
Industrialization and Urbanization in the United States, 1880-1929 **FREE**

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Summary

Between 1880 and 1929, industrialization and urbanization expanded in the United States faster than ever before. Industrialization, meaning manufacturing in factory settings using machines plus a labor force with unique, divided tasks to increase production, stimulated urbanization, meaning the growth of cities in both population and physical size. During this period, urbanization spread out into the countryside and up into the sky, thanks to new methods of building taller buildings. Having people concentrated into small areas accelerated economic activity, thereby producing more industrial growth. Industrialization and urbanization thus reinforced one another, augmenting the speed with which such growth would have otherwise occurred.

Industrialization and urbanization affected Americans everywhere, but especially in the Northeast and Midwest. Technological developments in construction, transportation, and illumination, all connected to industrialization, changed cities forever, most immediately those north of Washington, DC and east of Kansas City. Cities themselves fostered new kinds of industrial activity on large and small scales. Cities were also the places where businessmen raised the capital needed to industrialize the rest of the United States. Later changes in production and transportation made urbanization less acute by making it possible for people to buy cars and live further away from downtown areas in new suburban areas after World War II ended.

Keywords: industrialization, urbanization, transportation, electricity, skyscrapers, assembly line, Henry Ford, Andrew Carnegie

Industrialization and urbanization began long before the late 19th and early 20th centuries, but it accelerated greatly during this period because of technological innovations, social changes, and a political system increasingly apt to favor economic growth beyond any other concern. Before 1880, industrialization depended upon a prescribed division of labor—breaking most jobs up into smaller tasks, and assigning the same people to repeat one task indefinitely. After 1880, industrialization depended much more on mechanization—the replacement of people with machines—to increase production and maximize profits. The development of the modern electrical grid, starting in the early 1880s, facilitated such technological advances. Henry Ford’s assembly line and the rise of mass production after the turn of the 20th century only strengthened this effect. As a result, the total manufacturing

output of the United States was twenty-eight times greater in 1929 than it was 1859. Adjust that number for the growth in population over the same period, and it still multiplied seven times over.¹

Cities in America date back to the beginning of the colonial period, but the tendency for new industrial factories to be located in or near urban areas meant that cities grew much faster during the late 19th century than ever before. This trend was most apparent in large cities like New York, which expanded from approximately half a million to around 3.5 million people between 1850 and 1900, and Philadelphia, which increased in size from slightly more than 100,000 inhabitants to more than 1.2 million people over the same period. During the last half of the late 19th century, Chicago proved to be the fastest growing city in the world. Overall, 15.3 percent of Americans lived in cities in 1850. By 1900, that percentage had increased to 39.7, and kept growing. The 1920 Census revealed that more Americans lived in cities than the countryside for the first time.²

Not every city in the country developed as fast as the largest cities did. Important regional differences existed in urbanization because of differences in the nature of industrial growth. The largest cities in the Northeast were manufacturing powerhouses that contained everything, from large factories building railroad locomotives to small shops producing textiles in people's apartments. The Northeast also gave rise to smaller cities that concentrated on particular industries, like Rochester, New York, which specialized in men's clothing, boots, and shoes. Following on a tradition of manufacturing from earlier in the century, New Bedford and Fall River, Massachusetts increased in size because of their cotton textile factories. Other cities, like Elizabeth, New Jersey, grew as byproducts of the expansion of their larger neighbors.

Chicago, the largest city in the Midwest, made its name processing natural resources from the Western frontier before those resources traveled eastward as finished products. Grain and lumber—two industries that had been crucial for Chicago's early growth—relied on Chicago for marketing and storage. With perfection of the refrigerated railroad car, meat processing became such an enormous industry that the vast majority of the meat that Americans ate was processed in the stockyards on that city's south side. (That activity would disperse again, after the turn of the 20th century, to other cities like Fort Worth and Kansas City.) Smaller cities in America's industrial heartland would grow around other manufacturing pursuits like steel in Youngstown, and machine tools and cash registers in Dayton, Ohio.³

The South had lagged behind the rest of the country since before the Civil War. As a result, many advocates for outside investment in this region expanded their activities after the war. They were somewhat successful. While the rate of industrialization (and therefore urbanization) picked up in the South during the late 19th and early 20th centuries, it still has not fully caught up with the rest of the country. Birmingham, Alabama, for example, founded in 1871, flourished as a center for iron and steel manufacturing during the 1880s, when two railroads first linked that city to the region's mineral resources.⁴ The growth of cotton mills in the "upcountry" section of the Carolinas began during the 1870s. After the turn of the 20th century, this region became an important center of activity for the textile industry, in large part because of the cheap, nonunion labor available there.

