**Chapter Twenty-Three:**
Industry and Everyday Life 1750 – 1900

**Chapter Twenty-Three Focus Questions:**

1. What were the main causes of the Industrial Revolution?
2. How did industrialization spread, and what steps did nations and manufacturers take to meet its challenges?
3. How did industrialization affect societies in China, South and West Asia, and Africa?
4. How did industrialization affect people’s everyday lives and livelihoods?
5. How did writers and artists respond to the new industrial world?
6. What contributions did African women agricultural workers make to industrial development?

**Chapter Twenty-Three Summary:**

Free trade and labor, promoted by enlightened laws and policies, led to dramatic changes and unparalleled increases in productivity. This Industrial Revolution transformed the livelihoods of tens of millions of people in the nineteenth century as all aspects of society were influenced. Starting with roots in global trade and economies, Britain took the early lead in industrialization due to numerous factors, and its networks helped the technologies to spread around the world. As industrialization gathered speed, productivity increased, but new problems such as poor conditions, overproduction, and new demands on time started to emerge. Culture and society started to change drastically as new social classes developed, and artists and writers started to become influenced by the changes, and horrors, of industrialization. While the Industrial Revolution usually is defined by individual inventions and inventors, the Counterpoint of this chapter shows that sometimes entire groups, like West African women farmers, were often the unsung heroes who advanced technologies and provided the complex technology that helped feed a growing global workforce.

