
Reviewed by Peter Eisenstadt

Sir Christopher Wren was the architect of St. Paul’s Cathedral in London, in which he is buried in a simple tomb with a famous Latin epitaph, which can be paraphrased for our purposes as “if you are searching for a monument, look about you.” Joshua Freeman, in his sparkling history of the factory, says much the same about his book’s subject: if you want a monument to the factory, look about you, to your house, your study, your clothes, or your desk. What is there that hasn’t been manufactured in a factory? And yet Freeman’s book is also something of an epitaph to a business model. We live, we are often told, in a post-industrial age. The factory has lost its ability to awe or to amaze (though not, perhaps, the ability to produce indignation and anger). The factory as technology’s avatar has been replaced by the high-tech campus, where things are not made manually but digitally, keystroke by keystroke. Still, we are very much products of the age of the factory.

Factories are the product of a bundle of colliding economic, labor, technological, political, environmental, architectural, and social imperatives, but factories themselves are usually subordinated and subsumed within larger disciplines as a means to a scholarly end. It is Freeman’s achievement to study the factory for itself and in itself, and to demonstrate how these various forces come together in the factory, in a history that spans three centuries and several continents. In telling this story Freeman chose to be selective rather than exhaustively comprehensive. He focuses on six case studies. In each chapter he writes not merely of factories but of the behemoths, those sprawling Brobdingnagian cynosures that seemed to epitomize each era’s most advanced technologies. A labor historian by training, Freeman grounds his histories in the labor-management dynamics of the factory, the ravenous appetites of giant factories for labor, how factory owners sought to control their labor force, and how their workers resisted these efforts.
The book opens with a chapter on the Industrial Revolution in Britain and the growth of the first large-sized industrial factories, the cotton mills. In the mills Freeman finds patterns that would be replicated in all of his subsequent case studies. First comes the technological breakthrough. Next comes the development of supply chains to service the new industries (in this case, reaching as far afield as the expansion of the slave-driven cotton economy of the antebellum South) and then the need for workers to staff the factories. At first the cotton mills, powered by waterfalls and other rapidly moving rivers, were located in relatively out-of-the-way places; the development of steam power made the siting of factories much easier. With the new factory system came the controversies. Among their supporters, they were lauded for their advances in worker productivity, for making their goods less expensively than by alternative methods, and for their positive impact on the economy. (Probably the best-remembered example of the early factory booster was Dickens’s fictional caricature of the oblivious statistic spouter, Thomas Gradgrind.) On the other side were those who decried the new factories, most memorably William Blake, whose famous warning about the dark, satanic mills has made its way, with an assist from composer Hubert Parry, into England’s unofficial national anthem.

But whether you were for them or against them, the cotton mills altered their surrounding reality, transforming nature, capitalism, and the nature of work. The factories created a new type of labor, with the need for hundreds of workers working in coordination in close quarters in a single building, with a single employer. The famous Luddites, as Freeman points out, primarily directed their ire against modest-sized workshops rather than the giant factories, and they generally focused on specific complaints against specific employers rather than demonstrating—as the term has come to be used as a synonym for—a raging, indiscriminate technophobia. The new factories were a key to the making of the English (and Scottish) working class. The German-Mancunian factory manager and factory critic Friedrich Engels in 1844 expressed a common ambivalence of the labor left, at once awed by the power of industrial factories and outraged by the poverty and misery they engendered, hopeful that the “proletariat . . . called into existence by the introduction of machinery” would be able to do something about the latter problem (p. 30). He was not the last on the labor left to think that the new working class would be able to tame the machines that summoned them into existence.