What separates this period from earlier periods in urban and industrial history is that this was the first time in American history that cities had moved to the center of American life. Cities were where most of the new factories got built. Waves of immigrants settled in cities because that's where the job openings in industrial factories were. Cities were also places where the effects of industrialization, especially the increased inequality of wealth, were most visible. That means that the problems of cities became the problems of America.

The Electrical Grid and Improvements in Transportation

One of the reasons that later industrialization progressed at such a greater pace than before was the improvement in power sources. The early industrial revolution depended upon steam engines and waterpower. The earliest engines were large and prohibitively expensive for all but the largest firms. Water wheels were a possibility for smaller concerns, but they could not perform nearly as much work as later power sources could. Between 1869 and 1929, total available horsepower in the United States increased from 2.3 million to 43 million units. In factories, the greatest part of that growth came from a huge increase in the use of electricity.⁵

Although factories had grown larger and more efficient over the entire 19th century, they grew particularly large after 1880, as the power to run them became cheaper, cleaner, and more convenient to acquire. Starting in the late 1870s, Thomas Edison turned the attention of his extensive laboratory towards harnessing electricity to create affordable electric light. This achievement depended not only upon the creation of an efficient, inexpensive, incandescent light bulb, but also on the creation of an electrical system to power it—everything from generators, to electrical wires, to switches. Without a precedent for any of these things, the Edison Electric Company and many related subsidiaries (later gathered together under the umbrella of General Electric) had to manufacture just about everything to make the grid operate. “Since capital is timid, I will raise and supply it,” explained Edison to one of his investors. “The issue is factories or death!”⁶ Other companies soon followed, because creating the central stations and the grid that eventually powered just about everything was so obviously lucrative.

Symbolizing the importance of capital to Edison's efforts, the first person to have his home successfully wired for electricity was the banker J. P. Morgan, in 1882. Despite setbacks, his experience with electric light encouraged him to invest further in Edison's efforts. Edison built the first central generating station in New York City later that same year. The first area of Manhattan that Edison wired was a neighborhood filled with the homes and workplaces of those who operated the financial institutions he hoped to convince to invest in his enterprises, as well as two major newspapers that would publicize his achievements. By 1902, there were 2,250 electrical generating stations in the United States. By 1920, that number grew to just short of 4,000.⁷ Electricity spread from large cities to small cities and eventually out into rural areas by the 1920s.

This kind of growth required substantial improvement beyond Edison's initial vision of an electrical system. The effects of a reliable electric grid on the cities where it first appeared were numerous, ranging from less coal smoke in the air to new sounds produced by various electrical creations—everything from streetcars to arc lights. Early arc lights were so bright people thought they could stop crime and vice by exposing the people who perpetrated these

crimes. In smaller cities, obtaining electric light was a sign of modernization, which implied future growth. Modern light in urban workplaces made office work easier by lessening strain on the eyes. As electric light companies moved in, the much-hated urban gas companies lost a considerable amount of economic power. Since people preferred electric light to gas, it became increasingly popular, as the grid expanded and the costs dropped. Electric light even changed the way people lived inside their houses. For example, children could now be trusted to put themselves to bed since there was no longer a fire risk from the open flames that were once needed to get to bed in the dark.

Nevertheless, the growing electrical grid created new urban dangers. High voltage electrical wires strung above ground joined other wires from telephones, telegraphs—even stock tickers—posed a new urban “wire menace.” Many came down in bad weather. They were a hazard for electric company employees and pedestrians alike. “The overhead system is a standing menace to health and life,” reported one medical journal in 1888.⁸ In 1889, a fire caused by overheated electrical wires ignited a building full of dry goods and burned down much of downtown Boston.