**Chapter Twenty-Three Annotated Outline:**

1. Backstory
	* 1. Free trade and labor, promoted by enlightened laws and policies, led to dramatic changes and unparalleled increases in productivity called the Industrial Revolution.
		2. Industrialization transformed the livelihoods of tens of millions of people in the nineteenth century, as agriculture, arts, society, and landscapes were all influenced, and patters of work and everyday life changed: not always for the better.
2. The Industrial Revolution Begins 1750 – 1830
	* 1. The Industrial Revolution began first in Britain, and then western Europe, eventually tipping the balance of global power in favor of the west.
3. Global Roots of Industrialization
4. Industrialization took place during a time of productive activity sometimes called the “Industrious Revolution,” where people worked longer hours, tinkered with new ideas, and developed thousands of new inventions.
5. Qing China was the most prosperous country on earth as the nineteenth century opened, but many people’s lifestyles and life expectancy were improving, especially with the introduction of crops from the Western Hemisphere.
6. Europeans purchases highly desirable goods from China, but Europe produced little that was attractive to foreign buyers before the Industrial Revolution.
7. Great Britain: A Culture of Experimentation
8. Why did the Industrial Revolution begin in Britain? It was a combination of natural resources, the Scientific Revolution that fostered new ideas, the British maritime travel and exposure to technological developments, and Britain’s practical culture of trial and error.
9. British aristocrats to artisans latched onto news of successful experiments both at home and abroad, tinkered with things, and attempted to copy new goods imported from other areas.
10. In trying to copy the goods, they finally succeeded and eventually pulled ahead in their own designs and developments, after experimentation and trial and error.
11. The distinctive British culture of artisanal experimentation came together with the inspiration of global connection to create industrial innovation.
12. World Trade and the Rise of Industry
13. As populations rose and nations fought wars, global shipping increased to supply people at home and transport armies and navies.
14. Dense global trade networks and raw materials produced by workers around the world were critical to the Industrial Revolution and urban growth, and commodities such as tea, coffee, chocolate, and opium derivatives helped them endure the rigors of industry.
15. Slaves were also crucial to industrial success, as eleven million Africans captured on the continent were sold into slavery in the Americas.
16. The Technology of Industry
17. Technology was the final ingredient in the effort to meet the needs of a growing and increasingly interconnected population.
18. Minor innovations and inventions to spinning and weaving multiplied, and the world’s first factories arose from the pressure to increased production of English cloth for the global market.
19. Another more important breakthrough came when steam engines were harnessed to both spinning and weaving machines, and then eventually in driving trains and steamboats.
20. Interchangeability of parts was another critical aspect of the Industrial Revolution, developed mostly for guns and weapons at first.
21. Industrialization After 1830
	* 1. One striking feature of industrialization was its unstoppable spread despite resistance to it from threatened works and fearful rulers.
		2. Although outside of Europe and the U.S. industrialization generally did not develop until the twentieth century, and industry developed unevenly in different places, it affected the wider world by increasing demand for raw materials and creating new livelihoods.
22. Industrial Innovation Gathers Speed
23. The nineteenth century was one of widespread industrial, technological, and commercial innovations, but while craftsmen-tinkerers created the first machines, sophisticated engineers were more critical to later technologies.
24. Historians sometimes differentiate between the first part of the revolution dominated by innovations in textile machinery, and the second, dominated by a concentration of heavy industrial products, and electrical and oil power. (This is true of Britain but was not so neat anywhere else).
25. To fuel this explosive growth, the leading industrial nations mined and produced massive quantities of coal, iron, and steel. However, small workshops grew faster than the number of factories, and outwork persisted in garment making, metal work, and finishing trades.
26. Industrial innovations transformed agriculture by boosting crop yields and mechanizing harvesting. Also, refrigerated railroad cars and steamships allowed food products to be transported without spoiling, increasing the size and diversity of urban food supplies.
27. Challenges to British Dominance
28. Other countries started to narrow the gap with Britain’s industry, including the United States after its Civil War and Japan after 1870.
29. The two particular countries to surpass Britain in research, technical education, innovation, and growth rate were the U.S. and Germany.
30. Germany’s burst of industrial energy occurred after unification, when the invested heavily in research, and spent as much money on education as on its military.
31. After the Civil War, the United States began to exploit its vast natural resources, but while Germany relived heavily on state promotion of industry, the U.S. depended on innovative individuals (Carnegie, Rockefeller, etc.).
32. Industrialization in Japan
33. Between 1750 and 1850 merchants, peasants, artisans and samurai laid the foundation for Japan’s industrialization by engaging in brisk commerce.
34. Japanese innovators craved Western-style mass production, and in 1853 U.S. Commodore Perry demanded diplomatic negotiations with the emperor, which led to Japan opening its ports on a regular basis.
35. The Japanese people and government were motivated by the desire to learn skills that would allow them to protect Japan through industrial prosperity and military strength.
36. Japan industrialized using an effective mixture of state, local, and individual initiatives based on a foundation of industriousness, which eventually led to Japan’s central role in the world economy.
37. Economic Crises and Solutions
38. Industrialization brought uneven prosperity to the world, especially in the second half of the nineteenth century. Because global trade bound industrialized nations to the international market, a recession could affect the economies of everyone.
39. Since most governments and individuals at the time did not clearly understand the workings of industrial and interconnected economies, when a recession struck in the 1870s, they were stunned.
40. One reason for the recession was the skyrocketing start-up costs of new enterprises. A second was rapid price declines due to increased productivity, while overproduction and underconsumption were a third major reason.
41. In response to the recession, governments tried to boost consumption and control prices. New laws spurred development of the limited-liability corporation, and governments imposed tariffs and taxes to boost sales of domestic products.
