ABSTRACT

STROUP, JANE SHAW. How Have Historians Explained Working Conditions in the Factories of the Industrial Revolution? (Under the direction of Dr. K. Steven Vincent.)

The century-long disjuncture we know as the British Industrial Revolution (1750-1850) transformed the way people worked, especially those who entered the new, mechanized textile mills that sprang up along rivers, first, and then concentrated in towns and cities, primarily in Lancashire. Historians have asked many questions about those workers and the conditions they experienced, both in the factories and in the rest of their lives. The questions include why children were forced to work such long hours; whether the workers’ standard of living improved, remained static, or even declined; how employers disciplined their workers; and how workers came around to accepting the new way of life.

This thesis is historiographical. It examines the ways historians of the Industrial Revolution have looked at these topics. Their views have changed over the years and this thesis explores each topic by looking at the works of key historians, to a large extent chronologically. I hope to have captured the tone of the livelier debates, which are tinged with ideology, such as the decades-long debate over the standard of living. But I hope also to have revealed the innovative strategies historians have adopted to figure out answers to their questions, often building on the work of previous historians. My greatest hope is that I have shed light on the historical events themselves. By reviewing what some great minds have thought about, and how they have disagreed over,
problems from child labor to worker adaptation we can build a more complete picture and a multi-dimensional understanding of the workers’ experiences.
How Have Historians Explained Working Conditions in the Factories of the Industrial Revolution?

by
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A thesis submitted to the Graduate Faculty of North Carolina State University in partial fulfillment of the requirements for the degree of Master of Arts

History

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BIOGRAPHY

Jane Shaw Stroup (who sometimes writes under the name of Jane S. Shaw) was president of the James G. Martin Center for Academic Renewal until she retired in 2015 and is now chairperson of the Martin Center board. Pursuing an interest that never quite “took off” when she was younger, she has taken graduate courses in history at NC State since 2016. Jane’s bachelor’s degree is in English literature from Wellesley College.

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# TABLE OF CONTENTS

Chapter 1: The Rise of the British Factory ................................................................. 1

Chapter 2: Child Labor, A Special Case?................................................................. 19

Chapter 3: How Did Factory Workers Live? ............................................................ 51

Chapter 4: How Did Owners Discipline Workers? ..................................................... 82

Chapter 5: How Did Workers Change? .................................................................. 108

Chapter 6: How Historians Have Resolved Workers’ Issues ................................. 131
CHAPTER 1: The Rise of the British Factory

In 1965 historian Sidney Pollard signaled the importance of managing workers in the Industrial Revolution. “In many respects the rational and methodical management of labour was the central management problem in the industrial revolution, requiring the fiercest wrench from the past,”1 he wrote in his book The Genesis of Modern Management. Pollard’s book was, at least in part, an effort to redirect the historiography of the Industrial Revolution and its labor forces to issues beyond child labor and the living conditions of workers and instead focus on how managers dealt with the new industrial environment. The actual process of managing workers, he suggested, had been neglected, beginning from the time of the Industrial Revolution itself. “It was held, by those who thought about these matters at all, that there was nothing new to be learnt, since workshop masters had had to control labour (though the numbers were small); and generals had commanded larger numbers (though they had greater powers of discipline, and did not have to show a commercial profit).” However, the new industrial factories were something quite different, as he explained in his book.

It is no secret that the historiography of the Industrial Revolution is highly contentious, and differences over labor are among the most stark, partly because so much writing occurred during the tense and sometimes violent period of management-labor relations in nineteenth and twentieth-century Britain. This thesis, which starts with sources as early as 1832, will look at what thoughtful people said about conditions

in the factories during the Industrial Revolution, which extended roughly from 1750 to 1850, and what historians have said since.

Through the eyes of historians, this thesis will look at the ambivalence and even hostility of workers to leaving home, which had been the locus of manufacturing for centuries, to work in factories. It will look at child labor and how historians have explained why children were treated as they were. It will look at the workers’ standard of living and the debates that swirled around the effort to find out what it was. And in the spirit of Sidney Pollard’s approach, the thesis will examine what managers did to tame their workers—and how workers changed over time.

“Perhaps the most important methodological problem in the writing of history is to discover why different historians, on the basis of the same or similar evidence, often have markedly different interpretations of a particular historical event,” wrote R. M. Hartwell in 1959.\textsuperscript{2} He was summing up the debate over whether the Industrial Revolution raised or lowered the standard of living of the industrial masses in Britain by the early to mid-nineteenth century (he was a protagonist in that debate), but his statement applies to much of the discussion surrounding the “labor question.” To illustrate the dissension, a couple of examples follow.

John Fielden was a successful cotton-mill owner but also a critic of the factory system. He wrote a book called The Curse of the Factory System, published in 1837.\textsuperscript{3} The name of his book alluded to the thousands of children who worked in the cotton mills,
generally monitoring the spinning machines and piecing together threads that broke (these children were called “piecers”). An intellectual dispute had arisen over how “light and easy” this work allegedly was. Nassau Senior, a political economist and part of the classical liberal group who defended free trade and freedom of contract, had used that term—“light and easy”—to describe factory work in letters to the Board of Trade opposing more regulation.  

Fielden disagreed. As Fielden tells it, a group of factory representatives had met with some members of Parliament and claimed that a child monitoring a spinning machine in a factory had to walk 25 hours a day (plus five miles or so going to and from home and factory). Fielden made his own calculations by watching a child for some period of time (“I will not go into minute details of my calculation, because I should be obliged to use terms that an ordinary reader would not understand,” he said). He concluded that she walked at least 20 miles a day, roughly confirming the claims of the laborers. But Robert H. Greg, author of The Factory Question and defender of Nassau Senior, wrote a year later that children walked on average only eight miles a day in the mills, and he provided a table of calculations to prove it. This disagreement illustrates the lengths that writers of the 1830s would go in support of their viewpoints, and leaves the reader of these two documents confused about whom to believe, and with very little ability to judge the truth of each argument.

5 Fielden, Curse, 39-40.
Just as political actors disagreed, so have historians. T. S. Ashton, a prominent historian of the Industrial Revolution, wrote in 1948, ”What is fairly clear is that there was no strong desire on the part of the workers themselves to congregate in large establishments.” In the 1965 book cited above, Sidney Pollard quoted Ashton, saying that his statement that “there was no strong desire on the part of the workers themselves to congregate in large establishments’ is an understatement to the point of travesty.” The use of the word “travesty” indicates very strong disagreement by Pollard, a scholar who was generally known for his cautious claims upon the past and who was, in fact, a student of Ashton’s at Cambridge University.

The point of these two examples is to illustrate the difficulty of sorting out “the truth” about labor conditions among the many analyses of the Industrial Revolution. My goal is not, indeed, to determine “the truth,” but rather to discover what contemporaries and historians thought about labor, in the hope of learning where they have agreed and disagreed and if they have, over time, come to some roughly shared views. Have some of the “ideological edges of the historiography of the Industrial Revolution become blunter in recent decades,” as economic historian Joel Mokyr suggested in 2009? And if so, does that open the door to better understanding?

The cotton textile factories that began to spring up around the countryside in England and southern Scotland in the 1750s symbolize the Industrial Revolution.

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8 Pollard, *Genesis*, 166.
Indeed, as Mokyr wrote, “The Industrial Revolution is often not just associated with but actually defined as the rise of the factory, a large building in which workers congregated every day to do their work, in fixed (and long) hours, usually in unpleasant, noisy, dirty, and often dangerous conditions.¹⁰ Their spread was rapid and they transformed the age-old processes of spinning and weaving, which until then had been done primarily in people’s homes.¹¹ Textiles, primarily wool, had been the largest industry in England. Suddenly, cotton textile production grew from what Phyllis Deane called one of the “least significant industries” to representing 40 percent of Britain’s domestic exports in 1815 and 50 percent in 1830.¹² Measured in terms of the raw material (more accurate because of available customs records), raw cotton imports were less than a million pounds in 1701 and 3 million in 1751. By 1784 the figure was 11,482,000 ponds, and by 1789, 32,576,00 pounds.¹³ Wool production continued to grow, but the industry was slower to mechanize (partly because of the difficulty of working mechanically with wool fibers). Initially powered by water, the early textile factories had to be located near rivers and streams, often distant from towns and cities—usually remote locations where it was difficult to find workers. Only when steam power began to be used could factories be located in cities, where labor was more available.

But cotton mills were not entirely different from all previous manufacturing. Iron works, mines, and shipyards were also large operations with hundreds of workers to be

¹¹ Mechanized weaving didn’t really take hold until the 1820s.
recruited and managed. As early as 1691, Ambrose Crowley created an iron works that was known for strict management of its workers. Crowley was an absentee owner who managed production with a long list of instructions known as the “Crowley law book.” Even earlier, in the 1640s, sugar plantations in Barbados and other West Indies islands (whose owners were often British) had all the characteristics of factories, with one important difference: their workers were slaves or indentured servants who had no freedom to decide whether to work or not. Sidney Mintz described sugar plantations as “agro-industrial” factories, which combined agriculture and processing: “[D]iscipline was probably its first essential feature. . . . Second was the organization of the labor force itself, part skilled, part unskilled, and organized in terms of the plantation’s overall productive goals. . . . Third, the system was time-conscious. . . . it accorded well with the emphasis on time that was later to become a central feature of capitalist industry.” 14 Indeed, a planter in 1765 wrote that “a plantation ought to be considered as a well-constructed machine, compounded of various wheels, turning different ways, and yet all contributing to the great end proposed; but if any one part runs too fast or too slow in proportion to the rest, the main purpose is defeated.” 15 This emphasis on the demands of time and the requirements of discipline foreshadows the difficulties that British factory owners would have in recruiting and managing workers who, unlike slaves, had at least some choice in where they worked.

The first British textile factory is usually considered Thomas and John Lombe’s silk-throwing mill, completed in 1721 on an island in the Derwent River in Derby. It was big by eighteenth-century standards—five stories high and more than 100 feet long. Its machinery was based on designs that one of the Lombes had spirited out of Italy. On a smaller scale, fulling and scribbling mills for the preparation of woolen cloth had been around for many years. These were usually owned by groups of woolen-cloth master craftsmen, centralizing parts of the cloth-making process that were harder to accomplish in small workshops or at home.16

To understand why these factories gradually replaced much (but not all) of the “putting-out,” “cottage,” or “domestic” system, all terms for the same at-home labor, it is necessary to sketch a picture of that system and its history as well.

Most, but not all, historians agree that the domestic system was devised partly to free ambitious merchants from the control of guilds. In the sixteenth and seventeenth centuries merchants had chafed under restrictions placed by master craftsmen, who operated in small urban workshops and were organized into guilds. Backed by law, guilds boosted prices by limiting the number of apprentices and controlling quality—guild members even sought out and destroyed goods that didn’t meet their standards and, perhaps more important, were underselling their goods.17 Mokyr suggested, however, that the pressures of guilds may not have been a factor at all. Rather, he says,

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“It seems more plausible that industry moved away from the cities in search of cheap labor and space, and this weakened the guilds.”\(^{18}\)

In any case, as taxes rose and international demand for manufactured products, especially cloth, grew, merchants went to the country and found workers in order to increase production. Farmers were hurting because of low grain prices in the seventeenth century, said Jan de Vries, and they needed another source of income. Agricultural communities have downtime, especially after harvest in the fall and before spring planting, and farm families welcomed the opportunity for a little more pay by spinning and weaving.\(^{19}\)

The “putting-out” system was primarily for textiles but also for other products, such as nails and buttons. The merchants delivered the raw materials (raw wool or cotton in the case of spinning, yarn in the case of weaving) and often rented out weaving looms to the weavers; then they (or their “bagmen”) picked up and sold the final product. In 1733 John Kay invented the flying shuttle, which made it possible for one weaver (usually a man) to make pieces of cloth larger than the width of his arms; it also increased the weaver’s productivity and output. The increased output per person had a perverse effect—there was, in Paul Mantoux’s words, “an almost constant shortage of thread” once the flying shuttle became widely used.\(^{20}\) It took more than twenty years and multiple efforts for spinning entrepreneurs to speed up the

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\(^{18}\) Mokyr, *Enlightened Economy*, 119


production of yarn to satisfy the flying shuttle. Meanwhile, handloom weavers experienced a short-term era of prosperity, soon to be dashed by the power loom.

S. H. R. Jones argued that for many producers the putting-out system was just as efficient as a factory would be. Yes, there were higher transportation costs and embezzlement in the putting-out system, but these were countered by the payment of very low wages.\textsuperscript{21} Indeed, the “domestic” system continued in many areas of production late into the nineteenth century. E. P. Thompson, in his classic volume \textit{The Making of the Working Class} noted that in the early 1830s “the cotton hand-loom weavers alone still outnumbered all the men and women in spinning and weaving mills of cotton, wool, and silk combined.”\textsuperscript{22}

Jan de Vries, however, argued that the domestic system, while successful, held the seeds of its own decline. The market for cloth (especially the export market) helped merchants build up capital, since they had to provide more and more workers with raw materials and looms; it trained “a labor force experienced in industrial production”; and it spurred an increase in total output. Combined with growing domestic and international trade, these conditions “paved the way for factory production.”\textsuperscript{23} After all, the merchant, who controlled the means of production but not the workers themselves, was not satisfied with it. A family’s crops had “absolute priority,” wrote Franklin Mendels, so at harvest-time there was little or no spinning or weaving. And the only

\textsuperscript{23} De Vries, \textit{Economy of Europe}, 107.
way for a merchant to expand production was to find more families, which meant an “increasing dispersion of workers and a growing distance between ‘management’ and the workers.” Theft of materials was also a problem—the raw materials were “on loan” to the worker until he completed the product and was paid. In *The Unbound Prometheus*, David S. Landes said that by the late eighteenth century “the black market in wool and yarn had become an organized business and many a cotton manufacturer was said to have begun his career buying material from this source.” The uncertainty of natural resources such as water could also affect profits, said Mendels. (For the most part cottage industries did not need water to operate, but wool scribbling or finishing mills, which were used in the putting-out period, did.)

In the 1970s and 1980s scholars debated whether the factories developed naturally out of the domestic system. Mendels coined the term “proto-industry”—production systems before factories—and many researchers thought it should be possible to figure out just which pre-factory conditions led to the factory system. In 1974, S. D. Chapman came up with a way of distinguishing “pre-factory conditions from full-blown factories. He identified three types of production. In addition to the putting-out system, which he called “Type I,” there were mills and workshops that brought together many workers. For example, Samuel Oldknow, a Stockport producer of fine muslin, added to his putting-out system some centralized operations such as

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26 Mendels, “Proto-Industrialization,” 244.
fulling, dyeing, and bleaching—and eventually some weavers. In doing so, he was overseeing “the centralisation of various processes for organisational or supervisory reasons,” said Chapman. He called this kind of operation “Type II”—a workshop in which laborers did different, specialized tasks to bring a product to completion. Its key difference from a factory, Type III, was that it was a “batch” process. In contrast, mechanized textile producers (in both spinning and weaving) operated a continuous production flow in which the tasks were aimed at keeping production going.²⁷

Chapman had made an interesting distinction, but it did not foretell which “type” would lead to the full-blown factory. In 1996, Sheilagh Ogilvie and Markus Cerman released an edited book titled *European Proto-Industrialism.*²⁸ Research in their book covered a variety of geographical examples in Europe. It made clear that proto-industrialization in the form of cottage industry or small workshops was not a reliable predictor of the factory system. In fact, proto-industrialization often led to “deindustrialization” rather than industrialization; that is, an area with a burgeoning proto-industry could fall back into agriculture (as did much of Ireland, although that was probably due to political restrictions). Ogilvie concluded that “different proto-industrial regions developed in radically different ways.”²⁹

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Another explanation for the existence of the first cotton mills was the introduction of large spinning machines. James Hargreaves’ spinning jenny and Richard Arkwright’s water frame were both built in 1768. The jenny sped up spinning, and it was small enough to be adopted by a family or used in a small workshop. In contrast, the Arkwright machines were big. Arkwright, a pivotal figure in the rise of factories (he owned many) was “no inventor,” says Mantoux. Rather, he was an aggressive and astute entrepreneur who apparently appropriated inventions by others. “He was the first who knew how to make something out of other men’s inventions, and who built them up into an industrial system.”  

And he did so long before the steam engine was usable for factory power. That meant that his factories had to be placed along rivers in order to take advantage of water power.

Why were these inventions so widely adopted? In 2009, Robert C. Allen observed that the wages in Great Britain were high—higher than elsewhere, but, more importantly, high in comparison to the costs of capital. This ratio of wages to capital costs stimulated a search for capital equipment to reduce labor costs. “The famous inventions of the Industrial Revolution were adopted in Britain rather than elsewhere because they were profitable to use in Britain, but generated losses elsewhere,” Allen wrote. Specifically studying the adoption of the spinning jenny, equipment that was small enough to be used in homes and workshops, he compared England to France and

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India. His study indicated that the cost of a jenny in England represented half a year’s wages; in France, it represented a year and a half of wages. “England stands out as the country with expensive labor and cheap capital, and that explains why English producers took up the jenny so enthusiastically.”\(^3\) In 1948, T. S. Ashton agreed about the low cost of capital investment. “The deep mines, solidly built factories, well-constructed canals, and substantial houses of the industrial revolution were the products of relatively cheap capital,” he wrote.\(^4\)

Allen’s argument that investment costs were low compared with labor costs has been disputed. Even though wages were high, much of the investment in factories was capital- or fuel-saving, rather than labor-saving.\(^5\) I shall discuss in Chapter Three how historians have viewed the price of labor in Great Britain compared to other countries.

If the cost of investment was relatively low, that may have had some detrimental effects, however. Specifically, it created a highly competitive environment—many mills, cutting prices as low as possible, and using the workers to accomplish that. Richard K. Fleischman, who reviewed the history of the Lancashire textile mills for a Ph.D. dissertation, noted, “The plethora of relatively small businesses produced cut-throat competition and inefficiencies.”\(^6\) It may have contributed to severe demands on workers.

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\(^3\) Allen, “Industrial Revolution,” 910. Allen does not explain why England had “cheap capital” or even prove that to be the case.


Stephen Marglin upended assumptions about the reasons behind the factory system (while also underscoring Pollard’s view of the importance of labor management). In 1974 he argued in “What Do Bosses Do?,” published in the Review of Radical Political Economy, that capitalists formed the factory not for greater efficiency or because large machines made it necessary, but in order to expropriate the value of the workers’ labor without adding any value themselves.\(^{37}\) In a classic Marxist argument, he said they wanted to use the division of labor and specialization to take over from workers their control of their own labor. “The key to the success of the factory, as well as its inspiration, was the substitution of capitalists’ for workers’ control of the production process; discipline and supervision could and did reduce costs without being technologically superior.”\(^{38}\)

The putting-out system, while nominally overseen by a capitalist (the merchant), still had vestiges of worker control, said Marglin. This resulted in two problems for the merchant-capitalist. First, workers worked when they wanted to and not necessarily when the merchant wanted them to. In Marglin’s words, they had a “preference for leisure”\(^{39}\); employers called them lazy. The second was embezzlement (or other kinds of cheating such as hiding defects in the final product). Although the capitalists tried to use the law to catch such activities, only supervision in a factory setting could do away with them completely, Marglin said.

\(^{38}\) Marglin, “Bosses,” 84.
\(^{39}\) Marglin, “Bosses,” 92.
Marglin’s article apparently caused a stir even though it appeared in a marginal (even typescripted) publication. A dozen years later, David R. Landes wrote a spirited response to Marglin; his doing so suggests that Marglin’s “much-cited” article (Landes’s term) was still viewed as relevant. Landes’s response, “What Do Bosses Really Do?,” takes Marglin to task for ignoring the value added by capitalists to production. Landes argued that the capitalist was essential in choosing the technologies and production tweaks that could make the difference between success and failure. “The ability to combine the factors of production in such a way as to make goods cheaper is one of the central aspects of entrepreneurship.” Thus, Landes offered support for the view that greater efficiency was a major factor in the adoption of factories.

In 1981 Jon Cohen, writing in the *Australian Economic Papers*, also selected the capitalist as the key figure in the shift from putting-out to the factory. He suggested that a potential mill owner, in deciding whether to build a new mill, had to weigh lower production costs and higher-quality output against the cost and risk of investment and operating the mill. “In the former [putting-out], he controlled only output, in the latter, he controlled the work process as well. There were economic benefits to be gained from direct supervision of production but there were also costs in setting up a factory.” Indeed, not all such investments succeeded.

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40 On February 25, 2020, the article had been cited 2245 times in Google Scholar.
More recently, Judit Kapás reviewed the growth of the factory from the Industrial Revolution to modern times, once again trying to determine the major forces that led to the factory.43 She said that “new technology” was the biggest cause, but the benefit of team production was another important factor. “[T]he factory was born to carry out production instead of households. . . . [A]n individual mode of production was replaced by a collectively organized mode, i.e., team production.”44 As a result, all the efforts of workers had to blend in efficiently, and individual efforts become “complementary inputs.” One part of the “complement” can help or hurt the production process; and some workers almost inevitably shirk or free ride if no one is monitoring. Kapás cited economists Armen Alchian and Harold Demsetz as saying that “the solution to this problem is to appoint a monitor (the capitalist) to do the monitoring in return for the residual income.”45

Another explanation for the factory system comes from economist Tom Geraghty.46 He proposed a “new, alternative definition of the factory as a cluster of three complementary activities.” Those three activities were: “[i]nvestment in machinery, implementation of organizational innovations such as direct process supervision, shop floor rules, and new types of compensation schemes, and an adoption of measures to improve quality control” (my emphasis added for clarity). In other words, the size, shape, and

44 Kapás, para. 17 (not paginated online).
nature of factory machines do not matter much unless the organization can address the management of labor. Somewhat arbitrarily (it seems to me), he said that factories will be built using new technology if the return on any of those three activities increases the return on any other.

While his argument is complex, Geraghty illustrated the role of quality control with two well-known eighteenth-century entrepreneurs. Reviewing records of factory owners Samuel Oldnow and Jedediah Strutt, he found that Oldnow “assigned each piece a number allowing defects to be traced back to the operator,” and Strutt fined workers for “poor workmanship and embezzlement of raw materials.”

Without the ability to see and monitor the worker, these actions could not be accurately known; thus the need for quality control was a contributing reason for a centralized factory.