The most noteworthy effect of high-quality, affordable lighting was the widespread practice of running factories twenty-four hours a day—which made them much more productive without any improvements in the technology of production. Replacing putrid gas lamps also made the smell of factories better for the workmen who worked there. As the electrical grid became more reliable, electric motors gradually began to replace steam engines as the source of power in manufacturing. Using small electric motors as a source of power freed factories from having to be located near water sources to feed boilers and made it possible for them to be smaller too.

Between 1880 and 1900, factories tended to adopt electric lighting but kept using earlier sources of power for their operation. Electric power for factory operations came quickly between 1900 and 1930. Both these developments (along with the large supply of immigrant workers) contributed to the industrialization of cities. The electrification of industrial facilities of all kinds proceeded quickly during the first two decades of the 20th century. Businesses got wired for electricity much faster than cities because they could make the most use of what started out as a relatively expensive service.

Because factories were concentrated in or near cities, it was a lot cheaper to wire them than it was to wire farms or even smaller cities away from electrical generating stations. Many of the new factories built during this later period appeared outside city limits, another new development. Electrification allowed managers to automate jobs once done by hand labor, thereby eliminating inefficiency, gaining greater control over the production process, and boosting overall productivity. New devices like time clocks and even new modes of production like the assembly line also depended upon electric power.

The advent of cheap and readily available electricity had a particularly important effect upon the physical layout of American cities during this period. Frank Sprague, an electrical engineer who had once worked for Thomas Edison, designed the first electric streetcar system for Richmond, Virginia, in 1888. Such systems supplanted horse-drawn carriages, making it possible for people to travel further and faster than they would have otherwise. This

gave rise to a burst of suburbanization, a spate of new towns on the outskirts of American cities where wealthy and middle-class people could move to escape from the difficulties of modern urban life but still be close enough to enjoy many of its advantages.

The new suburbanites often traveled to and from work via new electric streetcars. The electrical equipment manufacturer Westinghouse was one of the major manufacturers of vehicles powered by an overhead wire. Electric streetcars had the advantage over horses of not leaving manure or of dying in the streets. Streetcars were more popular during weekends than during the week as working class people took advantage of low fares to explore new neighborhoods or to visit amusement parks, like Coney Island, generally built at the end of these lines.

In the same way that employers and city planners depended upon streetcars to move people, manufacturers became more dependent upon railroads, after 1880, to move their finished products. Railroad track mileage grew greatly after the Civil War, connecting cities and leading to the growth of new factories in places that were convenient to the necessary resources to make marketable goods. Eventually, mass distribution was a prerequisite to benefit from all that increased productivity. For all these reasons, separating the causes and effects of industrialization and urbanization is practically impossible.

Throughout the 19th century, factories usually had to be built near shipping ports or railroad stops because these were the easiest way to get factory products out to markets around the world. As more railroad tracks were built late in the 19th century, it became easier to locate factories outside of downtowns. Streetcars helped fill up the empty space downtown where factories would have gone. They made it easier to live further away from work and still commute to the heart of downtown, thereby making it possible for other kinds of businesses to locate there. One example would be the large urban department store, a phenomenon that predates 1880, but grew into its own after that date. Such stores like Wanamaker's in Philadelphia or Marshall Field's in Chicago bought the products of industrialization in bulk and sold them at a discounted price to workers who might have had trouble getting access to them any other way.

Structural Steel and Skyscrapers

While retail emporiums could be blocks long and only a few stories tall, other business rented space in thinner buildings built much higher. By the late 1880s, structures that had once been built with iron began to be built with a structural steel—a new, stronger kind of steel. The practice had begun in Chicago, championed by the architect Louis Sullivan, who designed the first skyscrapers there. A skyscraper, Sullivan wrote, “must be every inch a tall and soaring thing, rising in sheer exultation that from bottom to top it is a unit without a single dissenting line.”⁹ That kind of design required a skeleton of structural steel upon which other substances like brick or granite could hang. Even then, such skyscrapers had to be tapered; otherwise, the weight from the top floors could make the whole structure collapse.

