MI OPEN BOOK PROJECT

World History

Stefanie Camling, Mike Halliwill, Troy Kilgus, Anne Koschmider, Adam Lincoln, Mark Pontoni, Anthony Salciccioli, Tom Stoppa, Nick Vartanian, Melissa Wozniak, Kymberli Wregglesworth, Rebecca Bush.

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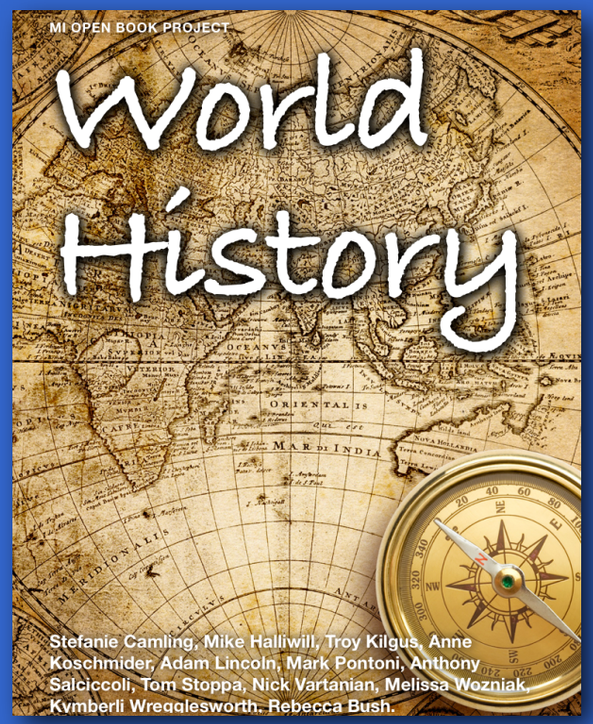

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The Michigan Open Book Project

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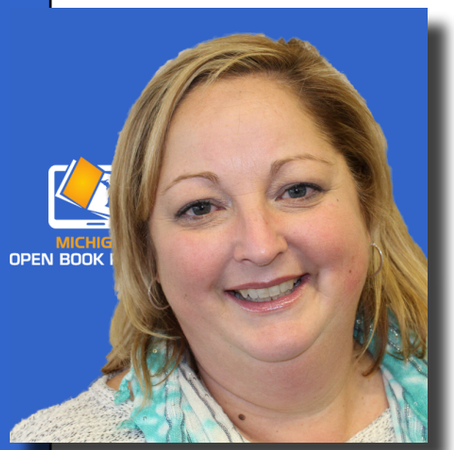

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Coopersville High School

Coopersville Area Public Schools

Stefanie has been teaching for twenty two years. She received her Bachelors of Arts in Social Studies as well as her Masters in Education Leadership from Grand Valley State University. She is currently teaching at Coopersville High School in sociology, world history, and AP world history. Stefanie has served has the student council advisor, junior class advisor, coach, and Vision Team chair. Stefanie was one of the writers for Performance Assessments of Social Studies Thinking (P.A.S.S.T) for World History. Stefanie resides in Grand Rapids, Michigan with her husband Tom and son Tommy Jr.

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Mike is the High School World History teacher at Shepherd High School in Shepherd Michigan. He has a Bachelors degree in history education from Saginaw Valley State University with minors in Political Science and Sociology. During his time at Shepherd Mike has served as the Model UN and boys golf coach. Mike has also been an item writer for Performance Assessments of Social Studies Thinking (PASST).

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Troy Kilgus serves as the high school social studies chair at Standish-Sterling Central High School. In his eight years of teaching, he has taught various social studies courses including AP US History and multiple levels of French. Mr. Kilgus earned his undergraduate degree in French Education and his Masters in Teaching from Saginaw Valley State University.

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Anne has been a social studies teacher at Cadillac High School since 2005. She has taught World History & Geography, AP World History, Psychology, AP Psychology, and History of the Rock and Roll Era with a particular interest in using instructional technology to engage students and promote literacy. In addition, she has served as the social studies department chair and a student council adviser. She holds a Bachelor of Arts degree from Alma College and a Master of Arts degree in Curriculum, Instruction and Assessment from Walden University. Beyond the classroom, Anne enjoys traveling, reading, and

Adam Lincoln

Ithaca Jr/Sr High School

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Adam began his teaching career at Cadillac High School in Cadillac, Michigan where he taught US History, Global Studies, and AP World History. After 7 years, he moved back home to central Michigan to teach at Ithaca Public Schools. While his main charge has been teaching World History and starting the AP World History program, Adam also teaches 8th Grade History, US History, History in Popular Culture and all sorts of computer science classes. Adam coaches Model United Nations, and runs the Jumbotron at Ithaca Community Stadium during events. Adam has served as a member of the Michigan Council for the Social Studies for over a decade and has worked to unite his twin passions of Social Studies and effectively integrating technology into the classroom. Outside of school, Adam has served on the Content Advisory Committee, as a Social Studies item writer for the Department of Education, and worked for the PASST project. Adam teaches History and Social Studies methods classes at Alma College as adjunct faculty. Apart from the world of education, Adam enjoys spending time with his family especially traveling on new adventures.

Mark Pontoni

Boyne City High School

Boyne City Public Schools

After a long career running a business, I returned to the University of Michigan for my Masters and Certification and began teaching in Owosso 11 years ago. A marriage, a move north, and a couple of job changes later, I now teach at Boyne City. I run a state-wide Model United Nations program attended by over 1000 students annually. I have also been an AP Reader in US Government and Politics, Comparative Government, and World History.

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Anthony Salciccioli

Clarenceville High School

Clarenceville Public Schools

Salciccioli has been teaching since 2001. Throughout these years, he has taught students from grades 6-12 U.S. History, Government, Sociology, Law, Big History, Philosophy and his present course in World History. During his tenure he coached football, wrestling and track and field. He received his B.A. in political science-prelaw from Michigan State University in 1996, a second B.A. in History from the University of Michigan-Dearborn in 2001 and his Master in the Art of Teaching from Marygrove College in 2006. Salciccioli served as the President of the Michigan Council for the Social Studies from 2012-2014 and has been awarded the McConnell History Educator Award in 2014, the Fishman Prize Honor Roll in 2015 and the Gilder Lehrman Michigan History Teacher of the Year in 2016. He is a lifetime resident of Metro Detroit where he attempts to live with joy and purpose along with his wife

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Tom earned his Bachelors of Science in Education from CMU and his Master in Education from Marygrove. Tom taught at Orchard Lake St. Mary's before moving to Alpena. Tom has worked in the Alpena district for the past 20 years teaching World History, Advanced Placement European History, Current Events, Michigan/Alpena History., and United States History. During his tenure in Alpena, Tom has served as School Improvement Chair, Social Studies Department Chair, and History Club Adviser. He is a member of the National Council for the Social Studies. Outside of the school day, Tom volunteers with the Water and Woods Boy Scout Field Service Council and the Northeast Michigan Youth Advisory Council

Nick Vartanian

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Holland Public Schools

I teach World History and A.P. World History at Holland High School. I earned my bachelor's degree in History from Alma College in 2001 and earned my master's degree in Educational Leadership from Grand Valley State University in 2011. I am the SLIC (Student Leaders Initiating Change) Coordinator at Holland High and serve as Chairperson of the Reading Now Network for Holland High. I am very interested in Project Based Learning and technology integration in the classroom. I was a writer for the Performance Assessments of Social Studies Thinking (PASST) Project. In addition, I have participated in the IChallengeU program, working with students, civic, and community leaders to develop solutions to real problems as posed by area businesses in the greater Holland area.

Melissa Wozniak

Rogers City High School

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A proud graduate of both Posen High School and Saginaw Valley State University. #WECARDNIALS I have a love of teaching, learning, reading, family time, traveling, and of LIFE! I love using technology to keep my students engaged, and to keep track of my family members escapades. I hope to someday achieve my ultimate goal of competing on Jeopardy, winning at least one day and making Alex Trebek say my name!!

The Michigan Open Book Project Team would like to thank the following individuals for their help in reviewing some content in the book and guiding the development process.

