From Fire to Rust: Business, Technology and Work at the Lackawanna Steel Plant, 1899-1923
By Thomas E. Leary and Elizabeth C. Sholes

According to the authors, the goal of From Fire to Rust is to "increase public understanding about the history of steelmaking," a goal which they pursue by using the case study method to focus on corporate policies, production technology, and industrial authority affecting one steel mill. This objective, in turn, is undertaken within a larger effort to understand the elusive and complex relationships between the practices of a large scale capitalist firm, on the one hand, and the actual production which takes place on the shop floor on the other.

From Fire to Rust explores the history of steelmaking at Lackawanna, New York, by focusing on three periods. The first, from 1899 to 1922, begins with the Lackawanna Steel Company's relocation of its Scranton plant to a large area of land west of Buffalo. This early example of capital mobility was undertaken to secure a strategic location on the Great Lakes for obtaining raw materials and shipping finished products. The second period, from 1922 to 1970, starts with the purchase of Lackawanna by the Bethlehem Steel Company, under the leadership of Charles Schwab. It was during this period that Bethlehem built the Lackawanna facility into one of the largest steel making operations in the world. Finally, the last period concerns the shutdown phase of the plant which began in 1970 and culminated in 1983.

Within each of these periods, the authors focus on three aspects of the steel making business: (1) the status of the corporation in terms of ownership and control, profitability, debt, costs, and business practice; (2) the physical plant, including exhaustive descriptions of the coke ovens, blast furnaces, rolling mills, and general steel making techniques associated with each period; (3) the organization of the work process as it relates to the social structure of authority within the plant, as well as to the technology applied to shape the physical performance of work.

What is noteworthy and unique about this book is the meticulous manner in which the authors pursue their goal of connecting social structures and processes with physical structures and processes. During the first period, for example, the steel making technology was closely linked to the vast amounts of physical labor which unorganized immigrant workers could provide. Likewise, corporate policy in pricing was based on the ability to slash the wages of these unorganized immigrants as part of the larger practice of administered pricing which existed among the major steel makers at that time.

After the takeover of Lackawanna by Bethlehem in 1922, Schwab pursued an intensive program of modernization with the goal of achieving greater integration within the massive facility. The main significance of the modernization program was the stability which it produced upon completion. According to Leary and Sholes, as the "relative pace of technological change slowed and the job structure stabilized, one of the preconditions for industrial unionism as a new stage in labor relations began to emerge."

While Bethlehem Steel had resisted unionization longer than U.S. Steel, the basic structure of work in the steel industry by 1940 had become fairly uniform from plant to plant, and the technology utilized in the production process more or less standardized. As in earlier periods, the larger steel makers engaged in a thinly disguised program of jointly administered pricing, yet there was one significant difference from past corporate practice with regard to maintaining profit margins. During and after World War II, steel companies faced such high demand that reducing wages was not necessary. Instead, as in the auto industry, which purchased an increasing share of steel output, Bethlehem and other companies were relatively free to pass along price increases directly to the buyer while consistently paying substantial dividends to their stockholders. Throughout this period, from 1946 to the early 1960s, technological development at Bethlehem's Lackawanna plant remained relatively constant with the exception of modifications required by the introduction of the basic oxygen furnace. Consequently, the job categories and work rules which had developed during this time became firmly institutionalized through the model of industrial relations growing out of the Wagner Act of 1935 and the Taft-Harley amendments of 1947. In the early 1970s, as management became increasingly interested in making money and less interested in making steel, the model of industrial relations which had worked relatively well during the post-war period was bound for trouble.

Leary and Sholes describe a company which became increasingly desperate, as demand for steel declined in a world economy where the over-valued dollar made all American products less competitive. With corporate control in the hands of financiers who had little familiarity with production technology, the performance of the company became more erratic. Technological improvements at the Lackawanna plant, when they were made at all, were piecemeal and incremental. Instead, the company opted for the "greenfield" approach to modernization.
and spent vast capital to build the new Burns Harbor plant in Indiana. Once the Burns Harbor plant opened and the start-up problems were solved, Lackawanna's usefulness to the corporation was over.