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We have seen that the enormous change we call the Industrial Revolution replaced what historians generally view as a less intense and more flexible way of life for workers in proto-industrialization. Historians may not agree that putting-out workers “vegetated throughout a passably comfortable existence, leading a righteous and peaceful life,” as Frederick Engels described them, but most would probably agree with E. P. Thompson that “[t]he work pattern was one of alternate bouts of

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47 Geraghty, “Factory System,” 1335. For the information on Oldknow, Geraghty cited George Unwin, Samuel Oldknow and the Arkwrights (Manchester: University Press, 1924), 112-118. However, that point doesn’t seem to be there and I cannot find it elsewhere.

intense labour and of idleness, wherever men were in control of their own working lives.” That changed dramatically.

Exactly why it happened remains in contention. Did the new technology, with its giant machines, demand a central location and dictate the kind of operation? Or had the putting-out system failed to provide the consistency, quality control, and speed that the merchants wanted and that the factories might provide, with or without machinery? Was a more disciplined work force a necessity for production? Or did the factory simply provide avenues for owners to reduce their costs while increasing their output?

Whatever the answers, the implications of the new mills were enormous for workers. They were faced with a drastic change in their lives. As we have seen, both Pollard and Ashton agreed that many heads of families did not want to work in the often hot and dark environment of the factories. Pollard made the point that many factories resembled workhouses, which had a bad reputation and implied pauperism. Nor did many workers want to obey the dictates of a boss or the demands of machinery that often ran nearly 24 hours a day. Adult workers were at least presumably free to reject work in the factories. That was not an option for children. And it is to children that we will turn our attention in the next chapter.

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Chapter Two: Child Labor, A Special Case?

For many historians, the most disturbing fact about the rise of factories in Britain was the use of children as workers. This “exploitation of little children,” wrote E. P. Thompson, was the most “shameful” aspect of the Industrial Revolution.\(^{50}\) Even such a dispassionate writer as T. S. Ashton called the apprentice system “depressing.” “The children, many of them only seven years of age, had to work twelve or even fifteen, hours a day, for six days a week.”\(^{51}\) Ashton went on to identify mill owners who were humane in their treatment, in spite of working the children long hours; and some mill owners provided education (Robert Owen famously taught the children to dance). “But at many other places,” Ashton said, “. . . the tale is one of neglect, promiscuity, and degradation.”\(^{52}\)

The historiography of this subject has been influenced by the broader disputes over the Industrial Revolution, including attitudes for and against the value of capitalism. Regulation of children’s working hours was a persistent topic from 1796 to 1844 and became entangled in the contemplation of a Ten-Hours bill that would limit the working hours of adults, a step that was taken, but only partially, in 1847. Some historians have been harsher than Thompson or Ashton in their condemnation of the treatment of children, seeing it as an inevitable efflorescence of capitalism, while others have argued that the severest descriptions, if true, were aberrations. Some historians

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\(^{50}\) E. P. Thompson, *The Making of the English Working Class*, 349.


\(^{52}\) Ashton, *Industrial Revolution*, 79.
who have written about labor during the Industrial Revolution have paid little attention to child labor per se.\textsuperscript{53})

The descriptions of children’s lives in the factory are painfully vivid in both contemporary and historiographical literature, beginning with reports by apprentices themselves such as Robert Blincoe and William Hutton and including, of course, literary depictions by Charles Dickens, Elizabeth Gaskell, and others.\textsuperscript{54} While some recollections may have been exaggerated and unreliable, the existence of factory overseers’ cruelty, children’s deformities due to accidents, long hours, factory conditions, and illnesses that spread like wildfire throughout a factory are not in dispute. Just one example from Paul Mantoux’s classic work on the Industrial Revolution will suffice. He cites Robert Blincoe’s memories of being hit with fists and a whip by an overseer: “[O]ne of his little attentions was to pinch their ears until his nails met through the flesh.”\textsuperscript{55} Furthermore, said Mantoux, “even if they had not been ill-treated, excessive labour, lack of sleep and the nature of the work forced on children during the critical period of their growth, would have been quite enough to ruin their health and deform their bodies.”\textsuperscript{56} Modern studies of the heights of soldiers suggest that in 1850 men were shorter than in 1760, and the children born in 1850-54 (although that was after the age of apprentices) ”were shorter than any cohort in the nineteenth


\textsuperscript{54} See John Brown, \textit{A Memoir of Robert Blincoe, Orphan Boy} (Manchester: J. Doherty, 1832) and William Hutton, \textit{The History of Derby: From the Remote Ages of Antiquity to the Year MDCCXCI}, 2\textsuperscript{nd} ed. (London: Nichols, Son, and Bentley, 1817).

\textsuperscript{55} Mantoux, \textit{The Industrial Revolution}, 424. Not every historian treats Blincoe’s descriptions as reliable.

\textsuperscript{56} Mantoux, \textit{The Industrial Revolution}, 435.
century.”  

Before discussing the historiography of child labor, I will describe some basic outlines of the roles children played in the Industrial Revolution, especially in the textile factories that sprang up across Lancashire, the Midlands counties, and parts of Scotland. As the spinning mills developed, some men became mule spinners in factories, and their wives and children took on roles as well. Children were often “piecers” who worked for their fathers, piecing broken threads together. Some families hired out their children to work in the factories, sometimes to enable the families to maintain poor relief (which might be denied unless all children were working). But the most notorious examples of exploitation of children—those who appear to have received the worst treatment—were parish apprentices. These were primarily orphans under the jurisdiction of the parish where they were born.

England was the first country in Europe to institute major tax-based poverty relief—on the continent the source of poor relief was primarily charity. Its major consolidating act was adopted in 1601. The fundamental rule underlying the poor law was that occupiers of land—landowners and tenants who could pay—had a legal responsibility to support those who could not work (often called the “impotent” poor) and to find work for those who could work (the “able-bodied” poor). Although the

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statutes emanated from Parliament, the decisions as to who deserved relief and how much taxpayers would pay were made by local parishes, subject to review by local magistrates. Parish vestries set the rates, while the responsibility for deciding who should get relief lay with appointed parish overseers, who had to weigh the need for help against the amount of tax money available. Clearly, this set up competing incentives for the overseers.59

One way an overseer could balance rates and expenditures was through parish apprentices. Traditionally, the parishes were allowed to farm out children to tradesmen such as carpenters and printers who were willing to take them. This was called “binding” an apprentice. By paying a modest initial fee, the parish could be relieved of responsibility for supporting poor children for many years, often until they were 21 years old. Some of the children so apprenticed were orphans in workhouses, while others were children of families so poor that the parish had to support them. But parish overseers had often struggled to find tradesmen willing to take on these apprentices.

Thus, the new factories were a bonanza for the overseers. Suddenly, it was possible to relieve the parish of many costs by sending groups of wards to factories, most of which were initially located in outlying areas—even if it meant young children (many of whom came from London parishes) were far away from their parents. The factories were eager to receive them. The new, mechanized ways of operating did not require very much brawn and therefore did not need many strong men. They needed

women and children, especially because they could be paid less. And the early factories were often in remote locations that did not have enough workers, especially children.

“Without doubt, the system of factory parish apprenticeship, or the transfer of a proportion of parish children from traditional to modern forms of manufacture, facilitated the expansion of the textile trade during the early decades of industrialization,” wrote Katrina Honeyman, author of a book about pauper apprentices.\(^{60}\) Phyllis Deane went even farther in indicating the contribution of children, writing: “[P]ossibly the most important reason for the cotton industry’s ability to maintain its profits and hence its rate of investment was the fact that it enjoyed an almost inexhaustible low-priced labour supply…. In this surely lies one of the most important reasons for the powerfully sustained growth of the cotton industry over the period 1780-1850.”\(^{61}\) Deane was not talking only about apprentices, of course.

The use or misuse of children is not simply noteworthy to historians; it kindled a political firestorm when pamphlets or other writing came from those who actually witnessed it or claimed to. The subject of child labor was discussed in Parliament over and over again, with one commission after another, but very little was done politically until 1833, when Parliament passed the first major Factory Act.\(^{62}\)

The historiography of child labor starts almost with the Industrial Revolution itself. Partly because of the political debates that led to the Factory Act of 1833, many

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\(^{62}\) The earlier acts did not have enforcement mechanisms.
contemporary commentators — doctors, political economists, manufacturers, journalists — weighed in. This was not the first time that child labor was an issue. The Statute of Apprentices had provided for the apprenticeship of paupers by parish overseers and, as noted before, finding places for the children was often difficult. In the late seventeenth century, John Locke had proposed that parishes work together to set up “working schools,” which would teach poor children skills and obtain some funds from their spinning and knitting. Nevertheless, the removal of groups of children from their families to sometimes-distant factories was a phenomenon of the Industrial Revolution. The children became a rhetorical football for commentators and Parliamentarians.

We will begin the rhetorical debate with perhaps the most unabashed supporter of child labor in the early nineteenth century — Andrew Ure. Ure was a Scottish physician who taught chemistry at Anderson’s Institution in Glasgow, a school that aimed to present practical information to working men. His treatise The Philosophy of Manufactures, published in 1835, is in many respects very erudite. He explains that he wrote the book in response to requests for information from his former students who were “now spread over the kingdom as proprietors and managers of factories.” The 480-page volume is brimful of statistical tables and machinery designs and even includes microscopic pictures of textile fibers. It is a treatise on manufacturing, although

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it is salted with opinions; for example, he compares the butcher shops in Manchester (unfavorably) to those in Glasgow. Ure seems to have visited many factories and developed a profound familiarity with the machines used. He is comfortable talking about topics from engineering details to the politics and economics surrounding production and overseas trade.

But he had a broader goal as well: to eradicate “the gross ignorance evinced by our leading legislators and economists . . . relative to the nature of those stupendous manufactures which have so long provided the rulers of the kingdom with the resources of war, and a great body of the people with comfortable subsistence.”65

That ignorance, he thought, encompassed child labor. Ure was certain that children were for the most part well-treated in factories, although he did hedge a little. If they were not, he says, it was because of the “operatives” rather than the owners. Furthermore, the conditions were not inherently harmful to the children’s health, at least when compared to other labor, he said. “There are no trades in which young persons are engaged in numbers, such as sewing, pin-making, or coal-mining, nearly so salubrious, or so comfortable as a cotton mill.”66 The pressure to regulate factories, he wrote, has come from the “partial, distorted, and fictitious evidence conjured up before the committee of the House of Commons on factory employment [the Sadler Report of 1832].”

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65 Ure, Philosophy, 6.
66 Ure, Philosophy, 288
The factories, with constantly operating machinery, were known to be heated environments, and the stove was particularly hot. Ure remarked, “I have been in the stove and seen them [children] at work around me, whilst the thermometer in my hand marked 140 degrees Fahr. . . . [C]andidates for this department are never wanting; tall girls, and rather thin, are however, preferred.”

As for the health of young factory workers, he said, “It is perfectly true that the Manchester people have a pallid appearance; but . . . certainly not attributable to factory labour”:

first, because those who do not work in factories are equally pallid and unhealthy-looking with those that do. . . secondly, because the health of those engaged in country cotton factories, which generally work more hours than town ones, is not injured even in appearance. Many a blooming, cheerful countenance may be seen in Mr. Ashton’s mill, at Hyde, among operatives working twelve hours and a-half daily, which is half an hour longer than any mill in Manchester.

With good reason, Ure is often viewed as illustrating one extreme—the defense of the factories, and with them the capitalists; E. P. Thompson calls The Philosophy of Manufactures “Satanic advocacy.” However, Ure was respected as a chemist, and Daniel A. Wren, in a well-regarded modern textbook, The Evolution of Management Thought, called him an early pioneer in management along with Charles Babbage and Charles Dupin. “His instruction in management was largely technically oriented and he exhorted workers not to resist but to accept the advance of mechanization,” Wren wrote about Ure.

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67 Ure, Philosophy, 392.
68 Ure, Philosophy, 399.
Taking a position contrary to Ure was John Fielden, a textile manufacturer. The title of his one book, *The Curse of the Factory System*, indicates his general views. Like some other early industrialists, Fielden was at first a Quaker; later he became a Methodist and then a Unitarian—religious affiliations that may have contributed to his critique of child labor. He and his brothers (joint owners of a textile company) presented “a curious combination,” wrote his modern editor, J. T. Ward. His family was extremely successful financially (his brother died with an estate of £1,000,000 in 1869 or around £120,000,000 today). “Yet,” said Ward, “the brothers embraced Radicalism of a variety which rejected much contemporary liberal economic theory. . . . Personal experience, taste, belief and lack of interest in mere theory led the Fieldens to expound a highly personal and often pragmatic Radicalism.”

Fielden’s short (74-page) book was a response to a proposal in 1833 by a group of manufacturers to repeal part of the 1833 Factory Act. In the letter setting forth their request, they “humbly submit that it is absolutely necessary to the carrying on of the cotton trade with advantage, to allow the employment of children of eleven years of age for sixty-nine hours a week.” The 1833 law had said that children between the ages of nine and 13 could not be worked more than eight hours a day.

Repealing the act, countered Fielden, would take “from an unoffending and feeble part of the laboring classes the main provision of a law which, in some shape or

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another, has been called for for these thirty years.” Fielden commented on the history of using children: “how it came to pass originally, that, in England always boasting of her humanity, laws were necessary in order to protect little children from the cruelties of the master manufacturer, and even of their own parents.” He described the cruelty of their treatment recorded in the report of the Manchester Board of Health (1796) and the efforts made under Robert Peel, M.P., to regulate the use of apprentices. He noted, however, that when parish apprentices could no longer be treated that way (thanks, supposedly, to Peel’s act of 1802) manufacturers found families willing to let their children work under those terms.

Fielden’s book as a whole is an argument for protecting children. He recited his own experience in his father’s factory. “I know the effect which ten hours’ labour had upon myself; I who had the attention of parents better able than those of my companions to allow me extraordinary occasional indulgence.” He adds that the present labor required is “much greater than it used to be, owing to the greater attention and activity required by the greatly-increased speed which is given to the machinery that the children have to attend to.”

And yet Fielden justifies his father’s decision to increase the children’s hours of work to 71 per week, saying, “in his own defence, because others who used the same sort of machinery, worked their hands seventy-seven hours, and some even so much as eighty-four hours a week, a practice that continued until 1819 when the 59th of Go. 3. was

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75 Fielden, *Curse*, 5.
76 Fielden, *Curse*, 32
passed.”77 In other words, his father could not compete effectively if his costs were higher, as they would be if children worked fewer hours. Fielden summarized the “curse” of the factory system this way: “as improvements in machinery have gone on, the ‘avarice of masters’ has prompted many to exact more labour from their hands than they were fitted by nature to perform.” Those who wanted to be more generous (like his father) “have had no alternative but to conform more or less to the prevailing practice, or abandon the trade altogether.”78 One way out of that competition, of course, would be for the government to regulate the hours children worked so companies could not compete by working children for longer hours.79

Another contemporary was Nassau Senior, the political economist mentioned in Chapter One. Senior wrote two letters opposing the proposal to expand the 1833 Factory Act, the first factory regulatory act that had any enforcement mechanisms.80 A proposal was afoot to reduce hours further and Senior opposed the new bill in his letters.81 The long workday in the cotton textile industry, he said, is due to “the great proportion of fixed to circulating capital, which makes long hours of work desirable” and the “extraordinary lightness of the labour, if labour it can be called.”82

77 Fielden, Curse, 3.
78 Fielden, Curse, 34-35.
79 One theory to explain the passage of the 1833 Factory Act was that larger mill owners were trying to drive smaller ones out of business by increasing their costs. See Howard P. Marvel, “Factory Regulation: A Reinterpretation of Early English Experience,” Journal of Law and Economics 20, no. 2 (Oct. 1977), 379-402.
82 Senior, Letters, 2.
He said that for most workers (not all) “the work is merely that of watching the machinery, and piecing the threads that break.” And, “I have seen the girls who thus attend standing with their arms folded during the whole time that I stayed in the room—others sewing a handkerchief or sitting down.”\textsuperscript{83} He referred to a paper by “the principal fine spinners” that said prices could go up 16 percent if a Ten-Hours law were enacted (presumably because labor costs would go up). He went on to make a calculation that has embarrassed economists ever since. Senior calculated that “the whole net profit is derived \textit{from the last hour}.”\textsuperscript{84} This calculation has been dismissed as an “analytical blunder” by economists from Karl Marx to Orace Johnson, although economists have also differed on just what was technically wrong with his claim.

A couple of economics papers have attempted to rehabilitate Senior on this score. One was by Gary Anderson, Robert B. Ekelund, and Robert D. Tollison. More importantly, that paper also lent support to Senior’s view that the Ten-Hours bill was partly an effort by the operatives to raise their own wages, using exaggerated images of the “ill treatment of the children.”\textsuperscript{85} Mark Blaug also agreed with Senior that the proponents of the Ten-Hours bill had the “ulterior motive” of shortening the working days of adults as well as children. The difference between Senior and Blaug was that Blaug thought it would have been a good thing.\textsuperscript{86}

\textsuperscript{83} Senior, \textit{Letters}, 6-7.
\textsuperscript{84} Senior, \textit{Letters}, 4.
Senior’s second letter describes “the operation of the Factory Act” (referring to the 1833 Act). The provision that children under thirteen could not work for more than eight hours a day had been expected to lead to the practice of “relays”—that is, bringing in additional children to work the period between 8 and 12 hours, so that the machines (and adults) could continue to operate during that period. However, that has not happened, said Senior (although his claim is not undisputed⁸⁷). Instead, “the usual plan is to employ one set of children for the first eight hours of the day, and to get on as well as may be during the remaining four without them.” He also criticized the schools that were supposed to be provided for the children. “Instead of the vast and airy apartments of a well-regulated factory, they are kept in a small, low, close room; and instead of the light work, or rather attendance, of a factory, which really is not more exercise than a child voluntarily takes, they have to sit on a form, supposed to be studying a spelling-book.”⁸⁸

Many other writers addressed children’s labor over the nearly 40 years between the report on factory conditions of the Manchester Board of Health in 1796 and the enactment of the 1833 Factory Act (sometimes called Althorp’s Act for a key sponsor).⁸⁹ Parliament passed three laws regarding child labor, but only the 1833 act had serious enforcement mechanisms. That law was enacted after vivid and poignant testimony by

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⁸⁷ Blaug said that the relay system “became one of the major devices for evading legislative control.” Blaug, “Classical Economists,” 213.
⁸⁸ Senior, Letters, 11.
⁸⁹ In 1796 a group of physicians, distressed by a fever that swept through parts of Manchester, began a series of reports on conditions of Manchester families. See Henry Harris, “Manchester’s Board of Health in 1796,” Isis (Feb. 1938).
a Parliamentary commission (incorporated in the 1832 Sadler Report), but not immediately after. Parliament membership changed substantially due to the 1832 Reform Act and another commission, more sympathetic to mill owners, was issued. Ironically, the new Parliament was composed of more manufacturers and fewer landowners, yet it adopted regulation that had been avoided for decades. One theory to explain its passage is that larger mill owners were trying to drive smaller ones out of business by increasing their costs; in the new Parliament they had the power to do it.\(^9\)

In the run-up to the bill’s passage, several physicians became involved in assessing the health of children in Lancashire, serving as experts for both sides of the conflict. In 1833 Peter Gaskell wrote *The Manufacturing Population of England*,\(^9\) which covers many aspects of the Industrial Revolution as it affected workers, including child labor. Gaskell represented himself as an impartial observer who was not affiliated with manufacturing and favored no particular ideology.\(^2\) Gaskell wrote extensively about Manchester, where he said the workers have “traces of savage life.” His basic argument (if 400 pages can be distilled so simply) was that the problems of the workers stemmed more from the disruption of their families, which may have been caused by the factory system, but not from the labor itself.\(^3\) On the more positive side, he pointed out that in these Manchester homes with families, pauperism (that is families on parish relief) was

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\(^3\) Gaskell, *Manufacturing Population*, 133.
limited, because many factory operatives participated in mutual aid societies or “sick clubs.”

Gaskell devoted a chapter to “infant labor,” and his views were ambivalent. As a physician, he described in exhaustive detail the process of infant growth (from the fetus on) and the child’s need for good food and exercise. Given this approach, one might expect him to rebuke the manufacturers, but for the most part he did not, even though he found many children in Manchester to be poorly developed and subject to diseases such as scrofula and rickets. He argued the children were this way because of maldevelopment before they entered the factory at age seven or eight. Gaskell suggested that if the child remained at home alone while his parents worked he or she “would still be exposed to the same causes of physical and moral depravity.”

He brought up the image of a child moving to the city from the country. In the city, the child [“it”] is “exposed to miasmatic evaporations, shut up in a narrow street, its home is damp and cold, its food poor and badly cooked: in a few months, from the force of these circumstances, the Hebe-looking child has become pallid, his muscular system loses its tone; but it seldom goes down lower than this.” He went on to say that work in a factory is “singularly unfitted” for children, but just “one-half the mischief” comes from the factory, one half from home. “The continuance of the labour for so many hours, is the one great physical agent for keeping up and increasing the

94 Gaskell, 288.
95 Gaskell, 199.
96 Gaskell probably is referring to Hebe, the goddess of youth; the child starts out healthy and beautiful in the country but deteriorates in the city.
97 Gaskell, 205.
inconveniences of depraved nutrition.” He doubted that parliamentary action would be effective (and also unlikely to be adopted) but he did say that “some modifications” would help. It is difficult to know just how to interpret Gaskell, about whom not a lot is known. He was an apothecary and a member of the Royal Society of Surgeons and lived in Stockport (near Manchester). He died in 1841 at the age of 35 and might have been forgotten except that Frederick Engels used his book and credited him as a useful source in *The Condition of the Working-Class*. He seemed to be walking a fine line between criticism of the manufacturers and criticism of the family, but admonishing the family more forcefully.

