Introduction

This book explores the contours of working-class cultures in antebellum Philadelphia. It is a contribution to what has been called the “new labor history,” and like previous works in this genre, it leans heavily on the concepts of class and culture.[1] Such terms have evoked some confusion and it is helpful at the start to define how they are used in this context.

The most basic and for years the prevailing definition of class in Marxian terms implied a set of structural or objective relationships. Classes thus consist of individuals sharing a common relationship to the means of production, and typically are designated as workers, on the one hand, and employers, on the other. Most practitioners of the new labor history employ this Marxian notion and it informs this study as well. More to the point, this analysis assumes that, in purely structural terms, recognizably modern classes of workers and employers took shape with the emergence of industrial capitalism in the opening decades of the nineteenth century, although, as we shall see, wage earners performed their jobs in vastly different settings and their employers were differentiated according to the scale of their enterprises.

The key word here is structural. In this sense, class refers strictly to the objective conditions in which individuals found themselves and it is to be distinguished from the subjective dimension of class, or class consciousness. Class, or class consciousness, is the way human actors interpret and give meaning to their own experiences and circumstances, and as E. P. Thompson argues, it may be understood as a “social and cultural formulation.” Or, in Thompson’s unforgettable contention, "Class consciousness is the way in which these experiences are handled in cultural terms," and culture itself is reflected "traditions, value-systems, ideas, and institutional forms."[2]

In applying this conceptual frame to early nineteenth-century England, Thompson uncovered a single cultural expression which was self-consciously radical. His ***Making of the English Working Class*** set off a flurry of scholarship in America and countless efforts to reproduce his magisterial work.[3] Among the most successful of these were Paul Faler and Alan Dawley's studies of the shoeworkers of Lynn, Massachusetts; and their work reveals a more complex cultural landscape. They uncovered not one but three forms of working-class culture—loyalists, rebels, and traditionalists—with unique organizational matrices, recreational interests, and values.[4]

My debt to Faler and Dawley should be obvious to anyone casually familiar with their seminal work. This study also posits the existence of distinctive worker cultures, but differs from their treatment in several respects. First, having been influenced by recent investigations of the ethnocultural basis of voter loyalty, it identifies religion as a major component of worker culture.[5] Rationalism, evangelical Protestantism and, to a lesser extent, orthodox Protestantism and Catholicism are seen as critical forces in the shaping of worker values and practice. Second, it seeks to disclose the backgrounds and urban experiences, both cultural and material, of the workers comprising each cultural category. Third, it examines how such cultures changed over time under the impact of demographic and industrial change.

A few caveats are in order before we begin. I had the option of treating the cultures under analysis in terms of tendencies or as ideal types. There are advantages and liabilities to each approach, and after weighing the alternatives, I chose the latter—in part for reasons of convenience and in part because it permits rendering each culture in more vivid form. History, of course, is not always so neat. It does not come wrapped in tiny bundles, and scholars who package the data in this way run the dual risk of distorting the record and of ignoring individuals and groups that do not conform to the categories. My response to the first peril is that I have done my best not to reduce the cultures to caricatures. As for the second, I can only plead that one cannot do everything, even in a concerted effort to be thorough. At least two groups—women and Blacks—do not figure *systematically* in what follows. Their omission stems not from bias but from the limitations of the record. Documentary evidence on the cultural lives of women and Blacks is painfully thin. Smatterings of what is available suggest that both groups may be subsumed under one or more of the categories used in this study, but, alas, the record is insufficiently compelling. Consequently, the exploration of the cultural lives of antebellum Philadelphia's working-class women and Blacks has been left to other scholars.

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The Sources of Industrial Diversity

1

On July 4, 1788, Philadelphians commemorated the ratification of the federal Constitution. The jubilant occasion came as a welcome respite from years of war weariness and recession that followed the signing of the Treaty of Paris and, buoyed by the promise of the new government, Quaker City residents turned out in droves. Nearly 17,000 of them, or just about a fourth of the population, deserted counting house and workshop to take part in an unprecedented display of patriotic fervor and national Clan. The form of the celebration, a procession of leading citizens and occupational groups, testified to the importance of handicrafts in Philadelphia's economy. Representatives of the wide variety of trades outfitted in the dress of their vocations—robust German brewers, craft-proud printers, lowly seamen and hand loom weavers—drew colorful floats and bore banners emblazened with mottoes expressing hope in the new nation. "May the federal government revive our trade," proclaimed the

