

From Churns to 'Butter Factories'

The Industrialization of Iowa's Dairying, 1860-1900

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TRADITIONAL HISTORICAL ACCOUNTS of midwestern agriculture trace agricultural development "from prairie to Corn Belt," in Allan Bogue's famous terms.¹ Those narratives of corn and hogs, markets and railroads, provide essential overviews. Later scholarship has added subregional details, illuminating variations of the traditional farming pattern involving corn, hogs, and cattle, and shifting the focus from the economics of agriculture to larger changes in rural culture. Much of that scholarship has focused on the "agrarian transition," which Robert P. Swierenga has defined as "the transformation of isolated, homogeneous, and self-sufficient farming communities with their rituals of local bonding, such as neighborhood threshing rings and barn raisings, into individualistic, impersonal, commercialized societies that are merely a microcosm of urban mass culture."²

This transformation, accompanied and driven by structural and technological changes in the agricultural economy, was not a monolithic change impervious to distinctions of gender, race,

1. Allan G. Bogue, *From Prairie to Corn Belt: Farming on the Illinois and Iowa Prairies in the Nineteenth Century* (Chicago, 1963); Earle D. Ross, *Iowa Agriculture: An Historical Survey* (Iowa City, 1951).

2. Robert P. Swierenga, "Theoretical Perspectives on the New Rural History: From Environmentalism to Modernization," *Agricultural History* 56 (1982), 499. One of the most prominent scholars in this new field is John Mack Faragher; see especially his *Sugar Creek: Life on the Illinois Prairie* (New Haven, CT, 1986). For other examples of what some call the "new rural history," see Jack Temple Kirby, *Rural Worlds Lost: The American South, 1920-1960* (Baton Rouge, 1987); and Steven Hahn and Jonathan Prude, eds., *The Countryside in the Age of Capitalist Transformation: Essays in the Social History of Rural America* (Chapel Hill, NC, 1985).

class, and region. My examination of some of the details and texture of this general cultural transition focuses attention on changes in one midwestern farm economy, the butter trade, and on the gender-specific consequences of those changes for farm families in eastern Iowa in the last half of the nineteenth century.

The topography of eastern Iowa, particularly the northern counties, is well suited to dairying. The rolling terrain rises and falls more sharply there than in other regions of Iowa. Thus it was more profitable to use the land for pasture than for the row crops that came to dominate the central and western parts of the state. The production of butter was a key component of dairying.

Butter production went through four stages of development in eastern and northeastern Iowa from its part in a frontier subsistence economy to a full-fledged "creamery system." Each stage of modernization had gender-specific consequences. The effects of that development on one northeastern Iowa farm family are partially revealed in the diary of Emily Hawley Gillespie. Her experience illuminates the consequences of agricultural and economic modernization for nineteenth-century farm women in general. The modernization of Iowa's dairy industry took place in the name of economic efficiency and market rationality. The result was the devaluation of women's traditional work.

BUTTER MAKING had an important place in the regular pattern of a frontier woman's work and was an essential part of the production of goods consumed by frontier families.³ During the frontier stage of the settlement of Iowa and neighboring states, before the development of transportation and marketing networks and the establishment of a diversified local economy, butter making was central to women's domestic work and to the maintenance of frontier households.

3. Glenda Riley, *Frontierswomen: The Iowa Experience* (Ames, 1981); Faragher, *Sugar Creek*; idem, *Women and Men on the Overland Trail* (New Haven, CT, 1979); Mary W. M. Hargreaves, "Homemaking and Homesteading on the Plains," *Agricultural History* 47 (1973), 156-63; and idem, "Women in the Agricultural Settlement of the Northern Plains," *Agricultural History* 50 (1976), 179-89.