Emblematic of the humanitarian side of the child labor issue is Robert Owen, owner of the cotton mill in New Lanark, Scotland, far away from Manchester. There he created a community that became internationally known for its good treatment of children and especially his provision of education. When Owen took over the mill, about a quarter of the workers were apprentices; he soon stopped taking apprentices, concentrating on making New Lanark a place for families. He limited children’s work hours (but he could not reduce them as much as he would have liked, seemingly due to the opposition of his partners); and had a policy of no corporal punishment. Because New Lanark produced a finer, more specialized thread, Owen did not face as severe

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98 Gaskell, 206.
competition as did many other spinners. Owen’s later life as a socialist has obscured his earlier years, which he recaptured in an engaging autobiography written when he was in his mid-80s, which will be discussed in Chapter Four.101 His son’s autobiography, Threading My Way, expressed admiration for Owen but also for his grandfather, David Dale, from whom Owen bought New Lanark (and whose daughter he married). This son, Robert Dale Owen, supported the view that the children were well-treated even before Owen took over.102 So, while Robert Owen created something of a haven for children, his predecessor had also made efforts to treat them well.

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After this broad overview of the nineteenth-century debate regarding child labor, I will now show that the twentieth-century historiographical debate was even more contentious. Perhaps no books about child labor were so influential with historians as those by J. L. and Barbara Hammond, who wrote several books about the Industrial Revolution. In a well-known overview of Industrial Revolution economic historiography, David Cannadine included the Hammonds in his group of historians who, beginning in the 1880s, felt that poverty was “endemic in a system which created so much want in the midst of plenty.” J. L. Hammond and Barbara Hammond, he said, “provided, in their portraits of capacious landlords and conscienceless capitalists,

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historical support of the view the free enterprise must be controlled.” Their book *The Town Labourer* was first published in 1917. One of its closing passages reflects their assessment of the factory system:

> [I]n the period discussed in this volume the upper classes allowed no values to the workpeople but those which the slave-owner appreciates in the slave. . . . [T]he English nation was in the hands of men who regarded the idea of citizenship as a challenge to their religion and their civilization; who deliberately sought to make the inequalities of life the basis of the State, and to emphasise and perpetuate the position of the workpeople as a subject class.104

In *The Town Labourer*, the Hammonds devoted two chapters to children, one about the factories and one about mining and chimney sweeping. Both include distressing descriptions taken from contemporary claims and testimony. They contended that “under the early factory system the employment of masses of children was the foundation of industry.”105 The Hammonds went further in describing this phenomenon: “It was physically impossible to keep such a system working at all except by the driving power of terror.”106 The authors did concede that Robert Owen had a “successful experiment in the economy of good wages and shorter hours,” but that it “made no impression on his competitors.”

Yet there were, in fact, other examples of humane treatment of children. For example. Robert Blincoe, whose heart-breaking story appears to be to a large extent

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authentic, commented favorably on Samuel Oldknow’s textile plant in Mellor. 107

Blincoe’s memoirist, John Brown, wrote: “The ‘prentices, whom he [Robert] saw at work [at Mellor], seemed cheerful and contented — looked healthy and well, compared with those at Litton! They were kept clean, decently dressed and every Sunday went twice to Marple Church, with Mr. Clayton, their under-master, at the head.” 108

However, Blincoe’s own experience at Mellor, also described in his memoir, was a frustrating one. He was paid less than others at Mellor (possibly because he was lame, but he seemed to do the work well). When he asked for and received a raise (not to the level he believed he deserved), he was subsequently sent packing, in his view simply because he had asked for the raise. 109 George Unwin, whose book on Oldknow was published in 1924, included the favorable comments from Blincoe about Mellor but not his experience with the raise. Further, Unwin included an upbeat interview with the daughter of a former apprentice at Mellor. 110 The daughter said that her mother took part in exercises on the lawn with her workmates, and went to church on Sunday, dressed in her best clothes and escorted by the owner. The children could eat the fruit in the orchard. “Their food was the best that could be produced,” including meat at dinner each day and “puddings and pies on alternate days.” 111

The Hammonds, who wrote critically of the parish apprentice system, did point out that child labor was not new. “Scarcely any evil associated with the factory system

108 Brown, Memoir, 57. Litton was the mill in which he was treated with excruciating cruelty and disdain.
109 Brown, Memoir, 58.
111 Unwin, Samuel Oldknow, 173-4.
was entirely a new evil in kind. In many domestic industries the hours were long, the pay was poor, children worked from a tender age, there was overcrowding, and both home and workshop were rendered less desirable from the combination of the two under the same roof.”

Nevertheless, they wrote:

What the new order did in all these respects was to turn the discomforts of the life of the poor into a rigid system. . . . But to all the evils from which the domestic worker had suffered, the Industrial Revolution added discipline, and the discipline of a power driven by a competition that seemed as inhuman as the machines that thundered in factory and shed.

In 1926, W. H. Hutt challenged the Hammonds’ view of child labor. Hutt was 27 years old, a student of the Adam Smith editor Edwin Cannan at the London School of Economics, and this was his first published paper. Early in the paper he wrote:

In the course of another line of inquiry, the writer of this essay was led to study a selection of the voluminous parliamentary reports and other literature of the early nineteenth century, bearing on labour conditions. He was struck with the fact that the impressions he obtained from these publications were very different from those which certain modern works on the early factory system had given him, namely, A History of Factory Legislation, by Hutchins and Harrison, and The Town Labourer, and Lord Shaftesbury, by J. L. and Barbara Hammond.

Something was wrong, he thought, and soon he was attacking the 1832 Report, which had attracted public attention and preceded the Factory Act of 1833. “To say that the [Sadler] report is one-sided, as regards the evidence contained in it, would be a mild criticism,” wrote Hutt. And he drew on no less an authority than Frederick Engels for

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112 J. L. Hammond and Barbara Hammond, Town Labourer, 30.
113 Hammond and Hammond, Town Labourer, 31.
115 Hutt, “Factory System,” 78.
support. In Engels’ book on working conditions in Manchester, he said that the Sadler report was emphatically partisan, composed by strong enemies of the factory system, for party ends. Sadler permitted himself to be betrayed by his noble enthusiasm into the most distorted and erroneous statements, drew from his witnesses by the very form of his questions, answers which contained the truth, but truth in a perverted form.\footnote{Frederick Engels, \textit{The Condition of the Working Class in England in 1844}, 170.}

Engels held no brief for the manufacturers, but he said that by being biased Sadler opened the door to another “official investigation” by “liberal bourgeois,” which came “somewhat nearer the truth than Sadler’s but its deviations therefrom are in the opposite direction.”\footnote{Engels, \textit{Condition}, 171.} To give a fuller idea of Engels’ own views, we should note that he condemned treatment of children as “the most shameful recklessness of the manufacturing bourgeoisie towards its employees.”\footnote{Engels, \textit{Condition}, 172.}

Hutt continued his critique by saying, “In spite of the mass of material which we have, it is difficult for us to obtain a clear picture of the physical and moral condition of the factory children.” Hutt agreed that historians should pay attention to physicians’ reports, which are scattered through the early nineteenth-century literature on child labor, and he specifically referred to Peter Gaskell, as noted above. However, he argued, the Hammonds and others he criticized\footnote{The other was B. L. Hutchins and Amy Harrison, \textit{A History of Factory Legislation} (London; Westminster: P. S. King & Son, 1911).} did not make any attempt to \textit{assess} [his emphasis] the value of their evidence.”\footnote{Hutt, \textit{Factory System}, 81.} Given the state of medicine at the time
(bleeding was still sometimes used as a cure, Hutt reminded his readers), only their "observations," not their "opinions" were worth attending to (again, his emphasis).

Concentrating on the presentations by physicians before the 1816 Peel Committee, Hutt said that critics have charged the doctors with "shifts and evasions to escape answering the questions put to them." He argued that these were "merely attempts . . . to avoid expressing abstract opinions not based upon actual observation."

To illustrate, he repeated the famous response by Dr. E. Hulme to the question of whether a child working 23 hours would be suffering. The response was, "if there were such an extravagant thing to take place, and it should appear that the person was not injured by having stood twenty-three hours, I should then say it was not inconsistent with the health of the person so employed."

Whether this was an effort to respond on the basis of observation only or if it was a "shift and evasion" in favor of manufacturers remains unclear.

Hutt also referred to Dr. Turner Thackrah, who wrote a book that, in Hutt’s views, was misused by "partial quotation." "Certainly he [Thackrah] opposed child labour with considerable warmth (whether inside or outside the factories) on the ground that 'the term of physical growth ought not to be a term of physical exertion,' but he was unable to represent the health of the operatives who had been through it as

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121 Hutt, Factory System, 83.
122 The book to which Hutt referred was Turner Thackrah, The Effects of the Principal Acts, Trades and Professions on Health and Longevity (London: Longman, Rees, Orme, Brown, Green and Longmans, 1832). However, Hutt gives it an 1831 date.
in any way worse than that of most other classes of the community, even of the more wealthy classes.”

Finally, Hutt said that “contemporary standards” should inform one’s judgment about factory work, rather than modern standards. “[I]n so far as the workpeople then had a ‘choice of alternative benefits,’ they chose the conditions which the reformers condemned. Not only did higher wages cause them to prefer factory work to other occupations, but, as some of the reformers admitted, when one factory reduced its hours, it would tend to lose its operatives as they would transfer their services to establishments where they could earn more.” This decision, of course, would be more relevant to parents than to children, who had no choice. Hutt also mentions that no study has been made of the “sufferings of children” who lost their jobs due to factory acts and, because they were unemployed, were unable to earn any money for their families.

By 1941, when Kenneth O. Walker wrote about them in the *Journal of Economic History*, classical economists, both past and contemporary, were in ill repute among prominent Marxist-leaning historians such as E. P. Thompson and E. J. Hobsbawm. There were many reasons for this antagonism (both Thompson and Hobsbawm were for a while members of the Communist Party Historians’ Group), but among them was the classical economists’ failure to approve of regulating child labor. “Malthus, Ricardo,

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123 Hutt, *Factory System*, 83.
Senior, and their associates were excoriated bitterly for their indifference to the welfare of mankind,” Walker wrote. Walker tried to defend these liberal economists. In Walker’s case he minimized their opposition to regulation. “Contrary to the belief of most historians, the political economist was not greatly interested in the regulation of child labor in England during the first forty years of the nineteenth century.” But that comment damned with faint praise, since it suggested that the economists were indifferent to the fate of children.

Walker went further, however, stating that the “economists were not always in favor of less government; indeed, it would be an interesting exercise to draw up a list of occasions on which members of the classical schools favored government regulation of particular phases of economic enterprise.” He gave a partial list: Adam Smith’s acceptance of “government regulation of wage payments, banknote issues, the merchant marine”; Malthus’s support for the Corn Laws; and Ricardo’s support of a national bank and “workingmen’s annuities.”

Walker pointed out that while freedom of contract was an ideal of the economists, most of them understood that factory children had no freedom of contract. He listed five contemporary economists who “were all favorable to factory legislation as long as it was limited to children.” He listed three who were opposed. But in the end,

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he concluded, “Had it not been for the tremendous respect accorded to the principle of ‘free labour’ by both opponents and proponents of factory legislation the possibility of passage of a more effective act in 1819 might have been greatly enhanced.”

Thus, Walker’s support of the classical economists’ position was mixed.

In 1958 Mark Blaug returned to the issue of the classical economists and the Factory Acts. With muted sarcasm, he argued that whether the classical economists “did or did not favor the Factory Acts cannot be answered,” for two reasons. One is that the evidence is “highly selective.” He gave as an example Kenneth Walker’s essay, because its chronology stopped at 1833. The more cogent reason was that, in Blaug’s opinion, the classical economists were themselves inconsistent. They were forever accepting whatever regulation had been adopted, but arguing against more. In his words, “the attitude of the classical writers was conditioned at each stage of the debate, by the degree of regulation that had already been achieved.” Blaug did, however, give one explanation for why some classical economists such as Senior were reluctant to support laws protecting children: They saw that the removal of children from the factories would have an impact on adult work as well — reducing their hours of labor also.

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131 Walker, “Classical Economists,” 175.
133 Blaug, “Classical Economists,” 212.
134 In theory, the factories could have hired children in “relays” if they couldn’t work as long as the adults. Once the Factory Act of 1833 was passed, this was tried but it does not seem to have been very successful. See Nassau Senior, Letters, above.
adult hours. Said Blaug: “[R]ather than countenance [a shorter workday for adults] they preferred to dispense with the benefits of regulated child labor.”

Hutt and Walker were swimming against the tide of twentieth-century historiography. Hutt’s essay was described by E. P. Thompson in 1963 as “slight, scarcely documented, and often directly misleading.” Compared to specific descriptions of suffering children, Hutt’s austere economic viewpoint did not carry much weight (as, indeed, the views and language of economists today often do not). Hutt, like other political economists, took the families’ situation as a given at the time and viewed their actions as choices under constraints. With that viewpoint, his is a much narrower focus than the image held by the Hammonds and others that the entire capitalistic system was malignant.

Blaug’s and Walker’s articles together suggest that the economists were much less responsible for the rejection of the acts than were manufacturers. In 1815 Robert Owen brought cotton manufacturers of Glasgow together to discuss two items — ending the tax on raw cotton and reducing work hours for children, not just in the cotton mills but also in wool, flax, and silk mills. As Owen summarizes it in his autobiography, “[A]lthough all were enthusiastically in favour of asking for the remission of the tax, not one would second my motion for the relief of those whom they employed.”

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137 Owen, The Life of Robert Owen Written by Himself, 114.
However, as we have seen, that attitude had changed, at least among some mill owners, by 1833.\textsuperscript{138}

The historiography of child labor per se seems to have quieted after Blaug’s attack on the political economists’ views, as historians moved to other labor topics, including the management of labor. In 1980, however, Clark Nardinelli picked up the thread to correct what he viewed as the flawed history of child labor.\textsuperscript{139} He made two claims. One was that the first cotton mills should be viewed as “a special case”\textsuperscript{140} because they were located in isolated spots with few workers, leading them to hire apprentices. While this was true, T. S. Ashton had already questioned the validity of the argument. In his book summarizing the Industrial Revolution, he wrote that in 1816 Sir Robert Peel used the location argument to justify hiring pauper apprentices. Because of the factory’s location, Peel said, he “consequently could not have any other than apprentice labour.” Ashton replied: “A modern might have retorted that he had the alternative of refusing to adopt the new technique at all.”\textsuperscript{141} But he went on to say that the “modern” view is not necessarily the right way to understand what was happening in the past.

Nardinelli’s other correction was that before the 1833 Factory Act, “child labor in textile factories . . . was declining. The legislation did not slow the replacement of adults

\textsuperscript{138} See Marvell, “Factory Legislation.”
\textsuperscript{140} Nardinelli, “Child Labor,” 754.
\textsuperscript{141} Ashton, \textit{Industrial Revolution}, 79.
by children; it accelerated the replacement of children by women.”¹⁴² He pointed out that fewer than one percent of workers in the cotton mills in 1833 were under age 10; fewer than 4 per cent in the woolen mills were under 10; and fewer than 8 percent in the silk mills (which regulations had completely neglected).¹⁴³ Of course, the year Nardinelli is referring to, 1833, was long after the enactment of the 1802 Factory Act, which put limits on the use of pauper apprentices (but did not restrict other children). While the 1802 Act had no serious enforcement provisions (nor did the 1819 act), two factors reduced the use of pauper apprentices: the bad publicity preceding the law’s passage and the advent of the steam engine, which allowed factories to be built in cities (not just on waterways), where owners could more easily attract families as workers.

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Having examined the scholarly debate over the attitude of political economists toward child labor, let us return to the social aspect of child labor. There was not much focus on this topic following the period of intense socially-conscious historians such as the Webbs and Hammonds. In 1930, however, Ivy Pinchbeck devoted a book to the role of women in the Industrial Revolution, which included children.¹⁴⁴ *Women Workers and the Industrial Revolution* covers many industries, including “domestic industries” like lace-making. Pinchbeck was a respected economic historian whose study of women and children in factories does not fit well with David Cannadine’s outline of Industrial

¹⁴² Nardinelli, “Child Labor,” 754.
¹⁴³ Nardinelli, “Child Labor,” 742. His source for the figures was the Factory Commission.
Revolution historiography discussed above, a point made by Maxine Berg in 1992.\textsuperscript{145} Indeed, Cannadine didn’t mention Pinchbeck or other women historians who offered a more optimistic view at a time when anti-capitalism was still dominant in Industrial Revolution historiography.

Pinchbeck weighed the costs and benefits to women as job circumstances changed: Home spinning gave way to factory spinning, where the initial jobs went to men, with women and children acting as their supports. As factory spinning became easier, women and children were preferred as operatives. This turned some family relationships upside down, as women had taken on more prominent roles. Sometimes the men stayed home while the wives and children worked. While Pinchbeck’s book includes extensive reporting on factories, those stories pale before her descriptions of mining conditions, where women and children pulled sledges laden with coal through dark, wet tunnels as small as 22 by 26 inches.\textsuperscript{146}

Pinchbeck also devoted several pages to the difficulties experienced by children who never set foot in a factory or mine.

The exploitation of child labour in the early factories has probably caused more horror and indignation, and rightly so, than any other feature connected with the industrial revolution; but it is not so often realised that long hours of labor were equally characteristic of the older domestic industries.\textsuperscript{147} She described children as young as four years old making lace; for slightly older children, 12 to 15 hours of lace-making a day was typical. Pinchbeck quoted from the


\textsuperscript{146} Pinchbeck, \textit{Women Workers}, 250.

\textsuperscript{147} Pinchbeck, \textit{Women Workers}, 232.
Children’s Commission report of 1843: “The girls had to stick ten pins a minute, or six hundred an hour; and if at the end of the day they were five pins behind, they had to work for another hour.”  

And, she added, “Crowded into the tiny rooms of insanitary cottages, stimulated by competition to work at fearful pressure and under threat of punishment, children in the domestic industries must often have fared worse than those in factories.”

Nevertheless, the evidence suggests that children preferred home or the cottage school to a factory. “Incredible as it may seem,” Pinchbeck wrote, ”one of the lace runners in the family referred to above, earning only 3s. 6d. a week, said in continuing her evidence, ‘I like it better than the factory, though we can't get so much. We have our liberty at home, and get our meals comfortable, such as they are.’”

Research into children’s work largely disappeared after Pinchbeck’s book. One exception was a 1973 book on the lives of children, in which Pinchbeck and Margaret Hewitt suggested that the growth of domestic industry, not just factories, explains much of the increase in child labor, a point that E. P. Thompson also made. In 2013, Jane Humphries partly explained the lapse in attention to children. “Successive interpretations and reinterpretations [of the Industrial Revolution] have crowded out

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149 Pinchbeck, Women Workers, 234.
150 Pinchbeck, Women Workers, 237.
child labour,” she wrote.\textsuperscript{152} Attention had shifted to topics such as institutions (government power and property rights), the Atlantic trade, coal, the growth of consumerism, and technology.

Humphries did, however, note a mini-upsurge in attention at the turn of the twenty-first century; she herself contributed to this line of inquiry, starting in 1995 with a paper cowritten with Sara Horrell.\textsuperscript{153} Humphries and Horrell investigated what they saw as “inconsistent” findings about child labor in the Industrial Revolution with respect to such questions as the changing nature of the work, the amount it increased, and when it declined. Combining a variety of databases, they showed that children’s labor participation during the Industrial Revolution varied with the occupations of the children’s father. High participation occurred when the father worked in a factory, but participation was low when the father was in agriculture or casual labor. Horrell and Humphries also offered an explanation for the increasing numbers of younger children in factories in the early nineteenth century.\textsuperscript{154} Their statistics compared the 1787-1816 period with the 1817-1839 period. They proposed that during the later period, older children were leaving the family at younger ages (perhaps to form families), and thus more younger children were brought in to keep up the family income.

In 2007, Katrina Honeyman published a book that exhaustively studied pauper apprentices from 1780 to 1820. Her book covers the poor law and how the pauper


\textsuperscript{154} This may contradict Clark Nardinelli’s findings. See Nardinelli, “Child Labor.”
children became a mainstay of early factories; the experiences of the children; and reasons they were treated as they were. Perhaps the most important lesson from this very rich book is that the “problem” of the pauper apprentices was shared by both parish overseers and factory owners. In fact, they both benefited from the arrangement. “The movement from one system, which was overburdened with needy children, to another, which required large numbers of young people, eased pressures on both.”155

Thus, the advent of factories “saved” a practice established by the poor laws dating back to the seventeenth century, one that was increasingly difficult to carry out. The new economic environment—with its need for many docile workers who didn’t have to be very strong—enabled parishes to reduce their poor law expenditures. Examining parish records, Honeyman found examples of parish overseers who conscientiously paid attention to their apprentices and reported on their condition for years after they were sent to factories. But she also found examples of neglect.

To conclude this chapter, allow me to return briefly to the 2013 article by Jane Humphries, one of the most recent studies of child labor in the Industrial Revolution. Her goal was to restore a proper emphasis on the role of children, which she felt was lacking—and it may still be. Using a database of 600 autobiographies of men who had experienced apprenticeship or child labour, she ingeniously wrote “history from

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below” — history in the words of the children themselves once they had become adults.¹⁵⁶, ¹⁵⁷

Thus the historiography of child labor had come full circle. From the time of the Industrial Revolution itself, writers either attacked or defended the Industrial Revolution and the capitalism on which it was based. That debate included discussion of child labor and, in the standard-of-living debate to be discussed in the next chapter, reached its height in the 1950s. Then, less concern about poverty and more about other aspects of the Industrial Revolution created a long hiatus in scholarly interest in children’s work. But in the 1990s and early twenty-first century a few historians, such as Honeyman and Humphries, began to look again at child labor using detailed archival material, resulting in a more complicated narrative.

¹⁵⁶ Humphries, “Childhood and Child Labour.”
Chapter Three: How Did Factory Workers Live?

In 1832, James Phillips Kay, a physician who later became well known as an educator, wrote a short book about how the working class lived in the central districts of Manchester, England. The flavor of the book and the nature of his views are captured in this description:

The houses, in such situations, are uncleanly, ill provided with furniture; an air of discomfort if not of squalid and loathsome wretchedness pervades them, they are often dilapidated, badly drained, damp; and the habits of their tenants are gross—they are ill-fed, ill-clothed, and uneconomical—at once spendthrifts and destitute—denying themselves the comforts of life, in order that they may wallow in the unrestrained license of animal appetite. 158

In short, the housing was bad and the people were worse. He singled out Irish immigrants for particular opprobrium. “Debased alike by ignorance and pauperism, they have discovered, with the savage, what is the minimum of the means of life, upon which existence may be prolonged,” 159 and they have passed this information along to the rest of the workers. Kay (who later became Kay-Shuttleworth, a baronet) noted that he was talking only about the township of Manchester. “The most respectable portion of the operative population has, we think, a tendency to avoid the central districts of Manchester, and to congregate in the suburban (sic) townships.”

