

## Rural Enterprise and the Northern Economy in the Early Republic: The New Jersey Charcoal Venture as a Test Case

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### I

In 1973, Herbert Gutman reminded historians that workers' experiences in the factory must be understood in the context of the habits and assumptions acquired from their experiences previous to their entry into the factory, or simply put, their culture. He pointed out that from 1815 through 1920, the working class was constantly being formed in America as new generations of workers, first-timers in the factory coming from rural agricultural communities or European villages where people not only followed a seasonal cycle of work but allowed regular relaxation to punctuate intensive labor, continued to join the industrial workforce. He illustrated his thesis by showing that native-born workers of the early nineteenth century shared important patterns in work habits with the turn-of-the-century immigrant workers. Both groups inconvenienced their employers by their failure to observe regular work hours. To cite one of Gutman's own examples, at Martha Furnace, an iron furnace in southern New Jersey, during the 1800s and the 1810s the furnace manager wrote: "all hands drunk"; "Jacob Ventling hunting"; "molders all agree to quit work and went to the beach."<sup>1</sup>

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In a 2002 article in *William and Mary Quarterly*, Thomas Doerflinger uses the same primary source. Carefully reconstructing employment and work patterns from the diary Gutman cited and paying attention to not just skilled full-time workers but unskilled and part-time workers, Doerflinger concludes that in the 1800s and 1810s Martha Furnace was “managed in a rather decentralized and unregimented way. Drinking and fighting were tolerated, workers were rarely fired permanently, and little effort was made to increase labor productivity.” He shows that the furnace workforce consisted of full-time skilled furnace workers and teamsters, unskilled full-time workers such as ore raisers, and part-time teamsters, artisans, and wood-choppers. The unskilled full-time workers included among others “a transient population of men who tramped the woods of South Jersey.” In the part-time categories were many local farmers and landless farm laborers. In each category there were those who exhibited characteristics noted by Gutman, such as disregard for punctuality. For Doerflinger, however, the ultimate point about Martha Furnace is that despite the conflicts that arose as a result of workers’ unpredictable behavior, “these staffing strategies were successful.” As a manufacturing unit hiring many types of employees and operating in working order, Martha was a part of mature rural capitalism.<sup>2</sup>

Gutman placed Martha Furnace in the history of industrialization and working-class formation. His purpose was to show that American industrialization did not oblige the immigrants to lose their culture and, accordingly, directions along which to organize their lives. Their work habits learned in their places of origin in Europe, far from being lost when they arrived in the United States, informed the way they spent time in the factory. By linking Martha Furnace to industrial manufactures and immigrant laborers of later periods, however, he presented early nineteenth-century manufactures as part of the history of strife between capital and the emerging working class. For Doerflinger, a detailed demonstration of how the workers failed to internalize modern work habits was not an end in itself but a step towards answering another question, one with substantial bearing on the historiography of early America: how an enterprise relying on these workers was undertaken. Here he is challenging a premise that the economic culture of a geographic region, encompassing all kinds of economic activities, may be represented by the work habits of its inhabitants: if workers from the countryside had ideas about work that conflicted with employers’ expectations, the countryside should accordingly be an environment unfriendly to manufacture.

In this view, Martha Furnace, located in the countryside, might well have been affected negatively.

Doerflinger's article is a response to an influential thesis on the nature of rural farmers' economic behavior from the colonial period through the early republic. Conducting painstaking research in farmers' account books, Christopher Clark and others argued from the late 1970s that farmers were not profit maximizers. According to these historians, earning security on the farm was the foremost goal for farmers. They did not concentrate on any single commercial crop for disposal in the market, but grew a variety of crops they needed for their family. What they could not raise on the farm they obtained not by paying cash, which was scarce, but by exchanging goods and the labor of cattle and family members with neighbors in the local community. Inhabited by farmers with this mindset, the argument runs, the countryside was not friendly to capitalism. This view in no small way inspired the market revolution thesis, which explains that market relations came to the farmers from the outside, often from the cities, around the 1820s.<sup>3</sup> It is in this context that Doerflinger calls Martha Furnace "an anomaly" for its not hiring farmhands to raise food crops on the premises but relying on the outside market for foodstuffs and its employing manufacturing and service workers as a capitalist institution, and proceeds to examine how that anomaly existed. However, he ends up pointing out that Martha Furnace was successful and less of an anomaly than part of a pattern common in the Mid-Atlantic region: manufactures such as flour milling, pottery, salt-making, glass-making, and paper-making existed in the countryside from the early eighteenth century.<sup>4</sup>