Eric Hemenway - Director of Repatriation, Archives and Records, Little Traverse Bay Bands of Odawa Indians

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Kymberli has a BA in history and political science from Alma College, a MA in education from Michigan State University, and a MA in American History and Government from Ashland University. She was named a James Madison Fellow in 2011, was chosen as the Michigan Council for the Social Studies High School Educator of the Year in 2015, and is a two year member of the iCivics Educator Network. Kymberli teaches at her high school alma mater where her courses include Civics, World History, Current Events, Women's Studies, and World Cultures, as well as serving on the school's technology committee and school improvement team. Additionally, she teaches Intro to American Government at North Central Michigan College, and will be expanding to teach a history

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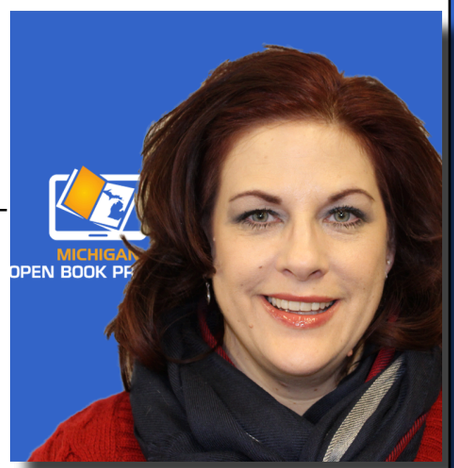
Rebecca Bush is currently the Social Studies Consultant at the Ottawa Area Intermediate School District (OAISD), where she assists K-12 social studies teachers in developing curriculum, modeling instructional strategies in social studies literacy, and designing district-level formative and summative assessments. Additionally, as Project Director, she has written and received multiple Teaching American History grants, working with teachers throughout an eight-county radius. She has presented at various national conferences on multiple topics surrounding social studies instruction as well as innovative techniques and topics in formative and summative assessment design. Currently she is Co-Project Director of The Performance Assessments of Social Studies Thinking (PASST) Project and assists with the professional development of teacher writers for the MI Open Book Project where she serves as an editor of several of the project's texts. Rebecca currently leads



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Chapter 6

Was the Industrial Revolution Worth the Human Cost?

What were the political and economic impacts of the Industrial Revolution?

How and why did the Industrial Revolution cause shifts in population?

What new forms of technology propelled the Industrial Revolution?

How did the Industrial Revolution shape the distribution of global power?

How did the Industrial Revolution change society?

Section 1

The Advent of the Industrial Age

QUESTIONS TO GUIDE INQUIRY

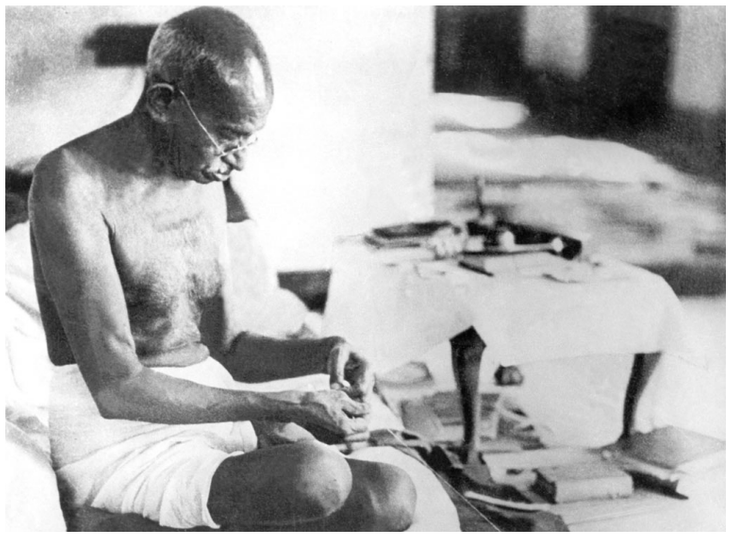
1. **What were the political and economic impacts of the Industrial Revolution?**
2. **How and why did the Industrial Revolution cause shifts in population?**
3. **What new forms of technology propelled the Industrial Revolution?**
4. **How did the Industrial Revolution shape the distribution of global power?**
5. **How did the Industrial Revolution change society?**

TERMS, PLACES, PEOPLE

Enclosure movement

Industrialization

"Industrialism is, I am afraid, going to be a curse for mankind. Exploitation of one nation by another cannot go on for all time. Industrialism depends entirely on your capacity to exploit, on foreign markets being open to you, and on the absence of competitors." -- Mohandas Gandhi

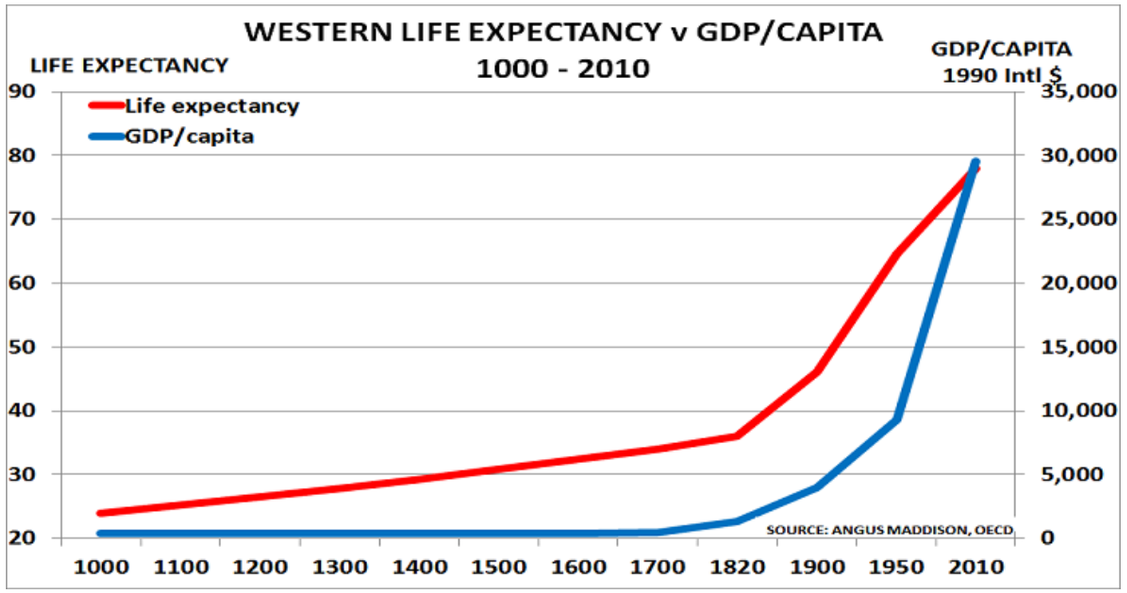


(Image source: https://upload.wikimedia.org/wikipedia/commons/1/14/Gandhi_spinning_1942.jpg)

Mohandas Gandhi (pictured above) was a nationalist leader in India who led nonviolent opposition against the British, an industrial and imperial powerhouse, during the first half of the 20th century. He feared for India's future and preservation of its rich history and customs in the Industrial Age. However, others embraced **industrialization** and its subsequent opportunities for modernization, social mobility, and technological innovation. In this chapter, we will explore the costs and benefits of the Industrial Revolution.

Daily life before industrialization

The Industrial Revolution (ca. 1750-1900) may have involved fewer beheadings per capita than preceding political revolutions, but it was certainly transformative for people in all walks of life. In Europe, feudalism was a thing of the past, but without modern forms of transportation, the average person still had to rely on their local community for the production of food and durable goods. Prior to industrialization, most people lived as farmers; life revolved around subsistence agriculture. People worked the land with simple, homemade tools to grow their own food. Production of goods (clothing, for example) happened on a small scale, often within workers' homes. Trade happened on a small scale within communities. Life expectancy was short, although it had increased at a slow rate since the Middle Ages. All of this, however, would change dramatically as the Industrial Revolution started in Great Britain and caused sweeping changes around the world. This global event transformed how people worked, played, traded and traveled. It changed politics, economics, and family structures and continues to shape our world today.



(Data source: https://s3-eu-west-1.amazonaws.com/cjp-rbi-communities-blogs/wp-content/blogs.dir/383/files/2015/02/Life-expectancy-GDP-capita.png)

Changes in agriculture spur changes in industry

Improvements in agriculture, such as those represented in the flowchart above, resulted in greater yields and increased efficiency. However, these methods also required large tracts of land. Therefore, landowners started closing off areas of land during the **enclosure movement**. Prior to enclosure, much of the farmland in Europe was used for communal grazing and cultivation. The enclosure movement displaced peasants, who migrated to urban areas seeking work and a new place to call home. Population increased due to the improvements in agriculture and subsequent food

