ours to open for this purpose all over our land the portals of science, to pluck the flowers that bedeck the field of literature, or garner stones from the mines of thought which he may there explore; that when he goes abroad he may go to bless mankind. Let it be ours, in fine, to educate

[488] Melendy, "Report of the Secretary of the Iowa Agricultural College and Farm," in *Report of … the Iowa Agricultural College and Farm for the year 1865*, 16. Emphasis in original.
[489] Melendy, "Land Commissioner's Report," in *Fourth Annual Report … of the Iowa State Agricultural College & Farm*, 3.

the whole man physically, intellectually, and morally.'"[490] Then American greatness would increase indefinitely, "and fear no tendency to decline."[491]

By requiring that students labor, to demonstrate their education and practice it, the College would add to labor's dignity. In another statement repeated later, Wilson wrote "that whatever is necessary for man to have done, it is honorable for man to do, and that the grades of honor attached to all labor, are dependent upon the *talent* and *fidelity* exhibited in performing it.[492] In other words, since agricultural labor was necessary, if farmers labored well, they labored honorably. Further, since the College would require all students to labor regardless of their social standing and economic resources, it would instill in all students an equal appreciation for labor and reconfigure contemporary opinions: "Instead of the idea of poverty and want being associated with those who labor, that of laziness and worthlessness is associated with those who refuse to work efficiently."[493] The dignity of labor came through labor's usefulness; exertion alone did not make it dignified. Exertion in the proper way, trained according to scientifically acquired knowledge, would compel non-laborers to esteem those who worked with their hands. "By the union of labor and study, they are both placed in their proper position, and thus only are exhibited in their true dignity. Here they are taught to walk together, and that separation is degrading to both," Melendy explained.[494]

The College recognized the nineteenth century's obsession with progress. To hold steady by using the methods of one's forebears, rather than improving, was to court a second place to everyone else. In Wilson's view, "[t]hat day has gone by when our farmers can safely rely upon

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[490] Ibid.
[491] Ibid.
[492] Wilson, "Object of the Institution," *Fifth Report*, 6. Emphasis in original.
[493] Ibid.
[494] Melendy, "Report of the Secretary of the Iowa Agricultural College and Farm," in *Report … of the Iowa Agricultural College and Farm for the year 1865*, 11.

the worn out track upon which their fathers travelled so long. A new era has dawned upon Agriculture as upon every other department of life—it is that of *Progress*."[495] There was always room for more perfection of agricultural methods, Wilson wrote. The Trustees also recognized the amazing fertility of Iowa's soil, but asked rhetorically, "Are we so perfect in obtaining from the rich soils of our State all that is hidden therein that we need no further information? It is generally admitted that we are not. Then let us experiment and experiment, especially when the cost is fully within our means, until we attain as near perfection as is destined to the finite mind. Let those who doubt this mode of accomplishing the desired end present a better and it will be adopted. Until then let us make the best use of the lights around us and the means in our possession."[496]

As it prepared to open for instruction the Iowa State Agricultural College and Model Farm began to do the same kind of work done by the Iowa State Agricultural Society, contributing to agricultural periodicals, distributing seeds and seeking feedback on their yields, etc. The College expected to offer its students, when it finally opened, a broad education on all matters related to the cultivation of the earth. That education would provide the same function as the Society expected: it would improve agriculture scientifically to make it more productive and would dignify labor to give farmers more substantial and meaningful social and political lives.

[495] Wilson, *Second Annual Report of the Secretary of Iowa State Agricultural College and Farm* (Des Moines, Iowa: Iowa State Agricultural College and Farm, Secretary's Office, 1861), 4. Emphasis in original.
[496] Ibid., 5. The College's report for the year 1865 repeated this passage.

CHAPTER 7

EPILOGUE: INTERPRETING THE IDEA

This thesis has shown that, although colleges of agriculture such as the Iowa State Agricultural College and Model Farm were founded on general ideas supposed and designed to benefit both public and private life, different writers and speakers articulated the ideal role of an agricultural college in different ways at different times. For the first century of the Iowa State Agricultural College's existence, however, there was consensus among the men charged with running the College: education should be broad and thorough so that it could have the most far-reaching, meaningful effects. Adonijah S. Welch upheld that consensus in his inaugural address of March 17, 1869, and his successors upheld it until the inauguration of Gordon P. Eaton on March 29, 1987. In the past three decades, the leaders of Iowa State University have rejected the combined public-private mission of land-grant colleges such as their own in favor of a model designed to grow economic power, and have viewed such prowess as a public good rather than one of several routes by which the public good can be achieved. This epilogue delineates the ideological divisions between the two cohorts of presidents, humanists and materialists, bringing to this historical study some modern relevance.