A more recent view on farmers would allow us to link the security-oriented farmers with capitalist enterprises more fully than Doerflinger suggests. Today historians consider the eighteenth-century farm "composite." Farmers grew crops in larger quantity than their family could consume, for both family use and disposal in the market. They had to attend to both these objectives to maintain and bequeath a farm for the next generation. They had to obtain cash in order to buy and accumulate land, which guaranteed that all the sons would have a farm; when prices fell dangerously low, cash income from the sale of produce declined but crops grown for home consumption provided security. Farmers pursued profit, but not in such a way as to put the security of their families on the line—therefore they were not the perfect liberal capitalists either.<sup>5</sup> This view suggests that the accepted trajectory from cultivation for home use

to commercial farming is overdrawn. Also open to reconsideration from this perspective, we may note, are the association between the city and the market and the reverse equation of the countryside with an inclination toward self-sufficiency. In early America few farms were completely dissociated from the market, and the countryside was not divorced from the city. Farmers in New Jersey, where Martha Furnace was located, fit this framework well. In the early republic, New Jersey was a rural state bordered by New York and Philadelphia, the largest cities of the day. New Jersey farmers managed composite farms from the early days of settlement to take advantage of their proximity to the urban markets. They cultivated wheat, corn, rye, and many other crops for family consumption and for sale to the urban merchants. Some farm animals and farm products such as sheep, salted pork, and apple cider also found their way to the cities.<sup>6</sup>

Doerflinger's analysis of early manufactures and the composite farm thesis would reinforce each other if we expand the scope of the composite farm thesis a little. Now that historians think that farmers sent produce to the cities and remained security-oriented, we can hypothesize that some wealthy farmers might commence market-oriented but characteristically rural ventures without ceasing to be farmers. Farmers chopped and hauled wood and drove teams in order to meet the needs of the family. If carried out on a slightly larger scale and pieced together, these mundane activities formed commercial enterprises. And other farmers and farm laborers participated in those enterprises as workers. Though farming was a full-time occupation because different crops must be planted and reaped at different periods throughout the year, farmers and farm laborers were able to earn some income from time to time as skilled and unskilled workers doing essentially what they did to manage their farms. A focus on these enterprises allows us to see flexibility and certain dynamism in the rural economy. Some enterprises, rural work habits, and concern with security stood side by side in the countryside.

This article argues that rural capitalism consonant with Doerflinger's rural manufacture was fairly common in the countryside in the early republic. This capitalism took the form of obscure capitalist ventures that operated within the overall structures of rural work habits and culture. By presenting a case study of charcoal production and delivery, this article attempts to identify characteristics broadly applicable to these enterprises including the question of whether they were marked by efficiency and discipline, or by the relative lack of control as Doerflinger noted. The

two following sections discuss one charcoal venture. The concluding section offers preliminary generalizations about the concept of rural enterprise and what it illuminates about the countryside in the early republic.

## II

Much of southern New Jersey, particularly the wooded area called the Pine Barrens, was of sandy soil and infertile, and was sparsely inhabited until after the Revolution. Wealthy New Jersey farmers who owned tracts there knew, however, that there was an abundance of trees and other natural resources there to exploit. From the early days of settlement, wood was shipped out for use in the cities, both for fuel and building. As Doerflinger noted, substantial enterprises based on these resources, such as iron furnaces, flour mills and saw mills, were not absent for long.<sup>7</sup> Charcoal was one of the items these manufactures required. Iron furnaces in southern New Jersey used charcoal (along with shells, which served as flux) to heat the locally-mined bog iron ore and burn off the non-iron materials. Furnaces had extensive wood tracts in their vicinity, as charcoal, a bulky and fragile article, was best produced nearby. Making charcoal involved several types of work, some requiring skill. Choppers cut wood in certain lengths; the collier and his men put the wood in a mound-like shape, and covered it with turf and sand. After setting fire to the mound, day and night the collier and his assistants watched the smoke coming out of the holes poked in the mound. They were to control the fire carefully so wood would not burn too well inside the mound and turn into ashes. It took some 14 days to turn wood into charcoal.<sup>8</sup>

Then demand for charcoal increased in the cities as a new source of fuel came into use there: anthracite coal. In 1820, anthracite coal shipped from the Schuylkill, Lackawanna, and Lehigh mines amounted to only 365 tons; in 1830, it had increased to 174,734 tons. Scientists conducted experiments and showed that anthracite coal was a much more efficient and cheaper source of heat than wood. Inventors devised so many cooking stoves (also called furnaces) for home use with a claim to evermore efficient use of coal that the author of a housekeeping book complained that inventors had “every object in view, but that of promoting good cooking.”<sup>9</sup> As anthracite coal needed heating before it began to burn, newspapers and books on household management featured articles on how to kindle it, designating charcoal as the best material with which

to heat the coal. Also, according to a Philadelphia magazine, “there are not less than one thousand furnaces in this city, for culinary purposes, which, during the summer months, consume nothing else than charcoal,” because anthracite coal generated more heat than was needed for cooking in summer. It now made sense for merchants keen on new lines of trade to ship charcoal from wooded areas like southern New Jersey.<sup>10</sup>