Creating structural steel for skyscrapers required entirely different production methods than had been required to make Bessemer steel (which had been used primarily for railroad rails). Quantity and speed were the main requirements of producing Bessemer steel. Structural steel required a more carefully made product. The demands of structural steel encouraged

steelmakers like Andrew Carnegie to redesign entire factories, most notably replacing older Bessemer converters with the open-hearth process. This new kind of steelmaking not only produced higher quality steel, it also required fewer skilled workers. This encouraged Carnegie's company to lock out its union workforce at Homestead, Pennsylvania, in 1892, so that it could save money by employing cheap replacement workers.

The other innovation that made skyscrapers possible was the electric elevator. Elisha Graves Otis designed the first reliable elevator in 1857. With electric power, it became possible to rise sixty stories in a matter of seconds. Before the elevator, rental spaces in commercial buildings cost more on lower floors because people didn't want to have to walk up stairs to get to the top. With elevators, tenants willing paid a premium in order to get better views out their windows. Without elevators, nobody would have bothered to erect a building taller than five stories.¹⁰

The construction of skyscrapers was itself a terrific example of the industrial age coordination of labor and materials distribution. Steel skeletons meant that the unornamented higher sections of a building could be worked on even before the inevitable elaborate ornamental fringes on the lower part of the building were finished. This saved both time and money. When New York got so crowded that there was no space to store raw materials, the appearance of those materials would be carefully choreographed, and they would be taken directly off of flatbed trucks and placed in their exact positions near the tops of new buildings. Around the turn of the 20th century, a major skyscraper could be built in as little as one year. The faster a building could be built, the faster an owner could collect rents and begin to earn back construction expenses.

The great benefit of skyscrapers was the ability to compress economic activity into smaller areas. "The skyscraper," explained one New Yorker in 1897, "gathers into a single edifice an extraordinary number of activities, which otherwise would be widely separated. Each building is an almost complete city, often comprising within its walls, banks and insurance offices, post office and telegraph office, business exchanges restaurants, clubrooms and shops." These same miniature cities also included numerous retail outlets, where the products of industrialized manufacturing could be purchased.¹¹ Shorter distances between these locations accelerated the pace of economic activity, which promoted further economic growth. However, large projects (like the many skyscrapers associated with the building of New York's Grand Central Station) eliminated or at least obscured urban industrial areas.

Unburdened by the need to pay federal income tax, industrial titans from across the United States displayed their massive wealth by building lavish mansions along New York's Fifth Avenue during the 1890s. By the 1920s, the value of land in Manhattan grew so fast because of its possible use for skyscrapers that second generation industrial families sold their mansions, since they no longer wanted to pay huge property taxes on them. Blocks of what was known as "Vanderbilt Alley," named after the children of the steamship and railroad pioneer who had built mansions in the same area, were replaced by skyscrapers and high-end retail emporiums.

The same basic principles of skyscraper production—build it quick and large, and pack it with people—motivated the way that builders produced other kinds of urban domiciles. "Today, three-fourths of [New York City's] people live in the tenements," wrote the reformer Jacob Riis in his 1890 classic, *How the Other Half Lives*, "and the 19th-century drift of the population to

the cities is sending ever-increasing multitudes to crowd them.”¹² The best-known tenement house design of this period was the dumbbell tenement of about five or six stories tall. They came about as the result of a design contest, but were generally so crowded that they did more harm than good to the people who lived in them. Four families might live on a single floor with only two bathrooms between them. Designed to let light and air into central courtyards (which explains why they were shaped like a dumbbell from above), stacked up back-to-back, one against the other they did neither. Widely copied, New York City actually outlawed this design for new buildings in 1901—but the old structures remained.

Apartment houses made it easier to pack people into small urban areas and therefore live closer to where they worked. Wealthy people could buy space and separation from one’s neighbors, while those middle class people who could not afford to live in suburbs lost the space they had before urbanization accelerated. To counter these unequal tendencies, New Yorkers developed the idea of the cooperative, where many people bought a single building and managed it themselves. Lavish apartments became alternatives for mansions once Manhattan real estate became too expensive for all except those with huge fortunes.

The Assembly Line

The farther away that people lived from central business districts, the more they needed efficient transportation. Streetcars helped, to an extent, but passenger lines that centered on downtown neighborhoods left large areas that could be occupied with housing for a growing working population, provided that these residents had their own way to get around. “I will build a car for the great multitude,” declared Henry Ford in 1908. “[I]t will be so low in price that no man making a good salary will be unable to own one.”¹³ That car was the Model T, and it revolutionized both auto-making and the American landscape. It also revolutionized the entire concept of American production. Ford didn’t worry about whether his cars would have a market. He would make a market for his cars by producing them so cheaply that nearly every American could afford one.