Material on work environments has been adapted from an article I wrote with Prof. Mark Schmitz entitled "Manufacture and Productivity: The Making of an Industrial Base, 1850–1880," in ***Towards an Interdisciplinary History of the City: Work, Space, Family and Group Experience in Nineteenth-century Philadelphia,*** ed. Theodore Hershberg (New York: Oxford University Press, forthcoming).

bakers' flag; "May industry ever be encouraged," declared the porters' masthead.[1]

It was thoroughly appropriate that artisans figured prominently. Tradesmen made up nearly half the work force, even though Philadelphia was still a commercial port vending commodities produced in other locales. No single calling dominated. Carpenters, bricklayers, and other building tradesmen accounted for one-fifth of the artisans, followed by tailors and clothing workers (17 to 19 percent), leather workers (13 to 15 percent), and so on.[2]

These men found employment, as David Montgomery observes, partly because of the social division of labor enforced by urban living. Unlike rural homesteaders, city dwellers were unable to produce basic necessities, and had to turn to the exchange economy for goods and services. This demand kept artisans busy supplying food, clothing, and housing, as well as books, newspapers, and other commodities that were so much a part of city life. The social structure itself also created a market for locally made products. Philadelphia's fashion-conscious merchants and professionals, aping their European counterparts, had a flair for expensive clothing and for fine household furnishings. Artisans who were capable of replicating Continental styles did a brisk business.[3]

The vast majority of such craftsmen were independent producers who owned a set of tools, worked alone or with an apprentice or two, and would hire a journeyman when markets picked up. Home and workshop were one and the same, or at least in close proximity. Masters would set aside a room or floor of their dwellings or set up shop in an adjoining edifice. The ambience of these workshops was casual. Master and helper worked at their own pace, fashioning goods to order or occasionally building up small inventories for sale to browsing shoppers.[4] John Fanning Watson, an early chronicler of the Quaker City with vivid memories of his adolescerit years, captured the tone and texture of handicraft production. In his youth, he reminisced,

> No masters were seen exempted from personal labour in any branch of business—living on the profits derived from many hired journeymen; and no places were sought out at much expense, and display of signs and decorated windows, to allure custom. Then almost every apprentice, when of age, ran his equal chance for his share of business in his

> neighborhood, by setting up for himself, and, with an apprentice or two, getting into a cheap location, and by dint of application and good work; recommending himself to his neighborhood. Thus, every shoemaker or taylor was a man for himself. . . . In those days, if they did not aspire to much, they were more sure of the end—a decent competency in an old age.[5]

Other accounts indicate that Watson's memory was selective. He described only one side of the world of production and ignored a small minority of proprietors who broke out of this traditional mold. More enterprising and ambitious than the neighborhood master remembered by Watson, they are best described as entrepreneurs eager to expand by ,exploiting wider markets. Concentrated in light consumer goods, they turned out shoes, clothing, furniture, and other commodities in quantity and retailed a portion of their wares to local customers but reserved the bulk for Philadelphia merchants and general store owners in the surrounding countryside. Because they dealt in volume and tied up large sums of capital in raw materials, entrepreneurs were forced to pay more attention to costs and labor costs in particular.[6]

Such imperatives goaded entrepreneurs into altering habitual trade practice. As a study of apprentice indentures shows, relations between employer and apprentice turned increasingly on marketplace considerations at the expense of tradition. Late eighteenth-century masters gradually refrained from honoring filial obligations to apprentices, whether this meant commemorating promotions to journeyman status with gifts or teaching apprentices to read and write. They offered cash payments in lieu of the customary suit of clothes or set of tools and limited educational responsibilities to teaching the "art and mystery" of their craft.[7]

The harmony between employer and journeyman also showed signs of strain. Evidence of stress, if not outright conflict, can be gleaned from the groupings of the Federal Procession. Masters and journeymen representing at least two trades marched in separate cadres, and while they mingled in every other craft, the euphoria of the moment did not carry over into workplaces.[8] Journeymen printers and cordwainers formed combinations and struck for rate increases in the 1790s, and during the following two decades masters and journeymen in a dozen callings organized distinct trade societies, indication enough that each side recognized peculiar class interests.[9]

These early incidents of class conflict are instructive. They indicate that contrary to view put forth by John R. Commons and his associates, class antagonism erupted long before employers reached out for national or even regional markets. Philadelphia employers who collided with journeymen over wages were retailers linked to local and metropolitan sales. Yet it is clear that most businesses were still quite small at the turn of the century and class lines remained fluid. The average journeyman could look forward to setting up his own shop, earning a modest income as an independent producer, and perhaps accumulating a sufficient surplus to tide him through his declining years.