Samuel G. Wright (1781–1845) was a rural entrepreneur who left records of rural charcoal production for the urban market. A wealthy Quaker based in Monmouth County, New Jersey, and a store owner in Philadelphia in the 1820s, he held vast tracts of land in New Jersey, Delaware, Pennsylvania and elsewhere. Natural resources in his property informed many of his enterprises, which ranged from cordwood production to managing iron furnaces. In the late 1820s he ran one furnace in Delaware and another in New Jersey called Dover Furnace in Monmouth County.<sup>11</sup> In 1828, financially assisted by his lawyer Charles Higbee, Wright contracted with a merchant in the port town of New Brunswick, New Jersey, for a venture in charcoal production and delivery. Wright was to oversee the making of charcoal at a tract called Greenwood and transport 10,000 bushels of it per month to a wharf in the village of Forked River in southern Monmouth County (now Ocean County). This was not supposed to be a cumbersome undertaking. With many furnaces in operation in southern New Jersey, charcoal production was already a part of the rural landscape. Many local farmers and millers contracted to provide the furnaces with flour, beef, and other provisions. He had only to hire workers and see that provisions be sent to the Greenwood tract.<sup>12</sup> John H. Bostwick, Wright’s partner in the venture, agreed to ship the charcoal from Forked River to the New York market. For a merchant dealing in lumber and fuel such as planks, boards and joists and Schuylkill coal at his store at New Brunswick after July 1826, it was probably natural to take on the shipment of another type of fuel produced in the forest.<sup>13</sup>

Extant sources do not permit a full analysis into the way labor was organized at the Greenwood tract, but we can confirm Doerflinger’s point that the rural labor force was a diverse lot. According to one ledger, Wright hired 147 men for this venture in two years. We can get some idea about them by listing the types of work performed according to the month the workers settled their accounts (Table).

The Table shows that chopping, an unskilled task, was extensive in winter. The venture started in February 1828 with short-term employ-

ment of a large number of choppers. Of the 147 men involved, at least 68 were choppers, hired at the piece rate of 40 cents per cord (35 cents per cord later) and did nothing else. Of those who were choppers in 1828, twenty-seven were discharged by the end of June, and in 1829, sixteen quit between January and the end of May. While it is not possible to trace where all the choppers came from, we know that some of them came from Wright's Dover Furnace. In 1828 at least eight Dover Furnace workers chopped from February through the end of March, and their accounts at Greenwood were transferred to furnace account books. The next time identifiable Dover Furnace workers came to Greenwood for chopping was in mid-October 1828. Presumably choppers at Dover Furnace too, they (there were probably more of them than we can identify from the account book entries) were sent when the stock of cordwood at Greenwood became thin. In the "multiple" category in the Table were smaller numbers of men who stayed into the summer for additional chopping and other services. Local farmer and miller Isiah Reeves did all kinds of odd jobs, from chopping wood to boarding hands to sawing boards to carting hay for mules to delivering two loads of charcoal as a part-time teamster. William Springsteen and John Joseph worked on the road 2 and 3/4 days and 4 and 1/4 days respectively in July 1828 besides chopping.<sup>14</sup>

Wright's account book also gives us names of skilled workers. Probably the collier Henry Moore and his men started charring with the coming of spring. Moore was credited for producing 63,140 bushels of charcoal in 1828 and 157,375 bushels in 1829 at 2 and 1/4 cents per bushel, but the account book offers no clue as to when he worked hard and slacked. It reveals more about the delivery of charcoal at the wharf in teams, another skilled work. After June 1, 1828, the number of full-time teamsters jumped from one to four, and in 1829 there were at least five and as many as eight teamsters delivering from April through December. They were hired not by the day but at ten dollars per month. Horatio Hayes drove for three months and seven days from late April through August 1, 1828, and again for three months from September 1 through November 30 the same year. George Timmons drove for seven months and five days from late May through December 24, 1829.<sup>15</sup>

Not all workers at Greenwood came from Dover Furnace. Six workers dealt with Wright both at his farm called Merino Hill in Upper Freehold Township and at Greenwood. Two, including the above-mentioned teamster George Timmons, worked in Dover Furnace as well as

Wright's farm and Greenwood. Of these eight, we know that three were choppers and four were teamsters. Benjamin Parker worked on Wright's farm from September 1825 and chopped at Greenwood from February 14 through April 30, 1828, and again from October 4, 1828 through May 29, 1829. William Tice worked at Wright's farm for nine months from March 10, 1828; the next year he delivered charcoal from April 4, 1829 through December 12, 1829. Aaron Brown, another teamster, was actually not a farm laborer but a local shoemaker. In January 1829 and January 1831 he settled accounts with Wright at Merino Hill in shoes, boots, slippers, and mending shoes, and drove teams from April 11, 1829 through December 12, 1829 for the charcoal venture. All these men entered the realm of the local exchange economy one year as farm laborers or local artisans and that of wage labor the next year, showing that the boundary separating agriculture and rural enterprises was porous. It is important in this connection that scheduling intensive chopping from late fall through early spring made it easy for farm laborers to take part. None of the three choppers who worked both at Wright's farm and for the charcoal venture picked up the axe when the Merino Hill farm must have been busy in summer with reaping wheat and hay.<sup>16</sup>