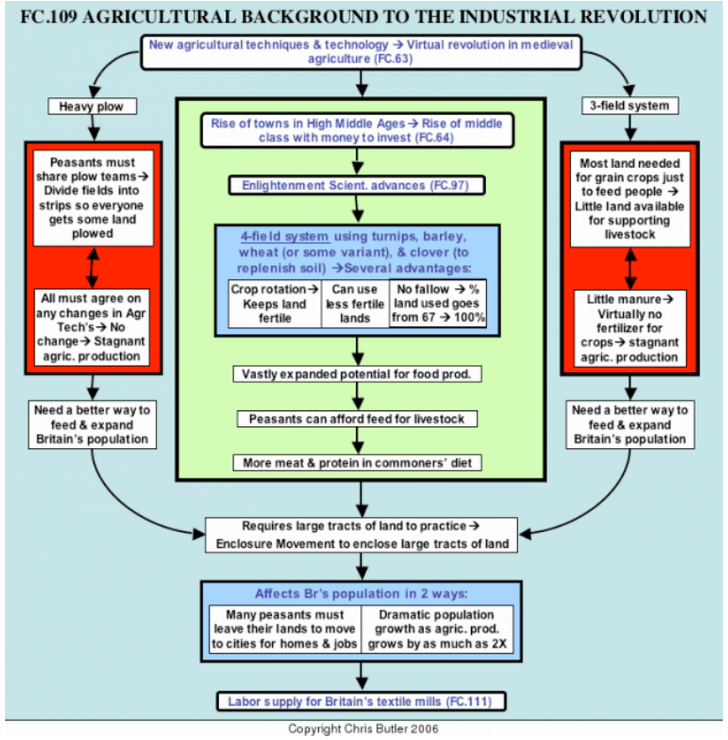
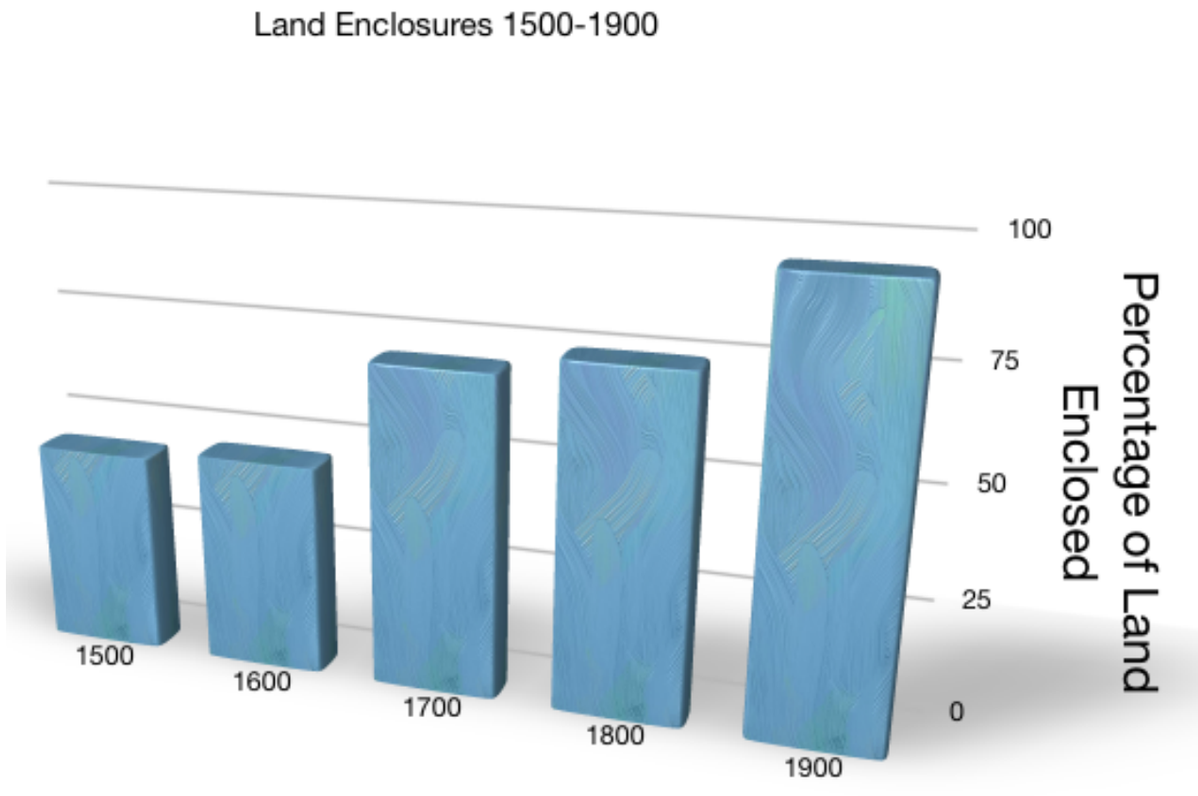


Image source: http://www.flowofhistory.com/sites/foh.gargtech.com/files/images/FC109.preview.png)

surpluses. Together, these factors created an urban population capable of staffing factories necessary for industrialization.

New technology

In its most basic form, industrialization is a shift from manual labor to machines. The focus shifted from agriculture, driven by human and animal labor, to industry, driven by machines, assembly lines, and fossil fuels. Inventions affected numerous aspects of society. For example, Jethro Tull's mechanized seed drill and Eli Whitney's cotton gin increased agricultural efficiency. The steam engine, first developed by Thomas Newcomen and revamped for greater efficiency by James Watt, was used in both the mining and transportation industries. Earlier mills using water power had to be located near a water source; with the steam engine, factories could be located anywhere. Textile production became mechanized with the flying shuttle,spinning jenny, and improvements to the loom permitting mass production. Modern city skylines are possible due to the Bessemer process, enabling mass steel production, and the Otis Elevator Company. Communication could now travel faster than humans, thanks to the telegraph and telephone. Better understandings of vaccines and bacteria led to fewer diseases and prolonged life expectancy.



Interactive 6.1 Industrial Revolution Timeline

Learn more about some of the major innovations in the Industrial Revolution.

Section 2

Great Britain Leads the Industrial Revolution

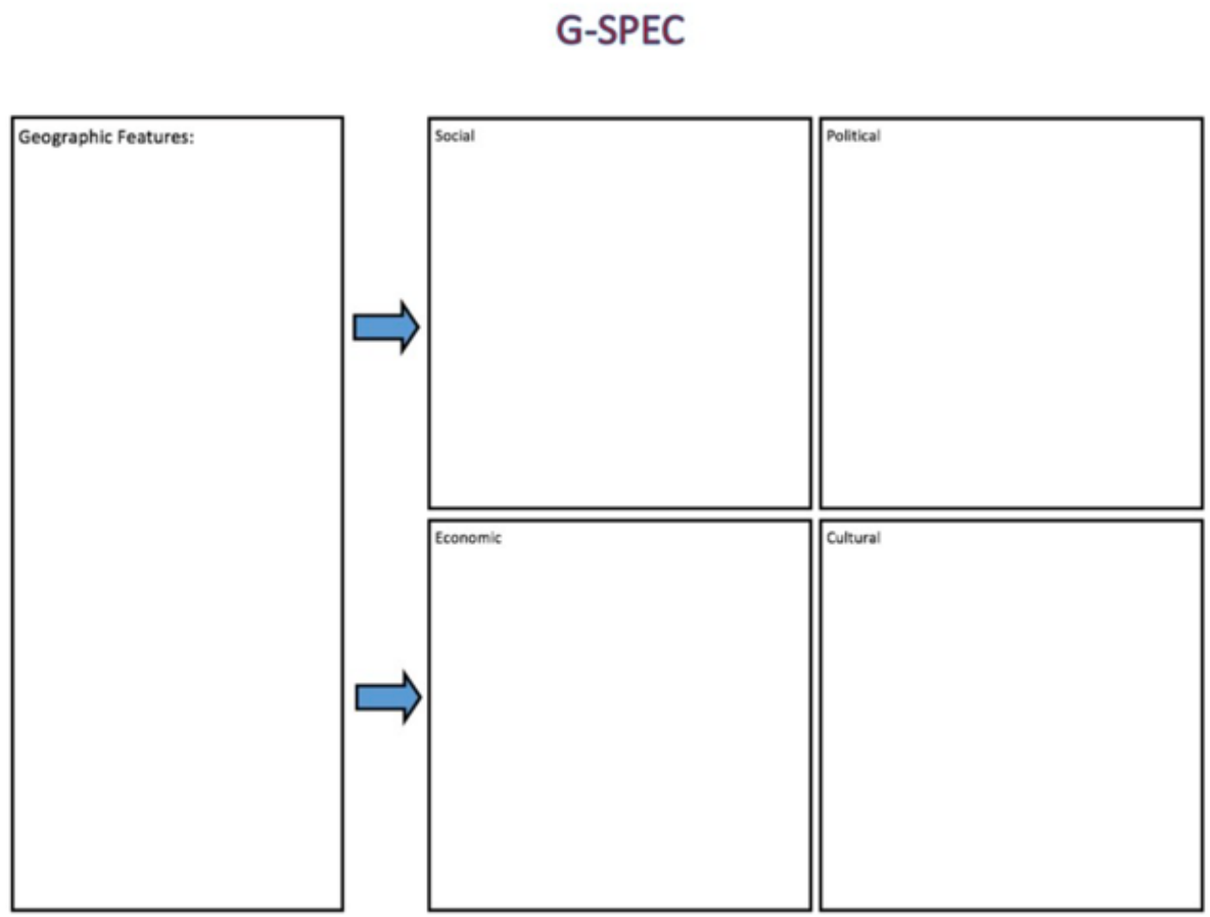
QUESTIONS TO GUIDE INQUIRY

1. **What were the political and economic impacts of the Industrial Revolution?**
2. **How and why did the Industrial Revolution cause shifts in population?**
3. **What new forms of technology propelled the Industrial Revolution?**
4. **How did the Industrial Revolution shape the distribution of global power?**
5. **How did the Industrial Revolution change society?**

TERMS, PLACES, PEOPLE

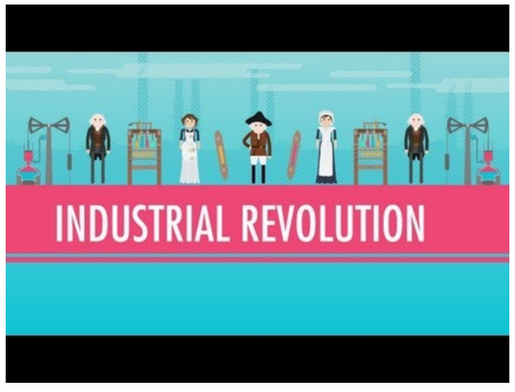
Capital
Factors of Production
Enterprises
Mercantilism
Putting-out-system
Cottage Industry

As you read the rest of this chapter, use a G>SPEC organizer (like the one below) to help you organize the role that geography played in the development of social, political, economic, and cultural impacts.