42. Business people also tried to end the economic turmoil by advancing the development of stock markets, and firms in single industries banded together in cartels to control prices and competition.
43. Another way to address the crisis was to add managerial expertise, where separate managers were hired to specialize in different aspects of the factory.
44. To attempt to remedy underconsumption, the development of consumer capitalism, which led to the department store, where a variety of goods was available in one place.
45. These department stores used new marketing techniques, like sales, to drive consumption, and many launched their own brands. Stores also hired attractive salesgirls to lure customers to buy.
46. This was not only an urban phenomenon, as glossy mail-order catalogues arrived regularly in rural areas. In the end, department stores encouraged urban and rural shoppers to participate in the global, industrial marketplace.
47. The Industrial Revolution and the World
	* 1. Industrialized Wester nations pulled ahead of the once-dominant economies, but many other nations were often unwilling to trade with Europe, which was widely seen as uncivilized and a source of inferior goods.
		2. This led Europeans and Americans to often use threats of violence to open foreign markets, because productivity outweighed consumption.
48. The Slow Disintegration of Qing China
	* 1. Qing China, the wealthiest and most productive country on the eve of the Industrial Revolution, saw its flow of silver stopped and trade curtailed due to the revolutions in the Americas and the Napoleonic Wars.
		2. Imitation European products began to compete with Chinese products, and the commercial rivalry soon turned to war.
		3. While Europeans had grown dependent on a variety of products, they had nothing to sell in exchange. By the 1820s, however, the British had found something the Chinese would buy—opium.
		4. Although opium was illegal in China, British smugglers brought it into China and turned a huge profit, even after getting the products they were dependent on.
		5. China’s big payout in silver for the illegal drugs caused a drain on its economy, and the Chinese population developed opium addiction problems. When the Chinese government ordered the British to surrender their opium, the British sent a fleet to keep the illegal drug market open.
		6. In the Opium War (1839-1842) Western firepower won decisive victories, and the 1842 Treaty of Nanjing forced China to pay the British a fine, allowed British diplomats access to the country, opened additional ports for trade, and reduced tariffs.
		7. As a response to the harsh conditions in China after the war, and the religious teaching of Hong Xiuquan, armies of rebels set off across the country in the Taiping Rebellion. The rebellion accelerated the crisis of the Qing government, but their imperial militia, along with U.S. military support, ultimately defeated the Taiping in 1864, and Hong himself died in the final siege of Nanjing.
		8. In the end, the lesson learned was the value of Westernization, including modernizing the military, promoting technological education, and expanding industrialization. These ideas led to changes and advances, but the Dowager Empress Cixi, who seized power during the uprising, went back and forth between imperial control and modernization, and it was unclear which impulse would triumph.
49. Competition in West and South Asia
	* 1. The Ottoman Empire had profited from trade and textile manufacture, but Western industrialization changed the balance of trade, and the prices of textiles dropped.
		2. As craftworkers suffered, Ottoman merchants and estate owners prospered, and new jobs opened up in technical and industrial areas.
		3. Similarly in India, Europe’s cheap textiles hurt local skilled textile workers, but the Indian economy adapted.
		4. Again, as industry hurt artisanal families, it benefitted those getting involved in industrialization. As the artisanal families often moved to farm in the countryside, some in India grew more rural as the West became more urban.
		5. Besides textiles, India exported other manufactures, and some entrepreneurs had success, but the British officials imposed high taxes, and took more than their share of the region’s prosperity.
50. A New Course for Africa
	* 1. In Africa, as the Atlantic slave trade declined, power in West Africa shifted to Muslim jihadis who overthrew rulers and built huge plantations for themselves.
		2. Since the Enlightenment, abolitionists had called for an end to the slave trade and slavery itself. While the trade in humans was progressively outlawed, and slavery itself was completely outlawed in the Western Hemisphere in 1888 (when Brazil became the last), slavery continued in many other parts of the world, including Africa.
		3. The decline of profits from the Atlantic slave trade threw some African elites into economic crisis. Many adapted by moving the slave trade south to Brazil, and the jihadi rulers expanded slavery within West Africa for their own use.
		4. Industrialization had far-reaching consequences worldwide, and many believe that the expansion of slavery to profit from commodities for industrialization condemned Africa to underdevelopment.
51. Industry and Society
	* 1. Where industry took hold, livelihoods changed, and new social classes emerged as old social arrangements declined.
		2. As industry advanced, workers and industrialists were divided into increasingly distinct social classes, and manufacturers and wealthy merchants started to challenge the privileges of entrenched aristocracies.
52. The Changing Middle Class
	* 1. Most factory owners joined the middle class that was formed before the Industrial Revolution by traders.
		2. As manufacturers grew prosperous, they became society’s leaders, and they moved their wives from factory supervision to a “cult of domesticity.” These economic leaders have collectively been called the *bourgeoisie*.
		3. With the march of industry, the middle class grew to include professionals with empirical knowledge beneficial to industrial society (doctors, lawyers, professors, and journalists).
		4. Prosperous men of the middle class founded societies and clubs to create solidarity and foster the exchange of knowledge, while well-to-do women banded together to provide baby clothes and other goods to impoverished workers.
53. The New Working Class
	* 1. While the middle class enjoyed increased comfort and prosperity, industrial workers lived lives governed by the machine, the factory whistle, and the time clock of the office.
		2. Initially many of the industrial workers were young, unmarried women as factories offered steady wages and preferable to round-the-clock domestic service as maids.
		3. The worker’s day was often long (12-17 hours) and unsafe, as machines lacked even minimal safety features, leading to amputated limbs, punctured eyes, torn-off scalps, and other crippling injuries.
		4. Workers’ health deteriorated, there was not enough housing, and sanitary facilities were almost nonexistent. Humid factories nurtured disease, and epidemics erupted.
		5. Many people resisted the introduction of labor-saving machines that threatened their livelihoods, such as the Luddites who attached whole factories and smashed new machines.