The foregoing analysis of Wright's labor force provides clues on how Wright employed workers and confirms what Doerflinger has written about workers at Martha Furnace. The charcoal venture hired a variety of workers for both skilled and unskilled tasks on full- and part-time bases. Many were wage workers at Dover Furnace, but there were also local farmers doing odd jobs and Wright's farm laborers earning extra income in the charcoal venture when they had time to spare. Rural enterprises like charcoal production were not divorced from the agricultural economy of the area, but stood beside it and shared the same labor force. In the countryside people did not always restrict their labor to the farm alone, but moved back and forth between various kinds of work.

### III

This section analyzes Bostwick's letters to Wright and Wright's memoranda. These sources allow us a glimpse of what Bostwick thought of Wright's collier and teamsters. They also show how the badly-supervised way of work, common to all the workers in the venture, made it difficult to manage rural enterprises successfully.

Bostwick's letters reveal a great deal about the delivery and transfer

of charcoal at Forked River. Soon after delivery began on June 1, 1828, Bostwick began to send angry letters, telling Wright that it was just not going well. He was to hire an agent to see that the charcoal was on board the vessels and according to Wright's summary of the contract, "his agent was by my consent the mutual agent of both." Wright's teamsters, Bostwick charged, did not share this view. "The carter was to deliver the coal in the scow" with the assistance of the agent, yet this "they refuse to do . . . they have dumped every load." They did not care about a man who was not in Wright's employ, Bostwick fumed, and asked him to make them cooperate. Wright understood the circumstances differently. Bostwick was complaining, he noted, "[k]nowing as he did that it frequently happened, there was no Scow for days and if there they were loaded." The fact was that no effort was made to synchronize the arrival of the vessel with the delivery of charcoal at the wharf. Sometimes charcoal was simply not the priority cargo for the vessel. Not being able to put the charcoal aboard the vessel right away, the teamsters left it on the landing, and in Wright's words, "the ground was covered with coal to the distance of over 100 yards from the landing." As teams came and went from various quarters to the landing with their cargoes, inevitably they "pass[ed] over it" and "great loss was sustained."<sup>17</sup>

Secondly, the charcoal was dirty, containing much soil, brands (pieces of wood not completely charred), and sand. Bostwick insisted that "the sand and dirt weighed as much as the good coal" in the first cargo. He charged that obliging him to rake the charcoal from sand and dirt constituted a breach of contract. Wright countered that the carters and teamsters traveled ten miles to Forked River with their cargo, suggesting that even clean charcoal inevitably became a little dirty on its way to the landing. Bostwick refused to accept this excuse, stating that Wright "must calculate an [sic] great Loss in measurement for every mile you cart," and that "the colier may spin his measure out to my Loss." The poor quality of the charcoal was a serious problem crying for solution, for it inevitably led to disagreement over its quantity between measurements at Greenwood and New York. Bostwick demanded that the charcoal be weighed at Forked River landing. He also pointed out that old dead wood would not make good charcoal, and warned that irregularity in the length of the charcoal would lead to further deduction. For these two he held Wright's collier Henry Moore responsible and asked that he do a better job.<sup>18</sup>

Wright and Bostwick tried to solve the problems. They agreed to have

the charcoal measured twice by two disinterested persons. Wright agreed to hire a man to oversee the filling of the boxes in the woods in the second year. He also invested in horses, teams (hence the increase in the number of teamsters in the second year), built a charcoal storage at Forked River, improved the landing, and opened a new road, causeway, and bridge to Forked River. Engaging farmworkers from his own farm as teamsters was perhaps a part of his effort to ensure that the charcoal suffer as little damage as possible. Things were not improving despite all these measures, however. Wright and Bostwick contracted for an allowance of 200 bushels for brands, but this provision was not of much help. Almost four months after delivery started, the charcoal was raked at Forked River and still needed "Raking repeatedly . . . at New York before we could send it out of the vessels." Next year, Bostwick's agent David Nevius continued to be struck by the dirtiness of the charcoal. Wright on the other hand complained that Bostwick sent Nevius without prior consultation, and disparaged the way Nevius measured the charcoal. He "shake[s] it down," Wright wrote. "I fear'd that he was not only wasting coal by the bushels but by the thousands."<sup>19</sup>

One cause of the discord was perhaps the fact that charcoal was being turned to new uses in the urban market, where a different set of considerations mattered. The charcoal charred locally for rural iron furnaces did not change hands the way commercial articles did in the market. How much the collier might charge could concern furnace managers, but they rarely discussed the quality of the charcoal produced. After all, furnaces consumed quantities of charcoal together with iron ore, and the quality of individual charcoal pieces was not the most important matter under that treatment.<sup>20</sup> The likelihood was that a different set of concerns dictated charcoal marketing in New York. Intended for household use, it was supposed to be "merchantable," i.e., attractive as a commercial article for anyone visiting the market or store for it. Bostwick had good reason to rake the charcoal: prospective buyers simply passed dirty charcoal by, as they needed a much smaller quantity than iron furnaces did and could compare it with charcoal in other stores. It is not clear whether colliers in southern New Jersey were aware of these concerns.<sup>21</sup>