Both he and Peter Gaskell (quoted in Chapter Two) were physicians who focused more on the state of the people and the ugly conditions around them than on the faults of industry. As we saw in Chapter Two, Gaskell blamed the parents for poorly raising

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their children. Kay was more critical of factory life: “Having been subjected to the prolonged labour of an animal—his physical energy wasted—his mind in supine inaction—the artizan has neither moral dignity nor intellectual nor organic strength to resist the seductions of appetite. . . . Domestic economy is neglected, domestic comforts are unknown.”\textsuperscript{160} He was, however, reluctant to blame industry for putting people in those conditions and focused attention on the “avaricious speculators” who built the “wretched abodes in confused groups.”\textsuperscript{161}

Here is another, more positive image, written ten years later by Friedrich Engels, in a German newspaper, well before he published his famous book \textit{The Condition of the Working Class in England in 1844}.

The condition of the working class in England is becoming daily more precarious. At the moment, true, it does not seem to be so bad; most people in the textile districts have work; for every 10 workers in Manchester there is perhaps only one unemployed, the proportion is probably the same in Bolton and Birmingham, and when the English worker is employed he is satisfied. And he can well be satisfied, at any rate the textile worker, if he compares his lot with the fate of his comrades in Germany and France. The worker there earns just enough to allow him to live on bread and potatoes; he is lucky if he can buy meat once a week. Here he eats beef every day and gets a more nourishing joint for his money than the richest man in Germany. He drinks tea twice a day and still has enough money left over to be able to drink a glass of porter at midday and brandy and water in the evening. This is how most of the Manchester workers live who work a twelve-hour day.\textsuperscript{162}

\textsuperscript{160} Kay-Shuttleworth, \textit{Moral and Physical Condition}, 11.
\textsuperscript{161} Kay-Shuttleworth, \textit{Moral and Physical Condition}, 69. “The evils of a restricted commerce affect not the capitalist alone: for the working classes are reserved the bitterest dregs of the poisoned chalice,” he wrote on p. 2.
Who were these operatives, both “respectable” and disreputable, both “destitute” and “satisfied,” working in the textile mills in Manchester and other factories in Lancashire and the English Midlands? Where did they come from? How did they live? For many years, historians have been probing the available evidence to answer those questions. Early in the twentieth century, their research fueled what is called the “standard-of-living” debate, a long-running dispute over whether the living conditions of the working classes of Britain improved or deteriorated during the Industrial Revolution. The debate and the underlying sources were not, of course, only about factory workers, but factory workers were a large part of it, just as they were part of the group called “the poor” (but not paupers; that term was reserved for people on parish relief). This chapter addresses the standard-of-living debate in an effort to get a realistic picture, if it is possible, of the lives of factory workers.

Initially, however, a warning is appropriate. A number of factors complicated—and still complicate—the debate over whether living conditions improved, declined, or stayed steady. Most importantly, all Britons were buffeted by major outside forces during this period: war with France, inflation, recessions, deflation, and periodic bad harvests. England entered into war against France in 1793, less than a decade after the end of the American revolution; with the exception of peace in 1802, combat continued until 1815. War turned workers into soldiers, reducing the labor pool and thus reducing unemployment, but the war elevated grain prices—good for producers of grain, disastrous for those who bought it. And when the soldiers returned home, there was a glut of textiles (Napoleon’s embargo had created an overstock of fabrics and when the
war was over, many Europeans were too poor to buy them), resulting in widespread unemployment.163

Second, industrial conditions changed tremendously over the 100 years between 1750 and 1850. Production of cotton cloth grew from a minor activity into a major industry; wool and silk production continued to grow but not on the level of cotton. Manchester, the center of the cotton industry, had about 50,000 people in 1790; 68,810 in 1801; and more than 300,000 in 1851.164 And Manchester was not the only dramatic case of urban growth. Birmingham grew from 42,250 people in 1778 to 73,670 in 1801, and to 280,072 in 1851.165 Liverpool’s population was 78,000 in 1801 and reached 300,000 fifty years later.166

Ironworks, machinery, and pottery grew and changed. New transportation—roads, canals, and, with its debut in Manchester and Liverpool in 1830, the passenger railroad—transformed lives. In the mill towns, the kinds of textile workers varied over time—for years, they included pauper apprentice children, but then families and older

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individuals replaced them; mills were originally in rural locations, but after the invention of the steam engine they were located in towns like Manchester. Weavers were initially well-off but were ravaged by changing markets and the power loom. These are just a few of the industrial changes within those hundred years.

Much of the debate over workers’ standard of living involved finding proxies for living standards, and then interpreting them. Although many scattered statistics are available, they are both patchy and not necessarily comparable. For example, wages might have been the same over a long period of time but in some years inflation might have wiped out much of their value. Many births and deaths were not recorded, so mortality is not easy to measure. And how much can one learn about the quantity of meat eaten (and how it was distributed) from changing slaughterhouse records? Finally, the standard-of-living debate addressed the entire working class and the entire country; statistics about the nation as a whole might not apply to specific groups of workers.

The standard-of-living debate has its own historiography, and I will briefly look at two historians who have analyzed it. In the previously discussed 1984 essay, David Cannadine identified four waves of treatment of the Industrial Revolution, all of which, he argued, reflected prevalent economic concerns at the time of writing. In the first wave, in the late nineteenth and early twentieth century, most economic historians “were defining themselves against the laissez-faire theoreticians [classical liberal economists] and thus they defined the Industrial Revolution as ‘nasty, mean, brutish
and fast,” he wrote.\textsuperscript{167} Subsequently, the Great Depression of the 1930s stirred up a fascination with “boom-and-bust” cycles and economic historians viewed the Industrial Revolution as the first “business cycle”—damaging its uniqueness. After World War II, however, the Industrial Revolution was seen as a prototype for the industrialization of the non-western world. But by the 1970s, reflecting widespread disenchantment with economic growth, the Industrial Revolution lost its reputation as a history-changing event.

The standard-of-living story began in Cannadine’s first wave. Arnold Toynbee, whose gloomy lectures about the poverty and misery of the Industrial Revolution were published in 1884, set the stage for other well-known writers who were opposed to capitalism such as Sidney and Beatrice Webb and J. L. and Barbara Hammond. Their historical writing was closely related to their political views. The Webbs, for example, helped found the socialist Fabian Society, became leaders in the Labour Party (Sidney Webb became a Cabinet officer when the Labour Party attained power), and they eventually spent time in the Soviet Union and wrote favorably about their experience. In their writings, these and other authors pounded away at the evils of industrialization in the early nineteenth century.

But there was an important exception to this perspective. In 1926, J. H. Clapham stated (in an introduction to a book on English history) that, except for some declining

occupations like the handloom weavers, incomes rose between the 1790s and 1850.\textsuperscript{168} With this claim, Clapham ushered in a group of historians who used the tools of economics to challenge the claims of unrelenting poverty and oppression. They became known as the “optimists,” and the earlier dominant group the “pessimists.” The conflict spawned a variety of efforts to measure nominal wage rates, real wage rates, food consumption (especially of meat), and rental costs, among other categories.

In 1959, R. M. Hartwell wrote an article assessing the politics behind the standard-of-living debate up to that time. He was one of the prominent protagonists in the debate and he wrote at a time when the Industrial Revolution was beginning to be viewed more positively, as an experience that might teach developing countries valuable lessons—the third wave of Cannadine’s sequence. Hartwell saw irreconcilable differences between the camp represented by the Hammonds and the Webbs (whom he called social critics, not just historians), and the camp represented by T. S. Ashton and W. H. Hutt (which included Hartwell himself). The first phase of the standard-of-living controversy, Hartwell said, occurred between 1800 and 1850 (overlapping with the Industrial Revolution itself. The Whigs and Tories were at odds, he says.\textsuperscript{169} In short, the Whigs, represented the aggressive manufacturing and commercial world of Britain and wanted to keep the government out of regulating the economy; the Tories, landowners who were losing their once-dominant place in society, wanted to keep tariffs and

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tended to promote other regulations as well. At that time, the debate over Britain’s standard of living was more directly political than historical.

In the next stage, says Hartwell, both liberals and conservatives “viewed the nineteenth century as one of massive and continuous progress.” They battled intellectually with the “distributionists, especially the Fabians, who condemned the organization and ethos of capitalism and who wished to change it.” The “third and modern phase” (again, he is writing in 1959) contained a stronger, Marxist version of the Fabians’ arguments. Opposed to the Marxists’ view there was a “growing conviction, based both on a change in values and on more adequate research, that the English worker did in fact benefit from the industrial revolution.” As we shall see, Hartwell was confident that the “optimists” had won, but he recognized that “all interpretations are subject to continuous skepticism and investigation,” and he expected his to be also.

One of the interesting aspects that does not come across in David Cannadine’s paper, or even Hartwell’s summation, is the claim by some, such as Ivy Pinchbeck in 1930 (and by Phyllis Deane in 1965), that many women benefited from the arrival of the factories. As one example, Pinchbeck explained that women benefited from the opportunity to become weavers. “The great demand for labour following the expansion of trade, the loss of spinning as an occupation for women, improved machine-spun yarns, and the situation created by the war [with France], all, therefore, helped to

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increase the opportunities for women in the weaving trade at the end of the eighteenth century.”¹⁷¹ Phyllis Deane, 35 years later, said much the same: “The factories gave full-time gainful employment not only to men but also to women and children, groups which had rarely enjoyed more than seasonal or part-time work for pay in the domestic industry.” While relatively few women and children worked in factories (compared to domestic industry), she observed, “on balance both the range and the number of economic opportunities were enlarged whenever output grew appreciably faster than the costs of producing that output—in other words, whenever technical progress gathered appreciable momentum.”¹⁷²

The possibility that the Industrial Revolution benefited women more than men is an idea that has developed somewhat separately from the standard-of-living debate. Historians like T. S. Ashton have pointed out that family income grew because factories could attract women and children. “Most of the factory operatives were engaged at rates of pay which raised family incomes above those of any earlier generation,” he said.¹⁷³ One of the scholars who emphasized this point well after Ashton wrote was Jack Goldstone, a sociologist exploring whether different family structure and custom explained why industrialization started in Europe rather than China. In Europe women were allowed to work outside the home. “[A]ll that was necessary for factories to outcompete home labor was for women’s productivity in factory production to exceed—either in quality or quantity of output (producing higher net value per hour of

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¹⁷² Deane, *The First Industrial Revolution*, 139.
¹⁷³ Ashton, *The Industrial Revolution, 1760-1830*, 82.
labor)—their productivity in home labor.”\textsuperscript{174} The employer paid more, but not all that much more, than the women and children had been earning.

After the robust debate over the standard of living had been going on for some years, E. J. Hobsbawm and R. M. Hartwell took up proverbial arms against one another in a 1963 issue of the \textit{Economic History Review}. Hobsbawm offered his analysis of why the pessimists had won, and Hartwell his analysis of why the optimists had won. The spirited barbs were unusual for an academic setting. In Part I, Hobsbawm said, “The brash view [of the optimists] is now dead. Even Dr. Hartwell, the most militant, though not the most expert, proponent of amelioration, appears to agree that Clapham must be exiled among the ‘extremists.’”\textsuperscript{175} Hartwell’s language in Part II was parallel: “At the same time as he batters the opposition with pejorative adjectives, Dr Hobsbawm assumes victory and righteousness; he assumes the optimists and their sources are wrong, until they prove the pessimists wrong.”\textsuperscript{176} And, “Dr Hobsbawm’s chosen period ends conveniently after the depression of 1842, of which he is so fond.”\textsuperscript{177}

And yet the actual content of their pieces, as well as additional material before and after them, adds up to this: It was not clear whether the standard of living changed upward or downward between 1800 and 1850 (the time they spoke about most) and it

\textsuperscript{174} Jack Goldstone, “Gender, Work, and Culture: Why the Industrial Revolution Came Early to England but Late to China,” \textit{Sociological Perspectives} 39, no. 1 (Spring, 1996), 1-21, at 11.
\textsuperscript{177} Hartwell, “Standard of Living,” 138.
was even less clear whether conditions improved from 1750 to 1800 (for which less information was available).

To help us delve into the components of the debate, we can look at the 1973 doctoral dissertation by Richard K. Fleischman (who later became a historian of accounting). The dissertation, which was published in 1985, gathered together much of the available information on wages and consumption expenditures in an attempt to describe the standard of living of the working population in southern Lancashire (including Manchester). Fleischman was well aware of the disputes over the standard of living and avoided taking sides except to point out where he thought one side or the other was leaning too far in one direction. He noted that wage information, in particular, is riddled with uncertainty (and it remains so). “Adequate long-term wage indices” had been developed for just one group—male hand weavers—whose experience was quite different from that of factory spinners. Furthermore, for the spinners, there was “widespread geographic variance in wages.”

And, of course, there was no single wage even within a single mill. The adult mule spinner, the man who ran the big spinning machines, earned the most, with weekly earnings of 30-35 shillings after about 1800. However, says Fleischman, what is not known is how much he actually worked. That is, did he receive that weekly wage for 52 weeks a year? (The degree of unemployment is a variable that both Hobsbawm

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178 Richard K. Fleischman, Jr., *Conditions of Life*. (Fleischman’s work was introduced in Chapter One.)
Other spinners earned about 20 shillings a week, said Fleischman, while the “plebeians of the spinning craft,” throstle or ring spinners, earned 8 to 10 shillings per week. Children received between 3 shilling three pence and 3 shilling six pence.

Fleischman cited a 1910 study by George Wood, whose research in identifying wages was highly respected. Wood laid out average weekly wages in cotton mills from 1806 to 1850. According to his listings, weekly wages were 10s/1d in 1806; they reached 10s/6 d in 1810 but began to decline in 1817 and did not reach 10 shillings again in the entire period—they were 9s/2d in 1850. In addition, Fleischman summarized an elaborate compilation by Mark Blaug measuring agricultural wages from the 1790s to 1850. Average weekly agricultural wages were 13s/6d in Lancashire in the 1790s, but gradually fell to 12 shillings in 1850. These agricultural wages were higher than in the rest of England, which were 8s/11d. in the 1790s and 9s/6d in 1850. (Blaug averaged summer and winter wages.)

Fleischman also tried to determine what wages could buy, especially food (the prices of which had been a subject of disagreement between Hobsbawm and Hartwell).

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181 "One cannot trust completely Wood’s accuracy, but it is difficult to conceive of any historian doing much better," wrote Fleischman on p. 156. "Few industries have had the advantage of a statistical service of the quality of that which he provided [the wool textile industry]," E. C. R, Obituary of George Wood, Journal of the Royal Statistical Society 108, no. 3/4 (1945), 486-487, at 487.

He reviewed figures on prices and consumption of grain, flour, oats, meat (including bacon), cheese, and vegetables. In addition to prices, he looked at “accounts of contemporaries who seemed to delight in recounting the diets of various classes and groups.”  

He found that of forty diets “attributed to workingmen in general or to handloom weavers in particular, only six included meat regularly and ten sporadically.” Twenty-four either did not mention meat or specifically said meat was not on the diet. Fleischman concluded, “One is on fairly sure ground in assuming that most of the lower paid cotton workers survived on drab and monotonous bills of fare.”

Since Fleischman compiled his compendium, the study of wages has continued although not with the intensity of the past. One thing we know is that wages were higher in the cities than in the rural areas. John C. Brown used “spatial analysis” to compare wages of power-loom weavers in a rural village (Barrowford) to the wages of power-loom weavers in an urban district (Hulme, near Manchester) in the early nineteenth century. He found that wages were 110 d in Barrowford but 160 d in Hulme (presumably these are weekly figures, about 9 shillings in Barrowford and more than 13 shillings in Hulme). Yet much of that additional pay simply compensated workers for factory life and the unpleasant surroundings of the city. Using a regression analysis of various factors that might explain the higher pay, he concluded: “High living costs and

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183 Fleischman, *Conditions of Life*, 85.
184 Fleischman, *Conditions of Life*, 85.
185 Fleischman, *Conditions of Life*, 93.
poor sanitation in the cities prompted compensation that approached one-third of adult weavers’ earnings.”

Brown did not use factory conditions per se as one of his variables, but Joel Mokyr generalized from this and other studies in his 2009 book *The Enlightened Economy*. “Economic analysis suggests that for all those reasons [from the hot and grimy workplace to the dangers it exposed them to] these workers should be paid higher wages, known as compensating differentials or disamenities premiums, necessary to attract workers to employments regarded as unpleasant.”

In other words, if wages rose, it may have been simply compensation for working in unpleasant environments. Another factor recent historians agree on is that wages in England were higher than in other nations and that this difference goes back well before the Industrial Revolution. Joyce Appleby, referring to the domestic or putting-out system, states, “English workers got paid substantially more than elsewhere in Europe—much higher than in other parts of the world.” As we saw in Chapter One, Robert Allen argued that England’s high wages in comparison with the relatively low cost of capital explained the investment in new mills. Using the spinning jenny as an example, Allen said the cost of a jenny in England represented half a year’s wages; in France, it represented a year and a half of wages. This example suggested that cotton

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189 Robert C. Allen, “The Industrial Revolution in Miniature.”
workers’ wages in Britain were three times as high as in France (although in a book by Allen, cited below, the difference between London and Parisian workers’ wages was significantly less).

In 2014 Morgan Kelly, Joel Mokyr, and Cormac Ó Gráda endorsed higher wages in Britain but with a caveat. “There is no dispute regarding the main fact underlying this debate: British wages were considerably higher than French wages on the eve of the Industrial Revolution,” they wrote. “Allen . . . calculated that the real wages of building craftsmen in London in 1780 were 83% higher than those in Paris, whereas the real wages of laborers were 80% higher.” But Kelly et al. argued that wages weren’t higher in England when measured per unit of output. Rather, the British worker was simply more productive. He or she was healthier, stronger, more fit (although not more educated). While this seems to contradict the reports of short and unhealthy military recruits mentioned in Chapter Two, a number of sources support this discrepancy. For example, in The Enlightened Economy Mokyr cited eighteenth-century writer John Thomas Desaguliers, who said that it would take seven Dutchmen or Frenchmen to equal the strength of a horse, while it would require only five Englishmen.

The wide-ranging article by Kelly et al. deals more with craftsmen than with laborers, in part because they were trying to explain the advent of the Industrial Revolution, which they saw as developing out of technical skills. “Because British

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191 Mokyr, Enlightened Economy, 271.
human capability is initially slightly higher than in France, Britain can start to apply technological knowledge to production earlier, giving rise to a cumulative process of rising living standards, rising human capital, and improving production technology,” they wrote. 192

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Now to the question, who were the workers and where had they come from? For many years historians described mill workers, aside from the Irish immigrants, as English peasants who had lost their access to land or tenancies, primarily through the enclosure acts. From the mid-eighteenth to the early nineteenth centuries, Parliament had stripped rural dwellers of property they had owned, leased, or worked on, as common fields were enclosed, waste lands drained, and leaseholds extinguished. In Marxist terms, they lost the means of production (their land) and became the reserve army of the unemployed. This viewpoint was shared by the Hammonds, Maurice Dobb, and, of course, Karl Marx himself. 193 Marx saw the parliamentary enclosures as one more step in the expropriation of land that had gone on since the fifteenth and sixteenth centuries. He wrote in Capital:

But, at that time the process was carried on by means of individual acts of violence against which legislation, for a hundred and fifty years, fought in vain. The advance made by the eighteenth century shows itself in this, that the law itself becomes now the instrument of the theft of the people's land, although the large farmers make use of their little independent methods as well. 194

192 Kelly et al., “Precocious Albion,” 369.
193 All are cited by Chambers, with direct quotes from Maurice Dobb.
Indeed, there was a strong *prima facie* case to be made that enclosure pushed farmers into the mills. Although enclosure of common lands had occurred privately, as Marx said, Parliament-authorized enclosures accelerated in the eighteenth century. Paul Mantoux gives us a list. There were 33 enclosure acts between 1720 and 1730; 35 between 1730 and 1740; 38 between 1740 and 1750; 156 between 1750 and 1760; 424 between 1760 and 1770; 642 between 1770 and 1780; 287 between 1780 and 1790; 506 between 1790 and 1800; and 906 between 1800 and 1810. Writing early in the twentieth century, Mantoux accepted the role of enclosures as critical: “Industry was in fact the only refuge for thousands of men who found themselves cut off from their traditional occupations. The manufactures were to offer them the living they could no longer earn on the land,” he wrote.

That was the dominant view until 1953, when J. D. Chambers undermined it in an article in the *Economic History Review*. First, he noted that while some population statistics had cast doubt on the enclosure thesis, “the conventional picture of catastrophic change effected by enclosure continues to find adherents.” He attacked that view by summarizing others’ studies and by evidence he had gathered in his studies of Nottinghamshire. Chambers noted that as early as 1928 Arthur Redford had found that “the impact of agricultural change at least during the war years [presumably 1793-1815] was more often to stimulate the growth of rural population than the reverse,

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and that side by side with the growth of urban communities, there was also a growth of entirely new agricultural communities as well as the reinforcement of those already existing. “Thus, the enclosures, followed by more efficient techniques, might actually have maintained local population by providing agricultural jobs and, to the extent that domestic industry expanded, providing village jobs as well. Chambers’ own study of the population of Nottinghamshire showed that during the period from 1801 to 1850 the fastest-growing villages were “those that had been enclosed by act of Parliament before 1800.” In other words, enclosures did not dry up the number of agricultural workers and may have increased them.

Chambers also cited a study by V. M. Lavrovsky (published in 1937) of eleven Suffolk County villages that had been enclosed between 1797 and 1814. There were more small owners afterwards than before.”199 Lavrovsky even found purchases of very small parcels (on average, three acres) in the auctions following enclosure, probably bought by previous small owners or tenants, either from the Suffolk villages or elsewhere. Another study by Lavrovsky (in 1933) of northern Leicestershire showed “remarkable stability” of population after enclosure.200 At the very least Chambers argued that enclosure was not the definitive event releasing agricultural laborers into the cities.

