

Kenneth Warren, *Waste, Wealth, and Alienation: Growth and Decline in the Connellsville Coke Industry* (Pittsburgh: University of Pittsburgh Press, 2001).

Covering thirty miles north and south of the small town of Connellsville, Pennsylvania, and straddling the Youghiogheny River, the Connellsville coke district was at one time the leading supplier of metallurgical coke to U.S. iron furnaces and steel mills. During World War I, when it saw peak production levels, the district produced 47 percent of America's metallurgical coke. Thereafter, however, the local coke industry underwent a rapid decline. By the 1920s, technological advances had made the district's beehive ovens obsolete, new "retort" ovens allowed for the use of lesser quality coal from the reserves of southern Appalachian coalfields, steel mills began to manufacture their own coke to utilize the byproducts, and most of the local seams were worked out.

In *Waste, Wealth, and Alienation*, Kenneth Warren traces the rise of the Connellsville coke district to a position of preeminence and its rapid fall to relative economic inconsequence. An Emeritus Fellow of Jesus College at Oxford University as well as the author of works on Henry Clay Frick and the U.S. Steel Corporation, Warren presents this story of industrial expansion and contraction with the style and grace of an experienced historian. His book makes short work of the complex collision of various historical factors – the natural mineral endowment of southwestern Pennsylvania, the waxing and waning of demand for pig iron, the influx of southern and eastern European immigrants, technological development, and the personal interests and prejudices of a select number of captains of industry. It also makes a convincing argument.

According to Warren, the mining of coal and production of coke in the Connellsville district made certain individuals, companies, and communities quite wealthy. But mineral extraction and processing also had many negative consequences – social, economic, and environmental – for the vast majority of district residents. In the late nineteenth and early twentieth centuries, as coke production increased, the industry promoted social disruption and alienation as well as despoliation of the physical environment. Starting in the 1920s, with the industry in decline, the area's economy collapsed and workers left in droves. The dual follies of overexploitation of exhaustible resources and reliance on a narrow economic base only became clear, if they became clear, when it was too late.

Warren supports his multiple claims on a solid base of primary sources, many of which he was already familiar with from earlier research. He relies most heavily on the business papers of H.C. Frick (to which he had unprecedented access), the extensive archives of the U.S. Steel Corporation, and the papers of Andrew Carnegie. Warren also makes reference to trade journals, local newspapers, and nineteenth-century geological surveys. Secondary

resources, on the other hand, are conspicuous by their absence in citations. Perhaps this is due partly to the lack of a literature specifically focused on the Connellsville district. The only other studies of note on the subject are John Enman's 1962 dissertation, "The Connellsville Coke Region," and the Historic American Engineering Survey of 1995, although even these are missing from the endnotes.

As a comprehensive history of the Connellsville coke industry, *Waste, Wealth, and Alienation* covers a wide range of topics and themes. It starts with a basic introduction to coke production, followed by a history of the industry's evolution in the nineteenth century. The Connellsville area, Warren explains, was particularly well suited to supply the nation and world with metallurgical coke because it was underlain by a seam of high-grade coal. At first, miners worked outcroppings of this coal on hillsides and along eroded stream banks, but later they opened slope and shaft mines. With comparative ease – the thick seam of soft coal required neither powder nor machinery – miners brought the mineral above ground and it was heated out of direct contact with air (first in piles and later in beehive ovens). The heating drove off volatiles and left a carbon residue; the coke that was used as fuel for smelting iron in blast furnaces.

Although most American blast furnaces used charcoal up to the mid-nineteenth century, declining wood resources and the expansion of rail networks through the trans-Appalachian region encouraged greater reliance on coke. Subsequently, by the 1880s coke had become the most abundant furnace fuel. With the increase in use, however, the number of new entrants to the industry also grew and capacity began to outstrip demand. In response, large operators made two attempts to restrict output and reduce wages. Yet by the end of 1887, the second of two syndicates was in shambles, undermined by nonparticipating smaller firms and the direct acquisition and expansion of oven capacity by iron producers. Production then increased to unprecedented levels while prices remained low, touching off a wave of mergers. As a result of these mergers, H.C. Frick, who had entered the coke industry in 1871 and joined Andrew Carnegie in an association of steel and coke interests in the early 1880s, acquired effective control of two-thirds of the district's coal and ovens.