The Greenwood charcoal-making business had an unhappy ending. In 1829 Bostwick was increasingly tired of the continuing dispute on weight and quality. Toward the end of the year Bostwick's agent Nevius began to leave some charcoal at Forked River, not bothering to clean and ship it.<sup>22</sup> Repelled by the venture itself, Bostwick refused to provide

Wright with financial support. At the end of 1829, Wright saw him in New York, and found him “determined to drive us out of the contract.” “I was well persuaded,” Wright noted, “he was tired of it himself.” There were 8,000 bushels of charcoal remaining in the coal house at the Forked River landing. Wright put teams, horses, and other appurtenances up for public sale in March 1830, but the proceeds amounted to only \$1,463 and fell far short of the investment in the seven heavy teams (\$3,091), let alone that in roads and the storage building. Wright did not sue Bostwick immediately, but his associate Charles Higbee prodded him into it. By 1832 Wright was struggling to go after those who owed Bostwick in order to recover the loss.<sup>23</sup>

#### IV

Samuel G. Wright’s charcoal business was a good example of petty enterprises that took place in rural areas surrounding the cities. There was nothing particularly modern about making charcoal. It was the new circumstances—the rise of anthracite coal—that tempted Wright and no doubt others into organizing a business with it. In the early nineteenth century, exploitation of wood in southern New Jersey was more and more closely tied to the demand in the cities. Forest exploitation became a basis on which the linkage between the cities and the countryside was multiplied and thickened, one new link spawning another. The increase of these crisscrossing networks, one suspects, was the substance of the changes in the early if not later phase of what historians have called the market revolution. And this kind of enterprise required few innovative moves such as the introduction of machinery. Rural enterprises simply put old practices to new ends. Ranging from chopping and shipping of wood to iron manufactures perhaps, rural enterprises were not a part of industrialization in the strictest sense of the term. They nonetheless made important contributions to the northern economy of the period.

Labor organization and the quality of the article did not always cooperate with the entrepreneur’s design. What Thomas Doerflinger has found with Martha Furnace was true of Wright’s charcoal venture, though this article parts company with Doerflinger here. Martha Furnace continued operation until mid-century and could be considered a success, but many other rural enterprises did not fare so well. Wright could engage workers and assign tasks (many of which were commonly performed on the farms), but it was harder for him to make them work well

all the time. Bostwick's complaints about the low quality of the charcoal suggest that even if we allow for exaggeration, Wright's colliers and teamsters did not work well enough. Brands were not removed. With all the investment in stages and road improvements, driving charcoal-laden stages for ten miles without damaging the cargo would still have required extraordinary care. Investing larger and larger sums of money solved some problems, but not all.<sup>24</sup> The same probably applies to Bostwick and the captain of the vessel he engaged, for Bostwick hardly appeared to control the vessel captain's views about timeliness. It is almost certain that the vessel moved about the Mid-Atlantic coastal area with, at best, a very loosely-prearranged schedule. The vessels' failure to load and deliver charcoal in any regular, coordinated fashion, and the concomitant deterioration of the charcoal at the wharf, testify that too many people involved had their own standards about their performance while engaged, and few took to heart such modern concepts as timeliness and efficiency.

In addition, the partnership form in which the venture was started left too much room for each partner to maneuver in carrying it on on one's own terms. Neither Wright nor Bostwick had authority over the other. Each of them defended workers he hired and blamed those hired by the partner, for which the actual behavior of the workers, agents, and vessel captain involved provided ample causes. The discord between Wright and Bostwick demonstrates that rural enterprises were jerry-built. It is hardly surprising that ventures like this were usually short-lived.

Rural enterprises like this one remind historians of the diversity of activities that contributed to economic development during the early republic. Not just the Erie Canal and the large mechanized factories in Lowell, but inconspicuous and often unsuccessful ventures made their contributions. The northern economy in the early nineteenth century consisted of innumerable developmental possibilities, and many people attempted to benefit from them, not by transforming their lives but by channeling familiar lines of activities. So long as natural resources were locally available and there was demand in the cities nearby, rural enterprises sprang up to provide the linkage. For the petty entrepreneurs who undertook them, the early decades of the nineteenth century did not represent a thorough break but substantial continuity from the colonial period, though on the horizon were more opportunities for gain and equally greater risk.<sup>25</sup> Some rural enterprises continued to the mid-century and perhaps thereafter though industrialization made them invisible; others

ran up against a stone wall. The problem of getting workers to perform constantly well undercut the earning potential of rural enterprises. The modern concept of control and efficiency did not penetrate the tradition of agriculture-based work habits. Ultimately when local natural resources ran out, the only way to survive was to cease to be rural enterprises: they would have had to create a wider regional network for transport of required resources from elsewhere, which would have entailed an injection of substantial financial resources (an option rural landowners and other small-scale entrepreneurs could ill afford). And the fragile bond of partnership was increasingly inadequate in maintaining and overseeing such extensive networks.<sup>26</sup>