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Only recently have historians begun to explore the changing economy of butter making during the next stage of settlement, once an area became established and farms in general were able to move from self-subsistence to production for a local or regional market. Joan Jensen has defined many of the salient aspects of "premodern" butter production and distribution in her book *Loosening the Bonds*.⁴ Focusing on the mid-Atlantic region for the period 1750–1850, Jensen describes how the emergence of Philadelphia as a regional urban market speeded the development of a market economy and commercialized dairying in the nearby counties. In eastern Iowa in the 1860s and 1870s the arrival of railroads had a similar effect on a similarly structured economy, bringing the markets of Dubuque, Davenport, and even Chicago within easy reach of butter makers in rural eastern Iowa.

Jensen argues that butter making was a form of work that allowed farm women near Philadelphia to make a transition from a purely self-sufficient operation where butter was produced only for household needs to participation in more public markets. Not all women responded to this opportunity in the same way, however. Jensen outlines five categories of butter makers, based on probable relations to the developing urban dairy market: (1) self-use, 0–199 pounds; (2) surplus, 200–599 pounds; (3) middling dairy, 600–1,999 pounds; (4) large dairy, 2,000–7,999 pounds; and (5) commercial dairy, 8,000 pounds and more.⁵ Although the pounds listed in her analysis are higher than for comparable Iowa categories, the classification does help define and clarify several possible market relations for butter making in Iowa as well as Pennsylvania. According to Jensen's analysis, some Pennsylvania farm women developed subsistence butter production into "a cottage industry that was finely tuned to the market and in which they often participated at every stage."⁶

Census records for Cedar Township in the northeastern corner of Johnson County in eastern Iowa reveal a similar pat-

4. Joan Jensen, *Loosening the Bonds: Mid-Atlantic Farm Women, 1750–1850* (New Haven, CT, 1986), especially chap. 5, "The Economics of the Butter Trade," 79–91.

5. *Ibid.*, 86. Jensen explains that she derived these categories from estimates by historical economists about how much butter was consumed in a given place and time. "Two hundred pounds of butter could then be expected to provide for a household of up to eight people" (86).

6. *Ibid.*, 87.

tern. While most of the township's farms produced some butter in the 1850s and 1860s, very few produced a marketable surplus.⁷ Most Cedar Township women in this transitional phase of Iowa's economy produced enough for their own tables with perhaps enough left over to provide for local nonproducers and the nearby towns of Solon and Lisbon. But there was as yet no widespread, large-scale, commercial production that would require substantial marketing and transportation facilities. The largest producer listed in either the 1860 or 1870 census produced two thousand pounds, nearly twice as much as the next largest producer and twenty times the township average.

The census figures, along with testimony from sources such as local papers and women's diaries, indicate a pattern of butter production and distribution that was scattered and sporadic, but was nevertheless an important part of the farm economy. Individual women might both buy and sell butter, depending on the time of the year and other tasks that might preclude butter making. Prices changed weekly, and often varied by location. Despite the irregularity of such a system, the production and sale of butter during this "premodern" settlement period fits well what John Mack Faragher has called "social labor." Faragher writes that traditional men's work was "social labor" because "the market could connect men's work to a larger social process and remunerate them in the tokens of commerce." Traditional women's work, on the other hand, because it "looked inward" rather than "connect[ed] the family to the larger social world," did not qualify as social labor.⁸ The production and distribution of butter in eastern Iowa suggests a form of economic activity that was an important exception to the division Faragher describes as dominant in nineteenth-century rural America.

Changes in dairying technology and accompanying shifts in the use and possession of capital for dairying increased in the mid-1870s, as Iowa's butter economy entered a third stage, the "creamery system." John Stewart's Spring Branch Creamery, built in 1872 just east of Manchester, was the first creamery in the state. When Stewart won the gold medal for the best butter at the 1876 Centennial Exposition in Philadelphia, it ushered in