		6. The British government mobilized its armies, executing many and sending large numbers to populate Australia and New Zealand, which industrialized in turn.
		7. Older values of city life deteriorated, and rural folk migrated to cities in search of industrial jobs. Prostitution soared, along with sexually transmitted diseases and illegitimacy.
		8. Social connections and the sense of time broke down. The clock set the hours for work, and industrialists imposed heavy fines on anyone late. However, with alcohol a prominent feature of life due to no safe water or milk supply, drunkenness sometimes undermined the strict discipline industrialists hope to impose.
54. The Sexual Division of Labor
	* 1. Industrialists and manufacturers followed the tradition of dividing work along gender lines, but the division was generally arbitrary.
		2. Women always received lower pay, even for the same work, and men dreaded the introduction of women into a factory, which often signaled that the owner intended to save on wages by cutting men’s jobs.
		3. The majority of women, both married and unmarried, worked to support their families or themselves. Often factory owners and supervisors demanded sexual favors from women as the price of employment.
		4. The new white-collar sector advanced the sexual division of labor, and all sectors of the industrial economy perpetuated the idea that women were simply worth less then men, and should receive lower wages.
55. The Culture of Industry
	* 1. All people responded to the new sights and unexpected changes of industrialization, which all helped to develop national cultures.
		2. Technological improvements helped knowledge flourish, and increased productivity eventually led to more leisure time. Such changes led to a torrent of cultural reflections on the dramatic new industrial world.
56. Industry and Thought
57. For some, industry inspired optimism, and progress suggested that a perfect society could be created. A group of French and British thinkers spread this faith around the world as socialism, with a goal to improve society as a whole, not just for the individual.
58. Shunning monarchs and leisured aristocrats, utopian socialism valued technicians and engineers as future rulers of nations.
59. Two middle-class German theorists (Marx and Engels) devised a completely different and globally influential plan for organizing society. They saw the new industrial order as unjust and oppressive, and in 1848 they published *The* *Communist* *Manifesto*, which became the rallying cry of modern socialism.
60. Marx believed that the fundamental organization of society rested on materialism (the relationships developed around production), and that in the industrial era, people were either workers or owners (proletariat or capitalists/bourgeoisie).
61. Rejecting the liberal focus on individual rights, Marx held that the cause of inequality was the owners’ control of the means of production, and when capitalist control disappeared a classless society of workers would arise.
62. While economic liberals such as Adam Smith believed the free market would ultimately produce a harmony of interests among people in all classes, Marx believed that workers’ economic oppression by their bosses caused conflict.
63. Marx believed that a classless society would involve workers’ control of production, and a classless society would end the need for a state. While he devoted little analysis to inequalities based on race and gender, he did conclude that women’s lives would automatically improve under socialism.
64. Industry and the Arts
65. The new industrial world also inspired artists. While some celebrated industry and welcomed the influences from far-off places, others interpreted the Industrial Revolution differently, focusing on the grim working conditions brought about by the change.
66. Charles Dickens wrote of the dark side of industrialization, and Harriet Beecher Stowe’s shocking tale of slave life in the American South, *Uncle Tom’s Cabin*, influenced some Russian nobility to lobby for freeing the serfs.
67. Even musical forms were impacted by the Industrial Revolution as themes and content changed, concert halls expanded to accommodate increasing urban populations, and the precision and noise of military bands matched that of the new machines and the precise movements of the industrial workers.
68. Counterpoint: African Women and Slave Agriculture
	* 1. While the history of the Industrial Revolution often centers on individual inventors, sometimes entire groups piloted advances critical to industrialization.
		2. Africa, which many regarded as full of unskilled people (which helped to justify the enslavement and discrimination against all people of color), was at the forefront among collective innovators of their day.
69. Women and Farming in Africa
70. Women’s agricultural labor supported African life, and free and slave women alike could themselves own slaves to increase their agricultural productivity.
71. In Africa it was women who introduced new varieties of seeds, new tools for farming, and more productive farming techniques.
72. On the west coast of Africa, women developed complex systems for cultivating rice, and they reaped bountiful harvests, experimenting with new seeds and plant varieties.
73. Women Slaves in the North American South
74. Landowners in the south prized West African slave women because of their knowledge of rice cultivation, and they provided the initial technological systems for growing it.
75. The first African rice to be widely grown in North America was fragile and demanded special skills that planters usually lacked. However, West African women possessed an extensive knowledge that was passed down through their families.
76. These West African women farmers form a counterpoint to the celebrated inventors of machines, and while overlooked in history, they provided the complex technology that helped feed a growing global workforce.
77. Conclusion
	* 1. The Industrial Revolution changed not only the world economy, but the lives and livelihoods of tens of millions of people.
		2. Mechanization expanded productivity almost beyond measure, and the results were both grim and liberating, and slavery not only flourished, but made the advance of industry possible.
		3. New patters of work transformed the rhythm and texture of urban life, and political ideas and the arts also changed with the rise of industry and the continuing expansion of global trade.
		4. Debate continues about whether industry was a force for good, but even opponents have appreciated that industry liberated people from the hardships of rural life and provided them with a wider array of useful goods.
78. Chapter Twenty-Three Special Features
	1. Lives and Livelihoods: Builders of the Trans-Siberian Railroad
		1. Hundreds of thousands of manual laborers did the work to build the Trans-Siberian Railroad, including prisoners and soldiers who were forced to work on the project.
	2. Seeing the Past: Japan’s Industrious Society
		1. Japanese artist Ando Hiroshige depicted commercial life on the road to Edo before industrialization, demonstrating the “industrious” economies that laid the groundwork for industrialization.
	3. Reading the Past: Mexican Women on Strike
		1. Factory workers, like women cigarette workers in Mexico in 1881, increasingly responded to harsh conditions by organizing unions and banding together to strike.