Industrialization may have been a global phenomenon, but it certainly occurred at different rates in varying regions. One thing is for sure, though: Great Britain led the way. In addition to improvements in agriculture and an increase in population, several factors converged to put Great Britain at the forefront of industrialization. For a thorough overview of some of the main points of this section, watch this John Green video: Coal, Steam, and the Industrial Revolution: Crash Course #32.

Interactive 6.2 Crash Course - The Industrial Revolution



Learn more here!

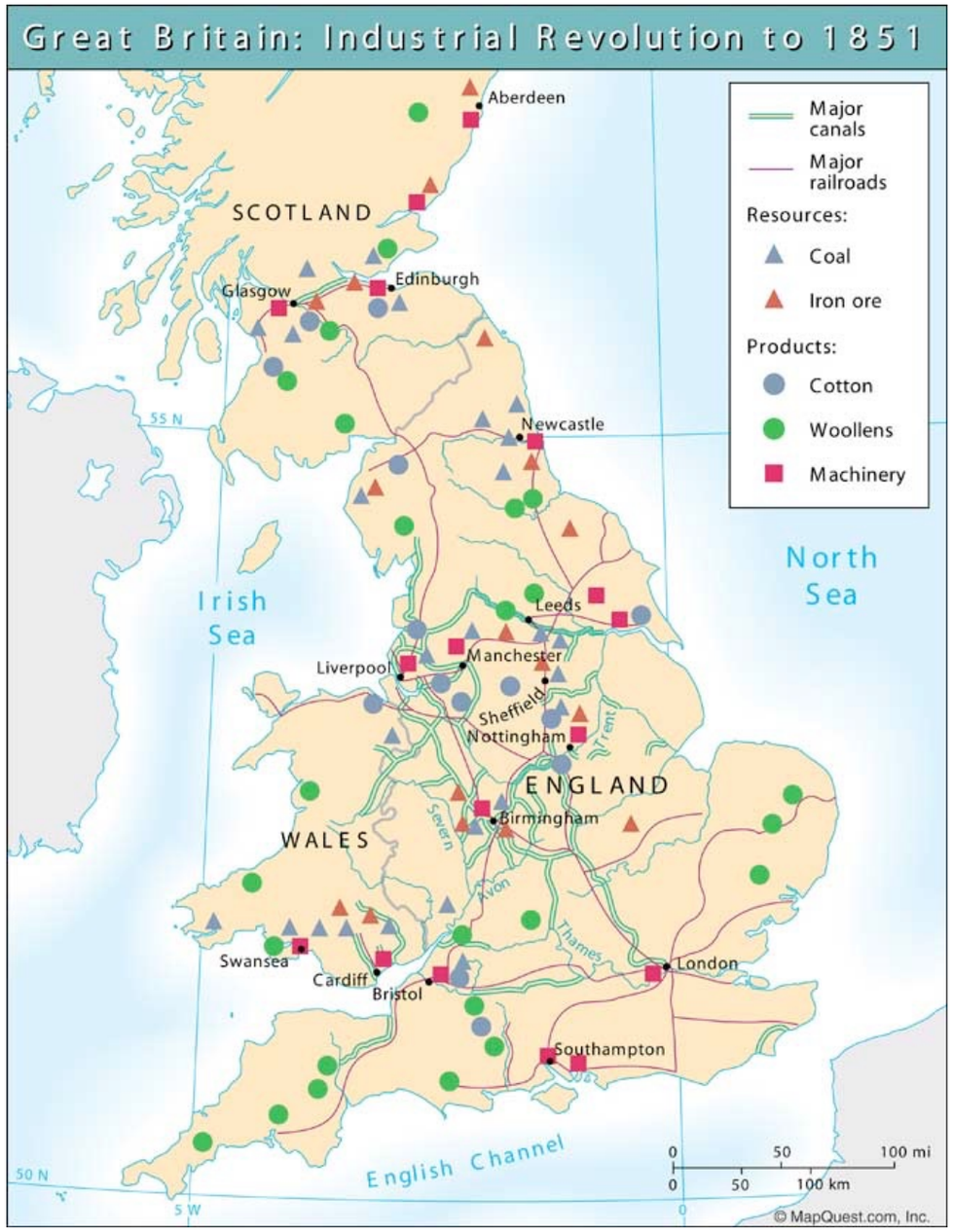
(Image source: https://upload.wikimedia.org/wikipedia/commons/7/78/Barmen_(1870).jpg)

Economics connection: Great Britain had all the **factors of production** in place to move forward with industrialization and turn profits: land, labor, capital, and entrepreneurship.

Natural Resources

Great Britain had a wealth of natural resources that helped catapult the nation to the forefront of industrialization. Because of its location, England had an abundance of natural ports and navigable rivers. Rivers were a huge supplier of water power and allowed for additional construction of canals which dramatically increased accessibility for trade. As fossil fuels replaced human and animal energy sources, coal became essential to industrialization (particularly due to steam engines). Iron was also key, as it was used to build machinery and smelted into steel. By the 1850s, Great Britain (comparable in size to the state of Oregon) was supplying about half of the world's iron ore and

mining two-thirds of its coal. And in certain areas of England, large amounts of linen and woolen cloth were being produced--valuable resources of the textile industry.



http://cbweaver.wikispaces.com/file/view/UK_industrial_revolution.jpg/61331830/UK_industrial_revolution.jpg

Demand and a favorable economy

Great Britain's leadership in industrialization was the result of a perfect storm of domestic and international circumstances. The population boom created a workforce with income to purchase newly manufactured goods. However, entrepreneurs needed investors with **capital** or money used to invest in **enterprises**--business organizations in areas such as shipping, mining, railroads, or factories. Moreover, Great Britain was able to provide a national infrastructure to facilitate progress. Its stable government was willing and able to promote economic growth. The Bank of England provided necessary capital and currency to pay wages.

Internationally, Great Britain held an established colonial empire which was a critical component of **mercantilism**--a theory and system of political economy in several European countries after the decline of feudalism, based on the reliance of raw materials from colonies overseas. Colonies supplied raw materials to support industrialization, in addition to markets to sell finished goods. For example, cotton grown in the American south was valuable to the British textile industry. Great Britain was also known for its navy, which protected the empire while enabling shipping and trade.

Textile industry

Textiles were among the most significant goods in the world during the pre-modern time period. India, with its large population and favorable climate, was a leader in textile production. It took 50,000 hours of manual labor to spin 100 pounds of cotton, using traditional Indian tools. British merchants tried to organize their own cloth industry back home in England through the **putting-out system**. Also known as the **cottage industry**, raw cotton was distributed to peasant families who spun it in their own homes and then threaded it into cloth. However, under this system, production was slow. Fortunately, the increased demand for cloth resulted in the invention of multiple textile machines. The mechanization of the textile industry in Britain, thanks to Kay's flying shuttle in 1733, Hargreaves' spinning jenny in 1764, and Arkwright's water frame in 1769, reduced the number of labor hours required to produce 100 pounds of cotton to 300 hours in the 1790s, and 135 hours by the 1830s. The textile factory-based production system had been born.