Ford could achieve both quality and a low price at scale because of the assembly line. This particular conceptual breakthrough owed much to the “disassembly lines” that had been pioneered in the meatpacking industry during the previous century. In the same way that a single carcass was picked apart by men with specialized jobs as it moved along a line, mounted upon a hook, Ford arranged his new factory at Highland Park so that men with highly specialized assignments could build an automobile much faster than before. The assembly line moved work to the men rather than forcing men to move to the work, thereby saving valuable time and energy. It also extended the concept of the division of labor to its logical extreme so that workers would only perform one function in a much larger assembly process all day, every day. The applicability of these principles to the manufacturing of just about everything is what made Ford such an important figure in the history of industrialization. Mass production became possible for all kinds of things that had once seemed far removed from the automobile.

Ford built Model Ts at three different facilities over the entire history of that vehicle. He improved his production methods over time (which included introducing and improving upon the assembly line) so that he could produce them more cheaply and efficiently. Efficiency

depended on speed, and speed depended upon the exact place in the factory where those machines were placed. Because Ford made only one car, he could employ single-purpose machine tools of extraordinarily high quality. The company also used lots of other automated manufacturing equipment, like gravity slides and conveyors, to get parts of the car from one place to another in its increasingly large, increasingly mechanized factories.

Because the assembly line moved the work to the men rather than the men to the work, the company could control the speed of the entire operation. Like earlier manufacturers, Ford depended upon standardized, identical parts to produce more cars for less, but the assembly line also made it possible to conserve labor—not by mechanizing jobs that had once been done by hand, but by mechanizing work processes and paying employees just to feed and tend to those machines. This was not fun work to do. “The chain system you have is a slave driver!” wrote an anonymous housewife based on her husband’s experience working on the assembly line. “My God! Mr. Ford. My husband has come home and thrown himself down and won’t eat his supper—so done out! Can’t it be remedied?”¹⁴ Ford instituted an unprecedented wage of \$5/day to keep workers on his assembly line, but this reward did not make the work any easier.

Before Ford came along, cars were boutique goods that only rich people could afford to operate. After Ford introduced the assembly line (actually a series of assembly lines for every part of the car), labor productivity improved to such a degree that mass production became possible. Perhaps more important than mass production was mass consumption, since continual productivity improvements meant that Ford could lower the price of the Model T every year, while simultaneously making small but significant changes that steadily improved the quality of the car. Mass production eliminated choice, since Ford produced no other car, but Ford built variations of the Model T, like the runabout with the same chassis, and owners retro-fitted their Model Ts for everything from camping to farming.

The increased number of automobiles on city streets further congested already congested downtown areas. Streetcars got blocked. Pedestrians died in gruesome traffic accidents. One of the basic requirements of having so many new cars on the roads was to improve the quality and quantity of roads. Local city planners tended to attack such problems on a case-by-case basis, laying pavement on well-traveled roads and widening them when appropriate. New traffic rules, such as the first one-way streets, appeared in an effort to alleviate these kinds of problems. Traffic control towers and traffic lights—the mechanical solution to a problem inspired by industrialization—also appeared for the first time during this era.

Cities grew when industries grew during this era. Since people had to live near where they worked (and few people lived in skyscrapers), many builders built out into undeveloped areas. If a city had annexed much of the land around it previous to these economic expansions (like Detroit), those areas became parts of a larger city. If they hadn’t, much of this growth occurred in new suburbs (like Philadelphia). Chicago was so confident of further growth during this period that it built streetcar lines into vacant fields. To meet rising demand for housing, homebuilders applied industrial principles to building—using standardized parts that were themselves the result of mass production techniques. By the 1920s, buying pre-cut mail order houses became big business.

The Origins of Mass Production

After 1880, mechanization made factories even more productive thanks to technological improvements. This can be traced back to Thomas Edison's labs in New Jersey, where he practiced systematic invention to exploit the great commercial opportunities that modern life created. The electrical and chemical industries formed the vanguard for the blending of science and the useful arts during this era. By the 1920s, engineers had been formally integrated into the management hierarchies of countless American industries.