Several forces conspired to keep down growth and the scale of enterprise. Capital was dear and quite scarce for entrepreneurs. Bankers and merchants regarded production as too risky to merit much capital, and preferred to invest in the orthodox channels of land and shipping and in the growing areas of marine insurance and transportation.[10] Import merchants in need of capital easily outbid entrepreneurs in money markets and deterred industrial growth with their mass importation of foreign manufactures. British-made goods, for example, had a competetive advantage in American markets and such imports daunted the development of many industries, cotton textiles being one example.

If the experience of John Bedford indicates anything, it is that the locus of the market also impeded growth. Philadelphia's largest boot and shoe manufacturer around 1800, Bedford hired twenty to twenty-four workmen at home and at his shop, and built up a thriving business on custom and retail trade, His footwear enjoyed a good reputation among upper-class Philadelphians, owing to his accomplished journeymen, who turned out current European styles and added the Continental touch of inscribing the customer's name on the inside lining of boots and shoes. Bedford's fortunes took a turn for the worse, however, when, in 1800, local markets contracted and inventories piled up. His capital "tied up in stock'' and faced with impending ruin, Bedford was struck with "the idea of going southward" in order "to force a sale" and boarded a vessel bound for Charleston, where he contracted with two customers and made bargains with others in the countryside.]' He returned home prepared to fill orders in excess of $4,000, but was confronted with irate journeymen; they demanded a wage advance and laid down their tools when Bedford invoked the iron law of contractual obligations and stood firm. The strike interrupted production and forced him to default on some orders.[12]

Bedford's travail is as revealing to historians as it was frustrating to him. It indicates that local markets were large enough to bear relatively large scale enterprise, but they were easily saturated and insufficiently flexible to sustain growth. Entrepreneurs like Bedford realized as much in seeking southern customers, and the city's renowned merchant princes joined together with them in an effort to expand commercial outlets. Led by Thomas Pym Cope and Samuel Breck, Philadelphia's men of commerce grew uneasy over the city's commercial prospects and competetive position, as Congress debated building a National Road to the south and New Yorkers discussed digging the Erie Canal. Both developments and alarming rumors that New Yorkers were also about to inaugurate packets and thus corner the coastal and European trade, galvanized Philadelphia's businessmen and boosters, including the journalist and political economist Matthew Carey. They formed an impressive lobby to perfect oceanic transport and develop inland facilities.[13]

Pooling resources, these promoters invested heavily in trans-Atlantic and coastal shipping after 1810. By 1821 a group headed by Cope launched the city's first transatlantic packet line and merchants with interests in the South followed suit in the coastal trade. Packets proved something of a sensation. They were more reliable than regular traders and transients and quickly displaced both carriers, hauling more than half of Philadelphia's coastal trade by the late 1820s.[14] Construction of the Erie Canal set off a panic in commercial circles and stimulated merchants and entrepreneurs to new levels of activity. Determined to keep pace with their New York rivals, they poured surplus capital into canal and navigation companies, and constructed a network of waterways radiating outward from the city. They also turned their attention to the state legislature and mounted a feverish lobbying effort to extract appropriations for a system that would compete with the Erie. This ambitious project became the obsession of the Pennsylvania Society for the Promotion of Internal Improvements, a Philadelphia group that eventually branched out to nearly every county in the Keystone state. Hoping to marshall support for the east-west connection, Philadelphia leaders called a convention at Harrisburg in 1825, but it attracted scores of back-country delegates, each of whom had a pet project and a voice that mattered in the legislature. This merger of urban and rural interests made a powerful impact. Lawmakers incorporated the designs of both groups in planning and funding the state canal system.[15]