This first group of presidents argued that the land-grant colleges would not exclusively pursue the individual benefit of the students nor other private parties. The innovation of land-grant colleges such as Iowa State was that a person could put his or her intellect to the service of the animal, material wants of man just as he or she could put it into the service of his or her political, social, and civic wants. The real genius of the system was in the combination of the two possibilities within the same institution. In this group, which dominated the interpretation of the

land-grant colleges' purpose for a century after they began operation, the reader will see the mid-nineteenth century ideology of the Iowa State Agricultural Society repeated again and again.

The curriculum Welch proposed in 1869 to initiate would serve three purposes. First, in studying specific principles and exercises of their particular kind of work, students would gain material benefit by acquiring an ability to provide for themselves and labor productively. Second, students would meet the humanitarian needs of others, for Welch argued that "the knowledge that brings [the student] into closer communion and fellowship with his kind, the knowledge that renders him strong to help every enterprise, to feed the hungry, clothe the naked, restore the sick, and crown each revolving year with plenty, is of highest value. All sciences are of value, but those sciences are of most value which answer the demands of universal philanthropy."[497] Nevertheless, the benefits of the land-grant curriculum did not benefit others merely by improving their material conditions. Welch's third purpose was that, like the traditional liberal arts colleges whose place the land-grant colleges sought to supplement, the students of the Iowa State Agricultural College would gain a sense of their place in politics and society, of their civic responsibilities.

In other words, colleges such as the Iowa State Agricultural College ought not be institutions which considered economic gains their only objective. The College would lend civic credibility to economic activity and development, upholding principles "Of wisdom, in determining that the learning gathered in these halls shall contribute to the success and dignity of labor."[498] Welch and his associates paired economic training with the citizenship goal of classical education. He planned to put all of higher education, including the traditional classical curriculum, to use for contemporary needs, including such needs as the political and social wants. Welch chal-

[497] Adonijah S. Welch, "Inaugural Address," in *Addresses Delivered at the Opening of the Iowa State Agricultural College, March, 17, 1869* (Davenport, Iowa: Gazette Premium Book & Job Printing Establishment, 1869,) 28.
[498] Ibid., 23.

lenged prospective students to take advantage of this combination: "Let every earnest youth strive for the attainment of that sort of intellectual power which, while it prepares him for the duties of the citizen, will enable him to do thoroughly and well his special work in the world."[499]

Aside from Welch's careful description of both the private and public[500] orientations of the land-grant colleges, his successors in the humanist cohort of Iowa State presidents mainly addressed the public, civic advantages of extending educational opportunities to the general population and combining classical with practical education. That cohort includes William I. Chamberlain, who served from 1886-1890; Albert Boynton Storms, 1903-1910; Charles Edwin Friley, 1936-1953; and W. Robert Parks, 1965-1986. Underlying the land-grant colleges and, at Iowa State at least, articulated throughout the first century of their existence, is a carefully articulated idea that connects the public life of politics and civics with the private life of economic and material well-being and asserts a symbiotic relationship between the two. At Iowa State University, that idea has coursed through the university's existence, at least in theory.

In the more recent past, however, that idea has been neglected the university's presidents' inaugural addresses. The three most recent presidents of Iowa State whose terms in office have concluded, Gordon Eaton, Martin Jischke, and Gregory Geoffroy, make up what I call the "materialist" school of thought. Simply put, in their inaugural addresses they labeled economic development as the land-grant colleges' purpose and, whereas their predecessors had sought to put

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[499] Ibid., 26.

[500] In his political writings the Greek philosopher Aristotle emphasized the distinction between private and public life, and a scholar of Aristotle, Hannah Arendt, has defined that difference in the most crystallized way. The public space, she writes in *The Human Condition*, is not a space in the material sense of the word but, rather, the relationships that exist between and among people for the sake of action, or "word and deed" that is made meaningful only by the presence of other people. "The term 'public,' she writes, "signifies the world itself, in so far as it is common to all of us and distinguished from our privately owned place in it;" further, "To live together in the world" – to participate in public life – "means essentially that a world of things is between those who have it in common, as a table is located between those who sit around it." Conversely, in private life, "Whatever [a man] does remains without significance and consequence to others, and what matters to him is without interest to other people," except perhaps on an emotional or sentimental level, because other people are absent. Hannah Arendt, *The Human Condition*, 2nd ed., (Chicago: The University of Chicago Press, 1998), 176, 52, 58.

practical education and material prosperity in the service of civic purposes, they hoped to put liberal education in the humanities and social sciences – disciplines related *per se* to civics and public life – in the service of economic, or private, gains. For example, although Jischke, like his predecessors in the humanist cohort, identified liberal education as one of the central tenets of the land-grant idea, he kept its definition to a minimum, stating that "[l]iberal education … is sustaining, is enduring, is liberating. It frees us to communicate precisely, to think clearly, and to appreciate truth and beauty."[501]