7. Manuscript agricultural census schedules, Cedar Township, Johnson County, Iowa, 1860 and 1870.

8. Faragher, *Women and Men on the Overland Trail*, 65.

a series of technological and managerial changes that transformed commercial butter making in Iowa and, by extension, all butter making in the state. The full impact of those changes would not be felt for another twenty years or so, but within a year Stewart had become the founding president of the Northern Iowa Butter and Cheese Association, which was headquartered in the northeastern Iowa town of Manchester.⁹ Eastern markets expanded rapidly, and "creamery grade" western butter began to be shipped regularly between northeastern Iowa and New York City. By 1889, according to the Cedar County reporter to the State Agricultural Society, "Creameries have taken the place of the [farm] dairy. Not enough butter is sold by farmers to supply the retail trade; many of them buy butter and sell all their cream."¹⁰

Farm experts hoped that the advent of large-scale dairying in Iowa would alleviate the risk of disaster due to crop failure or price decline in the more central commodities. A contributor to the State Agricultural Society report for 1877 explained, "A large part of the profits of dairying over raising grain, is the certainty of fair returns each year."¹¹ As it happened, though, the pattern of economic instability and market stress that had marked grain and livestock markets soon infiltrated commercial dairying, so eventually the language in the State Agricultural Society reports took on the same tones of boosterism, specialized expertise, and market rationality as those used for the state's major crops and stock.

The "creamery system" removed much of the actual making of butter from individual farms and concentrated it in establishments that handled the milk from two hundred to five hundred cows. Farmers brought milk to the creamery, where it was separated into skim milk and cream. The cream was then worked into butter and the skim milk was sold, either on the market or back to the farmer who brought it in, usually for hog feed.

Agricultural Society reports indicate how creameries changed the scale of butter production. Whereas an individual farm might produce a few hundred pounds of surplus butter in a

9. *A History of Delaware County* (Chicago, 1878), 433.

10. *Report of the Iowa State Agricultural Society, 1889* (Des Moines, 1890), 325.

11. *Ibid.*, 1877, 570.

year, five sample creameries in Delaware County produced 89,753 pounds of butter between May 1 and November 1, 1877. By 1879 Delaware County creameries shipped an estimated four million pounds of butter.¹²

Farmers received steady cash income from "creamery checks." On the other hand, they may have paid more for the butter they now had to buy than they would have earned if they had sold it individually. The creameries paid farmers an average of seventy-five cents for one hundred pounds of milk, and in turn sold the butter for more than twenty-five cents per pound. The documentary evidence is unclear about whether farmers actually profited economically from the sale of milk as opposed to butter, and allowances must be made for the enormous variety of individual circumstances. The effect on farm women is clearer, however. Farm men, according to diaries, newspapers, and other accounts, took the milk to the "factory" and received the checks; farm women no longer earned and controlled the money from the butter they had made.

The annual production and shipment of millions of pounds of butter required vast technological changes beyond the traditional churns. The centrifugal cream separator, which made its first appearance in Iowa in 1882, just ten years after the opening of the first creamery, reduced the time required for cream to rise from twenty-four hours to thirteen minutes.¹³ Production speeded and expanded accordingly. The cream separator would later come into widespread use on individual farms, but at its inception it was primarily used in commercial creameries.

The centralization of capital and production associated with the "creamery system" gave rise in turn to increasing professional self-identification on the part of Iowa's commercial dairymen. In the 1880s and 1890s, then, dairying entered a fourth stage, as dairy production of milk and butter became a capital- and machinery-intensive industry, replacing the earlier scattered, labor-intensive enterprise. By 1900 Iowa's dairying was a full-fledged contributor to the state's overall agricultural economy: it had its own trade associations, its own governmental regulatory agency, and rules regarding sanitation, quality

12. *Ibid.*, 1877, 330; *ibid.*, 1879, 315.

13. Benjamin Butterworth, *The Growth of Industrial Art* (Washington, D.C., 1892), 33.

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control, and marketing agreements. According to Keach Johnson, Iowa's dairy industry at the turn of the century exhibited all of the salient characteristics of the "new agriculture." It was also marked by the sort of relations between government and business enterprises that were typical of the Progressive era. "Scientific" breeding of dairy cows and an emphasis on efficiency of production and marketing, along with the elimination of competition from oleomargarine and "poor quality" butter accompanied Iowa dairying's transformation along the lines and within the limits of "book farming."¹⁴ The production of butter by individual farm women suffered accordingly from charges of being unscientific, inefficient, unprofitable, and of inferior quality.