The next three chapters focus on the United States, starting with Francis Cabot Lowell and New England cotton mills, and then onto the golden era of American industrial gigantism, with a chapter devoted to
Andrew Carnegie and his steel and one on Henry Ford and his automobiles. In each case, Freeman shows how labor concerns were central to the success or failure of the factories. Factory owners responded to labor action and organizing with everything from paternalism to so-called scientific management to brutal and unscientific repression. Labor responded as best it could. The vast scale of the giant factories made organization by plant and industry a near imperative, but this proved very difficult to achieve, with resistance by workers comfortable with craft unionism and management’s ability to break strikes and unionization efforts. The New England mills discovered that many of the physically and intellectually undemanding tasks in a factory could be satisfactorily performed by young children. In an effort to move away from the bad publicity that child labor engendered, the mill owners gave considerable attention to the relatively short-lived phenomenon of the mill girls: educated, unmarried women from rural areas. However their antebellum heyday was relatively brief; by the 1860s, the mill girls were being replaced by Irish and French-Canadian immigrants, and child labor remained a constant in the industry.

By the 1880s America’s industrial output surpassed that of Britain; by World War I, it topped that of Britain, Germany, and France combined. The Lowell mill girls as a symbol of industrialization were supplanted in the popular imagination by the sweaty and brawny masculinity of workers tending fire-breathing blast furnaces. It was also a time of intense labor strife, memorably expressed in the pitched battle of the Homestead strike of 1892 that left ten persons dead.

Carnegie’s role as one of the chief protagonists in the Homestead confrontation did little to alter his international celebrity as a philanthropist and sage. The same was true of Ford, who became America’s leading industrialist, despite his tough business practices and his well-earned reputation as early twentieth-century America’s most prominent anti-Semite. With Ford, American industrial gigantism reaches its apex. Ford’s assembly line was alternately hailed as the greatest advance in industrial technology since the steam engine and decried as the harbinger of an era of work reduced to a series of mind-numbingly repetitive tasks. Crucial in Ford’s rise, as Freeman recounts, is the odd and close partnership between the anti-Semitic Ford and the German-Jewish architect Albert H. Kahn. Together they built factories of almost unimaginable size. Highland Park employed some 53,300 workers in 1925, and at its peak, in 1929, the River Rouge facility was the working home for an astounding 102,811 laborers, which in Freeman’s words was “an extraordinary testament to ingenuity, engineering, and human labor” (p. 144). Although Ford tried to keep out unions using the same tactics as Carnegie—a combination of welfare capitalism and thuggish repression—by
the 1930s, in a different political climate, this proved impossible. This was in part because, as Freeman suggests, the intense vertical integration of Ford’s operations around Detroit made it possible for workers to develop comradeship and solidarity and take over the factory floor, claim it as their own, and disrupt the supply chains.

Ford’s factories were venerated to the point of worship, endlessly photographed and written about, across the political spectrum. Nowhere was the cult of Fordism more intense than in the Soviet Union, which under Stalin wholeheartedly embraced the cult of the giant factory. In what is perhaps the most interesting chapter in the book, Freeman shows how the Soviet Union—sometimes with the assistance of Ford’s associates—embraced the giant factory. (Although Freeman writes perceptively about artists and writers who lauded the giant factories, he has less to say about musicians. In the Soviet Union, however, factories inspired music and dance, including a genre of Soviet “factory ballets” in which the rhythmic din of the factory became the music of the future.) Soviet factories never worked as well as their American counterparts, in part because the Soviet Union lacked the infrastructure to adequately support the giant factories. Ham-fisted Soviet management exacerbated problems grounded in the considerable diseconomies of scale, providing fodder for Stalin’s fantasies of widespread “wrecking” and sabotage. Still, Freeman argues, Soviet factories east of the Urals valuably churned out supplies during the war and the giant factory remained a symbol of the Soviet Union until its demise. Freeman highlights the little-remembered moment in American sociology during the 1950s and early 1960s when many serious scholars of American and Soviet society, such as Talcott Parsons and Herbert Marcuse, argued that the smart money was on American and Soviet “convergence” because they were both “industrial societies” that by dint of their industrialism would over time become more alike. By the time they were speculating about this, however, the era of the giant factory in the West was slowly coming to a close.