**Chapter Twenty-Three Overview (Discussion) Questions:**

**Major Global Development:** The Industrial Revolution and its impact on societies and cultures throughout the world.

1. In what ways did the Industrial Revolution change people’s work lives and ideas?
2. How did the Industrial Revolution benefit people, and what problems did it create?
3. How and where did industrial production develop, and how did it affect society and politics?

**Chapter Twenty-Three Making Connections Questions:**

1. How did the Scientific Revolution (see Chapter 19) and the Enlightenment (see Chapter 22) contribute to industrialization?
2. How did industrialization in the United States and in Japan differ, and why?
3. What was the role of slavery in industrial development?
4. In what ways was the Industrial Revolution a world event?

**Counterpoint: African Women and Slave Agriculture**
 **Counterpoint Focus Question:** What contributions did African women agricultural workers make to industrial development?

**Chapter Twenty-Three Special Features:**

**Lives and Livelihoods: Builders of the Trans-Siberian Railroad**

1. What jobs were needed to construct the trans-Siberian railroad, and how were workers treated?
2. How did the railroad affect livelihoods other than those directly connected with its construction?
3. How would you balance the human costs of building the railroad with the human opportunities it created?
4. What changes did the trans-Siberian railroad bring to Russia?

**Seeing the Past: Japan’s Industrious Society**

1. What attitude toward work comes through in this print?
2. How does it contrast with the attitude displayed in the document on page 000 by Mexican women workers?

**Reading the Past: Mexican Women on Strike**

1. What major concerns do the women announce in this placard?
2. To what specific groups is the placard addressed? Why did the strikers single out these groups?

**Key Terms**

bourgeoisie

capitalism

cartel

Industrial Revolution

interchangeability of parts

limited liability

materialism

outwork

proletariat

socialism

stock market

utopian socialism