In Chapter 3, Warren moves on to examine the conflict between labour and management in the Connellsville district. Isolated in small communities and tied to an industry constantly expanding and contracting, he explains, workers in the area faced a degree of exploitation equal to or exceeding that of proletarians in manufacturing. By the 1880s, an increasing number of them were also immigrants from southern and eastern Europe, with lower expectations and difficulty communicating in English. Yet workers did manage to organize, first under the Knights of Labor and the Miners and Laborers' Amalgamated Association and, after its founding in 1890, as part of the United Mine Workers

of America. Their efforts culminated in a bitter but unsuccessful strike in 1891, which Warren argues was comparable in its violence and larger significance to the Homestead fight a year later, as well as another failed strike in 1894.

In the chapters following his discussion of class conflict, Warren outlines the expansion of the Connellsville district, the development of new coke-making technology, and the beginnings of the Connellsville industry's collapse. First, he surveys the opening of mines and construction of ovens in the Lower Connellsville district, to the west of the district proper, in response to a surge in pig iron production. By the second decade of the twentieth century, this new area began to surpass the older centre in terms of the number of coke works and output. After World War I, however, both declined rapidly. Just before the war, many coke producers and users were starting to switch to byproduct coke manufacture, which relied on "retort" ovens rather than beehive ovens, allowed for the use of poorer coals, and captured the byproducts of processing. The new technology, Warren points out, led to a shift of mining westward beyond the Monongahela River and south into West Virginia and Virginia. It also prompted the movement of ovens out of the coalfields and closer to mills. Although coal reserves were already severely diminished in the Connellsville area, these new developments dealt fatal blows to the district's coke industry.

Chapter 6 of the book, inserted in the midst of the discussion about the development of new technology and the district's decline, details the physical and social implications of beehive coke manufacture. Warren argues that working and living conditions in the scattered settlements of the Connellsville-area were "hard and bleak," characterized by low wages and long hours as well as payment in company scrip and high prices at company stores. Housing was generally inadequate and there was a lack of basic public institutions. In addition, air pollution caused by the coke ovens was often bad enough to kill off local vegetation and run out the remaining farmers. When the district's coke industry declined, after years of production in wasteful beehive ovens, air quality improved. But as the area's economy deteriorated living conditions became even worse, and this forced a heavy out-migration.

Warren's book is, indeed, the comprehensive history of the Connellsville coke district that he set out to write. It is primarily a business history in terms of scope and emphasis. Yet the book's main argument addresses various subjects and themes – labour unions and strikes, worker alienation, environmental degradation, and the like – that would normally fall within the domain of other fields. Warren has also written a cautionary tale, one that warns against proposals for private control of natural resources and "free market" solutions as means of promoting conservation and dealing with pollution. Private ownership and unregulated capitalism, he makes clear, were the sources of many problems in the Connellsville area, including wasteful use of coal and dirty air.

In these and other ways, *Waste, Wealth, and Alienation* is not only a good historical interpretation but also one with modern-day, social relevance.

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Fred Magdoff, John Bellamy Foster, and Frederick H. Buttel, eds., *Hungry for Profit: The Agribusiness Threat to Farmers, Food, and the Environment* (New York: Monthly Review Press, 2000).

In the opening overview of the book, the editors quote Marx, who states in *Capital* (V. 3, Ch. 6, sec. 3):

The moral of the tale is that the capitalist system runs counter to a rational agriculture, or that a rational agriculture is incompatible with the capitalist system (even if the latter promotes technical development in agriculture) and needs either small farmers working for themselves or the control of the associated producers.

*Hungry for Profit* provides a sweeping picture of the irrationality of capitalist agriculture. It is indicative that the editors draw attention to Marx's analysis of agriculture under nineteenth century capitalism. There is a central logic to the organization of the volume that links historical and contemporary enclosures and dispossessions of farmers as well as resistance movements of the past and present. The attention to historical context is one of the great strengths of the volume as a whole as well as many of the individual contributions.

Two opening chapters together provide an overarching historical framework setting the tone for the entire volume. Ellen Meiksins Wood exposes the ideological nature of the notion of the natural evolution of capitalism by examining the emergence of its unique systemic imperative to compete to maximize profit and capital accumulation. She traces how this compulsion and the system it feeds first appeared in the English countryside. She asserts that if agrarian capitalism had not emerged in England, because the conditions did not exist elsewhere, capitalism probably would never have come into existence. Land was more concentrated than elsewhere in Europe, with a large proportion of tenants paying economic rents, rates determined by market conditions rather than custom or law. Would-be tenants had to compete in a market for leases. Failure to maximize output would result in dispossession because of inability