Eaton did agree with his predecessors, however, that universities had helped civilization's development. Among their "beneficial and enduring values" he included "the solution of society's problems, the pushing back of the edges of humankind's ignorance on many fronts, and the furtherance of competitive state and national economic growth."[502] As this last clause suggests, however, Eaton believed that "these things constitute[d] the enhancement of the economic well-being and the quality of lives of our citizens."[503] Iowa State University should take a paternalistic kind of economic role in educating Iowa's farmers, he said. As he put it, "We must define the competition for them and they must come to learn the complex new rules of the game. It is hardly a time for a wistful look backward at what once was, for it is no more, regardless of the emotional power of our nostalgia."[504]

Eaton and his immediate successor, Jischke, believed that Iowa State could accomplish that through two means: educating students and through its research and extension work. Eaton focused on changes that Iowa State could make to its curriculum. The students, he said, should

[501] Martin Charles Jischke, "Celebrating the Land-Grant University: Pursuing Excellence for Iowa" (inaugural address, Iowa State University, Ames, Iowa, October 13, 1991), 6.
[502] Gordon P. Eaton, "The Challenges and Necessity of Change" (inaugural address, Iowa State University, Ames, Iowa, March 29, 1987), 3.
[503] Ibid.
[504] Ibid., 6.

be educated "for global comprehension" and the university should cease "to ignore, in the general education required of all of our students, the vital importance of an understanding of other cultures and their relationship to our global interdependence and global world economy."[505] Traditionally humanistic reasons for studying a field – because it would benefit the student as a person rather than as an economic actor – were cast aside. Indeed, he almost explicitly said that the humanities and social sciences could be used in ways directly valuable to economics: "What has been less obvious to some is the equal relevance and practical value that can be attached to the humanities and the social sciences on our campus, for it is in these fields and their collective treasures of knowledge, that we will find the keys to a fuller understanding of other cultures, languages, and economies, and the geographies of the many other nations of the world."[506] Specifically, Eaton decried the fact that "[l]anguage requirements have been allowed to languish badly in American universities over the past two decades, just as have curricula in cultural, social and economic geography, and international politics."[507] Through economy-oriented outreach activity such as "extension, technology development, and technology transfer," Jischke later said, "we serve the needs of Iowa enterprises, we foster new industries, and we share these educational resources as widely as possible" – economic ends, all.

Similarly, Gregory Geoffroy exhorted the faculty of Iowa State to engage in more interdisciplinary work because such projects served as catalysts for economic development."[508] Geoffroy also reinterpreted the 150-year-long history of Iowa's land-grant college in an econom-

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[505] Ibid., 5.
[506] Ibid., 9. One of the reasons he said such skills were valuable was that "Many of our Iowa students will tomorrow live abroad for substantial parts of their lives, or work for firms that have significant commerce abroad, or that find their companies' principal competition abroad." Thus, the humanities and social sciences carried strictly economic value. Ibid.
[507] Ibid., 10.
[508] Gregory L. Geoffroy, "Achieving Excellence" (installation address, Iowa State University, Ames, Iowa, October 6, 2001), 6.

ic light. He praised the members of the Iowa General Assembly who accepted the Morrill Act in the fall of 1862 for embracing four ideals. First, they "embraced … the ideal of access to higher education—access not just for a privileged few, but access for all, regardless of race, gender, or social or economic status." Second, they "embraced the ideal of providing students with an education that would give them the tools to be successful as a professional and as a citizen and leader," though he did not outline the features of such an education. Third, Iowans undertook the research of problems agricultural and industrial, or practical. "They embraced the ideal of doing research not just on the mysteries of the universe, but also on the mysteries and challenges of growing crops, raising livestock, building structures, and manufacturing," he said. Finally, Iowans "embraced" outreach, or "connecting with people—with farmers, with business people, with factory and industrial workers, with families, in all parts of the state, and in communities of all sizes—to put the knowledge resources of this new kind of land-grant university to work for them, to help them improve their lives, and to help them build a better quality of life in their communities. This connecting with people is the ideal we today call 'engagement.'"[509]

The economic orientation and rhetorically flat or shallow explanations of these later presidents – especially in a forum that inherently could host thorough, eloquent explanations of the underlying principles of land-grant colleges and universities such as Iowa State – leaves something to be desired. When this cohort is compared to the group that preceded it, one senses that the earlier understanding of the land-grant colleges' role has been lost. Only further, more thorough studies of the origins and conduct of Iowa State University can define that something. Perhaps further study of the origins of land-grant colleges such as Iowa State University will encourage it and the successor institutions of other land-grant colleges to live up to their broad be-

[509] Ibid., 3.

ginnings rather than succumb to a narrow and shallow understanding of the role they should have in American society.