Reorganization of production merged with technological improvement had made mass production possible long before Ford developed the assembly line. James Bonsack's cigarette rolling machine, for example, patented in 1881, could produce 70,000 cigarettes in a single ten-hour day. By the end of that decade, it could produce 120,000 cigarettes in a day.¹⁵ When James "Buck" Duke bought exclusive rights to this machine in 1885, it became the basis of his American Tobacco Company, which quickly controlled most of the industry.

By the 1920s, mass production had arrived in industries that produced goods that were much more expensive than cigarettes. Ford's principles of mass production spread quickly throughout the manufacturing sector, to products of all kinds, because Henry Ford was so open about the way he designed his factories. Among the other manufacturers that used Fordist principles during the 1920s were the makers of home appliances, like refrigerators and radios. General Electric, for example, built an eighteen million dollar assembly line for its Monitor Top refrigerator and sold a million refrigerators just four years after its introduction in 1927.¹⁶

Even craft-dominated industries like furniture making came to depend upon mass production to make their products more available to the masses. People who moved from farms to cities desperately needed furniture for their new urban residences, but in industrial towns like Grand Rapids, Michigan, they could not afford pieces made by craftsman. New mass-produced models made with minimal carving and overlays, based on stylish patterns, found a market all over the country. It helped that companies like Bassett, founded in Virginia in 1902, discouraged their workers from forming unions, just like Ford did. An unorganized workforce made it easier for industrialists to impose changes in the production process without resistance from employees.

The changeover from the Model T to the Model A, in 1927, demonstrated the limits of industrialized mass production. The Model A was incredibly expensive, and Ford had to shut his main plant for months to retool the production line for his new models. While the new car sold well initially, sales dropped precipitously as the Depression deepened. "Mass production is not simply large-scale production," wrote the department store magnate Edward Filene, in 1932. "It is large-scale production based upon a clear understanding that increased production demands increased buying."¹⁷ Mass buying became difficult when people had little money with which to buy the products of industrialization. Urban building slowed precipitously during the Depression too. Since cities were the focal points of industrialization, urban citizens suffered disproportionately when production waned. Of course, when the United States sank into the economic downturn of the Great Depression, both urban and industrial growth decreased sharply.

Discussion of the Literature

It is difficult to cite previous scholarship on either industrialization or urbanization from precisely the 1880–1930 period because both these trends pre- and post-date this period. Equally importantly, both are so broad, in the sense that they encompass all kinds of industries and locations that they include a huge range of books and other sources. While none of the following suggestions are exact fits for these subjects during this time, they are all worth reading because they cast at least some light on industrialization and urbanization during this particular time period.

David Hounshell's *From the American System to Mass Production* is simply the best comprehensive history of industrialization available. It covers a few very important industries in detail (like automobile manufacturing), but it is at its best when dealing with the similarities in production technologies from industry to industry. My own *Industrialization and the Transformation of American Life* is a simplified introduction to these principles and a summary of their effects on many aspects of American history during this period, including urbanization.¹⁸

A number of excellent studies of important industries during this period show how industrialization progressed in some detail. Thomas Misa's *Nation of Steel* is the definitive work on the technology of that essential industry. Ron Chernow's *Titan*, a biography of John D. Rockefeller, Sr. will teach you everything you want to know about the oil industry during this period. Richard R. John's *Network Nation* describes the intricacies of the telegraph and telephone industries. My own *Refrigeration Nation* is a close study of the American ice and refrigeration industries.¹⁹

Sam Bass Warner Jr.'s *The Urban Wilderness*, an important history of urbanization throughout the United States, includes discussion of many problems unique to this time period. The best works of urban history published since then tend to deal with particular cities or with the relationship between cities and surrounding suburban communities. Warner's *Streetcar Suburbs*, for example, covers the growth of Boston throughout the 19th century. Donald L. Miller's *Supreme City* masterfully handles New York during the 1920s (and before, in order to set context). Miller's *City of the Century* offers a similarly thorough treatment of Chicago during the 1890s. Perhaps the most-beloved work of urban history that covers cities around the country is Kenneth Jackson's *Crabgrass Frontier*, which takes in both the growth of suburbia and the cities they surround throughout American history, but paying special attention to the years covered in this article. *Building Suburbia* by Dolores is a detailed work that covers a similar subject over the same time period. William Cronon's *Nature's Metropolis: Chicago and the Great West* is the classic explanation of the relationship between the fastest-growing city of the late 19th century and all the natural resources that surrounded it.²⁰