The stages in the transformation of butter making can be regarded merely as part of a process whereby agricultural production in general progressed from archaic, unscientific, relatively unproductive ways of farming to increasingly modern and sophisticated industrial processes. But such an interpretation overlooks the important changes that the transition wrought in the texture of peoples' lives, in the ways they went about their daily tasks, and, more important, in the way those tasks were perceived and valued within their social world. The industrialization of butter making in Iowa, first through the creamery system and later in professionalized dairying, systematically replaced traditional habits and attitudes with "modern" methods and rationales.

The higher price paid for the uniformly fine quality of "creamery butter" that the eastern markets demanded became a prime motivation for eastern Iowa's conversion to "butter factories" (as creameries were often called). Profitability became the standard by which dairying decisions were made, as A. M. Bingham wrote in his 1877 report, "The Preparation and Management of a Dairy Farm in Iowa." He advised farmers to test each cow systematically "to determine whether it will pay to keep her." Whether or not the family needed her for other reasons did not enter into his considerations. Bingham also advocated milking in a warm barn in winter; it can be done "at a good

14. Keach Johnson, "Iowa Dairying at the Turn of the Century: The New Agriculture and Progressivism," *Agricultural History* 45 (1971), 95-110.

profit," he said, "as winter butter of a good quality is always in good demand, and labor is cheaper at that time of year." There was a lot of money at stake. Bingham's report quoted butter prices ranging from thirty-two cents per pound for "creamery, fine" to twenty cents per pound for "dairy tubs, choice" to just twelve cents per pound for "common."¹⁵ Other reports throughout the 1870s and 1880s echoed Bingham's call for increased efficiency, precision, and scientific practices to replace the outdated and unsystematic traditional ways of handling milk and butter.

Women are noticeably absent from the dairy experts' reports of the 1870s and 1880s. When they do appear as butter makers, their work is contrasted unfavorably with that of creameries. Again, Bingham's report illustrates an attitude that began to develop as part of the move toward planning and economic rationality in butter production. He noted that butter production was "a delicate subject to handle, as each farmer's wife thinks she makes choice butter," even though the new competition from creameries showed her claim to be false. Women, Bingham added, will understand the difficulties of competing with creamery butter and be "assisted out" of the market as they receive "only from 8 to 18 cents per pound, when the creamery only a few miles off is selling at 20 to 35 cents. With the proper buildings and time, she might accomplish the same results."¹⁶

Bingham seems unaware of the ironies of his comment that women could compete with creameries, given "the proper buildings and time." An ordinary Iowa farm woman, without the capital to buy machinery and build a creamery building, and without the option of taking time away from other tasks to devote to processing any more milk than her usual few cows gave, had virtually no chance to compete in the changing market for butter.

Bingham's comments should not, however, be read as an instance of isolated misogyny, for he was not alone in his sentiments; similarly disparaging remarks about the products of women's work on the farms being "unscientific" and "unable to compete" fill the reports of the State Agricultural Society throughout this period. The advent of commercial dairying and

15. *Report of the Iowa State Agricultural Society, 1877*, 570, 572.

16. *Ibid.*, 571, 572.

the "creamery system" in Iowa probably were not deliberately designed from the outset to devalue women's work, but when women's butter production was adversely affected by economies of scale and marketing efficiency, then the gender dimensions of the change were unveiled.