Lastly, separating rural enterprises from mid-century industrialization this way raises a question about periodization. The market revolution thesis divides US history in two: the pre-modern (communal and preindustrial) period and the modern or liberal (commercial and industrial) period starting some time in the 1820s. If we follow Doerflinger, however, and assume that not just preindustrial rural manufacture but rural enterprises in general were common from around the 1720s, we would divide it in three parts--the industrial era comes last, preceded by the era of rural enterprises, which in turn is preceded by another era, one in which rural enterprises might be harder to find. Some recent synthetic works on the colonial period imply that this first, yet-to-be-fully-defined era ended when transatlantic immigrants created a stable agricultural social order in New England, the Mid-Atlantic region, and the South, respectively. One hopes that further refining the concept of rural enterprise will contribute to the debate on this issue as well.<sup>27</sup>

#### NOTES

The author thanks Hagley Museum and Library, New Jersey Historical Commission, Matsushita International Foundation, and the Library Company of Philadelphia for financial support.

<sup>1</sup> Herbert G. Gutman, "Work, Culture, and Society in Industrializing America, 1815-1919," *American Historical Review* 78:3 (June 1973), 531-588, 545 (quotes).

<sup>2</sup> Thomas Doerflinger, "Rural Capitalism in the Iron Country: Staffing a Forest Factory, 1808-1815," *William and Mary Quarterly* (hereafter *WMQ*) 59:1 (January 2002), 3-38, particularly 26, 29, 30. Quotes are from 8 and 27.

<sup>3</sup> Foundational arguments include James Henretta, "Families and Farms: *Mentalité* in Pre-Industrial America," *WMQ* 35:1 (January 1978), 3-32; Michael Merrill, "Cash Is Good to Eat: Self-Sufficiency and Exchange in the Rural Economy of the United States," *Radical History Review* 4 (1977), 42-71; and Christopher Clark, "Household Economy,

Market Production, and the Rise of Capitalism in the Connecticut Valley, 1800–1860,” *Journal of Social History* 13:2 (Winter 1979), 169–189. The most detailed explication remains Clark, *The Roots of Rural Capitalism: Western Massachusetts, 1780–1860* (Ithaca: Cornell University Press, 1990). On the market revolution see Charles Sellers, *The Market Revolution: Jacksonian America, 1815–1846* (New York: Oxford University Press, 1991), and Melvin Stokes and Stephen Conway, eds., *The Market Revolution in America: Social, Political, and Religious Expressions, 1800–1880* (Charlottesville: University Press of Virginia, 1996).

<sup>4</sup> Doerflinger, “Rural Capitalism,” 37. An older study sees rural furnaces as self-contained. Arthur C. Bining, *Pennsylvania Iron Manufacture in the Eighteenth Century* (Harrisburg: Pennsylvania Historical Commission, 1938). More recent studies on pre-industrial rural manufactures include Arlene Palmer, “Glass Production in Eighteenth-Century America: The Wisterburgh Enterprise,” *Winterthur Portfolio* 11 (1976), 75–101; Brooke Hunter, “The Prospect of Independent Americans: The Grain Trade and Economic Development during the 1780s,” *Explorations in Early American Culture* 5 (2001), 260–287; Donna Rilling, “Sylvan Enterprise and the Philadelphia Hinterland, 1790–1860,” *Pennsylvania History* 67:2 (Spring 2000), 194–217; Kenryu Hashikawa, “A Grist Mill and Its Two Markets: Wheat and City-Country Relationship in the New York-Philadelphia Area during the 1780s,” *Amerika taiheiyo kenkyu* [Pacific and American Studies] (the Center for Pacific and American Studies, the University of Tokyo) 2 (Mar. 2002), 163–181.

<sup>5</sup> Richard Lyman Bushman, “Markets and Composite Farms in Early America,” *WMQ* 55:3 (July 1998), 351–374. Also Daniel Vickers, “Competency and Competition: Economic Culture in Early America,” *ibid.*, 47:1 (January 1990), 3–29. Also see the challenge posed to Clark and others by Winifred B. Rothenberg, most fully developed in her *From Market-Places to a Market Economy: The Transformation of Rural Massachusetts, 1750–1850* (Chicago: University of Chicago Press, 1992). Allan Kulikoff, “The Transition to Capitalism in Rural America,” *WMQ* 46:1 (January 1989), 120–144, summarizes the debate.