Beginning in the late twenties the state of Pennsylvania commenced what one writer aptly describes as a "building craze," which left behind nearly 900 miles of canal beds by the 1840s. The heart of the system, the Main Line, connected Philadelphia with Pittsburgh through a series of waterways and a mechanized portage railway that scaled the eastern slope of the Alleghenies. Branch canals linked both cities (and Harrisburg) to their hinterlands.[16] The railroad mania occurred during the midst of canal fever. Trunk lines criss-crossed the eastern anthracite fields by the late twenties and they were followed by intrastate lines financed by private interests and public funds. The state-sponsored Philadelphia and Columbia Railroad provided an alternative to the canal route to Harrisburg in 1834, the same year in which the Philadelphia and Trenton had its maiden run. Four years later the last spike was driven into the track of the Philadelphia, Wilmington, and Baltimore; and in the mid-forties workmen began constructing the Pennsylvania Railroad which carried its first freight in 1852.[17] By the time it was completed, the state boasted 900 miles of track, virtually all of which had been built in the previous decade.[18]

The modernization of transportation proved to be one of the most far-reaching innovations of the age. Few Pennsylvanians, whether they lived in congested Philadelphia or in the state's rural areas, evaded these tentacles of commerce. Both "blacklanders" and yeoman who raised crops for exchange and produced necessities for use were forced into a new relationship to the market. The rural invasion of canals delivered commodities to their front porches, and brought about a price revolution, as water carriers gradually displaced waggoners and other slower and more expensive modes of transport. Costs per ton mile plummeted on canals between 1820 and 1850, and merchants and manufacturers, in passing the saving on to consumers, lured rural homesteaders into commodity markets. Farmers began to consume items traditionally produced at home: or as a keen observer noted in the late 1830s, "Formerly no man thought of going to a tailor for a shirt, Now everybody goes to one even for a handkerchief."[19]

The transpdrtation revolution also helped transform the structure of opportunities in the countryside. Farmers were already on the threshold of a crisis by the last third of the eighteenth century, when the best farm land was cleared and settled and minimum-sized holdings were reached. Population pressure was *so* great in some areas that families shifted to impartible inheritance in order to ensure at least one son a workable farm. Second and third sons, deprived of rights to family holdings, were forced to seek alternatives. Some moved to central and western Pennsylvania or to remoter areas in the Ohio Valley. Others left farming altogether and apprenticed themselves to tradesmen in nearby towns and villages. Still others postponed moving by renting or mortgaging land and turning to tenancy. Tenants continued to have relatively large families and their **sons** reached maturity by the second decade of the nineteenth century, which placed additional strains on the population-to-land ratio.[20]

The coming of canals exacerbated the predicament of poor farmers, small tradesmen, and their sons. Land adjacent to inland water routes skyrocketed in value, which induced owners to raise rents beyond the means of lessees and expel tenants, and the influx of urban commodities undermined many independent tradesmen. An unknown number of displaced Pennsylvanians, especially the young, followed in the footsteps of previous migrants and went westward in search of farm land. Others, and perhaps a growing majority, went eastward to the Quaker City in hopes of finding a better life.[21]

The flight to the city is largely responsible for the urban population explosion in the antebellum period. Between 1800 and 1850, Philadelphia grew from 81,000 residents to over **408,000,** and, as John Modell has shown, rural-urban migration and natural increase far outstripped immigration as the principal generators of growth prior to the 1840s. Immigrants were no more than 10 percent **of** the population in 1830 and did not arrive in appreciable numbers until the forties. As late as 1840, then, native-born Americans predominated and many of them were rural-urban migrants forced off the land or drawn to the city by the promise of advancement.[22]

The forging of the transportation network and massive migration from the countryside, in connection with the expansion of credit and imposition of erratic but protective tariffs, solved major problems for urban entrepreneurs. In combination such developments supplied access to regional and distant markets, provided a relatively cheap, if still inadequate, labor pool, and offered more credit. Endowed with these factors of production, entrepreneurs changed Philadelphia from a commercial port with a broad but shallow industrial base to a major center of commodity production, whose industrial output reached $140 million and was second only to New York on the eve of the Civil War.[23]

Such industrial growth necessarily altered the landscape of Philadelphia. Colonial patterns of land use and spatial relations, which mixed together rich and poor, home and workplace, persisted well into the nineteenth-century, but were beginning to yield to more familiar patterns of segregation and specialization. The gradual industrialization of the core chased some of the rich and well-born to the greener pastures of the western fringe, where they built elegant mansions on tree-lined streets and verdant squares.[24] It also pushed working people and the poor into cheaper housing in the newly emerging suburban districts that formed a semicircular ring around the old port. Kensington and the Northern Liberties in the north, and Southwark and Kensington in the south, increasingly became the refuge of native and foreign-born wage earners.[25]