Chambers’ work seems to have held up well until it was challenged by N. C. R. Crafts in 1978. His study in Explorations in Economic History used data from a broader

number of counties and used a somewhat different time frame. He said Chambers’ claim that “population generally grew more rapidly in parliamentarily enclosed villages is erroneous.” And Nottinghamshire “does not appear to be typical of several other counties.” Crafts also found “a small but perceptible positive association between parliamentary enclosure of common fields and outmigration.”201 (Where the outmigrants went was not part of his study, so we do not know if they went into factories.) He also found that there was no reason to believe that enclosures led to greater use of agricultural labor than previously. Overall, however, Crafts’ revisions were not overwhelming. He conceded that “[t]his paper certainly does not present evidence which would support a hypothesis of mass expulsion of labor by parliamentary enclosure.”202

In other words, in spite of extensive writing about enclosures, the diminution of their importance seemed to hold. In 2001, Leigh Shaw-Taylor indirectly supported Chambers, even though her framework was Marxist. Her article in the Journal of Economic History tried to determine the impact of parliamentary enclosures on the process of “proletarianizing.”203 She concluded, “Most laboring households in the arable lowlands of southern and eastern England were not proletarianized by parliamentary enclosure, for the simple reason that they were thoroughly proletarian already. . . . Capitalist farmers and proletarian laborers dominated English agriculture

before parliamentary enclosure.” 204 So, while the wave of parliamentary enclosures may have “immiserated” agricultural workers, enclosure’s “proletarianizing impact was restricted to a small minority of them.”205

It turns out that the historians who saw the impact of the enclosures as creating an army of unemployed had largely ignored the “natural” growth of population in England during the eighteenth century. Indeed, determining population during that period was—and is—difficult. People living during the eighteenth century did not know whether population had increased or decreased, and they tended to think the latter.

The first official census was not taken until 1801. Even though Gregory King had conducted “political arithmetic” (statistical surveys) as early as 1695 and estimated the population of England to be 5.5 million, his figures were at least partly based on the hearth tax, and comparable data were missing for the next century. One seemingly meticulous study compared King’s number of houses in England, 1,300,000, with the number of houses in 1777, estimated at only 952,734. This signaled a dramatic decline—except that this contemporary study by Richard Price was comparing “hearth tax” figures with completely different “house tax” figures (based on a house’s number of windows) and was thus unreliable.206

But population knowledge has developed. Historians now agree that the population grew substantially during the eighteenth century. As early as 1953 (the same

206 Mantoux, Industrial Revolution, 352.
year that Chambers disputed the enclosure/migration connection), H. J. Habakkuk wrote an article acknowledging population growth and tried to explain why it had occurred. He opposed a popular idea that better medicine and public health measures had increased the population by reducing deaths. He thought it more likely that the growth in population was due to an increase in the birth rate than to a decrease in the death rate and, further, that “the acceleration of population growth was primarily the result of specifically economic changes, and in particular of an increase in the demand for labour.”207

Thirty years later, David Levine analyzed these “specifically economic changes” differently from Habakkuk although not in a way that challenged the overall findings. Levine stressed that the domestic putting-out system had continued parallel with the new factories and he cited statistics showing that even as late as 1851 there were only 1.7 million employed in mechanized industries in England, compared to 5.5 million in non-mechanized industries. In a nutshell, his argument was that the growth in population reflected the greater value children could contribute to family production—both in the continuing handcraft industries and in the mills. This led to more births. Using classic figures compiled and calculated by E. A. Wrigley and R. S. Schofield (without adopting their explanation), Levine presented a figure showing “slow growth” between 1700 and 1760; “explosive growth” between 1760 and 1815; “decline” from 1815 to 1845; “stasis” from 1845 to 1870 and “decline” from 1870 to 1914. “Family

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incomes most likely rose as women’s and children’s labour was monetized, especially in the growing industrial sector.”

208 Levine’s explanation differed from Wrigley and Schofield’s, who saw population growth as following a pattern of early marriage when wages were high, later marriage when wages were low. 209

So a natural increase in population in the eighteenth century can explain the availability of the workforce in the mills, independent of the enclosures.

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Legal regulations such as the master and servant law and the poor laws also affected who entered the factories and who didn’t—and, among those who entered, which ones stayed. These laws have a long history (as we saw, the poor laws went back to at least 1601 and the Statute of Artificers, which regulated apprentices, went back to 1563). We have seen how the poor laws led to the employment of the children known as “pauper apprentices.” But the prevailing system of law affected adults as well.

Men and women who weren’t working could be arrested as vagrants and, if they weren’t “settled” (that is, weren’t recognized as residents of the parish), could be ejected from the parish under the Act of Settlement. To avoid being a vagrant, potential workers could enter into a contract with employers for a year’s work, after which they would be “settled.” Then they came under master and servant law, which prevented them from violating their contract by walking off the job (as well as other prohibited

acts). The law also sometimes helped workers keep their jobs, because workers as well as employers could be plaintiffs. As we will see in the next chapter, in the early and mid-nineteenth century master and servant law may have been used increasingly by employers to prohibit workers’ habits (such as taking time off during the day).

The Act of Settlement had been adopted in 1662, as the poor rates (the costs to ratepayers) were increasing, and parish vestries wanted to prevent excess burdens on their parish. Paupers, even just potential paupers, who came to the parish could be sent back to their home parish within forty days if the parish overseer thought the person might seek relief. Whether this law prevented people from moving from parish to parish, and thus reduced labor mobility, is a matter of dispute.

In 1776, Adam Smith famously denounced the law for preventing workers from moving from place to place, noting, “The very unequal price of labour which we frequently find in England in places at no great distance from one another, is probably owing to the obstruction which the law of settlements gives to a poor man . . . .” However, he may have generalized too much. At least until 1834 (and probably after that) the poor laws operated quite differently in different locations, so enforcement varied. For many, the act may not have been a severe impediment. Also, there were legal ways of getting around the law — such as binding oneself to a master for a year, which, if carried out in mutually agreeable ways, provided not only a job but

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211 This is made very clear in Steven Hindle’s *On the Parish? The Micro-Politics of Poor Relief in Rural England, c. 1550-1750*. 
settlement. In 1795 (nearly twenty years after Smith criticized the law) the settlement law was modified so an overseer could not eject from his parish someone who did not actually seek relief.

Alexis de Tocqueville, the much-admired author of *Democracy in America*, offered a distinctive view of the impact of the poor law after a trip to England in 1833. He began with an observation: England was the richest country in the world—the “Eden of modern civilization.” Yet a traveler “discovers with indescribable astonishment that one-sixth of the inhabitants of this flourishing kingdom live at the expense of public charity.” One reason for this, he said, was the poor laws. The goal of the law was to support indigents who were unable to work and to find work for the idle, who could. As we saw in Chapter Two, this idealistic goal somewhat perversely led to the widespread “apprenticing” of pauper children. It may also have, in some cases, kept wages down because relief was available as a supplement.

To Tocqueville, there were other ramifications. Humans, he says, have “a natural passion for idleness.” There are only two reasons they will work: “the need to live and the desire to improve the conditions of life,” and only a small portion of humans have the second desire. So if the “need to live” is satisfied by public charity, most will be idle.

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In England, the productive segment of the population is “furnishing the means of existence for those who do nothing or who make bad use of their labor.” 214 Tocqueville backed up his claims with anecdotal material; he visited sessions of the magistrates to whom people who had been turned down for relief could appeal (or to whom the parish overseers could appeal). The stories he tells illustrate abuses of the law.

Not many historians have adopted Tocqueville’s view that publicly provided charity created “an idle and lazy class, living at the expense of the industrial and working class,” 215 although Gertrude Himmelfarb and Paul Stack at least treated the idea seriously. 216 Recent historians have looked at the poor laws differently — crediting them with probably saving lives, especially during bad harvest seasons. Kelly, Mokyr and Ó Gráda have written that recent research “suggests that, for example, the Poor Law weakened the Malthusian mechanisms [the positive checks such as famine], reduced population growth, and diminished rural unrest. The dimension we are adding here is straightforward: the Poor Law helped create a higher-quality labor force by making food more accessible to those who needed it most.” 217 The major point of their article is that British workers were well fed. Of course, this does not invalidate Tocqueville’s claim that there was also a harmful effect on the willingness of the labor

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217 Kelly et al., “Precocious Albion,” 380.
force to work. Nor does it address the possibility that employers paid workers less because workers could make up the difference through poor relief.

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Working in the new factories was tedious, often unpleasant, and usually dangerous. But for many not working at all was worse. And that brings us to the handloom weavers, whose story is intimately tied to the advent of the factory. As Fleischman said, there is a “staggering” amount of data about hand-loom weavers. Partly because these weavers sought help from the government, there are many statistical and anecdotal stories about them, some undoubtedly designed to create sympathy in order to obtain aid. The often-told stylized story of the weavers starts with the invention of the flying shuttle in 1733, which so increased their productivity that they struggled to find enough yarn (sometimes walking for miles to obtain it). Then, as cotton spinning mills developed and yarn became available, there was a “golden age” in which yarn was so plentiful and the final product so saleable that the need for people to weave it was extreme and wages were high. And then the power loom appeared. First built by Edmund Cartwright in 1785, it was not perfected for 35 years. But by the mid-1820s, its use was so widespread that those handloom weavers who did not adjust by going into the factories experienced a dramatic fall in income.

E. P. Thompson intensified the narrative in his 1963 book The Making of the English Working Class. He told poignant stories of the weavers—eating oatmeal and

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218 Fleischman, Conditions, 167.
potatoes and not enough of those, whose wives had babies while standing up because they didn’t have two sets of bedclothes. He acknowledged that such a picture was not in vogue in the 1960s:

The contemporary reaction against “the Hammonds” has gone so far that it is almost impossible to quote such sources, with which these years are all too plentiful, without being accused of pejorative intentions. But it is necessary to do so because, without such detail, it is possible for the eye to pass over the phrase, “the decline of the handloom weavers,” without any realization of the scale of the tragedy that was enacted. 219

Thompson saw the weavers’ decline as taking place well before the spread of the power loom. He argued that the merchants or master-clothiers who provided the raw material and paid for the final product held sway over the weavers. Because the weavers were often isolated, far from markets and from other weavers, they didn’t know what prices they could command, and this asymmetry of information gave the merchants power to lower the prices they paid the weavers.

Not many years after Thompson’s book, in 1969, Duncan Bythell published The Handloom Weavers. 220 He saw the story of the weavers’ problems as pervaded by myths. “[I]t is important to avoid the fallacy that cotton weaving was a skilled trade, or that the handloom weavers as a whole can be regarded as an ‘aristocracy of labour’ simply because, in the early years of expansion when weavers were in short supply, good wages were paid. . . . Plain weaving was easily learnt.” 221 He also warned against

221 Bythell, The Handloom Weavers, 42. See also Ivy Pinchbeck, Women Workers and the Industrial Revolution, 164.
assuming that most weavers were men. That may have been the case in the putting-out industry, when men were the weavers and women the spinners. But then spinning mills brought in women, and those women who didn’t want to go into the factory switched to weaving.

Indeed, T. S. Ashton pointed out that because the spinning mule required the strength of adult men, it attracted men who formerly had been weavers, and mule spinners were the top-paid workers in the mills, as we have seen. “Adult men were, after all, only a fraction of the industrial workers of the early nineteenth century,” said Bythell. “As early as 1808, half the total number of weavers were said to be women and children, and by 1833, men were estimated as ‘but a small proportion’ of the calico weavers in the Burnely-Colne Skipton area.”²²² Many men avoided the factory, but their deliberate resistance may be overstated. There simply may not have been enough good jobs.

Even so, the image of “aristocrats” of labor falling to ruin is hard to get away from. As Neil Smelser, who was concerned about the impact of industrialization of the family, said, “The extinction of the adult male weaver displaced the economic head of the household and thus reorganized the occupational structure [of the family] much more dramatically.”²²³ And the weavers’ situation led J. T. Ward to say, perhaps

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²²² Bythell, 60.
rhetorically, “By 1830 the only labour for many men was to carry their children to the spinning mills, to earn the family’s livelihood.”

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The weavers’ decline took place not only during the Industrial Revolution, a transformative process, but also at a time of tumultuous other events, from nearly constant war to disastrous harvest seasons. The deteriorating situation of the weavers led them to respond violently, often by destroying mechanical looms and even mills. Periodically, protesting workers gathered in bands and rushed through factories and workshops breaking machines, destroying fabrics and tools, and even burning down mills or homes. Edmund Cartwright’s effort to install the power loom led to a factory with his looms being burned to the ground. Richard Arkwright also lost a mill to arsonists.

Although most of the factory workers did not participate in these riots, some depiction of the riots is needed to round out the picture of the working classes. Assessments of the causes of these riots differ. T. S. Ashton divided the Industrial Revolution century into two periods—the eighteenth-century riots by “pitmen and sailors, shipwrights and dockers, and the journeymen of the varied trades of London,” which, he said, had “some of the light-heartedness of the May Day demonstration.” After 1810, though, the riots “sounded a deeper and more disturbing note.” He contended that the people who took part tended to be domestic workers like weavers

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and knitters whom the new technology was passing by and who were physically suffering due to high prices and low wages. The most famous group of rioters in this category was the Luddites, primarily composed of stocking weavers in Nottingham, and from whom a new word for technophobia was born.

E. J. Hobsbawm took exception to Ashton’s “light-hearted” view of the riots—yet he saw them as a traditional way of protest. In a 1952 article Hobsbawm sought to “reconsider the problem of machine-wrecking.” While breaking machines may have had something to do with antagonism to technology, Hobsbawm pointed out that such riots or protests had been “a traditional and established part of industrial conflict in the period of the domestic and manufacturing system.” The combat was against control by the capitalist; some protests represented “quite consciously resistance to the machine in the hands of the capitalist” (not necessarily to the machine itself). As early as the period from 1778 to 1780, rioters “distinguished clearly between spinning-jennies of 24 spindles or less, which they spared, and large ones, suitable only for use in factories, which they destroyed.” In sum, “theirs was not a simple fight against technical progress as such.”

E. P. Thompson agreed that the kind of destruction represented by machine-breaking was often used, long before the Industrial Revolution, as a way of “enforcing customary conditions.” However, he considered the Luddite machine-breaking

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movement of 1811-1812 to be different. It occurred during a difficult economic time—the height of the Napoleonic Wars, a period of heavy taxes and Napoleon’s embargo on British trade. By this time, Thompson believed, there was a genuine political movement in the working class. The Luddites had a political organization and insurrectional goals and they were met with force—12,000 soldiers were on guard in the areas that had these uprisings. Luddism was not a “wholly conscious revolutionary movement; on the other hand, it had a tendency towards becoming such a movement, and it is this tendency which is most often understated.”231 Thompson’s view of the “making of the working class” as a mostly underground political process that took place over a century, the theme of his book, is controversial. Fleischman, for one, believed that Thompson overstated the political nature of the movement and noted that others, such as Bythell, also disagreed with Thompson.232 In an early review, Geoffrey Best wrote, “The question [of an underground movement] will probably never be settled.”233

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So what have we learned about the workers in the factories? For one thing, we have learned that the factory workers remained a minority of industrial workers well into the nineteenth century. Second, unlike the pauper apprentices discussed in Chapter Two, many factory workers (or at least their parents, in the case of children) chose to be there, although perhaps reluctantly, and the factories may even have provided

opportunities for women that they didn’t have previously. It may be that factory workers’ earlier experience, such as home-based work, was no longer economically viable; the higher wages may have merely compensated for what they lost. In our next chapter we will look at how the workers in the factories interacted with their new bosses.
Chapter Four: How Did Owners Discipline Workers?

The historiography of factory discipline during the Industrial Revolution may well have started with Robert Owen, owner of New Lanark Mills in Scotland. He was his own historian. Although Owen became famous as a political activist promoting cooperative societies, trade unions, and social change, he was first of all a mill owner—a “cotton spinner,” and a successful one. In 1857, when he was in his mid-eighties, he published his autobiography, including (perhaps for the first time) descriptions of how he improved the operation of the mill that he had purchased from his father-in-law, David Dale, more than 50 years before.234

This chapter will review, more or less chronologically, the historiography of the labor side of factory management, beginning with Owen. However, we need to set the stage: who were the factory owners? Economic historian George Unwin, describing Samuel Oldknow’s investment in a cotton spinning mill in the late-eighteenth century, said that the mills “required a gift for management and a power of mastering technique that were at that time extremely rare. To judge by advertisements, the manager of a factory was often an illiterate workman who received little more than the other hands, and who was attracted by the position of authority and the promise of employment.”235 Peter Gorb, writing nearly thirty years after Unwin, described Owen’s contemporaries as “petty capitalists, small farmers, and artisans: men with a ‘mechanical bent’” who were able to obtain enough capital to start a business. “Success was difficult to achieve,

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235 George Unwin, Samuel Oldknow and the Arkwrights, 126.
and it was a hard and often brutal school in which these men were trained, but when success came, it came quickly, and wealth and eventually ‘position’ was assured to those who succeeded.” 236 Once they reached that position, many became absentee owners. So, recognizing that some mill owners were rough-and-ready types without long-term thinking, let us begin with Owen and his contemporaries.

Owen came from a middle-class family in Newtown, Wales. His work life began when he was ten years old and was sent alone to London to be apprenticed to the owner of a “draper shop.” He recounts those days and his experiences as an entrepreneur and mill manager in his very engaging autobiography. Perhaps we should keep in mind, however, a comment by J. F. C. Harrison in a generally positive tribute to Owen, “Like all autobiographers Owen sees his early life through the distorting glass of later interests and experiences: subconsciously he hides part of himself and exaggerates those elements which he thinks substantiate his own self-image.” 237

When Owen arrived at New Lanark (the spinning mill previously owned by his father-in-law, David Dale) the mill had about 1300 workers who lived with their families in the village of New Lanark (undoubtedly many of the family members were employed) and also 400 to 500 pauper apprentices. “These children were by Mr. Dale’s directions well lodged, fed, and clothed, and there was an attempt to teach them to read, and to teach some of the oldest to write,” Owen states. Overall, however, “the

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whole system . . . was wretchedly bad,” and he was determined to improve all of it—the homes in the village, the machinery in the mill, the management of the mill, the treatment of the children, the education of the children, the stores that sold goods, and the habits of the workers.238

Owen is known for his view that people are the product of their circumstances and thus their habits are not really their fault. As a result, he abhorred corporal punishment of children and he sought incentives and techniques that addressed problems rather than punished people. One of his specific disciplinary problems was embezzlement by his workers. “Finding their temptations too strong for them to be honest and sober, and steadily and regularly industrious, I devised new conditions to counteract these temptations,” he writes. He “adopted checks of various kinds in all the departments of the business, to render theft impracticable without almost immediate detection.”239

His greatest check on poor performance, he said, was “the contrivance of a silent monitor for each one employed in the establishment.” Near each person’s workplace he hung a two-by-one-inch wooden block that had a different color on each face. Each day the block of wood was hung near the worker, and its visible color, representing a number, revealed how well the worker had done the day before. So, black was 4, or “bad”; blue was 3 or “indifferent;” yellow was 2 or “good”; and white was 1 or “excellent.” These were recorded each day and became a permanent record of the

238 Owen, *Life*, 60.
worker’s behavior, which Owen would review from time to time. For the worker, writes Owen, “[t]he act of setting down the number in the book of character, never to be blotted out, might be likened to the supposed recording angel marking the good and bad deeds of poor human nature.”\textsuperscript{240} It was, by and large, effective, although “excellent” blocks were rare.

Owen illustrated a conscious effort to manage workers. He was not the only owner to deal effectively with the problem of discipline, but historians did not do a lot of ferreting out of such efforts until the mid-1960s. Indeed, in 1971, A J. Robertson commented about Owen: “The fact that his contemporaries left few records of their activities, on the basis of which a comparison with Owen might be attempted, has contributed to the continued exaggeration of Owen’s importance.”\textsuperscript{241} Robertson made that comment in a book of essays honoring Owen as “Prophet of the Poor.”

Although there was little writing explicitly about Industrial Revolution management before the late 1950s, George Unwin stands as an exception. Unwin was a well-respected British historian with several books to his credit when, in 1920, a young man began hawking old workers’ pay tickets that he had found in a deserted mill not far away from Unwin’s hometown, Stockport. Unwin and a colleague, Arthur Hulme, visited Mellor Mill and found “a great number of letters, papers, account books, and other business records of every kind and size, covering the whole floor of a large room

\textsuperscript{240} Owen, \textit{Life}, 81.
and partly hidden from sight by several inches of dust and debris.”

From these piles of tattered sheets, they pieced together the history of Samuel Oldknow’s weaving and spinning businesses. “This Oldknow volume can be claimed as the first British business history to be based on a comprehensive use of corporate archives,” wrote an Unwin biographer.

Much of Unwin’s book is about Oldknow’s buying raw materials and selling muslin and about going deeply into debt while constructing a mill and a village to house the workers. Unwin primarily chronicled Oldknow’s shift from a “putting-out” system to the factory system, and thus he did not provide much detail on how Oldknow managed and disciplined his employees. Initially, Oldknow was a manufacturer of fine muslin who used the services of more than 300 weavers operating at least 500 looms, which they rented from Oldknow. Unlike traditional putting-out operations, the weavers came to Oldknow’s Stockport, Cheshire, warehouse to obtain their raw materials and to return the finished or nearly finished cloth. In this system the manager handling the accounts and the products was a “highly important figure” who often became a manufacturer in his own right—not necessarily of cloth, perhaps of yarn.

Oldknow gradually developed a “factory system” in his warehouse by adding processes like bleaching, fabric printing, and dyeing, and “soon he began to bring weavers together in his ‘loom-house.’” Later, he built the Mellor spinning mill

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244 Unwin, *Oldknow and the Arkwrights*, 49.
nearby. Unwin reprinted (but without comment) a poster found in the mill announcing that “all the hands in the service of SAMUEL OLDKNOW working in his Mill, or elsewhere, must be subject to the following RULE: That when any person, either Man, Woman or Child, is heard to CURSE or SWEAR, the same shall forfeit One Shilling.” Furthermore, in case of absence (except with permission or due to illness) he or she will “forfeit as many Hours of Work as have been lost.” For those who are paid “by the Job or Piece” they will be charged 2 shillings, 6 pennies per day.246 Worker fines were used fairly widely in this period. Unwin also found that in the finishing operations of his muslin weaving, the woman who supervised nine or ten girls reported weekly on their performance. The report included a commentary or the girls’ conduct and a “Disgrace Account,” which seems to have indicated how many mistakes the girls had made that week.