Transportation revolution

Great Britain had ample natural resources to produce goods and markets ready to purchase them, but none of that would have mattered without the ability to transport the goods to their destinations. Factories throughout the country needed inexpensive, efficient methods to transport raw materials and the products ready for sale. Some capitalists invested in the

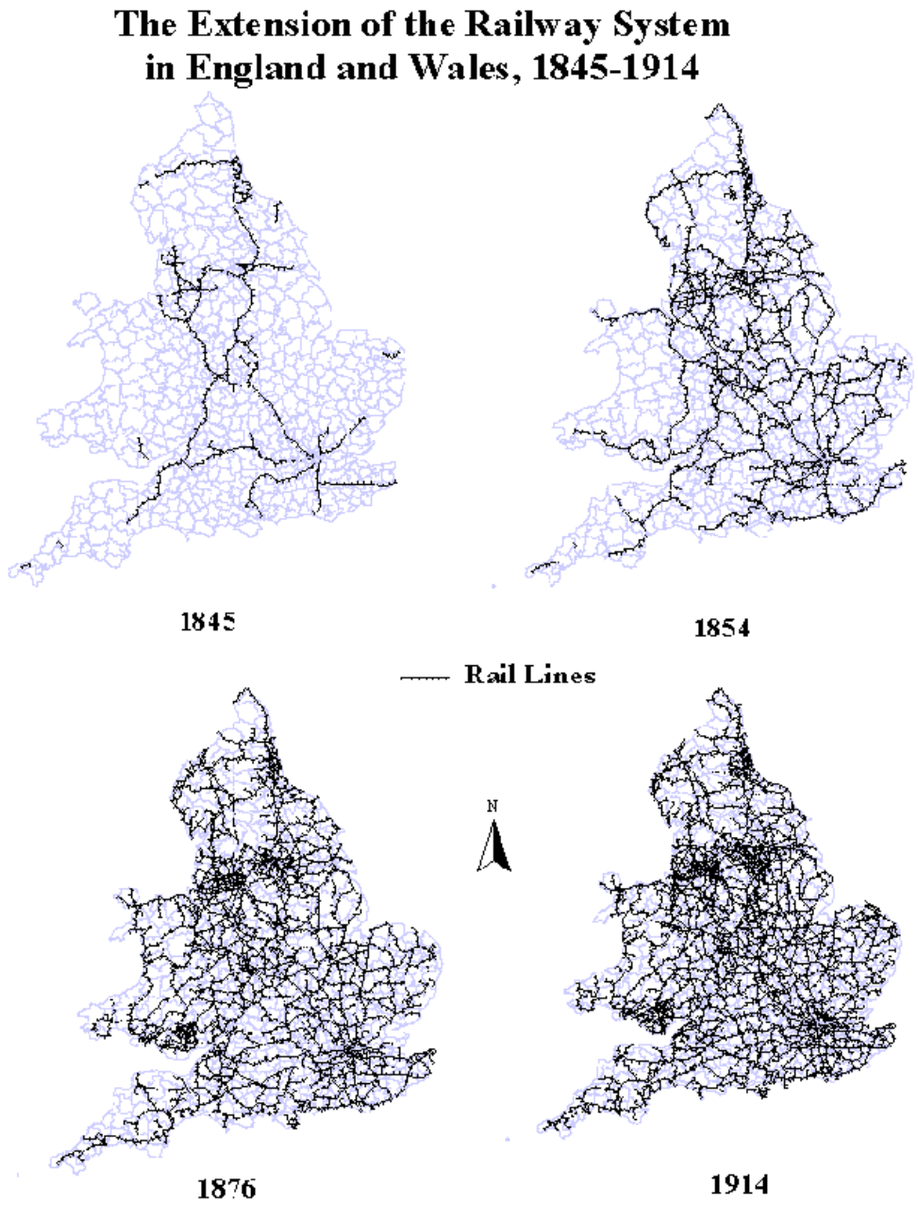


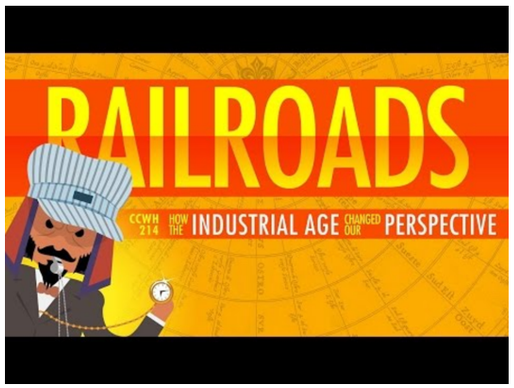
Image source: https://www.mtholyoke.edu/courses/rschwart/rail/image018.gif

construction of turnpikes--private roads built by entrepreneurs who charged those who utilized them tolls or fees. During the 1700s, a network of canals was expanded by other entrepreneurs to connect industrial centers throughout the country. As an island

nation, Great Britain had natural ports and numerous rivers that enabled the construction of canals. These waterways promoted trade and transmission of goods.

The inventions of the steam locomotive and railroads went hand in hand, and were major catalysts for the transportation revolution. Railroads were often regarded as the most significant change in transportation in all of human history; while airplanes and automobiles would keep the revolution forging ahead, it was railroads that kept it chugging along. For a detailed synopsis of the impact on multiple aspects of society, view the following John Green video:

Interactive 6.3 Crash Course: Railroads and the Industrial Revolution



While viewing the video, pay attention to Green's take on how railroads altered perceptions of time, space, distance, and leisure.

The basic idea of transport by rail existed in Great Britain in the 1700s, used primarily by coal mines. Railroads were appealing because they didn't have to be built near a water source, unlike canals. Modifications to James Watt's steam engine and processes to purify iron resulted in the advent of the steam locomotive. The result was a dramatic escalation in railway construction, both in Great Britain and other nations around the globe.

Year	Country	Railroad Tracks (in miles)
1830	Great Britain	95
1850	Great Britain	6,600
1890	Great Britain	20,000
1890	Germany	26,000
1890	United States	167,000
1890	Russia	48,000

The expansion of railways had political and economic ramifications. Constructing such a large scale network of transportation required oversight and organizations, prompting national governments to step in. Towns and cities would vie to have railroads built along routes that would benefit them and promote prosperity, so governments had to step in and make decisions. Governments also created standards for safety measures and types of equipment, so trains could transfer from track to track and run in a uniform manner throughout the nation. While perhaps an unintended consequence, railroads brought national unity and increased political power.

Opposition

It is worthy of note, however, that industrialization was not universally embraced. In Great Britain, a group called the Luddites violently opposed the industrial revolution that was taking place. In early 1811, General Ned Ludd and his Army of Redressers began sending threatening letters to manufacturers in Nottingham because many factory owners had lowered wages and were replacing skilled workers with unskilled workers. The Luddites began organized machine smashing parties. The government responded forcefully by placing rewards in exchange for information regarding the identity of the Luddites. By 1812, the government had passed a law making the destruction of machinery a capital offense. Today, the term “Luddite” has become part of our modern vernacular, used to describe a person who opposes technology.

Section 3

Industrialization Spreads

QUESTIONS TO GUIDE INQUIRY

1. What were the political and economic impacts of the Industrial Revolution?
2. How and why did the Industrial Revolution cause shifts in population?
3. What new forms of technology propelled the Industrial Revolution?
4. How did the Industrial Revolution shape the distribution of global power?
5. How did the Industrial Revolution change society?