The core itself, though still highly commercial and residential, assumed a more industrial quality with the passage of time. Following the war of 1812, factories specializing in light consumer goods began to concentrate east of Seventh Street; textile mills, brickyards, and other industries dependent upon water power appeared to the west, along the banks of the Schuylkill.[26] During the next four decades, such trends proceeded rather uniformly in the city but unevenly in the suburbs. Farther up the Schuylkill, a few miles from the downtown, was Manayunk, an area that was agricultural in 1820 but which became the heart of the county textile industry by the early thirties. Huge fieldstone mills, with water-powered spinning and weaving machinery, and tenements housing scores of operatives were built there overnight.27 Textile factories and artisan's shops were found adjacent to weavers' sheds in Kensington and Moyamensing, but the distinguishing feature of these areas was outwork. In the shadow of the mills were thousands of weavers who turned out cotton cloth on hand frames in tiny red-brick cottages lined up in monotonous rows on grid-like streets. Southwark and the Northern Liberties, older boroughs settled in Colonial times, retained vestiges of their preindustrial character. Small shops offering all manner of goods and commodities abounded as late as 1850, but more advanced forms of production were very much in evidence. Both districts became the home of tradesmen who, separating home and workplace, found employment either in the large workshops that crowded the core or in Southwark's modern machine foundries.[28]

From the perspective of this study, however, two changes stand out. The first has to do with the redistribution of wealth that occurred between the signing of the Declaration of Independence and the onset of the Civil War. Late Colonial Philadelphia was hardly an egalitarian paradise. A large proportion of the population owned no property, and an underclass of casual laborers, seamen, and tradesmen lived in poverty. Yet the distribution of real property, skewed though it was, looks equitable in comparison to later periods. At the close of the 1790s, the top 10 percent owned about half the wealth, which left a relatively large share for the smaller merchants, petty professionals, and master craftsmen who comprised the middling order.[29] The ensuing seventy years witnessed a wholesale redistribution toward the top, so that by 1860 the leading 10 percent owned 90 percent of the wealth while the privileged 1 percent owned a substantial 50 percent.[30]

A recent analysis of this antebellum elite indicates that few of them claimed humble origins or were self-made men. The typical member bore the venerable surname of Biddle, Ridgeway, or Pennypacker, and could trace his family fortune to the eighteenth century. Like the Colonial elite, moreover, most of these men, or six in ten, engaged in commerce; another 15 percent practiced a profession or were in finance. Manufacturers made up only 5 percent of the upper crust and they alone can be described as self-made.[31]

The early stages of industrial capitalism, in a word, did not give rise to an upper class with fortunes grounded in production alone. The wealthiest Jacksonian Philadelphians were merchants and financers, just as they had been in Colonial times. The difference Was that the Jacksonians sold commodities produced in their own backyard as well as European-made goods, They also boasted more diversified investment portfolios, for such elites lent some surplus capital to manufacturers.

The solidification of this upper class had its counterpart in the mass of men and women dependent exclusively on wage labor for sustenance. The condition of wage earners is still in dispute. Early studies of the standard of living pressed the case that real earnings rose between the 1820s and 1840s, and declined in the 1850s, which brought a net gain of from 10 to 13 percent.[32] The absence of adequate data and additional research prohibits resolving this issue one way or another, but a few points deserve attention. Even if one concedes that real earnings rose in these years, the distribution of the increase remains an open question. Artisans in the better trades seem to have been the chief beneficiaries; the majority of skilled and unskilled workers, conversely, probably saw their incomes decline. A budget computed in 1851 by English immigrant John Campbell shows that even the modest rise in real earnings left the typical wage earner without enough resources to support his family at minimal comfort on his earnings alone. Campbell's budget, which included allowances for food, rent, clothing, and candles but excluded medical care and recreation, came to $10.37 a week, or $518.35 a year, based on fifty weeks, at a time when the average yearly income of male workers in fourteen major industries was only $288.33 Printers and compositors, who were among the best paid of all journeymen, averaged only $370, or about $150 less than the minimum.[34]