There were, of course, other references to factory discipline in the ensuing decades, but not many. It is interesting that the famous history by Paul Mantoux247 — "one of the best introductions to the industrial changes in eighteenth century England"248 — did not include much about how factories were managed. Yet Mantoux covers nearly every aspect of the Industrial Revolution, giving ample attention to the tragic conditions of the apprentices, recognizing the opposition of workers to becoming employed in factories, and giving an overview of the early trade unions.249

246 Unwin, Oldknow and the Arkwrights, 198.
Others, however, did recognize the key role played by discipline. J. L. and Barbara Hammond wrote in the *Town Labourer*, in a chapter called “The New Discipline”: “[T]he population that was flung into the brutal rhythm of the factory had earned its living in relative freedom, and . . . the discipline of the early factory was particularly savage.”

In his 1930 book *Industrial Evolution*, N. S. B. Gras described how manufacturing went through a variety of changes from ancient and medieval usufructure (making products for one’s own use) to the modern machinery-driven factory. He acknowledged the Industrial Revolution as the “one break in evolutionary development” but simultaneously undermined its uniqueness by calling it “the central workshop with power machinery added.” Echoing the experience of Samuel Oldknow — gradually moving from putting-out to a central workshop before building factories — Gras considered the central workshop as important as the factory system because it instilled discipline. He wrote:

> The central workshop in the modern period did for discipline what slavery had accomplished in ancient times. Untamed man likes to hunt, fish, play, and idle, as well as work. In the wholesale handicraft stage . . . [c]onsumers might stand shivering for cloth and clothing while the artisans were making hay or going fishing. . . . With the workers right under the eyes of foremen all day long, there was now little chance of neglect of industrial labors.

His allusion to ancient slavery reminds us of the agro-industrial sugar “factories” that began operation in the Caribbean in the late seventeenth century. Slavery (and, earlier,

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indentured servitude) made it possible for those factories to meet the exacting conditions of harvest time (cut sugar cane can spoil quickly). According to Gras, without slavery something else was needed: workers “right under the eyes of foremen all day long” in a central workplace.

This recognition of the role of discipline raises some questions, however, not just for the workshops but more importantly for the new factories. Was the owners’ goal in centralization to make sure the workers produced quality products? That the workers stayed around all week? To end “shorting” or embezzlement? Different commentators have had different answers.

Writing in 1959, sociologist Neal Smelser saw a variety of owners’ motives, both legitimate and not. On the one hand, Smelser acknowledged that the workers may have been “transient, marginal, and probably deviant” (thus justifying some discipline) but at the same time he detects prejudice against the workers (“scapegoating” them, presumably for flawed behavior that may not have been their own fault).

This preoccupation with discipline rested on (1) a long history of dissatisfactions with worker discipline under the putting-out system; (2) the exaggerated importance of discipline arising from the earlier scapegoating of the working populace; (3) the transient, marginal, and probably deviant character of many of the earlier adult labourers; (4) the fusion of specific economic management of apprentices with diffuse authority and concern for their welfare. 253

Smelser was a sociologist who concentrated on how the changing structure of manufacturing affected family structure. If the previous method of manufacturing

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(putting-out) was going to change, factory discipline was necessary to change it. Unfortunately, he said, the discipline was carried out by people who were usually divided into two groups: “cruel” and “humanitarian.” The goal of both was the same—changing workers’ habits.254

Smelser’s book appeared in the early stages of what became a burgeoning historiographical interest in the nuts and bolts of worker discipline. Beginning in 1953, M. W. Flinn wrote about Ambrose Crowley III, the early eighteenth-century owner of ironworks in northeastern England. Flinn wrote an article and a book about Crowley and organized and reprinted large swathes of Crowley’s “Law Book,” which was a collection of instructions to his managers that was used and expanded over many years.255

A trader in nails and small ironware, Crowley started his major facility (at first, a nail-making workshop) in Winlaton in northeast England in 1691; it gradually grew to include other processing steps such as iron smelting and slitting mills. His plant employed about 1,000 workers, and he continued to use outworkers as well. While the vivid language of the law book (not to mention his equally vivid business letters) made Crowley a stand-out figure, the law book was not a random list of rules; it was deliberately created as a constitutional document with a well-developed governing

254 Smelser, Social Change, 106.
structure, which Flinn described as “a system of control by committees.” Flinn stressed that, except for the arbitration and welfare committees (which had some authority of their own), “the constitution of the Crowley works was entirely autocratic.” The committees were “simply the instruments through which he exercised his control.”

The core of the structure was a council that met each week, usually on Monday, after receiving Crowley’s instructions. Its job was to carry out the instructions and deal with administrative matters, which included such decisions and duties as “to take on casual or extra labour, to buy coal locally and supervise its distribution amongst the workmen, to control the quantities of iron cut in the slitting-mills,” and so forth. Committee members were also “keepers of the peace,” whom the iron-keeper could contact in case of on-the-ground troubles such as accidents. The council operated with a number of subcommittees. Exactly who participated in the council isn’t known, but it appears to have been composed not only of company officials such as managers but also well-respected workers.

Flinn gave examples of the language in the law book. The last law was: “in case the devil shall have so much ascendant over me that I shall break any of these solemn promises, I own myself to be a lying imposter, a destroyer of my own safety, and a treacherous false villain to John Crowley, Esqr., and deserve a halter more than his favour.” This wording reflects both the importance of the rules and Ambrose Crowley’s flamboyant language, style, and determination. Crowley was creating a new

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256 Flinn, Men of Iron, 194.  
257 Flinn, Men of Iron, 201. “John Crowley Esqr.” refers to Ambrose Crowley’s son.
phenomenon, an enormous factory operated by willing workers, in the pre-dawn of industrialization. There were no handbooks to guide him. His biographer, Flinn, suggested that possibly Crowley’s management and even factories themselves were not copied widely at that time because it would have taken an unusual personality, like Crowley’s, with his constitutional inventions, to make them work.

Flinn had no doubt about why Crowley created his new factory at Winlaton (after working in the putting-out system in Stourbridge). It was to control the quality of the product.

The main incentive to break away from the traditional pattern lay in the need to standardize the product by absolute control over the raw material employed. There were endless possibilities of adulteration of the product by the clandestine use of inferior metal, while the geographical dispersion of thousands of workers rendered standardization an impossible achievement.258 This does suggest that factories may have grown up for worker-control reasons rather than due to the size and physical demands of spinning and weaving machinery.

Crowley was well aware that by locating his plant in an isolated area of northeast England he was going to face recruitment problems. He tried a number of techniques to help keep a healthy and stable workforce in addition to his council, committees, and written instructions. These included an arbitration court to settle disputes and a fund—paid for by both owner and worker—for sickness and pensions. (Oldknow had such a fund, too.) At times Crowley even provided a doctor and clergyman for the factory. According to Flinn, “In his [Crowley’s] view, in buying the product of his workers’

258 Flinn, Men of Iron, 253.
labour an employer accepted, at the same time, responsibilities towards their well-being. And the first of these responsibilities was for their moral welfare. To Crowley, an employer ought to be a father to his workers.”259

Flinn did not ignore Crowley’s faults. “An inhuman paragon of efficiency himself, he was too rarely tolerant of the very human fallibilities of others.”260 And yet, “Crowley’s word was his bond . . . Crowley’s goods were good, and . . . Crowley delivered the goods.”261 Flinn even compared Crowley to Robert Owen, universally lauded as a humane employer (and that was “a century later,” Flinn reminded us).

Flinn was not alone in these historical interests, and in 1958 a new book appeared on the businesses of Jedediah Strutt and Richard Arkwright. The Strutts and The Arkwrights, 1758-1830 was based largely on records found in 1950 at the West Mill of W. G. and J. Strutt in Belper, Derbyshire, although it includes other sources as well. We learn that in the early years Arkwright held a once-a-year “candlelighting festival” for his workers, complete with band and parading workers. And according to a visitor in 1782, Arkwright gave “pecuniary rewards” and “distinguishing dresses to the most deserving of both sexes, which excites great emulation.”262 Handkerchiefs were used as prizes at the pioneering (but unsuccessful) mill of Lewis Paul, wrote R. S. Fitton and A. P. Wadsworth. And at the Strutts’ mill, national events were celebrated by feasts,

259 Flinn, Men of Iron, 255.
260 Flinn, Men of Iron, 65.
261 Flinn, Men of Iron, 66.
parades, and bands. These included the Treaty of Amiens, the first defeat of Napoleon (June 1814), and the coronation of George IV. Some of the music was provided by an orchestra and choir composed of workers.265

Fitton and Wadsworth gave a cheerful picture of life in these two mills. “The idealized community which Robert Owen thought he had invented at New Lanark was not much different from those at Cromford and Belper that had preceded it,” they wrote.264 As for punishments, Fitton and Wadsworth reproduced a list of the misbehaviors that led to fines or “forfeits” at the Strutt mill between 1805 and 1813 (after Jedediah’s death). A few are: “Leaving without giving notice”; “Off at Derby races without leave”; “Stealing packthread”; “Breaking Thermometer”; “Setting fire to a lamp cupboard”; “Making waste of good yarn”; “Ravilled bobbins”; “Counting hanks wrong”; “Idleness & looking thro’ window”; “Calling thro’ window to some Soldiers.”265 The authors stressed that the fines were relatively small and infrequent in comparison to wages. In contrast, they called Robert Owen’s “silent monitor” (the colored wooden boxes described above) “a horrible exhibition of authoritarianism.”266

The 1960s found other historians looking at discipline as well. More than anyone, Sidney Pollard took up the subject, first in an article on factory discipline267 and then in his 1965 book The Genesis of Modern Management.268 Indeed, sandwiched between the

263 Fitton and Wadsworth, The Strutts and the Arkwrights, 260.
264 Fitton and Wadsworth, The Strutts and the Arkwrights, 98.
265 Fitton and Wadsworth, The Strutts and…, 234-235.
266 Fitton and Wadsworth, The Strutts and…, 100n.
1956 publication of William H. Whyte’s *The Organization Man* and John Kenneth Galbraith’s *The New Industrial State* in 1967, Pollard’s book reflected a new attitude toward business, one that spilled over into history. The early 1960s were the day of the big, stolid, and seemingly secure corporation; modern entrepreneurs (it seemed) were few and far between; there was interest in the corporation and how the “organization men” managed it. For historians, the Industrial Revolution, once seen as the achievement of entrepreneurs and innovators, deserved another look from this perspective. In addition, Pollard’s interest reflected David Cannadine’s analysis of historical writing of that period, in which the Industrial Revolution was seen as offering lessons for new developing countries around the world.\(^{269}\) As Pollard wrote, “each generation asks a different set of questions.”\(^{270}\)

Explaining the reasons behind his book, Pollard said that “[o]ne of the most glaring gaps [in British Industrial Revolution historiography] is the story of the genesis of modern industrial management. It is now twenty years since the doyens among British management consultants complained that ‘we have as yet little knowledge of the standard and methods of management during the various phases of the industrial revolution.’”\(^{271}\) (He was quoting from a 1944 book on management by L. Urwick and E. F. L. Brech).\(^ {272}\) Pollard went on to say that in spite of new company histories, the “gap


on management has remained,” even though the gap covers “precisely the kind of topics which demand practical answers today.” He said that most attention by historians to business has been paid to entrepreneurship. In contrast, “problems of internal management, the method by which entrepreneurial decisions are enforced, have received very little attention indeed.” That is the void he began to fill.

The new factories’ problems started with recruitment, Pollard explained. Owners needed workers but workers didn’t want to work, at least not in factories and not at the speed and under the rigid routine they were expected to. “The very recruitment to the uncongenial work was difficult, and it was made worse by the deliberate or accidental modeling of many works on workhouses and prisons,” wrote Pollard. We have already seen in Chapter Two how women and children were brought into the textile factories partly because they were more docile, because monitoring textile equipment did not require much physical strength, and because they cost less than men—and possibly because many men refused to enter the mills.

“ Their methods of overcoming [worker resistance] may be grouped under three headings: the proverbial stick, the proverbial carrot, and,thirdly, the attempt to create a new ethos of work order and obedience.” Rules, said Pollard, “formalized, impersonal and occasionally printed, were symbolic of the new industrial relationships.

273 Pollard, Genesis, 1-2.
274 Pollard, Genesis, 4.
276 Pollard, Genesis, 186.
Many rules dealt with disciplinary matters only, but quite a few laid down the organization of the firm itself.”\textsuperscript{277} Certainly, that was the case with Ambrose Crowley.

“Dismissal and the threat of dismissal, were in fact the main deterrent instruments of enforcing discipline in the factories,” he wrote. “At times of labour shortage they were ineffective, but when a buyers' market in labour returned, a sigh of relief went through the ranks of the employers at the restoration of their power.”\textsuperscript{278} Pollard reported that discipline for children was often by beating, although some mill owners prohibited overseers from beating children. Dismissal and fines were among the punishments for children, too (and their bonuses were extremely small and rare).

Fines were a major disciplinary tool for adults. “Their general level was high and was meant to hurt. Typically, they were levied at 6d. to 2s. for ordinary offences or, say, two hours' to a day's wages.”\textsuperscript{279} As Flinn had said of Ambrose Crowley, even members of its council had to pay fines if they didn’t show up without an excuse or if they engaged in “unseemly behavior.”\textsuperscript{280} However, Flinn said that once a year all the fines that had been collected from the council were redistributed to the council.

Pollard also indicated a few carrots in his “Factory Discipline” article. Some owners tried to maintain the spirit of joviality that was associated (at least in memory) with the “old order” by hosting occasional feasts, balls, and outings for the workers.\textsuperscript{281} (We have already seen that at Arkwright’s plant.) A more fundamental incentive was to

\textsuperscript{277} Pollard, \textit{Genesis}, 184.
\textsuperscript{278} Pollard, \textit{Genesis}, 187.
\textsuperscript{279} Pollard, \textit{Genesis}, 187.
\textsuperscript{280} Flinn, \textit{Men of Iron}, 196.
\textsuperscript{281} Pollard, “Factory Discipline,” 257.
pay by the piece rather than the hour. Pollard said this was viewed as a novel technique (even though the previous method, putting-out, was a system in which the entire workforce was paid by the piece). Pollard said piece rates were instituted at the Soho Works of Matthew Boulton in 1773, possibly because poor supervision had led to its “near-bankruptcy.”

Despite this very thorough collection of examples of discipline, Pollard said it took a long time for the very idea of managing to be adopted, especially in the cotton mills. In most of them, there were no managers as we understand them today, just overseers or “overlookers,” who were generally left free to act as they wished, even to the point of corporal punishment of children. In their cases, paying on the basis of performance could give them incentives to overwork children, as apparently in the case of Robert Peel’s mill they did (see below). The owners were in charge, at least nominally, but often they were not present. They may have been too busy planning capital improvements, purchasing raw materials, selling their products (sometimes on credit), and seeking capital funds, all in uncertain environments. They may simply not have had the time to pay much attention to actual management.

Although Pollard used examples of disciplinary techniques from the textile mills, he suggested that to learn about management, we should not be looking primarily at textile mills. While textile mills were “among the earliest and most numerous concerns which grew to a size in which managerial problems became important,” he said in The...
Genesis of Modern Management, their owners did not innovate in management. “[L]arge [textile] firms here were so numerous, so geographically concentrated and so quickly developed, that organization and management techniques could be copied without thinking,” he wrote. Furthermore, the cotton mills were so packed with machinery that there was little engineering skill required to design the factory. And he quoted John Lord, author of a 1912 book, Capital and Steam-Power, who wrote, “it is obvious that no more than one or two men were required to manage a cotton mill,” and “the majority of the cotton mills were the property of one or two capable men.”

The historiography of Richard Arkwright tends to support his position. The most famous innovator in the Industrial Revolution does not seem to have had much “science of management.” Oxford Dictionary of National Biography says that Arkwright came up with a “system of mill management based upon room overseers,” which “became the standard for mills working the water frame and the model for the industry until the abandonment of night working and the introduction of urban steam-powered mule mills brought changes.” These practices do not seem very sophisticated, and show a need for more scholarly research into Arkwright.

Pollard said there was a general understanding that the owners, or someone with a financial interest in the venture, had to be present if a factory was to succeed. Throughout industry there was a feeling that failures of mills came about because the

283 Pollard Genesis, 90. See also John Lord, Capital and Steam-Power, 1750-1800 (London: P.S. King & Son Ltd., 1923), 186, as the quotation from Lord in this paper is slightly more complete than Pollard’s.
owner was not watching—an attitude that may have reflected knowledge of actual problems in Caribbean sugar plantations and Irish estates. Pollard said that it was assumed that the “failure of Wyatt and Paul [the original creators of a water-frame spinning machine] must have been the absence of the partners from the works.”\(^\text{285}\) Pollard quoted Sir Robert Peel (before the 1816 Special Committee on the Children Employed in the Manufactories of the United Kingdom) as saying, “It is impossible for a mill at any distance to be managed, unless it is under the direction of a partner or a superintendent who has an interest in the success of the business.”\(^\text{286}\) Yet it seems as though many partners were not present—including Peel himself. Yet he was enormously successful.

Indeed, Peel (father of the prime minister Robert Peel) exemplifies the absentee owner. He was a highly successful cotton mill owner who became a member of Parliament. As noted in Chapter Two, as an MP he helped carry to enactment two Factory Acts, one passed in 1802 and one in 1819, which protected child workers. During the second legislative process, he made a revealing statement:

> The house in which I have a concern gave employment at one time to near one thousand children of this description [that is, apprentices]. Having other pursuits, it was not often in my power to visit the factories, but whenever such visits were made, I was struck with the uniform appearance of bad health, and, in many cases, stinted growth of the children; the hours of labour were regulated by the interest of the overseer, whose remuneration depending on the quantity of

\(^{285}\) Pollard, *Genesis*, 21. There were, in addition, serious technical flaws in the early Wyatt and Paul machines.

\(^{286}\) Pollard, *Genesis*, 21.
the work done, he was often induced to make the poor children work excessive hours, and to stop their complaints by trifling bribes.\textsuperscript{287}

In other words, when he visited his factory on occasion, it dawned on him that the children did not look healthy.\textsuperscript{288} But he apparently did not do anything until, in 1796, the newly formed Manchester Board of Health issued a report that revealed the condition of many pauper children working in factories. Then he became involved in a parliamentary project to ban apprentices’ overwork in all factories. But before that, he seems to have been indifferent to workers who were the keystone of his factories—factories that made him a millionaire and helped him obtain his title as a baronet. (When he died, he had a net worth of £1.5 million pounds, worth about £172 million today.)

In 1961, about the same time as Pollard started this line of analysis, Neil McKendrick began investigating the management habits of Josiah Wedgwood, the man who created the exquisite Wedgwood ceramic ware that continues to be produced and prized today. Wedgwood’s facilities were not the kind of factory that demanded enormous speed to keep up with machinery. Rather, his business was closely connected to designing and marketing high-quality work for increasingly demanding


\textsuperscript{288} Katrina Honeyman, whose evaluations of treatment of children in early factories were based on company records, parish visitors’ reports, and magistrates’ reports, was able to identify 26 enterprises and group them into six categories on the basis of quality of treatment. Peel’s operations were in the “most negligent” category. See Katrina Honeyman, “The Poor Law, the Parish Apprentice, and the Textile Industries in the North of England, 1780-1830,” Northern History 44 (Sept 2007): 115-140, at 132-33.
Wedgwood is as fascinating—and admirable—a character as Robert Owen. He had amazing energy—Neil McKendrick refers to his “restless intellectual curiosity.” Born into a Staffordshire family that had long produced pottery, Wedgwood contracted smallpox as a child, which gave him continual pain in his right leg; he couldn’t sit up and work as potters normally do, which may have led him to become more of a designer and manager than an artisan. (One sign of his determination not to let outside events control him was that in mid-life he chose to have his leg amputated.) He was also a capable scientist who engaged in chemical experiments, inventing what he called a pyrometer, and he joined the Royal Society and the Lunar Society of Birmingham (so called because it met monthly at the time of the full moon). Added to all that, Wedgwood was an active slavery abolitionist.

In two articles, McKendrick explored Wedgwood’s business practices. His 1970 essay devoted to cost accounting is outside the purview of this thesis, but the first article was about Wedgwood’s factory discipline. Like Ambrose Crowley, Wedgwood left a legacy of many documents. In fact, McKendrick began his article by saying that the Wedgwood collection has 60,000 manuscripts, but that so far historians’ use of them had been “haphazard.” McKendrick then set out to change that.

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289 In the typology proposed by S. D. Chapman (see Chapter One), Wedgwood’s factory would be a Type II “batch” factory in which workers did specialized tasks that combined to create a product. See S. D. Chapman, “The Textile Factory before Arkwright: A Typology of Factory Development.”


In 1769, when he was 39 years old, Wedgwood created from the ground up a factory he called Etruria, designed and planned for the production of high-quality pottery on a large scale. Even though Wedgwood always called himself a potter, the term as used today does not reflect the exactitude and beauty of his wares. Especially associated with Wedgwood (even today) is the jasperware he invented, delicate white sculptures atop a (usually) light-blue matte-like surface.

We should keep in mind that Wedgwood’s factory was unlike textile mills. The workers were artisans, ranging from highly talented artists to “painters of pins.” Like Adam Smith’s imaginary pin factory, Etruria depended on a high degree of specialization. Finding the right specialists was always a challenge for Wedgwood, especially because workers were familiar, from times past, with creating a single piece of pottery at a time. Instead, under Josiah Wedgwood, “His workmen were not allowed to wander at will from one task to another as the workmen did in the pre-Wedgwood potteries. They were trained to one particular task and they had to stick to it.”

Wedgwood even created something like an assembly line as the pottery went from one room to another while the potters stayed in place. He eventually adopted an overseer for each of these rooms.

Wedgwood carefully followed the changing fashions in the market for pottery, coming up with new enamels, gilds, and designs, both leading and responding to consumer wishes with an ever-expanding number of products. He can be contrasted to

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textile manufacturer Samuel Oldknow, whose Stockport Mill was devoted just to muslin and over time he saw the prices of his muslin fall by 40 percent because of changing tastes.

With a growing market and the increasing complexity of his work, Wedgwood needed managers. However, wrote McKendrick, “There was no tradition of a foreman or managerial class, for there had previously been little necessity for it. Merely to promote old hands was not enough—too often they connived at faults, which familiarity had robbed of significance, and too easily lapsed into irregularity as soon as they were left unsupervised.”