TERMS, PLACES, PEOPLE

Tariffs

Corporation

Stock

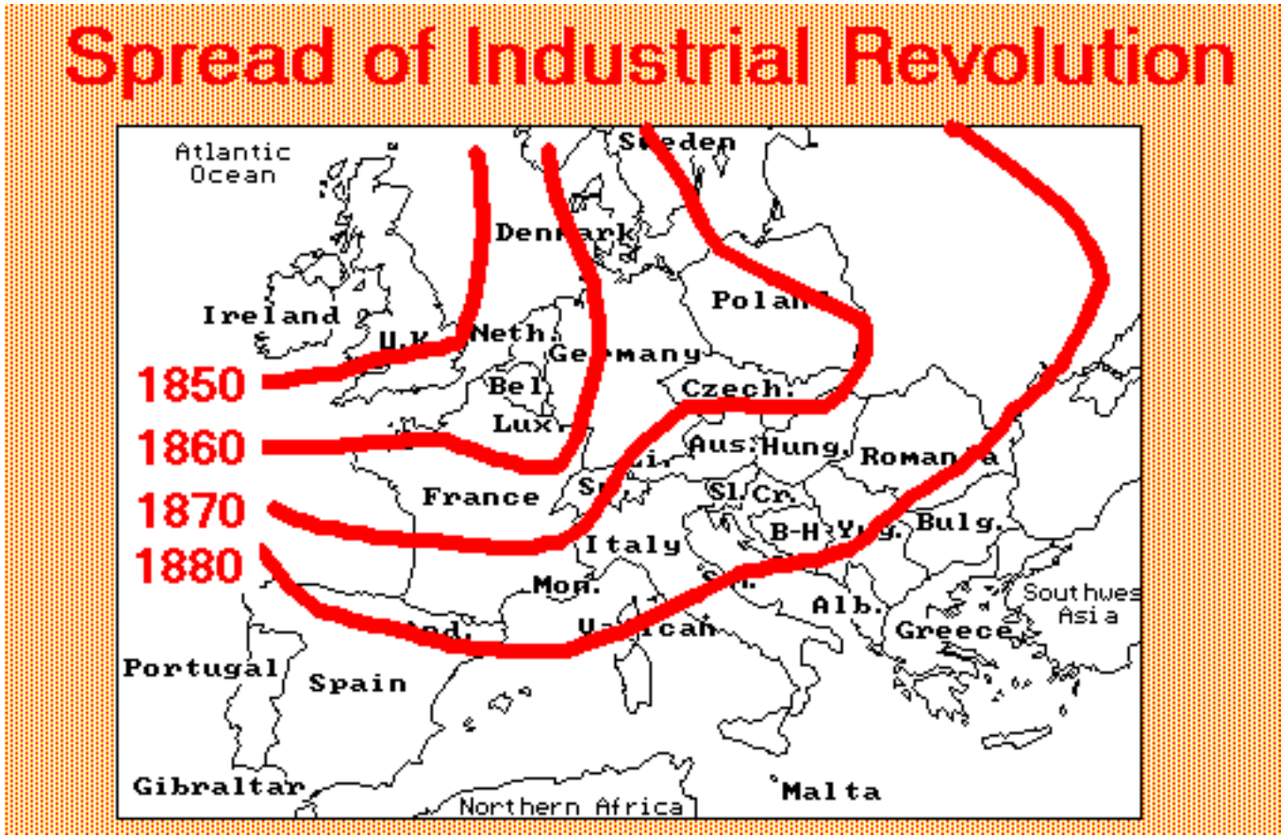


image source: https://revolutionsarethelocomotivesofhistory.files.wordpress.com/2015/05/d-5-19.gif

In addition to Great Britain's internal factors conducive to industrialization, there were external factors that help explain why other nations didn't industrialize as early or as rapidly. First, Great Britain took intentional measures to protect their innovations and maintain a competitive edge. Second, other European nations were experiencing varying degrees of political disunity. As an island, Great Britain remained segregated from conflicts and turbulence on the mainland, such as the

French Revolution and the Napoleonic wars in Europe. Third, natural resources such as coal and iron were either lesser in quantity or more spread out, making them more difficult to mine and distribute than in Great Britain.

In 1851, Great Britain hosted The Great Exhibition to showcase the nation's progress in innovation and technology. This became a turning point, as it sparked other nations to industrialize. The first nations to follow Great Britain's lead were those that were closest geographically-- Belgium, France, and Germany in Europe and the United States in North America.

Belgium

Belgium was the first nation on the European mainland to industrialize. Geographically, it had a network of waterways that behooved transportation. As a small nation, its iron and coal resources were near each other. Although Great Britain forbade the transmission of its technology to other nations, skilled British workers emigrated to Belgium and used their knowledge and expertise to help kick start textile manufacturing.

France

Due in part to lingering effects of the French Revolution, the pace of industrialization was more gradual in France than in Great Britain. The French had protectionist **tariffs**, or taxes on imports and exports. These were especially punitive toward Britain, a longtime rival of France. The tariffs resulted in the persistence of older, less efficient means of textile production and metallurgy. In addition, natural resources of coal and iron were less abundant in France than in Great Britain, Germany, or the United States. Population growth occurred at a slower pace in France than in other Western nations. Nevertheless, the Industrial Revolution did take hold in France as railroads expanded and the factory system replaced the domestic system.

Germany

Germany was politically divided in the early 1800s. After unification in 1871, industrialization occurred at a rapid pace. Germany followed the British model, importing technology and sending people abroad to learn about the innovations in Great Britain. The construction of railroads linked urban centers of manufacturing with valuable coal and iron deposits in the Ruhr valley. Germany focused primarily on heavy industry with less emphasis on textiles, preferring instead to import them from Great Britain. Germany experienced exponential growth in steel production, even surpassing Great Britain in the 1890s. The combined factors of unification and industrialization elevated Germany as an emerging military and imperial powerhouse in the 20th century.

The United States

As a much larger nation than any single European country, more expansive territory meant more expansive natural resources for the United States. It also meant that railroads were essential to traverse the nation and link resources to manufacturing locations; the first intercontinental railroad was built in 1869 to connect territory east and west of the Mississippi River. Like Belgium, the United States mechanized the textile industry with British emigrants leading the way, which sparked urbanization. Most factories were concentrated in the Northeast. Notable inventions unique to the United States include the electric lightbulb and telephone. Eventually, smaller companies trended toward mergers to form larger companies. **Corporations** emerged as companies who sold **stocks**, or shares of ownership, to raise capital for investment and expansion. Prominent examples include the Standard Oil Company, founded by John D. Rockefeller and the Carnegie Steel Company, founded by Andrew Carnegie. The Civil War also fueled a manufacturing boom, particularly in the arms industry. As domestic demand subsided following the conclusion of the Civil War in 1865, sales were redirected to international markets. Another factory unique to the United States was an initial concern about a labor shortage, which led to an influx of immigrant workers in the latter half of the nineteenth century.

Japan

Japan stands out as a non-Western example of industrialization. As an island nation, Japan was staunchly isolationist until Americans led by Commodore Matthew Perry forced the Japanese to open up to trade in 1853. Quickly realizing that dramatic changes were happening elsewhere around the globe, Japan made a concerted effort to catch up with the Industrial Revolution. After seeing China influenced by European imperialists with modern weapons, Japan felt is was necessary to be proactive. During the Meiji Restoration, starting in 1868, Japan sent scholars abroad to learn from the United States and Western Europe, and brought Westerners to Japan to spread their knowledge.

Japan caught the world's attention during the Russo-Japanese War (1904-1905). It started as a rivalry over territory in Manchuria and Korea, and exemplified how industrialization could beget military and political power. The Japanese victory was significant, as the first instance of an Asian nation defeating a European power in the modern era.

Section 4

Social Transformation

QUESTIONS TO GUIDE INQUIRY

1. **What were the political and economic impacts of the Industrial Revolution?**
2. **How and why did the Industrial Revolution cause shifts in population?**
3. **What new forms of technology propelled the Industrial Revolution?**
4. **How did the Industrial Revolution shape the distribution of global power?**
5. **How did the Industrial Revolution change society?**

TERMS, PLACES, PEOPLE

Domestic system
Factory system
Urbanization
Tenements
Labor union
Nuclear family

It's ironic really--the Industrial Revolution was, by definition, mechanical in nature. Yet, it managed to affect nearly every aspect of human society. The overall pace of life was transformed. Prior to industrialization, families worked at their own pace, producing goods in their own homes under the domestic system with materials provided by entrepreneurs. Workers' earnings were contingent on the number of items produced. The pace quickened dramatically with the onset of the **factory system**, which required workers to keep pace with machinery. Workers were also paid by the hour, under the supervision of others seeking to maximize profits. The Industrial Revolution deserves a great deal of credit for the high standard of living we enjoy today, but there was an initial price to pay.

Interactive 6.4 Filthy Cities

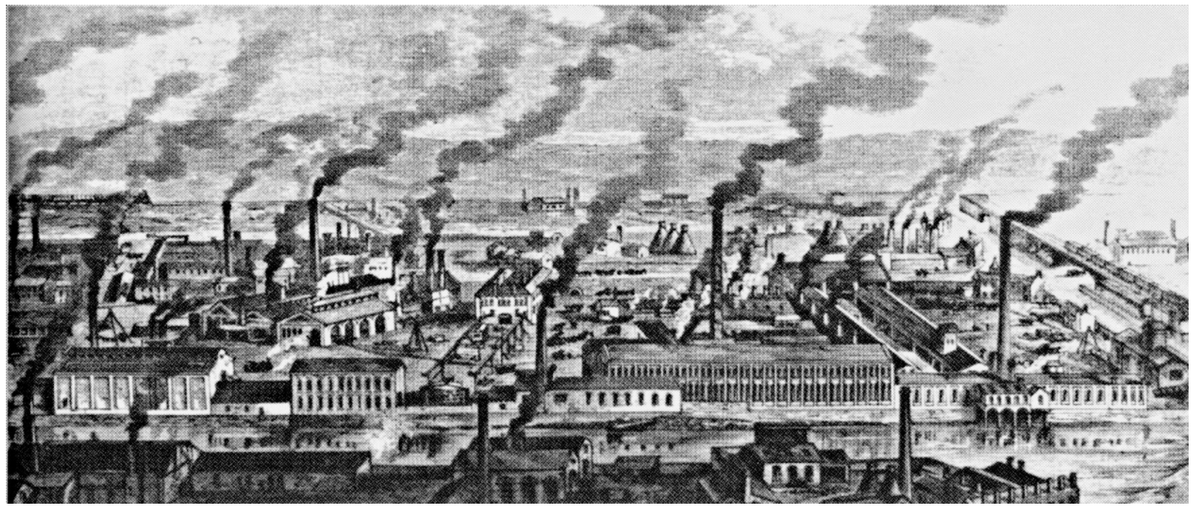
Learn more about how industrialization affected the growth and development of cities in this video.