This glaring shortfall caused workers to make adjustments. Most cut back on consumption, limiting their intake of meat and other expensive foodstuffs, conserving fuel costs by scavenging the countryside for wood, and partronizing the many second-hand shops in the city and suburbs. They also relied on multiple incomes, although it is impossible to know how many depended upon the earnings of wives and children or to identify the occupations of all secondary breadwinners. The employment of wives evidently varied according to the availability of work, the occupations and earnings of husbands, and the willingness of husbands to allow wives to work outside the home.[35] Wives of textile hands, for example, probably had the highest labor force participation rate (outside the home) for three reasons: male earnings were low, work was readily available, and women's occupations were seen as women's work and posed no serious threat to men. Wives of outworkers in the shoe, needle, and weaving trades helped husbands bind shoes, sew slop clothing, and wind yarn.[36] Spouses of better paid craftsmen, however, worked inside or outside the home only in hard times. A large proportion of older working-class women probably contributed to the family coffer by taking in boarders. Children were more likely than wives to enter the work force and were found in a spectrum of jobs. Sons had a wider range of choice than daughters and followed every trade and calling from printing to textiles. Daughters were typically restricted to the needle trades, textiles, and domestic service.[37]

The second salient change of this period has to do with the nature of work. The small craftsman of Watson's youth, who served local customers on casual work schedules, was gradually eclipsed by the entrepreneur in many trades. Evidence of modernity, barely perceptible in Watson's boyhood, was everywhere apparent by mid-century. Large multistoried industrial structures that occupied entire city blocks in the downtown and bunched along waterways competed with church steeples for domination of the city skyline. Oliver Evans' Mars Foundry, Philadelphia's largest business in 1815 and the envy of every aspiring entrepreneur, seemed modest by mid-century standards. Whereas Evans employed some thirty-five workmen during the War of 1812, thirty-five years later, over ninety firms hired in excess of one hundred workers each, and slightly more than 40 percent of the labor force worked in establishments with over fifty employees each. (See Table 1.)[38]

The rise of large units of production geared to mass markets announced the beginning of the end of artisanship and artisanal practice. The lax pace of work, the skill and autonomy of journeyman and master, and other handicraft characteristics eroded under the drive for economy and productivity carried on by highly competetive entrepreneurs. Most tradesmen felt the impact of early entrepreneurship. But while they shared common experiences on the shop floor, the fact remains that the new order did not bear down evenly on all of

Table 1
Percentage of Workforce by Size of Firm, 1850

Industry	Firm Size (no. of workers) 1–5	6–25	26–50	51+	Avg. Firm Size (no. of workers)
Iron	2.6	16.1	14.8	66.5.	34.5
Machine tools	11.5	23.0	12.8	52.7	16.1
Textiles	2.6	12.0	13.8	71.6	37.0
Printing	3.6	26.1	28.6	41.7	22.5
Building construction	9.4	34.7	29.0	26.8	14.3
Clothing	3.1	26.4	14.6	55.8	25.1
Hats and caps	15.6	41.0	15.8	27.5	10.5
Shoes	17.5	35.3	11.3	35.8	10.0
Furniture	19.4	38.7	21.6	20.3	9.3
Leather	9.0	37.3	30.9	22.7	12.1
Food	65.5	25.6	8.9	0	2.8
Tobacco	33.2	59.1	0	7.6	4.2
Blacksmiths	70.I	29.9	0	0	3.4
Traditional metals	42.2	25.9	17.2	14.7	0
All industries	12.4	28.4	16.1	43.1	12.9

Source: United States Census Office, *Census of the United States, Industrial Schedule, Philadelphia County, 1850* (microfilm, MSS, National Archives, Washington, D.C.). The proportion of workers and employers in shops with fewer than six employees is underestimated because census marshalls recorded firms doing business in excess of $500, and thus ignored myriads of small producers in the old crafts.

them, partly because industrial change was spectacularly uneven, and partly because newer methods of production did not completely displace older ones. Preindustrial and transitional forms, such as small shops and outwork, showed striking resiliency in some trades. Thousands of hand loom weavers, shoemakers, tailors, other tradesmen, and women worked in shabby cottages in the suburban districts, while textile operatives and metallurgical workers toiled in large factories, and operated some of the most modern equipment in the world. Moreover, as the coexistence of hand loom weaving cottages and textile mills suggests, there were important variations within trades as well as between them.

Work Settings

A comprehensive view of the unfolding of early industrialism thus requires a conceptual frame of reference that takes account of uneven development and sorts out work environments. **A** helpful model posits the coexistence of five discrete but overlapping work settings—factories, manufactories, sweatshops, artisan shops, and outwork—distinguished by scale and mechanization as the first order of differentiation and market orientation as the second.