McKendrick describes the course of Wedgwood’s efforts to find and maintain a good workforce. Since “old hands” were often resistant to specialization, he hired people who been dismissed from neighboring potteries and tried to teach them; he trained his own workers; he adopted an apprentice program. Over time, some apprentices became artisans of the quality he needed, but he could not train enough. He even tried bringing in well-known painters of their day. Some did provide beautiful art but they didn’t like the factory. Wrote McKendrick:

At first he employed them at Etruria, but they proved too lofty for the factory system. Voyez’s avarice was pandered to for a while to prevent his selling industrial secrets, but finally he had to be discharged; Radford was sacked because ‘the hours he chose to work would, by example, have ruin'd ten times better men than himself.’

293 McKendrick, “Josiah Wedgwood and Factory Discipline,” 39. Exactly what he meant by “connived at faults” I am not sure, but it may be that the workers covered for one another when they made mistakes.
So, instead, he bought their designs, sometimes ordering them on commission, sometimes changing the artwork to fit the market or the production process, or persuading the artist to do so. McKendrick quoted Wedgwood: “’Oh! for a dozen good & humble modelers at Etruria for a couple of months. What creations, renovations, & generations should we make! Well—fair & softly, we must proceed with our own natural forces, for I will have no fine modelers here, though I seem to wish for them, they would corrupt, & ruin us all.”

Like his predecessor in organization, Ambrose Crowley, Wedgwood relied on written rules. As McKendrick said, “They cover every aspect of factory discipline. Containing a remarkably detailed knowledge of every workshop and every process, the Instructions recognize all the minor techniques, the tricks and petty evasions of the idle workman. In this way Wedgwood armed his overseers with his experience, his knowledge of prevalent faults and his remedies.”

About the same time Pollard and McKendrick started looking at discipline among factory workers, Keith Thomas did, too. His article in Past & Present (part of a symposium on work and leisure) recounts many of the kinds of disciplinary actions noted by Pollard: “fines for lateness and absenteeism, a campaign against holidays and wakes, Sabbatarianism and allied attempts to check the particularly violent forms of recreation to which the workers of the time seem to have been addicted. Above all,”

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wrote Thomas, “low wages.”\textsuperscript{297} We will look more carefully at the rationale for low wages in the next chapter.

Why was such extended and severe discipline necessary? In 1967, E.P. Thompson answered that question in an elegant essay that has become a classic of labor history. It offered a more sympathetic view of the worker, compared with earlier critiques of workers for celebrating the fictional “Saint Monday” or only working until they had enough money to go to the alehouse.

Thompson explained that in order for factories to succeed, the worker’s “apprehension of time” had to change from a more natural way of thinking about time—the one held by a largely agricultural populace—to following a very rigid clock-driven schedule that would make production efficient. Thompson went back to medieval times to discuss the advent of the clock, which altered the way people responded to time. “I do not wish to argue how far the change was due to the spread of clocks from the fourteenth century onwards, how far this was itself a symptom of a new Puritan discipline and bourgeois exactitude. However we see it, the change is certainly there.”\textsuperscript{298} Fundamentally Thompson was distinguishing between the “task orientation” of rural life, with its housekeeping and child-rearing and the “time orientation” required by a factory manager. Only recently, factory workers had lived by the sun and the seasons, had alternated their work with downtime. Fitting these workers into a factory schedule with stringent time constraints was not easy.

Thompson used the Crowley ironworks to illustrate the problem. “Here, at the very birth of the large-scale unit in manufacturing industry, the old autocrat, Crowley, found it necessary to design an entire civil and penal code, running to more than 100,000 words, to govern and regulate his refractory labour-force.” Thompson’s phrasing suggests a hostile relationship between owner and worker, although, as we have seen, Crowley’s mill was an attempt to achieve what Thompson described, changing the task orientation of workers to a time orientation. David Cranstone, an archaeological consultant for the excavation of one of Crowley’s mills, wrote that Crowley’s “remarkable (if authoritarian) welfare provision at his works may well reflect his Quaker upbringing.” Thus Cranstone viewed the “Law Book of the Crowley Iron Works” much more benignly than Thompson.

Following Thompson’s article in 1967, the historiography of factory discipline faded. Interest has surfaced sporadically, and in Chapter Five we will see recent analysis of what caused the workers to change.

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This chapter has taken a look at the historiography of factory discipline, more or less chronologically. Although historians took a long time to pay attention to management operated during the Industrial Revolution, by the mid-1960s the subject became more prominent. We learned that from the beginning of the factory, owners faced resistant workers who were attached to the more flexible ways of the past, and

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owners sought to transform them into disciplined workers who started early in the morning and worked diligently until late at night. In Chapter One, we asked to what extent did the desire to get better control over workers’ time and energy lead to the factory? The present chapter doesn’t answer the question but it suggests that the need for discipline was closely allied with the factory’s beginnings. In the next chapter we will examine how effective the efforts at transforming the worker turned out to be.
Chapter Five: How Did Workers Change?

We have seen that many people in the last half of the eighteenth century and the first half of the nineteenth century resisted working in factories, even though many sent their children there. We saw that some mill owners—before they had the freedom to locate in cities thanks to steam power—negotiated with parish overseers to obtain pauper apprentices, while others tried to make their villages, and their factories, attractive to families. Inside the mills, we saw that owners adopted ingenious and often coercive methods, from “Disgrace Accounts” to “Forfeits” to make workers operate according to the demands of machinery processes.

We also know that the industrial system “succeeded,” in the sense that it overwhelmed the handcraft industry and ultimately became the leading method of production in much of the world. That did not happen without a great deal of political agitation—for shorter hours, for the right to form a union, for the right to bargain, etc.—that extended throughout the nineteenth century and into the twentieth. Nevertheless, as early as 1881, scientific time management, designed to eliminate wasted motion, was introduced by Fred W. Taylor. This was an even more clockwork-based technology than any factory owners or managers could have contemplated fifty years earlier. An American invention, Taylorism met resistance in England, but was still widely adopted. Thus, it seems that workers did become serious and disciplined. But how?

Historians, while not agreeing on the answers to this question, have identified four forces that changed the outlook of workers, in addition to the carrots and sticks implemented by the owners themselves. One was Protestantism, particularly as
reflected in the Methodist sect, which predisposed workers to accept discipline. Second, workers found that discipline, unpleasant though it was, provided more income than they could otherwise get. Third, the growing interest in material possessions led them to put in more hours of work, so that they, the producers of consumer products, became also consumers of those goods. Fourth, changes in the legal regime may have coerced workers to work more.

But first we have to address a thorny question, using historiographical sources: Why didn’t factory owners simply raise wages to get better performance? This opens up two subsidiary questions: Could the owners afford to do so and would higher wages have solved the problem of undisciplined behavior?

On the first question, there is no doubt that many cotton mill owners made substantial profits, especially in the early years of the water-frame and the mule. Those years were a “golden age” in which it was possible to make a return of 20 percent on one’s investment, according to two historians who analyzed what is known of Robert Owen’s business operations.301 But there was a downside. Relatively little capital was needed to invest in mills, and that fact encouraged more investment. While historians usually focus on the large mills, the multitude of small ones created a competitive environment — indeed, a cutthroat-competitive environment. Richard Fleischman pointed this out in his 1973 dissertation.

The capitalization of Lancashire’s cotton industry was extremely decentralized.

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Credit facilities were singularly lacking in Lancashire; there was a basic distrust of banks. Thus cotton masters by necessity scoured society for sources of capital. This structure of capitalization had long-term repercussions as far as the worker was concerned. The size of individual firms was very small, for the most part, and their number many. . . . The plethora of relatively small businesses produced cut-throat competition and inefficiencies.302

This is one reason why we see statements like John Fielden’s defense of his father, a mill owner, who felt he had to employ his workers, including children, for 71 hours a week, because he was competing against mills that were working children for as long as 84 hours a week.303 If he had not done so (we can presume the argument would go) his costs would have been higher than his competitors’ and his products would not be saleable unless he took a lower profit. Some mills could have done this—perhaps even Fielden’s father’s mill—but others worked at very modest margins. Thus there was something of a race to the bottom in terms of keeping costs low.

This was not so much the case with specialized products, such as the fine thread that Robert Owen’s mill produced at New Lanark. But unspecialized mills faced a situation much like a farmer faces today. A small producer in a large market of undifferentiated products (for the farmer, corn; for the cotton spinner, yarn) is a classic case of what economists call a “price-taker,” not a “price-searcher.” Such a producer must accept the market price in order to sell.304 Fleischman contended there was overproduction as well, not just because of the multitude of mills but because once an owner invested in his mill, he had to keep it running to cover his costs. The more mill

302 Richard K. Fleischman, Jr., Conditions of Life, 219-220.
owners there were, operating at full tilt, the more cotton cloth there was and more downward pressure on prices, and less willingness for mill-owners to pay high wages. Indeed, we saw in Chapter Two that one reason Parliament enacted regulation of child labor may have been an effort by larger mills to force smaller mills out of business by raising their costs.\textsuperscript{305}

Now, suppose mill owners \textit{were} willing to raise wages. Could higher wages have replaced strict factory discipline? This question has been discussed extensively, beginning in 1920 when the Ph.D. dissertation of a Yale student, Edgar F. Furniss, was published and highly praised.\textsuperscript{306} Furniss studied the labor beliefs of mercantilists. He argued that mercantilists believed in “the utility of poverty.” As Furniss saw it, and he cited mercantilist writers to illustrate, part of the mercantilist theory was that production and export were the wealth of the nation and as a result workers were the “source of national wealth.”\textsuperscript{307} This sentiment led to the idea, incredible to us today, that “the majority must be kept in poverty that the whole might be rich.”\textsuperscript{308} Along these lines, he quoted Lawrence Braddon in 1723: “[A]ll things to be exported must be either what is natural or what is made; and neither of these can be had or exported without the labor of the poor. It is therefore to them as necessary instruments that England owes that increase of our foreign trade which hath enriched our nation.”\textsuperscript{309}

\begin{thebibliography}{9}
\bibitem{305} Marvel, “Factory Regulation.”
\bibitem{307} Furniss, \textit{Position of the Labourer}, 16.
\bibitem{308} Furniss, \textit{Position of the Labourer}, 8.
\bibitem{309} Furniss, \textit{Position of the Labourer}, 18.
\end{thebibliography}
In a 1958 article, A.W. Coats agreed with Furniss’s view:

Before the mid-[eighteenth] century almost all British economic writers were agreed that wages must be kept low, since a rise in money wage rates would increase the cost and reduce the competitiveness of our manufactured exports. Furthermore, owing to the incorrigible idleness of most labourers, it was considered advisable to keep up the prices of provisions, so that the pressure of necessity would compel the workers to be industrious.\footnote{A.W. Coats, “Changing Attitudes to Labour in the Mid-Eighteenth Century,” \textit{Economic History Review} New Series 11, no. 1 (1958): 35-51.}

Interestingly, the purpose of Coats’s article was to show that the attitude was changing by the 1750s. He wanted to distance himself from Furniss, who he felt drew an all too sweeping generalization about the prevailing harsh views. But D. C. Coleman had said much the same thing in setting up his quite different argument that many in the nation were underemployed in the seventeenth century.

Seventeenth-century writers were in fairly general agreement about ‘the labouring poor.’ Three particular points of agreement may be distinguished. First, they knew that there were many of them and in the course of the century they came to believe that there should be still more. Second, they were at pains to insist that this large labouring population which they desired should always be kept adequately and properly employed. And third, this attitude was usually paralleled by the firm belief that the poor should remain poor.\footnote{D. C. Coleman, “Labour in the English Economy of the Seventeenth Century,” \textit{Economic History Review} New Series 8, no. 3 (1956): 280-95, at 280.}

These ideas seem to have predominated in the seventeenth century more than in the eighteenth, but Coleman also cites Arthur Young’s notorious statement in his 1771 \textit{Farmer’s Tour through the East of England}, “Everyone but an idiot knows that the lower classes must be kept poor or they will never be industrious.”\footnote{Coleman, “Labour in the English Economy,” 280, citing Young (1771), vol. 4, 361.}
The mercantilist doctrine that “the poor should remain poor” is almost inseparable from the idea that many workers were depraved and lazy and unlike the educated classes. E. P. Thompson called out such attitudes again in 1967 in “Time, Work-discipline, and Industrial Capitalism.” He quoted Anglican divine Josiah Tucker in 1745 to illustrate the disdain and dismissiveness of the rich toward the poor: “Such brutality and insolence, such debauchery and extravagance, such idleness, irreligion, cursing and swearing, and contempt of all rule and authority. . . . Our people are drunk with the cup of liberty.”313 Thompson was, instead, sympathetic to workers (without denying that such behavior was frequent).

The presumption that poor people wouldn’t work unless they were hungry changed and gradually diminished in its impact. In 1775, Adam Smith, for example, said in *The Wealth of Nations*, “The liberal reward of labour, as it encourages the propagation, so it increases the industry of the common people. The wages of labour are the encouragement of industry, which, like every other human quality, improves in proportion to the encouragement it receives.”314 Yet there was something to the argument that higher wages would not spur more effort; even Adam Smith added, “Some workmen, indeed, when they can earn in four days what will maintain them through the week, will be idle the other three. This, however, is by no means the case with the greater part.”315 As Phyllis Deane explained in 1965 in *The First Industrial*

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Revolution, there is such a thing as a “backward-sloping supply curve” for labor. If people don’t have anything available to spend money on, they may prefer to take leisure instead of pay. If that is the case, then higher wages could conceivably reduce work effort. Owners may not have wished to experiment, even if they were able.

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So, to return to the main objective of this chapter, what did happen to workers? Did they change over time?

One source that offers an answer is a classic in the historiography of the Industrial Revolution, E. P. Thompson’s giant (848-page) book The Making of the English Working Class, published in 1963. This book—densely packed with anecdotes and contemporary writings, full of erudite allusions—argues that by the mid-nineteenth century factory workers, artisans, and laborers had become a working class. This new class was influenced by English Jacobins like Thomas Paine, had been nurtured by the emotional strains and moral demands of Methodism, and was continually pounded (indeed, forged) by what Thompson viewed a counterrevolution by a corrupt government. (He used the term “Old Corruption” to refer to the closely knit and self-serving relationships of government and the wealthy based on favors, bribes, and preferments.) By 1832, said Thompson, especially with the failure of the Great Reform Act to extend the vote to working-class men, the working class was conscious of

318 Thompson, The Making of the Working Class. On page 711, he referred to the “climactic contest between Old Corruption and Reform.”
its distinctiveness and ready to fight against both industrial and political exploitation by its capitalist overlords.

However, in Thompson’s book there is surprisingly little about the worker inside the factory—or even the factory worker at all. Thompson remarked that the Hammonds covered that aspect of worker experience in *The Skilled Labourer*. Thompson’s main interest is in the artisans and craftsmen, especially weavers, and the people who represented them politically, at times violently, as, for example, the Luddites (discussed in Thompson’s chapter on the “Army of Redressers”). He focused primarily on those who still worked in a domestic-style industry (the home or the workshop), who retained a sense of their cultural heritage, and remained part of a cultural community. *The Making of the English Working Class* is about the growth of a political movement, not an industrial one, although, as Thompson saw it, the working class came about because the Industrial Revolution changed the relationship of workers and masters into that of workers and capitalists.

Thompson gave credit to the Protestant ethic for transforming workers. In his essay on “Time, Work-Discipline, and Industrial Capitalism,” he wrote: “Puritanism, in its marriage of convenience with industrial capitalism, was the agent which converted men to new valuations of time; which taught children even in their infancy to improve each shining hour; and which saturated men's minds with the equation, time is money.” Specifically, he gave credit to Methodism, which he discussed at length in

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He argued that Methodism transformed workers as effectively as Max Weber had argued that Calvinism created entrepreneurs. Methodism didn’t just help workers adapt to the clock, it also imbued them with inner discipline and a willingness to suffer in this world for the alleged benefits of the next. He believed it helped create the strong class-consciousness whose existence was the theme of his book.

John Wesley (1703-1791), the founder of Methodism, had been an Anglican priest who created enthusiastic revival communities within the Anglican church. (Methodism became its own independent denomination in 1795, a few years after Wesley’s death.) They were called Methodists because they acted in “methodical, disciplined” ways but they were also characterized by emotional faith, evangelism, and helping others. The sect, Thompson argued, was different from other nonconformist denominations. It was much more emotional—Thompson referred to “energies and emotions . . . released in the harmless form of sporadic love-feasts, watch-nights, band-meetings or revivalist campaigns.” But he emphasized the “intermittent character of these emotional outlets.”

Most of the time the Methodist life was characterized by “methodical, disciplined and repressed disposition.” Interestingly, many mill owners, too, were Methodists. Methodism, says Thompson “obtained its greatest success in serving simultaneously as the religion of the industrial bourgeoisie (although here it shared the field with other Non-conformist sects) and of wide sections of the proletariat.”

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320 Thompson, The Making of the Working Class, 368.
mill owners tended to set up Sunday Schools for their workers, inculcating discipline through morality tales. With some sarcasm, Thompson gave an example. When (in one of these stories) children played football instead of attending Sunday School they were told about “the forty-two children who mocked the aged Elijah and who were torn in pieces, at the behest of a merciful God.” The process worked, says Thompson. “By the 1830s and 1840s it was commonly observed that the English industrial worker was marked off from his fellow Irish worker, not by a greater capacity for hard work, but by his regularity, his methodical paying-out of energy, and perhaps also by a repression, not of enjoyments, but of the capacity to relax in the old, uninhibited ways.”

In part, Thompson agreed with Élie Halévy, the French analyst of English character who as far back as 1906 had argued that Methodism helped prevent an English revolution on the scale of the French revolution. K. Steven Vincent wrote in 2015 that “Halévy suggested, in sum, that Protestant religiosity stimulated English associational life, and helped inculcate a culture of self-imposed restraint. It provided the ‘mystic foundation of English liberalism’ among the popular classes, and therefore helped save the country from the revolutionary turmoil that visited countries like France at the end of the eighteenth century.”

In spite of the apparent similarity of views, Thompson had his doubts about Halévy’s thesis. Only 80,000 people, it was estimated, were in Methodist societies when

John Wesley died. “Even if we suppose that every one of them shared the Tory principles of their founder, this was scarcely sufficient to have stemmed a revolutionary tide,” he wrote.\textsuperscript{325} Thompson’s interest in Methodism was, rather, for its more positive side (in his view): the “shaping democratic spirit which struggled against the doctrines and the organizational forms which Wesley imposed.” He saw Methodism not so much as the “politically regressive or ‘stabilising’ force (Thompson’s quotation marks) that Halévy did but as “indirectly responsible for a growth in the self-confidence and capacity for organization of working people”\textsuperscript{326} that would eventually create a working class. Whether 80,000 people with this “self-confidence and capacity for organization” could have created the working class, but not stemmed a revolution, remains something of a question.

Thompson was not the only historian to see the role of moral inculcation as a big factor in transforming the worker. In his 1963 article on factory discipline Sidney Pollard described the employers’ “preoccupation with the character and morals of the working classes.”\textsuperscript{327} Both Thompson and Pollard describe the same or similar events—efforts by employers to correct the morals of their workers in company towns. Pollard suggests that while there had been complaints around the country about the idleness and dissolution of workers throughout the mercantilist period, employers and village or city leaders could do little about them. But once employers began to oversee villages of workers, they could influence religious leadership. “Almost everywhere, churches,

\textsuperscript{325} Thompson, The Making of the Working Class, 45.
\textsuperscript{326} Thompson, The Making of the Working Class, 42.
\textsuperscript{327} Pollard, “Factory Discipline,” 268.
chapels and Sunday Schools were supported by employers, both to encourage moral education in its more usual sense, and to inculcate obedience,” said Pollard. There were what Pollard called “the campaign against leisure on Saturdays and Sundays,” moral attacks on drinking, and village or mill officials who made sure that children were in school on Sunday (one was a “Superintendent of streets”; another created an “Association for the Promotion of Order”). And on all days, employers levied fines for swearing and obscenities.328

Leaving the realm of religious discipline, let us now turn to other factors that may have changed workers’ attitudes toward factory labor. Not much literature of this sort emerged until 1994, when Gregory Clark, an economist, published an article titled “Factory Discipline.” Clark thought he could explain why early factory workers accepted unpleasant discipline.329 His complex argument (which stretched over more than 30 pages) incorporated statistical evidence, economic theory, and economic models. He started by summarizing two competing views of factory discipline. The “coercion” theory championed by “critics of capitalism” was that once the factory started, workers lost the choices they had had under putting-out; they had to work under the conditions the factory owners demanded or they could not work at all. In contrast, the “coordination theory” offered by defenders of capitalism was that “the unpleasant features of discipline were simply an unfortunate corollary of new, more productive technologies.”330 Clark stated as a premise that if the markets had truly been

competitive, there could not have been coercion, because workers would have had choices, and he observed that in 1838 a textile worker in Manchester would have had at least 100 mills within walking distance that might well be hiring.

Nevertheless, Clark agreed with the critics that workers faced coercion, and his article attempted to explain why. Summarizing pages of economic calculations, he said that (based on his model or thought experiment) “disciplined” workers (that is, workers in a factory setting) would have been paid substantially more per week than “undisciplined” workers (those free to set their own hours). However, they also would have worked longer hours to get this pay. The crux of his conclusion was that workers wanted and needed discipline to keep them working enough to make the money they wanted. He called this attitude “a limitation on worker rationality.” He compared workers to dieters who must give up a continuing series of rewards in order to achieve a much larger reward (weight loss) down the road. Workers chose the unpleasant factory conditions because the result was a higher wage than if they had been free to work when they wanted at the pace they desired. “The workers dislike discipline, but they stay in the factory because at the end of the week their wage is 60 percent greater than that they can achieve without discipline.”\footnote{Clark, “Factory Discipline,” 160.}

This argument may seem somewhat paradoxical but it was supported explicitly more than 20 years later in an article in the \textit{Journal of Development Economics}. Victor Hiller viewed the Industrial Revolution as a stage in the historical development of labor
contracts. Citing Clark’s article, he summarized the findings this way: “[P]resent-biased workers place disproportionate weight on the current costs compared to future benefits. Consequently, it may be excessively costly to motivate them to work hard through an increase in the piece-rate. A solution to this type of self-control problem would be to raise sufficiently the short-term costs of shirking.” Thus, we get factory discipline. Hiller claimed that in the putting-out system (that is, before factory discipline) labor productivity was too low for the merchant-manufacturer to get much benefit from promoting greater effort; even if workers tried harder, they couldn’t produce much more. But the scale of the machine-driven factory rewarded the capitalist who could draw out more effort from the worker. The worker would earn more than he or she would otherwise, but had to accept the discipline. (Hiller went on to say that later labor-management arrangements reduced the element of coercion.)