The turn towards social history among historians since the 1960s has made studies of broad economic forces increasingly uncommon. Early labor history, for example, was often written by economists. Therefore, it showed a tendency towards looking at the effects of technological change upon workers. Early sociologists who practiced during this period used to do field work in the cities where their universities were located. While a return to this kind of study seems unlikely, more attempts to study the broader economic forces that made social change happen would likely be appreciated by scholars working in multiple disciplines.

Primary Sources and Links to Digital Materials

The best place to start any study of the 1880–1930 period is to look at the published literature during that time. Luckily, because any book or magazine published before 1923 is in the public domain, people searching in the United States can find primary sources on just about any topic by searching on Google Books [<https://books.google.com/>](https://books.google.com/), with their Advanced Book Search [<https://books.google.com/advanced_book_search>](https://books.google.com/advanced_book_search). Be sure to check the box that says “Full View Only” and narrow the publication date range to the exact years in which you are interested. A broad search will bury you in relevant material, so you may have to do a lot of reading before you find hits that match your topic exactly.

With respect to industrialization, trade journals, like Iron Age [<https://archive.org/details/ironage98philuoft>](https://archive.org/details/ironage98philuoft) or Electrical World [<https://archive.org/details/electricalworld24newy>](https://archive.org/details/electricalworld24newy), are particularly helpful for understanding the exact technological changes that took place during these years. Many such periodicals are available in full on Google Books, but to find articles on a particular topic can require enough patience to search inside the bound volumes of those journals one year at a time. Nevertheless, the fact that, only a few short years ago, one had to travel to a major research library in order to read them at all, demonstrates the wonders of digitization.

Chronicling America [<http://chroniclingamerica.loc.gov/>](http://chroniclingamerica.loc.gov/), the online repository of the Library of Congress for digitized American newspapers is a particularly important resource for studying urban history during this era. Begin with their Advanced Search [<http://chroniclingamerica.loc.gov/#tab=tab_advanced_search>](http://chroniclingamerica.loc.gov/#tab=tab_advanced_search) tab, and you can limit the results to papers from the state or city of your choice. While they currently have few papers from a city as big as Chicago, they are strong on papers from New York City and Washington, D.C.

Anyone interested in urban history might consider perusing the digital collections of the New York Public Library before a trip there to see what isn't available online. Among the online collections focusing on urban living are “Classic Six:” New York City Apartment Building Living, 1880s-1910s [<http://digitalcollections.nypl.org/collections/classic-six-new-york-city-apartment-building-living-1880s-1910s#/>](http://digitalcollections.nypl.org/collections/classic-six-new-york-city-apartment-building-living-1880s-1910s#/) and Photographic Negatives of the New York City Tenement House Department, 1902-1914 [<http://digitalcollections.nypl.org/collections/photographic-negatives-of-the-new-york-city-tenement-house-department-1902-1914?filters%255Bname%255D=New+York+\(N.Y.\).+Tenement+House+Dept.&filters%255Btopic%255D%255B%255D=Clotheslines&keywords=#/?tab=about>](http://digitalcollections.nypl.org/collections/photographic-negatives-of-the-new-york-city-tenement-house-department-1902-1914?filters%255Bname%255D=New+York+(N.Y.).+Tenement+House+Dept.&filters%255Btopic%255D%255B%255D=Clotheslines&keywords=#/?tab=about).

The Encyclopedia of Chicago [<http://www.encyclopedia.chicagohistory.org/>](http://www.encyclopedia.chicagohistory.org/) presents considerable materials from the online archives of the Chicago History Museum, and the Coolidge Era and the Consumer Economy: 1921-1929 [<http://memory.loc.gov/ammem/coolhtml/coolhome.html>](http://memory.loc.gov/ammem/coolhtml/coolhome.html) is available online from the the Chicago Historical Society.