Factories. Factories refer to workplaces equipped with steam engines, water wheels, or both. The ***sine qua non*** of industrialization in the minds of most historians and economists, factories have received more than their share of attention from scholars probing industrial capitalism in England and New England. Philadelphia, however, was not similar to New England. Her factories employed less than a third of the labor force at mid-century and were limited to a few industries, the most important being textiles and heavy industry. Most artisans worked in nonmechanized settings. (See Tables 2 and 3.)

The importance of factories in these industries is easily explained. Offspring of the industrial revolution, heavy industry, and, to some extent, textiles, had no real tradition of craft organization. The absence of craft traditions, coupled with the rapid development of machine technology and the inherent need for large scale enterprise, at least in metallurgy, account for the shape of this production. Heavy industry thus short-circuited the customary path of development, in which manufacture moves from home and small shop to factory; iron, steel, and heavy equipment were produced in large, mechanized workplaces from the beginning. Cloth manufacture varied slightly, owing to the mixed history of the steps involved in making cottons and woolens, and to the demographic peculiarities of Philadelphia. Spinning and carding flourished in the countryside but not in the city, and both procedures, along with dying and printing, were centralized when factories proliferated in the late 1820s.[39] Weaving, on the other hand, had a long history as a cottage industry in the country and city, and, at first, early factory owners were content to farm out loom work to outworkers or ***to*** contract with merchants who hired frame tenders. Many owners eventually purchased or rented looms and brought weaving under the same roof

Table 2
Percentage of Firms Using Steam or Water Power,
and Percentage of Workers in Mechanized Firms, 1850

Industry	*Percentage of Firms*	*Percentage of Workers*
Iron	58.8	85.5
Machine tools	30.7	62.5
Textiles	38.6	54.0
Printing	15.1	30.5
Building construction	6.2	19.8
Clothing	3.3	10.3
Hats and caps	1.7	3.3
Shoes	0	0.8
Furniture	4.8	6.9
Leather	4.2	10.2
Food	0.8	6.7
Tobacco	2.7	12.1
Blacksmiths	0	0
Traditional metals	9.5	37.2
All industries	10.8	27.7

Source: United States Census Office, *Census of the United States, Industrial Schedule, Philadelphia County, 1850* (microfilm, MSS, National Archives, Washington, D.C.).

with other operations. Yet the number of hand loom weavers still increased, earning Philadelphia a reputation as a haven for this old-fashioned craft. Thousands of impoverished Irish frame tenders, making at least a stand against industrialism, lived cheek by jowl in Moyamensing and Kensington, and this abundant source of cheap labor kept industry alive.[40]

Philadelphia's early textile manufacturers are anonymous. None achieved the status of the heralded Boston Associates, and thus failed to raise the interest of contemporary biographers, hagiographers, and industrial promoters. We know them only through scattered bits of evidence, but such sources provide some helpful observations. Most textile manufacturers were not former merchants and financiers. Local merchants invested in New England mills and supplied capital for regional ventures, but as a rule, Philadelphia's textile bosses were men of humble origins. Former journeymen and small businessmen, they ran comparatively modest businesses, and few of them accumulated competencies. At Manayunk, Philadelphia's answer to Lowell, only two of over thirty owners had any real property in 1850, and most were such marginal producers that they rented space and machinery.[41] The majority of them remained small, and many succumbed to the erratic economy. Failure was so common at Manayunk that thirty-four individuals operated twenty separate businesses between the early twenties and mid-forties.[42]

Table 3
Distribution of Workers by Work Environments, 1850

	Artisan		*Sweatshop*		*Manufactory*		*Factory*	
Industry	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
Iron and steel	21	1.7	54	4.5	100	8.3	2178	85.5
Machine tools	395	10.1	416	10.6	660	16.8	2449	62.5
Textiles*	178	1.7	826	7.9	3790	36.4	5628	54.0
Printing	76	3.6	515	24.6	866	41.3	639	30.5
Building construction	355	9.1	1151	29.6	1611	41.5	767	19.8
Clothing†	324	3.1	2635	25.0	6483	61.6	1090	10.3
Hats and caps†	284	15.4	734	40.0	759	41.3	60	3.3
Boots and shoes†	1091	17.5	2207	35.3	2946	47.1	5	0.1
Furniture	225	19.9	399	35.3	427	37.8	79	6.9
Leather	251	11.9	643	30.6	995	47.3	215	10.2
Food	867	80.2	142	13.1	0	0	72	6.7
Tobacco	291	40.3	343	47.6	0	0	87	12.1
Blacksmiths	399	70.1	1158	27.8	12	2.1	0	0
Traditional metal	218	40.2	98	17.9	26	4.7	203	37.2
All industries	6779	11.7	13586	23.4	21581	37.2	16072	27.7

*About half to three-fourths of those in manufactories and factories were actually outworkers.