Since the inaugural addresses of the humanist cohort of presidents of Iowa State suggest that the original model of broad education, including civic education, was appropriate to an equally broad variety of eras and circumstances, we can infer that it is applicable to all eras. Unfortunately, the presidents of the past generation have shown little interest in their predecessors' ideas. In fairness, the Iowa State Agricultural Society – and even the earliest members of the College's Board of Trustees – never delimited what kind of education the College should give. Nor did the two pieces of legislation most relevant to the College, the one passed by the Iowa General Assembly, which created it, and the Morrill Act of 1862, which placed it on a surer footing. The Board of Trustees and the first cohort of presidents took this elasticity and did with it what they thought best. That elasticity is a good thing, because it allows constant updating of education to the needs of the modern world – in true land-grant college fashion, making knowledge useful. However, this imposes the obligation to change with public needs, to be open minded about the definition of the land-grant college. As a variety of interpretations fly around, it is this student's hope that others who have an interest in the meaning of a group of truly inspired set of institutions will look to the circumstances in which they were created, rather than the easily visible but superficial lights to which we have grown accustomed.

Such examination is necessary. As demonstrated, from the beginnings of the land-grant colleges' operation their administrators have alluded to, cited, and invoked the land-grant legacy of Morrill and the innovative purposes of the colleges his bill endowed. Because modern leaders continue to cite the document and its author's original intentions, using them to justify their pro-

posals, what otherwise might be an ivory tower controversy holds the potential to inspire real consequences.

Eldon L. Johnson explores this problem and seeks to correct some misconceptions about the land-grant colleges and highlight previously under-considered aspects of their history. Johnson's study is relatively unimportant for the historiography on which this thesis is based, but his concerns are the same concerns that have inspired this inquiry. The land-grant colleges "deserve to be acclaimed," he writes, "but they ought also to be better understood. Paradoxically, their long struggle for recognition and respectability has been so fully won that criticism has turned to unthinking acceptance."[510] These errors, Johnson writes, are a failure to know history, brought on by rolling "history back, proceeding from what we have fixed in our minds now; hence, we attribute to the early land-grant colleges the characteristics that exist today. What the colleges now *are* is merely what they *were* writ large [we assume]. Far from it."[511] As a result, he goes on, "some misconceptions have arisen and flourished alongside the neglect of other matters of great significance, past and present."[512] Further, as Scott Key observes, since higher education is one of the institutions at which the public directs much outcry and for which resources are scarce, an attempt to address these demands "needs to reflect upon the origins of these institutions."[513]

Since the land-grant colleges have lasted so long and since they have had such a significant impact on the development of the United States as a nation-state, any study of their history must consider their modern condition. Elsewhere, Key does not conceal his interest in writing for

[510] Eldon L. Johnson, "Misconceptions About the Early Land-Grant Colleges," *The Journal of Higher Education* 52 (1981): 333.
[511] Ibid.,.
[512] Ibid.,.
[513] Scott Key, "Economics or Education: The Establishment of American Land-Grant Universities," *The Journal of Higher Education* 67, no. 2 (1996): 196, 199.

the benefit of modern Americans citizens interested in the fate of the land-grant colleges. Understanding the non-educational context in which the land-grant colleges were created "will equip higher education policymakers to understand that the debate surrounding land-grant universities and higher education in general is always more than educational."[514]

This thesis has attempted to do that. By design, it does not deal with the agitation that led to it: the letters directed to members of the Iowa General Assembly, dueling editorials in competing newspapers that probably appeared, nor oratory on the floors of the Iowa House of Representatives and Iowa Senate. Rather, it has defined the ideals that the largest organized supporter of the Iowa State Agricultural College and Model Farm – the Iowa State Agricultural Society – expressed as justification for its own actions, and the correlation of those ideals and those underlying the College. All along, the objective has been to unpack "what they really thought" so that the most recent interpretation, which is less credible because it runs the opposite way of the interpretation that preceded it, can receive more scrutiny than that given by faculty and students in the humanities and social sciences who find it difficult to justify their work in terms of economic growth and job creation.

The land-grant idea might be pliable, depending on the circumstances and wishes of the one who invokes it, but previous applications of it are not. They are facts, and this thesis was begun in part to save the actions of those who formulated the ideology of the land-grant idea and deployed a host of vehicles in order to implement it from the manipulations of the recent past and the present day. Science is "a systematically organized body of knowledge on a particular subject," and the state of Iowa's land-grant college has become the Iowa State University of Science and Technology, but that institution possesses precious little *science* of its creation.

[514] Ibid., 216.

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