Urbanization

Coketown lay shrouded in a haze of its own, which appeared impervious to the sun's rays. You only knew the town was there because you knew there could have been no such sulky blotch upon the prospect without a town. A blur of soot and smoke, now confusedly tending this way, now that way, now aspiring to the vault of Heaven, now murkily creeping along the earth, as the wind rose and fell, or

changed its quarter: a dense formless jumble, with sheets of cross light in it, that showed nothing but masses of darkness—Coketown in the distance was suggestive of itself, though not a brick of it could be seen.

The quote above is from Hard Times by Charles Dickens. The novel is set in Coketown, an industrial city in England.



(Image source: https://upload.wikimedia.org/wikipedia/commons/6/69/Revolucion_industria.jpg)

Generate a mental image of Coketown based on the description in the quote. What else would you expect to see there?
Dickens describes Coketown as "a blur of soot and smoke." Can you think of anything the soot might symbolize?

By 1850, Great Britain was the first nation in the world to have an urban population that outnumbered its rural population. Other nations would soon follow the same trend of **urbanization**, as cities grew to accommodate the rapid influx of people looking for work. Because cities were built so quickly, they were often poorly planned with narrow streets and crowded **tenements**,or apartment buildings. Many tenements housed entire families in one room, with one account of a house sheltering 63 residents in 7 rooms.

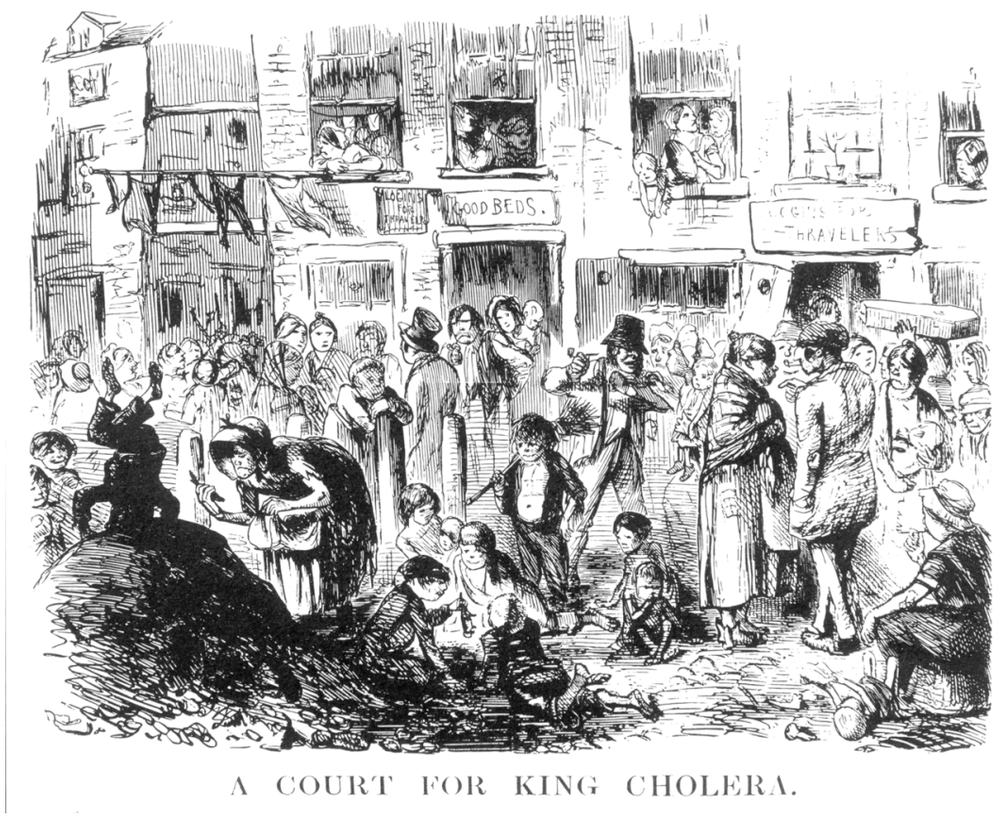
Population of Selected British Cities 1801–1891

Town	1801	1861	1891
Birmingham	74,000	296,000	523,000
Leeds	53,000	207,000	429,000
Liverpool	80,000	444,000	704,000
Manchester	90,000	339,000	645,000

Source: B.R. Mitchell, *International Historical Statistics: Europe, 1750–1988,* Stockton Press, Third Edition (adapted)

Image source: http://images.slideplayer.com/27/9253651/slides/slide_90.jpg

Poor sanitation was another result of poor urban planning. Clean water became a luxury reserved for the rich. Open sewers ran through the streets, transporting human, animal, and industrial waste unchecked by regulation. Consequently, diseases (e.g. cholera, tuberculosis, typhoid, typhus) were rampant. During the summer months of 1858, the weather was exceptionally hot. The smell resulting from the filth in London's Thames River was overwhelming and paralyzed the city. People implored the government to intervene. The event came to be called The Great Stink. Air pollution was commonplace and working class families battled malnutrition. In response to these living conditions, rates of alcoholism and crime rose.



A COURT FOR KING CHOLERA.

Image source: https://upload.wikimedia.org/wikipedia/commons/thumb/8/8c/Punch-A_Court_for_King_Cholera.png/1280px-Punch-A_Court_for_King_Cholera.png

Social Classes

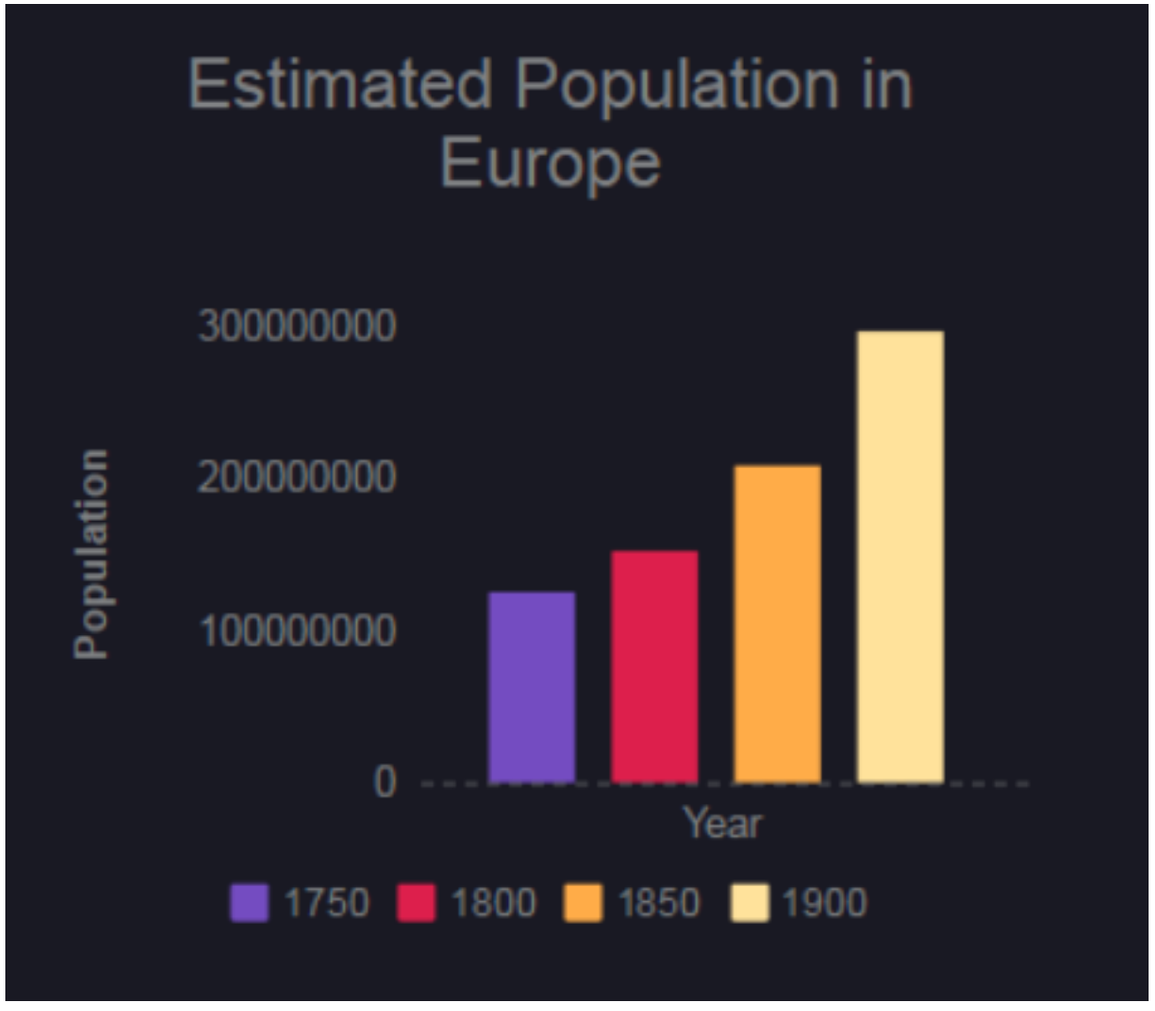
During Europe's Middle Ages, social classes were largely defined by the feudal structure. Land ownership governed the hierarchy and defined the haves and have nots. However, that would shift significantly as the Industrial Revolution provided new means of wealth and alternative paths to social mobility.