†About half of those listed in manufactories and factories were actually outworkers.

Source: United States Census Office. ***Census of the United States, Industrial Schedule, Philadelphia County, 2850*** (microfilm, MSS, National Archives, Washington, D.C.).

The most successful of the lot was Austrian-born Joseph Ripka, and even he failed to avoid the whim of the volatile market. Ripka started out as a weaver, presumably a journeyman, and accumulated enough capital and knowledge of the "management of the loom" to strike out on his own. Migrating to Lyon in 1814, he opened a cotton and silk mill, but the political chaos of Restoration France drove him to the brink of ruin and also from the Old World to the New—and then to Philadelphia, where he promptly reentered the textile business. He opened a small hand loom weaving firm in Kensington in 1817, and four years later added another mill and a warehouse to his holdings. The mid-twenties was a pivotal time for him. He took over a power loom factory on the Pennypack, constructed a weaving and spinning mill at Manayunk, and garnered the capital from these to expand sharply in the coming years. At the beginning of the forties the sixty-year-old immigrant owned a minor textile empire that embraced a string of warehouses and at least eight mills, and was numbered among the wealthiest Philadelphians. But success eluded him. The panic of 1857 left him with large inventories, few customers, and many debtors whose defaults mounted and drove him to ruin. A casualty of hard times, Ripka died a poor man in 1862.[43]

Ripka's mills and those of his competitors were the most advanced businesses in the region. Powered by steam engines or water wheels and equipped with batteries of machines, these monuments of rising industrialism were the equivalents of early automobile assembly plants. Production rhythms were maddeningly syncopated, fluctuating between periods of intense activity and slack times. Owners would operate part time or cut employment rolls when chronic overproduction glutted markets, and would shut down entirely when steam engines malfunctioned, waterways froze or dried up, or canal companies dredged silted trenches.[44] But in prosperous times no work environment demanded as much discipline or exhausting physical labor as did textile factories. (This distinguished textile operatives from metallurgical workers who were located in factories. The work life of first-generation machinists, iron puddlers, rollers, and kindred wage earners was qualitatively different from that of the operatives. They were highly skilled factory workers who commanded exceptionally high wages and exercised control over the conditions and instruments of production. Metal tradesmen were numerically significant in antebellum Philadelphia, but deficient data on their early experiences precludes incorporating them into the following analysis.)[45]

Operatives put in one of the longest workdays of all wage earners. They toiled up to fourteen hours daily at the end of the twenties, and in 1835, when craftsmen throughout the city struck successfully for a ten-hour day, textile hands had to settle for a compromise of eleven hours. The eleven-hour standard held throughout the depression of **1837;** owners, however, reimposed longer hours following recovery in the middle of the forties. Textile employees had come full circle and worked a thirteen-hour day once again.[46]

The shop experience of millhands differed from artisans in other ways as well. Unlike the great majority of wage earners who worked by hand or with the aid of simple tools, they operated power-driven machines and adjusted to a work pace over which they had no control. And while all artisans worked harder and more intensively as time wore on, mill workers faced the most gruelling regime of all. In 1833, for example, a mule spinner estimated that a competent practitioner turned out about 4,000 hanks of a standard thread a week.[47] Fifteen years later a popular manufacturers' manual recommended a weekly output of twice that rate.[48] Supervision was strict and overbearing. Operatives toiled under the direction of overseers and room bosses who detected the slightest "falling off' and, did not shy away from exercising their authority to discipline the guilty.[49] Owners specified what constituted laxity, posting written rules and regulations that one of their number described as "chiefly indispensible for . . . good management."[50] Ripka levied fines for "neglect of work," carelessness, mistreatment of machinery, and poor performance or work "badly done." He encouraged promptness by docking "every hand coming to work a quarter of an hour after the mill started" a quarter of a day['s wage.]"[51] Small wonder that Manayunk operatives considered textile manufacture a "clock-work system."[52]

The tight surveillance on the shop floor occasionally spilled over into housing. The leading firms imitated Rhode Island manufacturers and boarded families in company-owned tenements. These dull, gray buildings, built from the same material as the mills, were governed by principles similar to production itself. Tenants were carefully