The excellent online resources of the Library of Congress include a collection of Panoramic Maps [<https://www.loc.gov/collection/panoramic-maps/about-this-collection/>](https://www.loc.gov/collection/panoramic-maps/about-this-collection/) of cities and towns of the late 19th and early 20th centuries.

Two of the best business history archives in the United States are the Hagley Museum and Library in Wilmington, Delaware and the Baker Library of the Harvard Business School. Search these excellent online resources at Hagley Digital Exhibits [<http://www.hagley.org/digital-exhibits>](http://www.hagley.org/digital-exhibits) and at the Harvard Library Digital Collections [<http://library.harvard.edu/digital-collections>](http://library.harvard.edu/digital-collections).

American businesses, including those that go as far back as this period, tend to restrict access to their archives by outsiders for legal reasons. Even if you can see materials that no historian has seen before, there is a good chance that these materials will not be processed, which will make using them much harder. Therefore, many studies of industrialization on the ground during this era center on the few large companies whose records are available. These include the McCormick-International Harvester Collection <http://www.wisconsinhistory.org/Content.aspx?dsNav=N:1167> curated by the State Historical Society of Wisconsin, or the Colorado Fuel and Iron Company <http://steelworkscenter.com/> archives of the Steelworks Center of the West, Pueblo, Colorado.

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Notes

1. Chester W. Wright, *Economic History of the United States* (New York: McGraw Hill, 1941), 707.
2. Jonathan Rees, *Industrialization and the Transformation of American Life* (Armonk, NY: M. E. Sharpe, 2013), 44.
3. On regional differences see Sam Bass Warner Jr., *The Urban Wilderness: A History of the American City* (New York: Harper & Row, 1972), 87–88.
4. Thomas J. Misa, *A Nation of Steel: The Making of Modern America, 1865–1925* (Baltimore: Johns Hopkins University Press, 1995), 41.
5. Wright, *Economic History of the United States*, 668.
6. Jill Jonnes, *Empires of Light: Edison, Tesla, Westinghouse and the Race to Electrify the World* (New York: Random House, 2003), 76.
7. Ruth Schwartz Cowan, *A Social History of American Technology* (New York: Oxford University Press, 1997), 163.
8. Ernest Freeberg, *The Age of Edison: Electric Light and the Invention of Modern America* (New York: Penguin, 2013), 81.
9. Alice Sparberg Alexiou, *The Flatiron: The New York City Landmark and the Incomparable City that Arose with It* (New York: Thomas Dunne, 2010), 50.
10. Misa, *A Nation of Steel*, 85.
11. Rees, *Industrialization and the Transformation*, 53.
12. Jacob A. Riis, *How the Other Half Lives: Studies Among the Tenements of New York* (New York: Charles Scribner's, 1914), 2.
13. Steven Watts, *The People's Tycoon: Henry Ford and the American Century* (New York: Random House, 2005), 119.
14. David A. Hounshell, *From the American System to Mass Production, 1800–1932* (Baltimore: Johns Hopkins University Press, 1984), 259.
15. Alfred D. Chandler, Jr., *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, MA: Belknap, 1977), 249.
16. Ruth Schwartz Cowan, *More Work for Mother* (New York: Basic Books, 1983), 136–138.
17. Hounshell, *From the American System*, 307.
18. Hounshell, *From the American System to Mass Production*; and Rees, *Industrialization and the Transformation of American Life*.
19. See Misa, *A Nation of Steel*; Ron Chernow, *Titan* (New York: Vintage, 2004); Richard R. John's *Network Nation* (Cambridge, MA: Harvard, 2010); and Rees, *Refrigeration Nation* (Baltimore: Johns Hopkins University Press, 2103).
20. See Sam Bass Warner Jr.'s *The Urban Wilderness* (New York: Harper & Row, 1972); Warner's *Streetcar Suburbs* (Cambridge, MA: Harvard University Press, 1978); Donald L. Miller's *Supreme City* (New York: Simon & Schuster, 2014); Miller's *City of the Century: The Epic of Chicago and the Making of America* (Simon & Schuster, 1997); Kenneth Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York: Oxford University Press, 1985);

Dolores Hayden, *Building Suburbia: Green Fields and Urban Growth, 1820–2000* (New York: Random House, 2003); and William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W. W. Norton, 1991).

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