<sup>6</sup> Peter O. Wacker and Paul G. E. Clemens, *Land Use in Early New Jersey: A Historical Geography* (Newark: New Jersey Historical Society, 1995), 7–11, 231–256; Paul Clemens and Lucy Simler, “Rural Labor and the Farm Household in Chester County, Pennsylvania, 1750–1820,” in *Work and Labor in Early America*, ed. Stephen Innes (Chapel Hill: University of North Carolina Press, 1988), 106–143.

<sup>7</sup> Brendan McConville, *These Daring Disturbers of the Public Peace: The Struggle for Property and Power in Early New Jersey* (Ithaca: Cornell University Press, 1999), 94–98; Michael Williams, *Americans and Their Forests: A Historical Geography* (Cambridge, England: Cambridge University Press, 1989), 79–80, 83–94, 157–160; Diane Lindstrom, *Economic Development of the Philadelphia Region, 1810–1850* (New York: Columbia University Press, 1978), chapters 4 and 5; Doerflinger, “Rural Capitalism,” 9–11.

<sup>8</sup> Robert J. Sim and Harry B. Weiss, *Charcoal Burning in New Jersey from Early Times to the Present* (Trenton: New Jersey Agricultural Society, 1955), 20–31.

<sup>9</sup> *Journal of the American Institute in the City of New York* 1:9 (Jun. 1836), 484; Marcus Bull, *Experiments to Determine the Comparative Value of the Principal Varieties of Fuel Used in the United States, and also in Europe* (Philadelphia: Judah Dobson, 1827); [A Lady], *The General Housekeeper’s Book, Comprising Advice on the Conduct of Household Affairs in General* (Philadelphia: William Marshall & Co., 1837), 32; Harold F. Wilson, *The Jersey Shore: A Social and Economic History of the Counties of Atlantic, Cape May, Monmouth and Ocean*, 2 volumes (New York: Lewis Historical Publishing Co., 1953), 361–366.

<sup>10</sup> Frederick M. Binder, "Anthracite Coal Enters the American Home," *Pennsylvania Magazine of History and Biography* 82:1 (January 1958), 82–99; Thomas F. Gordon, *Gazetteer of the State of New Jersey* (Trenton: Daniel Fenton, 1834), 2–3; *Philadelphia Gazette and Daily Advertiser*, Oct. 17, 1826; Robert Roberts, *The House Servant's Directory, or a Monitor for Private Families* (Boston: Munroe & Francis, 1827), 159–173; "Pine Lands of New Jersey," *Hazard's Register of Pennsylvania* 4:4 (July 25, 1829), 63; Priscilla J. Brewer, *From Fireplace to Cookstove: Technology and the Domestic Ideal in America* (Syracuse: Syracuse University Press, 2000), 63–94.

<sup>11</sup> On Wright, see Kenryu Hashikawa, "Rural Entrepreneurship in New Jersey during the Early Republic" (Ph.D. diss., Columbia University, 2002), chapters 3 and 4.

<sup>12</sup> Samuel G. Wright (hereafter SGW) ledger, 1824–1830, 86, 94, 123, 130, 139, 148; John H. Bostwick to SGW, October 27, 1828, Wright Family Papers, Hagley Museum and Library (hereafter WFP). On the trade between iron furnaces and farmers in the vicinity, see Doerflinger, "Rural Capitalism," 13; Michael V. Kennedy, "Furnace to Farm: Capital, Labor, and Markets in the Pennsylvania Iron Industry, 1716–1789" (Ph.D. diss., Lehigh University, 1996); and receipts from millers Thomas Miller, Caleb Ivins, and Peter Crozier to Dover Furnace manager, WFP.

<sup>13</sup> On Bostwick see advertisements in New Brunswick *Fredonian*, April 5, 12, June 28, July 26, November 22, 1826, October 1, 1828.

<sup>14</sup> Greenwood charcoal-making ledger, 1, 4, 5, 10, 18, 20, 23, 27, 35, WFP.

<sup>15</sup> *Ibid.*, 23, 25, 34, 110.

<sup>16</sup> *Ibid.*, 1, 16, 19, 42, 53, 72, 88, 89, 99; SGW ledger, 1824–1830, 13, 15, 23, 36, 79, 92, 93, 125, 133, 140, 143, WFP.

<sup>17</sup> Bostwick to SGW, July 19, 1828; Wright's memorandum of the production and delivery of charcoal for the first year, WFP.

<sup>18</sup> Bostwick to SGW, June 21, 1828, WFP. On the low quality of charcoal made from dead trees, see Paul F. Paskoff, *Industrial Evolution: Organization, Structure, and Growth of the Pennsylvania Iron Industry 1750–1860* (Baltimore: The Johns Hopkins University Press, 1983), 142, note 5.

<sup>19</sup> Bostwick to SGW, June 19, 21, September 12, October 27, 1828, October 4, 28, 1829; Bill for Bostwick's debt to SGW and Charles Higbee; Wright's memoranda of the production and delivery of the charcoal, for the first and second years; agreements between SGW and John H. Bostwick, January 20, 1828 and January 20, 1829; David Nevius to SGW, April 20, 1829, WFP.