In the United States, one answer to the unionization drives of the 1930s was to relocate and disperse the giant factories. American industrialists in the postwar period tended to decentralize their operations, using subcontractors and spreading out operations to states where the prevailing wages were lower and labor less organized—trends that have only gathered strength in the intervening decades. An example of the problems of industrial gigantism is discussed in a fascinating chapter on the Nowa Huta factory in postwar Communist Poland. Freeman shows that Eastern-bloc factory managers had problems similar to their American counterparts; gigantic factories often led to unruly labor forces. In the 1970s the workers at Nowa Huta provided
the spark that led to the creation of the Polish union Solidarity. The era of the giant factory came to an end, Freeman argues, in part because they were too difficult for management to control and gave too much leverage to labor.

Of course, authoritarian governments have abundant tools at their disposal to squelch labor organizing (though Poland provides a partial counterexample). The final chapter of Behemoth discusses giant factories in China and Vietnam, focusing on the Chinese Foxconn factories, which are famous for assembling iPhones and other Apple products and notorious for the frequent suicides of their workers. But if Foxconn plants are the successor of the giant American factories, they are also very different. If Ford and his peers welcomed visitors and gave guided tours of their plants, Foxconn conducts its business with as much secrecy and as little publicity as possible. This is in part because China is somewhat embarrassed by their existence, feeling that since the industrialized West has largely abandoned giant factories, they are a relic of an earlier stage of industrial development, something to move beyond. The role of giant factories in the global economy of the future is uncertain.

Behemoth is a beautifully researched and written book, subtle in its argument, endlessly provocative in its ramifications and conclusions. It is global history at its very best. I somewhat question the decision to focus only on giant factories, since, as Freeman notes, they are increasingly untypical among large factories in general. After the discussion of the New England mill girls, Freeman’s narrative largely loses the thread, as it were, of clothing and textile manufacturing, though that sector remains key in any understanding of industrial production, whether in small shops or in larger factories as in places like Bangladesh, where the horrific Rana Plaza building collapse in 2013 took 1,134 lives. The same focus on giant factories can also distort the history of industrialism by largely leaving out places like New York City, which had by the turn of the twentieth century become the largest center of industrial production in the country, despite the relative absence of giant factories. And it is worth remembering that if River Rouge–sized facilities in America are a thing of the past, there are still many industrial factories of considerable heft and extension. A few miles from where I am writing this in upstate South Carolina, both Michelin and BMW, attracted by the low wages and low union density, have plants that employ over 10,000 workers apiece. Also, for a history of the giant factory, at least a glancing notice of those in Asia on the other side of the Cold War—in Japan and South Korea—would have been welcome.

Throughout Behemoth Freeman draws a contrast between the quicksilver speed of capital, flying to whatever destination seems the
most financially propitious and advantageous, and the immovable factories that capital creates, forever rooted in place, leaving behind empty buildings, like forlorn beached whales, once leviathans, now so many dead carcasses. In the wrong hands this nostalgia has proved toxic, all too easily manipulated by demagogues into a reactionary ideology that associates the giant factories with an era when America and its white men supposedly ruled and strutted around their respective domains with nary a dissenting word. (And when, one should add, unlike the current circumstances of many, factory workers often had good paying union jobs for life.)

There are other, more thoughtful ways to view the giant factory, and Freeman views their history throughout with both sympathy and an acute sense of their limitations. He stands broadly in the leftist tradition created by Engels, viewing industrial gigantism with an admiring ambivalence. The giant factories are monuments to rapacity and exploitation, on the one hand; on the other, they are monuments—on both sides of the labor/capital divide—to ingenuity, audacity, and the belief in a better future through cooperation and collective endeavor. The word “behemoth” entered the English language directly from the Hebrew of the Book of Job, where a b’hemot is an otherwise unspecified monstrous beast, powerful enough to “restrain the river from its rushing” (Job 40:23 [Jewish Publication Society Tanakh translation]), to be viewed with a combination of awe and fear. As we in America ponder a radically uncertain economic and political future, Behemoth provides an ideal history of how large-scale industry has taken us to our current situation and gives us much to ponder on where we might go from here.