In the same year as Clark proposed his thesis, 1994, Jan de Vries offered a more upbeat explanation of why workers were willing to accept the discipline that was so rigid and unpleasant. This is our third explanation for the change in workers.

In his seminal article “The Industrial Revolution and the Industrious Revolution” de Vries coined a phrase, the “industrious revolution” (which he also called the “industrious disposition” during the course of the article). This idea addressed what de Vries called a “conundrum.” At the time he wrote, there was general agreement among

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333 Hiller, “Self-control,” 188.
historians that real wages (nominal wages modified by the cost of food and necessities) were static or fell during much of the Industrial Revolution. Says de Vries: “[E]fforts to calculate real wages, whether in England or other western countries, have rarely yielded much evidence for increased purchasing power, and in the core period of the Industrial Revolution, at least until 1820, they usually show deterioration.” At the same time, people seemed to be buying more goods: “Yet, the accumulating evidence from the material world, based on probate inventory studies and direct consumption measurements, reveals an ever-multiplying world of goods, a richly varied and expanding material culture, with origins going back to the seventeenth century.”

De Vries was reflecting, in part, a historiographical debate that has had its own thread: Was the Industrial Revolution supply- or demand-driven? Early on, while historians may not have dubbed it “supply-driven,” there was a general understanding that the “wave of gadgets” (the flying shuttle, the spinning jenny, the water frame, and the mule, etc.) that launched the Industrial Revolution had reduced the prices of cloth and other products enough to spur greater demand, which led to further investment. The innovations (and many others that improved basic machines, modified others, and set the stage for steam power) had made products more available at a lower price. This abundance of supply, in turn, stimulated demand for more goods.

However, in 1930, Elizabeth Warren Gilboy turned the argument around. She said that increasing demand for products spurred the Industrial Revolution. Greater

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336 Ashton, The Industrial Revolution, supposedly quoting an English schoolboy, 42.
buying power, perhaps due to greater population, increased the market for manufactured products such as cloth, and the demand spurred the innovations and the investment that reduced prices and increased supply. One illustration of this viewpoint was a 1982 book by Neil McKendrick, J. H. Plumb, and John Brewer, which describes eighteenth-century England as increasingly a “consumer society.” In his introduction, McKendrick wrote: “Some discussion is required of why attention has centred on the great industrialists and the supply side of the supply-demand equation, and why so little attention has been given to those hordes of little men who helped to boost the demand side and who succeeded in exciting new wants, in making available new goods, and in satisfying a new consumer market of unprecedented size and buying power.” The book he wrote with Plumb and Brewer describes this activity extensively, from the impact of fashion to men’s changing shaving habits.

McKendrick took pains to say that this consumer society included the mass of workers. He reported on an assessment of the goods of a man who died in Sedgley, in the county of Staffordshire, in 1739. This man was the poorest of those whose property was assessed in Sedgley’s probate inventories that year, and his inventory included, says McKendrick:

[a] fireshovel, coal hammer, toasting iron, house bellows, a copper can, wooden furniture, a tun dish, scissors, a warming pan, a brass kettle, two iron pots, one pail, a search (sieve), two old candlesticks, glass bottles and earthenware, linen of all sorts in a chamber, a pair of bedsteads, a ‘coverlid’, a rug, a blanket, a kneading tub, two barrels, two cofiers, a box, some trenchers, pewter, a brass skimmer, a brass basting spoon, an iron flesh fork, a tin calender, and so on.337

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McKendrick argued that this inventory illustrates that the desire for more consumer goods stimulated industrialization by encouraging investment to produce more goods. But the idea that consumer demand drove industrialization did not go unchallenged. Even before the publication of McKendrick’s book, Joel Mokyr wrote an article attempting to demolish this idea. First, he noted that “few articles have been more influential than Gilboy’s eloquent plea to view demand as an equal partner in bringing about the most profound economic change in human history.” It had become the standard understanding of what propelled the Industrial Revolution. The theory, he said, was that “[a]n increase in the demand for the consumption good will generate more inventions precisely in the same way as it will generate increased employment of other inputs.” He didn’t accept this “‘market’ for inventions,” but even if he granted that demand had increased supply, what could have increased demand for British products?

“Three alternative theories have been presented in the literature in this context, namely agricultural growth, expansion of foreign demand, and population growth,” Mokyr said.” On technical economic grounds, he did not find that they spurred industrialization and he concluded: “It thus appears that cost-reducing and factor-increasing changes occupy the center of the stage: supply rules supreme. Technological

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change, capital accumulation, improvements in organization and attitudes, all made it possible to produce food, clothing, pots, and toys cheaper and better.”

So both supply and demand were afloat as explanations for the Industrial Revolution when Jan de Vries revamped the consumer’s role in kicking off the Industrial Revolution. Demand affected the industrial revolution, said de Vries, not by increasing pressure on supply or spurring innovation, but by encouraging people to work harder. They wanted to buy consumer goods that previously were luxuries just for the rich. The desire for consumer goods led families to make “reallocations of the productive resources of households.” Because families wanted more consumer goods, they reduced the time they spent on leisure and directed more of their time to production. Women and children took a greater role, and all worked harder.

In his paper, de Vries anticipated and addressed some criticism. He addressed the claim that eighteenth-century contemporaries saw the working classes as lazy and irresponsible, not industrious, which would seem to contradict his argument. De Vries responded that such descriptions were often designed to justify low wages, and he balanced these with references to peasant industriousness in the literature and essays of the day. For example, Daniel Defoe frequently recorded observations of industriousness, such as: “you see the wheel going almost at every door, the wool and the yarn hanging up at every window.”

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De Vries also recognized some drawbacks to what he viewed as a more industrious attitude. Among the results were: “(self) exploitation of family members”; a reduction in literacy (because children were working, not learning); more binge drinking (he says that the habit of taking off “Saint Monday” didn’t appear until after 1780); and possibly increases in “illegitimacy and child abandonment.”

In 2008, de Vries published a book incorporating and expanding on his idea (he suggested that households’ priorities changed subsequently in the late nineteenth century and then around 1950). The book received plenty of attention. “The broad sweep of its thesis, the logical force of its argument, and its fearless engagement with multiple branches of scholarship make this an extremely important work,” said Michael Kwass in the *American Historical Review*. Yet Kwass also asked such questions as, “[W]as the rise in market labor the result of heated consumer aspirations or cold necessity?” and “Why did the industrious household develop new consumer tastes in the first place?” He viewed de Vries as replacing the autonomous individual of classical economic thought with an equally autonomous classical economic family. In other words, de Vries was sounding a lot like the classical economists, who (like W. H. Hutt) assumed a great deal of choice on the part of families, which Kwass did not.

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342 E. P. Thompson and Joel Mokyr dispute de Vries on this point. Mokyr (1977), p. 273, says that Saint Monday “fell into disuse” in the second half of the eighteenth century (that is, it did not start then); Thompson, (1963, p. 74,) says it was important in the late eighteenth century in England and continued beyond that in the English coal pits.


Joel Mokyr came around to accepting de Vries’ thesis—in part. In *The Enlightened Economy*, he called de Vries’s thesis of a changing desire for consumer goods an “exogenous change in preferences” and noted that economists don’t like to explain things that way. However, he said it cannot “be ruled out,” but suggested that technology itself “created and brought close to home” such goods as tableware, musical instruments, and other manufactured goods that might have induced more work to obtain more income. In other words, the greater demand for consumer goods was “not independent of technological change.”346 (Mokyr thus retained a supply-side theory.)

Not long after de Vries’s “industrious revolution” article and before his 2008 book, Hans-Joachim Voth wrote a clever article that supported de Vries’s point that workers worked more (although he did not attempt to explain why). Voth was trying to find out how much time workers actually spent working in the late eighteenth century and shortly thereafter. He found a method of learning about work times without inadvertently biasing the results (such as relying on what workers or owners said). He pored over reporting of English court cases to find out what people were doing when they witnessed crimes. Reporting of Old Bailey cases often included the date and time of day the crime was witnessed and what the witness was doing when it happened.347

Voth’s remarkable research found that hours worked in 1760 ranged from 2,631 to 2,288 per year; in 1803, from 3,366 to 3,538.348 While this is an increase of about 40

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percent, further modifications led him to estimate a 20 percent increase in hours worked. This would have been in addition to the supply of labor that had been added by women and children who had not previously been in the workforce. (This could even include children who might not have been born had their parents not valued potential labor by young children!)

Another source of hours worked before and during the Industrial Revolution comes from a 1976 paper by Herman Freudenberg and Gaylord Cummins in *Explorations in Economic History*. They deducted Sundays and official holidays from an assumed 12-hour-per-day week to find that in the period before factories, workers spent 58 hours a week working. This compared to a 72-hour week in factories, or about 3000 hours a year pre-factory and more than 4000 hours in the factory. Freudenberger and Cummins went on to argue that those 4000 hours per year might not have been achieved if it hadn’t been for a revolution in agricultural production. Their assessments of the diets of workers before industrialization concluded that many of them simply did not have enough energy to work so long.349

In 2011, R. C. Allen and J. L. Weisdorf tried to test de Vries’s “industrious revolution” theory with data about hours worked and the costs of basic items. They used estimates such as Voth’s for hours worked and then tried to determine if the hours worked could provide a basic consumption “basket of goods” (no tea, sugar, or other luxuries). Families that worked more than this could afford additional products;

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families that worked less would suffer deprivation. The authors concluded that when agricultural workers increased their labor it was because of severe need in order to provide this basket of goods. However, “by contrast to farm workers, more well-off workers, such as urban labourers, between 1600 and 1750 display strong signs of industrious behaviour not related to economic hardship, hence providing great scope for a consumer revolution in urban areas over this period.”

Thus, they at least partially endorsed the de Vries thesis.

The “industrious revolution” has continued to rankle some scholars. In 2016, Leonard N. Rosenband published a lively retort, “The Industrious Revolution: A Concept Too Many?,” in *International Labor and Working Class History*. While accepting Voth’s hours, he questioned de Vries’s interpretation. He asked, “Did these growing hours of toil reflect new consumer aspirations or the press of desperation, or as times changed, both?”

He embedded his critique in a lengthy description of papermakers in England and France. His point was that papermakers already worked long hours—they were already industrious, not lazy—and workers included women and young men. Papermakers also kept control of the number of workers and stopped working when

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352 Rosenband, “A Concept Too Many?,” 239.
they objected to something the owner did. “Beyond the conventions they negotiated with their masters, the journeymen also manufactured their own custom, which they deployed with singular success despite the curses of their employers and bans issued by states,” wrote Rosenband. “They labored tenaciously to retain the trade's time-honored wage systems and output schedules, even as their human foibles—a cough or an indifferent slip—marred a sheet or two.” 353 They were proud journeymen and masters who worked extremely hard, but tried to keep control of their work. Manufacturers had some problems with this. Rosenband explained in his abstract: “[It] was the absence of an industrious revolution in papermaking that turned the manufacturers’ attention first to enlarged mills and small technological shifts, and finally, to the development of a papermaking machine” 354 In other words, the desire for labor-saving devices in the face of powerful workers led to the invention of machinery. However, Rosenband was writing about an industry (in England and on the Continent) that reflected Europe’s continuation of guild-like powers among the workers, very different from England’s factory workers’ conditions.

There is one other explanation besides these three, which will be dealt with only briefly. Douglas Hay argued in 2018 that a change in the ways that British master and servant law was adjudicated may have coerced workers into being more industrious. He made his case in a University of Oxford discussion paper, noting that “economic historians have remained remarkably incurious about the terms of the contracts

between all these workers and those who employed them, and how those contracts were enforced.” He argued:

So far the evidence suggests that a more traditional, paternalist, interpretation and application of the law in the mid-1700s was transformed by parliament, judges, magistrates and employers in the years 1750 to 1830, and beyond, to help capitalists extract more labour from workers, more cheaply, for greater profits, in the first great burst of sustained industrialization in the history of the world.355

His paper is too new to have been widely commented on and he himself suggests some weakness in the evidence, which seems to have been primarily agricultural rather than industrial. Hay noted that “much more work on houses of correction and magisterial activity needs to be done to prove beyond doubt that enforcement grew much harsher in industries and areas at the heart of industrialisation.”356 Surely that will be an area of future research.

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This chapter has identified four interrelated factors that historians believe brought about a disciplined factory workforce, in addition to the specific disciplinary techniques discussed in Chapter Four. They are: the role of the Methodist sect in instilling discipline; acknowledgment (perhaps unstated) by the workers that discipline was a way to earn more money; the desire to earn more money because more products were available to enjoy; and the possible increase in judges’ cooperation with employers to make master and servant law more coercive. These explanations are not without their

detractors, but they contribute to our understanding of the big step from home or workshop to factory. The concluding chapter will summarize the strands of historiographical debate that these pages have identified.
Chapter Six: How Historians Have Resolved Workers’ Issues

This thesis has looked at how historians have viewed labor conditions in British factories in the Industrial Revolution. We have seen how historians described factory workers, attempted to identify where they emerged from, assessed their experiences within and outside factories, explored if and how they became productive individuals, and analyzed whether the Industrial Revolution was, to those workers, beneficial or harmful or something in between.

This short chapter will describe what themes and patterns are visible in this historiography. As we seek those themes and patterns, the insights provided by David Cannadine in his 1984 article on the economic historiography of the Industrial Revolution will be helpful. As we saw in Chapter Three, the premise of Cannadine’s article is that economic issues of the era in which economic historians live influence how they write about the past. The period from the 1880s through the 1920s was one in which economic historians attacked capitalism and, with it, the practice of child labor. When the Great Depression hit in the early 1930s, however, economic historians became more aware of business cycles, and the second wave reflected the idea that the Industrial Revolution may have been just another cycle. After World War II, the Industrial Revolution came back into vogue because it was the “first” revolution and surely, it seemed, it could teach lessons to the emerging economies. But disillusion set in when those economies didn’t thrive with the speed that was expected and even the

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136
industrialized nations seemed to be facing crises, from economic stagnation to the fear that those nations had reached the limit of their natural resources. So, by the time Cannadine wrote his article, the Industrial Revolution had faded again. Historians were emphasizing its long gestation and slow impact.

Looking at historians’ attention to the narrower topic of labor conditions during the Industrial Revolution, as this thesis has done, we can see some similarities to Cannadine’s periodization. One theme, however, precedes Cannadine’s focus. Starting even before the Industrial Revolution period itself (1750-1850) there was a long-running debate over the character of working-class people. Arthur Young’s notorious statement in his 1771 *Farmer's Tour through the East of England*, “Everyone but an idiot knows that the lower classes must be kept poor or they will never be industrious,”358 is an extreme affirmation of what many educated contemporaries thought about workers, within and outside of factories. This demeaning attitude appears in contemporary writers who aimed to report on the health and fitness of workers, such as Peter Gaskell and Robert Hyde Greg. Others, of course, did speak more favorably of the laboring populace, including Daniel Defoe and Adam Smith. Subsequently, historians debated whether the new factory workers were peasants who had been unleashed into the cities by the enclosure acts or whether there had been a natural growth in England’s rural population that could explain their arrival at factories.

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In 1967 E. P. Thompson ended the “character of the workers” part of the debate with his eloquent essay explaining that workers had to undergo a change in their apprehension and dealing with time, which sympathetically explained the disputes between workers and employers over such issues as “Saint Monday” and on-time arrival.359

The other Industrial Revolution themes of historians fit in better with Cannadine’s structure. Beginning in the 1880s, said Cannadine, there was a “great outpouring” of literature, journalism, and political writing about poverty, including child labor and wretched pauper apprentices. This late-nineteenth-century writing “constituted a guilt-ridden, fearful recognition that poverty and squalor were not the product of individual shortcomings, but were endemic in a system which created so much want in the midst of plenty,” Cannadine said. “For the majority of people, it seemed, the Industrial Revolution had not worked, and it was the desire to discover what had gone wrong which prompted many of the pioneering studies of the economy of late eighteenth- and early nineteenth-century England.”360

Some voices challenged this view but they were rarely heard.361 Then a new reason to dislike the Industrial Revolution appeared—the Great Depression, seemingly the epitome of all that had gone wrong. Gradually, nascent disagreements over the

nature of the Industrial Revolution flowered into a genuine controversy over measuring the standard of living during the 1750-1850 period. Did the lives of the masses get better or worse—and, whichever the answer, when did it happen? The protagonists of this debate fell into two adversarial camps, the pessimists and the optimists. The battle lines were not random, however, as the debate reflected that same underlying dispute that started earlier and is still with us today—the battle between capitalism and socialism. If the Industrial Revolution was the triumph of capitalism (or the capitalist), was that good or bad, especially for the masses of the population? Ideology could affect one’s findings and undoubtedly one’s rhetoric.

Cannadine’s essay is perhaps most pertinent when we arrive at the major discontinuity in our historiography: the period that saw an interest in actual management practices, especially with the writing of Sidney Pollard and Neil McKendrick, following publications by M.W. Flinn and R. S. Fitton and A. P. Wadsworth. This period corresponded with the great hopes that there might be lessons for developing countries from a better knowledge of the first industrialization. Pollard himself began his book the *Genesis of Modern Management* with this very much in mind:

Today, much of the impetus for the re-appraisal arises out of the practice of looking upon the British Industrial Revolution as the prototype of the industrialization process which many countries have undergone since, and others are undergoing, or are about to undergo. . . .

One of the most glaring gaps is the history of the genesis of modern industrial management.362

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The details of how owners and managers supervised workers simply had not aroused much interest before, as illustrated by George Unwin’s study of Samuel Oldknow, owner of a muslin weaving workshop and spinning mill.\textsuperscript{363} Unwin, a respected historian, delved into a treasure trove of Oldknow’s business records discovered in 1921. He used them primarily to describe Oldnow’s putting-out work, his business deals, the construction of his mill, and his nearby farming, but wrote only sporadically about how Oldknow managed his workers.

Additionally, the 1950s and 1960s were a period of capitalistic giants, as interest in “the organization man” began to replace interest in the entrepreneur, who had been so favored in previous considerations of the Industrial Revolution. McKendrick, Flinn, and Fitton and Wadsworth were aided by the study of collections of the business records of entrepreneurs like Ambrose Crowley, Josiah Wedgwood and others (and we should not forget the famous autobiography of Robert Owen). A period of hard-nosed examination of business practices began.

But it soon became apparent that the economic lessons of the Industrial Revolution either had not worked or had not been applied to the developing countries. Many so-called developing countries had not industrialized. Even the industrialized West was doubting the value of more growth. The focus on management waned,

\textsuperscript{363} George Unwin, \textit{Samuel Oldknow and the Arkwrights}. 
coinciding with an Industrial Revolution that was, Cannadine said, seen “in a more negative light, as a limited, restricted, peacemeal phenomenon.”364

The Industrial Revolution did not disappear, however. In 1992, less than a decade after Cannadine’s essay, Pat Hudson and Maxine Berg published “Rehabilitating the Industrial Revolution.”365 Their article brought together some of the historiographical threads we have seen. It may even have “solved” the standard-of-living controversy discussed in this thesis; that is, it may explain why the claims were so at odds with one another. Hudson and Berg stated that the “growth and productivity change in the [Industrial Revolution] period are currently underestimated.”366 The reason was, at base, very simple. Historians had been relying on “macroeconomic” and “aggregative” data, yet the role and strength of industrialization differed dramatically by region. Some regions were deindustrializing during the Industrial Revolution, pulling down the averages and hiding the vitality and change in others. “Macroeconomic indicators fail to pick up this regional specialization and dynamism, which was unique to the period and revolutionary in its impact,” they wrote.367

In addition to regional variation, there were differences in occupations—“putting-out, workshops, and sweating”—and many shifts in the lives of the employed, just as there were differences in the approaches of the employers. It was wrong to generalize, said Berg and Hudson, because that minimized the very real changes that

364 Cannadine, 162.
had taken place between 1750 and 1850. “There were more large workplaces, more powered machines, and along with these there was more direct managerial involvement in the organization and planning of work.” Furthermore, they echoed E. P. Thompson and others in seeing the period as creating a distinctive class, leading to “social protest and conflict on an unprecedented scale.” The Industrial Revolution was in many ways all of the things that historians said it was, but not everywhere in all parts of England. “The industrial revolution was an economic and social process which added up to much more than the sum of its measurable parts.”

Economic historians continued to research into wages and workforce issues, as indicated by the late twentieth- and early twenty-first-century work of Jan de Vries, Neil McKendrick, Robert C. Allen, Hans-Joachim Voth, Jane Humphries, and others. In fact, as the painful and divisive arguments of the past receded, a fascination with the period and its complex social, economic, and political forces re-emerged. Major trade books about the Industrial Revolution by Joel Mokyr and Dierdre McCloskey emphasized its radical discontinuity — in spite of its occurring over an extended period of time. Among other things, the Industrial Revolution, they wrote, was shaped by changing bourgeois values (McCloskey) and fathered by the Enlightenment (Mokyr).

In conclusion, let us listen for a moment to Joyce Appleby, whose book *The Relentless Revolution: A History of Capitalism*, published in 2010, exemplified both the

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368 Berg and Hudson, “Rehabilitating,” 42
370 Berg and Hudson, “Rehabilitating,” 44.
new century’s awakening of interest in the Industrial Revolution and historians’ desire to be objective. “In this book, I would like to shake free of the presentation of the history of capitalism as a morality play, peopled with those wearing either white or black hats,” Appleby wrote. *The Relentless Revolution* is about much more than the Industrial Revolution; it is a heroic attempt to grapple with what capitalism is and how it began.

Even so, the search for its critical juncture took Appleby to “one small island kingdom in the North Atlantic.” There, she wrote “commerce, long existing in the interstices of traditional society, broke free to impose its dynamic upon the laws, class structure, individual behavior, and esteemed values of the people.” The result was “the emergence of an entirely new system for producing goods.” That is the system, and the people who operated it, that historians have described for us in this thesis.

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