EMILY HAWLEY GILLESPIE'S DIARY reveals another dimension of the activity that the State Agricultural Society dismissed as "backward" and "inefficient." In many respects, Gillespie was typical of the farm women who lived in the countryside around Manchester, Iowa, in the last half of the nineteenth century. A native of Michigan, she had moved to northeastern Iowa in 1861 to stay with an uncle and to serve as his housekeeper and guardian for his twelve-year-old daughter. Her housekeeping duties at her uncle's inn, which was only a few miles from the Spring Branch neighborhood that would soon be the site of John Stewart's influential creamery, kept her busy, but her diary also describes an active social life. Suitors came and went until the fall of 1862, when she married James Gillespie, a young farmer who lived and worked with his parents in a nearby township. Emily and James worked their way up from tenancy, moving into a rented house in 1863 and finally into their own house in November 1864. James's parents gave him a deed for two hundred acres in December 1862. Emily gave birth to children in 1863 and 1865. Although her later years were marred by invalidism and increasing estrangement from her husband, the first decade of her married life passed in a way fairly typical of women's lives in the settled parts of Iowa, as hard work was interspersed with rounds of visiting and socializing.¹⁷

Emily's diary, which she kept from 1858 until her death in 1888, sets her dramatically apart from other farm women of her era and neighborhood, though. Her diary expresses her hopes and fears, her observations about what she saw and heard in the community around her, her aspirations for education and literary distinction, and her sense of her deteriorating relationship

17. Information for this paragraph comes from my reading of the diary of Emily Hawley Gillespie, part of the Sarah Gillespie Huftalen papers in the State Historical Society of Iowa, Iowa City, and from Judy Nolte Lensink, Christine M. Kirkham, and Karen Pauba Witzke, "My Only Confidant": The Life and Diary of Emily Hawley Gillespie," *Annals of Iowa* 45 (1980), 288-312.

with her husband. The diary's function as an account book also makes it a valuable source for understanding the response of farm families to economic and social change. Throughout her married life, Emily kept a painstaking record of money received and spent, detailing receipts from corn, wheat, and livestock as well as income from the sale of butter and poultry. Her careful accounting provides glimpses into the varied economies of women's work as the advent of the "creamery system" was changing the terms of butter production in the state.

The most striking aspect of Emily Hawley Gillespie's butter work during the 1860s and early 1870s is its variability. Emily churned regularly, but churning was not so commonplace that it was included among the "usual work" that she did nearly every day and lumped under that term. Occasionally she noted that James churned for her, but usually churning was a part of her work day two to four times per week. Churning normally began in early spring, but often the first recorded sale of butter did not come until May or June. When she did sell butter, prices varied widely according to season and sometimes according to where she sold it.

Emily's sales of butter followed a fairly typical pattern. Although she sometimes sold butter to travelers heading farther west ("movers," she called them) and to neighbors, she did most of her butter trading in town. Usually, especially in the summer, she followed her notation of how much butter she sold and how much she received for it with an itemized list of what she bought with the receipts. Though she never said so explicitly, it appears that her common practice was to use money from the sale of butter to buy household items like shoes and cloth, books and writing paper, and staple foodstuffs such as coffee and spices. Her entry for May 19, 1870, represents a typical account of her trading activities. On her marketing trip to town that day she sold 34 pounds of butter for \$6.80 and recorded the following purchases: 2½ yards crash (62 cents), soap (25 cents), broom (35 cents), hat (35 cents), halibut (33 cents), cheese (35 cents), lemons (15 cents), salt (30 cents), and shoes for James (\$3.50).

It is not clear how precise the relationship between household spending and butter sales was, though, because the amount received and the amount spent often did not balance. This suggests that the Gillespies were regular customers at a

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store where Emily could carry a debt if one week's butter receipts did not cover that week's bill. Debt was almost certainly a seasonal factor in the Gillespie household accounts, because purchases continued through the winter, when Emily had no extra butter for sale. Very late and very early in the season, too, Emily often noted "churned" but did not mention selling any butter.