Yet, throughout this period from the late 1960s through 1983, the company continued to issue sizable dividend checks to stockholders. Since much of the corporation's capital was invested in the Burns Harbor project, and since demand had dropped dramatically during this period, management once again returned to the approach it had taken to maintaining profits around the turn of the century: cutting wages. In the 1970s, however, this strategy required a simultaneous attack on work rules and compensation packages negotiated by union and management representatives during the post-war boom. Despite concessions in these areas, combined with reduced local taxes and lax environmental regulations, the company systematically laid off workers at Lackawanna until 1983, when fewer than 600 employees remained and the furnaces went cold.

Leary and Sholes have undertaken an ambitious task in From Fire to Rust, and it represents a significant contribution to our understanding of the history of steel making in America. The authors state that the Lackawanna story is "characteristic of 20th century capitalist practice as a whole," and as this practice pertains to steel, the study of the Bethlehem plant near Buffalo illuminates those forces which shaped the history of steel in Pittsburgh and Youngstown as well. Rigid management policies designed and implemented by individuals trained in accounting and investing resulted in a greater emphasis on quarterly dividends than the manufacture of steel. In this sense, the fate of Lackawanna is similar to that of the Homestead or Campbell works.

The authors of From Fire to Rust have left us with a painstakingly detailed record of a steel mill, the workers who inhabited it and the corporate policies which shaped and ultimately destroyed it. At times their meticulous attention to detail makes the reading somewhat tedious, especially for those not particularly interested in the technical aspects of steel making. Yet this is a small price to pay for the benefits. Other writers have discussed the technical organization of work as it relates to control within the workplace, but Leary and Sholes give us a close up view of the points where the social and physical elements of work converge.

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Arms, Country, and Class:  
The Philadelphia Militia and the 'Lower Sort' During the American Revolution  
By Steven Rosswurm  

This study of Pennsylvania's "internal revolution" examines the roles played by class and the militia system. Despite its focus on Philadelphia, the book should interest the readers of Pittsburgh History because the politics of Revolutionary Pennsylvania are so often portrayed as a struggle of westerners and Philadelphia radicals against the dominant eastern elite.

By the late colonial era, Philadelphia society included three economic groups: an upper class of merchant capitalists, a middle class of small independent artisans and a lower class of laborers. Because the city's growing economic ties with Britain benefitted the merchants, undermined the position of the artisans, and severely hurt laborers, the three groups developed increasingly different sets of interests and values. Before the 1770s the "lower sort" accepted their subordinate position, in part because they relied so heavily upon their "better" for employment, poor relief, and other forms of assistance. The growing hostility of the upper class to trade boycotts, however, allowed artisans to gain control of the patriot movement, and the organization of the militia led laborers to voice their own concerns. Since Pennsylvania had no established militia system before the Revolution, the lower class found it easier to shape the emerging institution. In particular, laborers pushed for the election rather than appointment of officers, less authoritarian forms of discipline, adequate pay for men on active duty, and substantial fines for those persons (often well-to-do ones) who refused to perform military service. When it became clear that the conservative leaders of Pennsylvania would not support American independence, lower class Philadelphians joined the campaign which created a more radical and democratic constitution and state government in 1776.

The radical egalitarianism of Philadelphia laborers shaped their actions in the militia and on the streets during the war years. Although they usually turned out for active duty in respectable numbers and fought well on several occasions, boredom, inadequate supplies, excessive discipline, and reports of economic hardships for their families at home often made them unruly and in some cases led to mass desertions. The British occupation of Philadelphia during 1777 and 1778 increased the material hardships of poorer citizens and heightened their resentment of wealthy Philadelphians who collaborated with the enemy. After the British evacuated, this resentment led to demands for reprisals, especially since many of