<sup>20</sup> Derick Barnard to SGW, November 24, 1822, February 4, 23, 1823, May 20, June 4, 7, 14, July 5, 12, 13, 17, 1824; William D. Waples to SGW, July 7, August 8, October 9, December 11, 1821, March 25, 1824, WFP; Marcus Bull, one of the scientists interested in the comparative efficiency of fuel, reported that sand and dirt in charcoal pieces made them inefficient, and discussed how charcoal might be charred without sand. He was not addressing urban charcoal retailers but furnace managers. Bull, *Experiments*, 51–60.

<sup>21</sup> The following observation on coal cinders may apply to charcoal as well: "The cinders I see every day lying on the streets . . . would, if gathered up, afford fuel to many a poor family; yet I confess that I do not see how the evil is to be remedied. The cinders get so mingled with ashes, that it is difficult to separate them, and the servants will not do it." Roberts, *The House Servant's Directory*, 166.

<sup>22</sup> Bostwick to SGW, October 28, 1829; David Nevius to SGW, April 20, 1829, WFP.

<sup>23</sup> Wright's memoranda on the production and delivery of charcoal; bill for John H. Bostwick against Charles Higbee and SGW; records of public sale, March 1830; Charles Higbee to SGW, December 15, 1829, June 22, 1830, July 12, 28, August 19, and December 2, 1831, WFP. Also see Derick Barnard to SGW, February 28, March 1, 14,

20, 1832, Caleb S. Leyton to SGW, March 3, November 24, December 1, 1832; Barnard to Gardiner H. Wright, September 26, 1832, WFP.

<sup>24</sup> Doerflinger also notes that colliers working for Martha Furnace did poor jobs, failing to produce charcoal regularly. Doerflinger, "Rural Capitalism," 27–28.

<sup>25</sup> This view differs from the recent liberal understanding of the early republic. Compare with Joyce Appleby, *Inheriting the Revolution: The First Generation of Americans* (Cambridge: Harvard University Press, 2000), and Gordon S. Wood, *The Radicalism of the American Revolution* (New York: Vintage, 1991).

<sup>26</sup> In 1850, New Jersey produced the largest amount of charcoal of all the states, equivalent to \$167,085 (43.18 percent of the output of the whole country). United States, *Abstract of the Statistics of Manufactures, According to the Returns of the Seventh Census*, Jos. C. G. Kennedy, superintendent (n.p.: 1859; New York: Norman Ross Publishing, 1990), 33. For those few who successfully created a regional network to supply raw materials, see Burton W. Folsom, Jr., *Urban Capitalist: Entrepreneurship and City Growth in Pennsylvania's Lackawanna and Lehigh Regions, 1800–1920* (Baltimore: The Johns Hopkins University Press, 1981). For a fuller discussion see Hashikawa, "Rural Entrepreneurship," chapter 4.

<sup>27</sup> See Allan Kulikoff, *From British Peasants to Colonial American Farmers* (Chapel Hill: University of North Carolina Press, 2000) and Jon Butler, *Becoming America: The Revolution before 1776* (Cambridge: Harvard University Press, 2000), two syntheses couched in very different analytical languages.

Table The types of work performed at Greenwood (arranged by the month of discharge), 1828 and 1829

	1828 month of the last entry/settlement in ledger												
	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
Total													
work performed:	8	16	7	3	3	0	1	2	0	6	1		
cutting	6	13	5	2	1	0	1	0	0	1	1		
driving	0	0	0	0	0	0	0	1	0	1	0		
coaling	0	0	0	0	0	0	0	0	0	0	0		
multiple	0	0	0	0	2	0	0	0	0	3	0		
other work	2	3	2	1	0	0	0	1	0	1	0		
	1829 month of the last entry/settlement in ledger												
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	1830*
Total													
work performed:	3	1	9	6	6	0	6	9	0	2	10	41	7
cutting	1	1	8	4	2	0	0	3	0	2	7	8	2
driving	0	0	0	1	0	0	0	1	0	0	0	11	1
coaling	0	0	0	0	0	0	0	0	0	0	0	2	0
multiple	1	0	0	1	2	0	1	1	0	0	0	5	3
other work	1	0	1	0	2	0	5	4	0	0	3	15	1

\*those whose final entry for debt or credit was entered in the first few months of 1830  
 Source: Greenwood charcoal-making ledger, WFP.

Note: Those who settled their accounts within the first seven days of the month are regarded here as having stopped working at the end of the preceding month. Those in the “other work” category were engaged in carting, loading, and work at Forked River. The “coaling” category includes coaling and other work involved, such as putting turf and sand on the wood mound, and watching the smoke. This table replaces the table in page 257 of my dissertation, in which James Kemble is registered as having worked longer than he actually did. See page 51 of Greenwood charcoal-making ledger, WFP, for his account.