The "preindustrial" cycle of butter production and sales changed dramatically for the Gillespies in the spring of 1874. On May 28 Emily wrote, "We commence to sell milk today to Mr. Clark. He is to pay us 80 cents for every 100 pounds and we are to give Mr. Morse 10 cents for carrying it per 100 pounds. We get the sour milk besides the 80 cents." The arrangement seems to have been satisfactory. Emily, writing three days later, noted, "Well we think we do better to sell our milk than to make butter. We have now sold 254 pounds worth \$20.32 and it has cost to carry it 21 cents." Milk money served something of the same function as butter money, paying debts at Thorpe's store on several occasions in the summer and fall. But the sale of milk made the Gillespies purchasers of butter, as she documented in mid-August: "James carried the milk to the factory, got some butter and now has gone to help Morse thresh." In September Emily bought forty-one pounds of butter from a Mrs. McGee. Furthermore, the sale of milk was seasonal, as was butter selling. Emily noted on September 30, "We commence to keep our milk," and notations of churning reappear in subsequent months after a summer-long hiatus. In May 1875 the Gillespies entered another milk delivery arrangement with Mr. Clark, and from then until the end of the diary the sale of butter does not figure prominently in the accounts.

The lessons that can be derived from the evidence contained in Emily Hawley Gillespie's diary are suggestive rather than definitive. When the Gillespies decided to sell the milk from their cows rather than the butter that Emily churned, she did not stop churning butter for home consumption, nor did she cease all activity that brought cash into the household. In the late 1870s and 1880s Emily engaged in a very active poultry business, which she supplemented by doing sewing work for storekeepers in the area. Although her position as a worker for cash changed during this period, it did not cease because of the

changes in the incipient dairy industry. Emily was vulnerable to changes in the agricultural economy of which she was a part, but she was not a victim of them. On the other hand, she did have one less option for participating in that economy. Emily was able to adapt to the new conditions, but other women's resources or circumstances might not have permitted them to develop a poultry business, and they may have lacked the skills to do the fancy needlework that Emily also turned to her advantage.

The advent of the creamery system and its development into a full-fledged dairy industry, then, did not mark the disappearance of women as butter makers, nor did women cease to contribute to farm family economies, but there was a profound shift in the social perception of their work. That shift resulted in declining public recognition, in the form of sales, of butter-making skill. As Emily Hawley Gillespie's example suggests, for many farm women butter making changed from a social activity that involved women in both the production and distribution of butter to something that took place strictly within their own homes for the private consumption of their families.

Some women, however, participated successfully in the creamery/dairy industry. Nearly hidden among the boosterish articles that dominate the State Agricultural Society reports, advocating improved efficiency for dairies, is an article by an Iowa farm woman about butter making. In an address delivered at the meeting of the Farmer's Institute at Wilton, Iowa, in 1898, Mrs. D. B. Collier described butter making on her farm. It was a large operation, producing from twenty-five to eighty pounds per week. Nevertheless, Collier's description is an important addition to the contemporary literature. She, like other reporters, used the language of economic efficiency when discussing feed for the cows and the high standard of cleanliness necessary for a good dairy, but she also offered a unique perspective on the process of butter making at the turn of the century. She "worked" butter, preparing it for packing "in the old-fashioned bowl of our grandmother's days." She remarked that "it is not always profitable" to churn, and when prices for cream and butter were about equal, she sold cream. She preferred to do her own churning, though, despite the labor, "for my churn always returns more pounds per inch than the creamery's oil test." Apparently the creamery was not always the most profitable method,

and this woman, at least, had an idea of what was best for her farm.¹⁸

A COMPLICATED PICTURE emerges of butter making in Iowa at the turn of the century. On one hand, there is the established, powerful dairying industry described by Keach Johnson, in which women figure rarely if at all, and then only as examples to be avoided. Yet women undoubtedly continued in some instances to make butter for consumption by their families, and some even continued to participate in the developed commercial markets. As Emily Hawley Gillespie's example suggests, though, for many women butter making, which had been an integral part of a rich and complex local and domestic economy, had become a marginal activity that received little public notice and almost certainly no public accolades. With the advent of the dairy, the "social" function of this work seems to have been appropriated largely, but not completely, by men, who took the whole milk to the creamery, sold it, and brought back the skim milk to feed the livestock. In the social world outside their homes women were now food purchasers rather than food producers.

It was no coincidence that writers in the State Agricultural Society reports labeled butter churned by farm women as "poor quality" butter that was made by "archaic" and "unscientific" methods. Although the work of both men and women was vulnerable to redefinition in purely economic terms, the process merely changed the nature of men's commercial work while it eliminated women from commercial spheres of production almost completely. John Mack Faragher describes this distinction well: "The tendency of men to reject traditional culture in their struggle for a more commercial world created a gender dimension to the conflict between traditional and popular culture. 'Backward' farming was also the farming culture in which women's work was fully integrated as an essential part; 'progressive' farming might eliminate the old notions of 'reciprocity' without even a bow in the direction of women's roles in work and life."¹⁹

Faragher also points to other implications that follow from the modernization of butter making. The extension of a lan-

18. *Report of the Iowa State Agricultural Society, 1897*, 560.

19. John Mack Faragher, "History from the Inside-Out: Writing the History of Women in Rural America," *American Quarterly* 31 (1981), 555.

guage of economic rationality into butter making, one of the last major realms of decentralized, nonindustrial food production, marked a separation of production from consumption that solidified the developing ideology of women as consumers. To be sure, the transformation did not take hold all at once, but Emily Hawley Gillespie's increasing notations of the butter she bought rather than the butter she churned suggest a trend in that direction.

Furthermore, as Faragher notes, the declining importance of reciprocity and integration and their replacement by notions of profit and efficiency signal a growing split between decision makers and those affected by the decisions, between food producers and consumers. As butter production in Iowa came to be dominated by commercial interests handling millions of pounds and establishing the regulations under which all commercial dairies operated, it became more responsive to markets in New York and Chicago than in Manchester, Iowa.

The emphasis on a managerial economy, in which capital and machinery take precedence over human needs and skills, was not a new theme in American culture, but its appearance in Iowa's dairy industry was significant and more than a little ironic. Dairying as an industry began as a safeguard against the fluctuation of the market, but eventually it became organized according to the same principles that governed crop and livestock markets, thus making it vulnerable to the very forces it had been designed to avoid.

But there was more at stake than just protection from the vicissitudes of weather and markets. Emily Hawley Gillespie's diary suggests that in some years the cash value of her butter might have outweighed the cash value of the farm's corn.²⁰ If

20. The census record for James Gillespie in 1870 in Coffin Grove Township, Delaware County, Iowa, lists a seventy-acre farm with a cash value estimated at five thousand dollars and a value of farm production estimated at \$551. Gillespie listed his livestock as two horses, four milchcows, six cattle, and one swine. His production for the previous year included 100 bushels of wheat, 100 bushels of corn, 45 bushels of oats, 370 pounds of butter, and 75 pounds of cheese. At prices listed in Norman V. Strand, *Prices of Farm Products in Iowa, 1851-1940* (Ames, 1942), the butter was worth \$77.70 that year, while the corn would have brought \$49. Of course, the corn might have been used to feed the cattle rather than sold as a commodity. Still the butter value was 14 percent of the estimated farm production, while the corn accounted for only 8.8 percent.

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that was actually the case, then it is possible that income derived from women's work could not only provide the necessities of daily life, but also, perhaps, in times of economic stress, help support the "main" business of a farm. Deborah Fink's study of rural Iowa in the early twentieth century describes many cases where work controlled by women did indeed play a central economic role during hard times.²¹

The farm women Deborah Fink interviewed were separated from Emily Hawley Gillespie by only about two generations, and the actual farm work they did had changed little, but there had been a significant change in the cultural valuation of their work. Gillespie's butter making was a regular part of a local economy that enabled her to participate fully in the cash and trading exchanges in Manchester. Some fifty years later, after the industrialization of Iowa's dairy production, women in Fink's "Open Country" still traded and sold butter, but they did so largely because of the agricultural depression of the 1920s and 1930s. Public participation by women in local economies had become marginalized as commercial enterprises had come to dominate the scale and terms of dairy production.

21. Deborah Fink, *Open County, Iowa: Rural Women, Tradition, and Change* (Albany, NY, 1986).

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