As a whole, the status of the aristocracy declined as most of their wealth was derived from land ownership; industrialization provided different opportunities to amass wealth. The artisan class diminished as its members gravitated toward small business ownership or wage labor.

The Industrial Revolution paved the way for new groups in society: the working class and middle class. The working class differed from their peasant predecessors because they mainly labored for hourly wages in factories, rather than performing agricultural duties. Also, for the first time in history, a middle class emerged. Members of this new middle class included owners and supervisors of industrialized factories, mines, railroads, and the like. Women's roles varied by social class; working class women were more likely to labor in factories whereas middle class women tended to spend the bulk of their time performing domestic duties.

Demographic Shifts

The Industrial Revolution had massive impacts on human population. In 1800, a person could expect to die during their thirties. A person born after 1900 could expect to live into their fifties, thanks to improvements in the overall standard of living. Higher birth rates and lower death rates combined for an overall increase in population. These changes can be attributed to improvements in sanitation, better living and working conditions, more available food, fewer plagues, and advancements in medicine and science.



The distribution of population changed as well. Communities grew as settlements sprung up in areas conducive to factories, such as those near water and natural resources such as coal and iron. People also migrated on larger scales. For example, industrialization in the United States attracted and international workforce. Skilled British workers sought higher wages in America, and staffed textile factories, shipyards, and coal mines. Immigrants fleeing the Irish potato famine in the mid-1800s hoped for a brighter future in America. Workers came from France, Germany, Italy, Poland, and Russia with reasons ranging from high unemployment rates to disease outbreaks and Anti-Semitic sentiment (violence and negative attitudes toward Jews). From the other side of the globe, Chinese immigrants went to America and found work in gold mines, railroad construction, agriculture, and factories. Stay tuned for further examples of global migrations spurred by industrialization in the chapter on global imperialism.

Working Conditions

Working conditions in urban factories were much different than those in rural farms. During the early phases of the Industrial Revolution, workers labored under difficult conditions. The work day could last up to 14 hours per day, 6 days per week. The work itself was both physically and mentally exhausting, due to repetition and boredom. Workers who arrived late could find themselves locked out of the factory and docked half a day's wages as punishment. Working around steam engines was very hot. Early machines had few safety precautions, resulting in injuries and amputations of fingers, hands, and arms. Dangerous conditions in mines resulted in explosions and cave-ins. A surplus of laborers meant that wages remained low, and unemployed workers were available to replace those who were ill, injured, or unwilling to endure the harsh conditions. Keep in mind, there was no public assistance nor did social welfare programs exist to support people who were injured on the job or unemployed.

Interactive 6.5 Factory life Activity

This plan includes resources and activities regarding working conditions.

In the working class, women and children also held jobs to make ends meet, although they typically earned lower wages.

Refer to the tables below. What similarities and differences exist when comparing child labor in the mining and textile industries? What are some possible explanations for these similarities and differences?

Child Employment in the United Kingdom in 1851			
Mining		**Textiles and Dyeing**	
Males under 15	**37,300**	**Males under 15**	**93,800**
Females under 15	**1,400**	**Females under 15**	**147,700**
Males 15-20	**50,100**	**Males 15-20**	**92,600**
Females over 15	**5,400**	**Females over 15**	**780,900**
Total under 15 as % of workforce	**13%**	**Total under 15 as % of workforce**	**15%**

Image Source: https://docs.google.com/document/d/1WPCkxED4nDpgoeDBmNlK8EfMmgsWSvp8ltCjHnf3MtE/edit, data from https://eh.net/encyclopedia/child-labor-during-the-british-industrial-revolution/

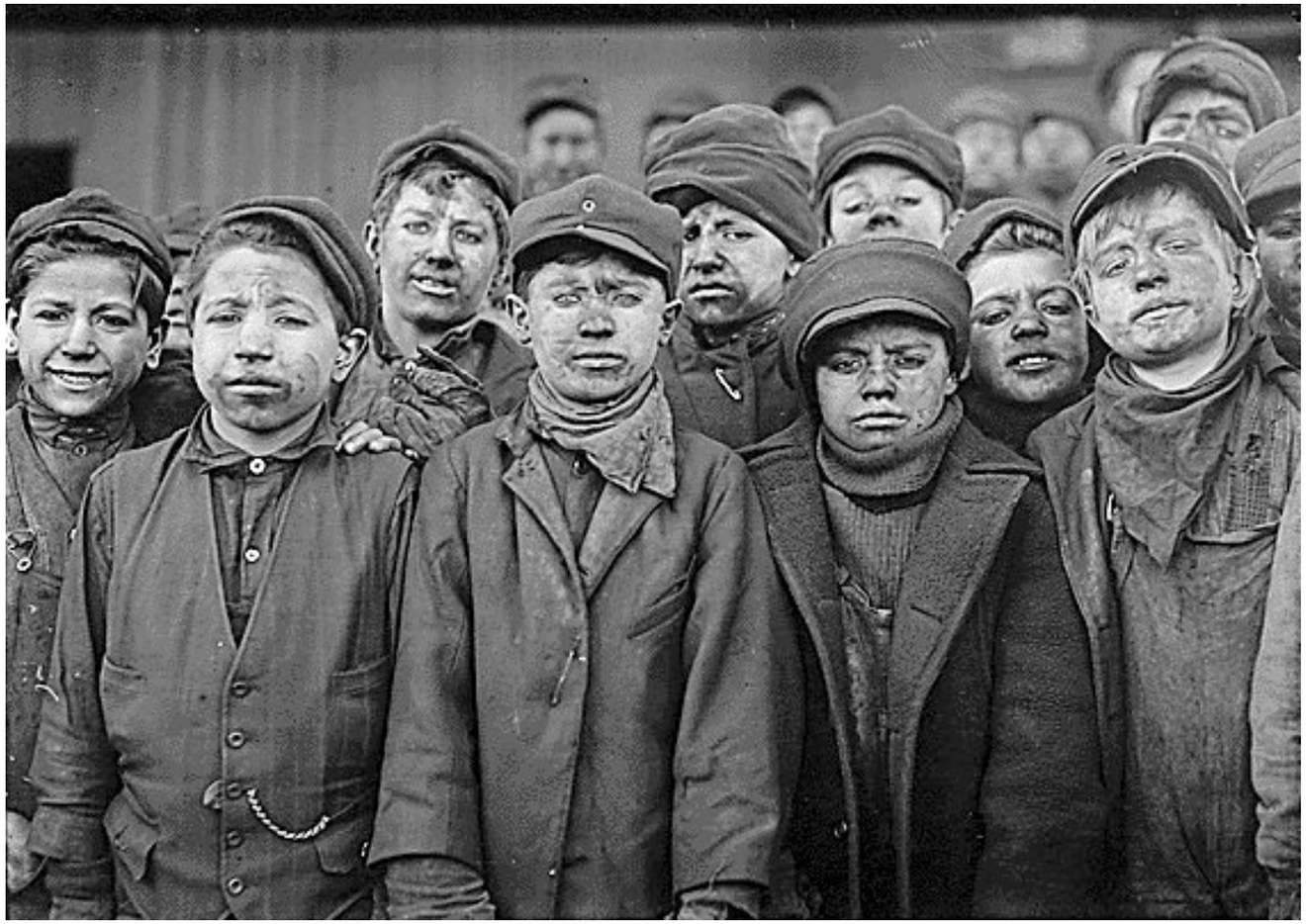


Image source: https://upload.wikimhttps://upload.wikimedia.org/wikipedia/commons/b/b3/Childlabourcoal.jpgedia.org/wikipedia/commons/b/b3/Childlabourcoal.jpg

They look up with their pale and sunken faces,

And their looks are sad to see,

For the man's hoary anguish draws and presses

Down the cheeks of infancy;

"Your old earth," they say, "is very dreary,

Our young feet," they say, "are very weak!

Few paces have we taken, yet are weary —

Our grave-rest is very far to seek.

Ask the aged why they weep, and not the children;

For the outside earth is cold;

And we young ones stand without, in our bewildering,

And the graves are for the old."

Lines 25-36 of “The Cry of the Children,” a poem by Elizabeth Barrett Browning, exerpted from http://www.wwnorton.com/college/english/nael/victorian/topic_1/children.htm

Refer to the passage above. What can you infer about the Industrial Revolution’s impact on children?

Reform Laws

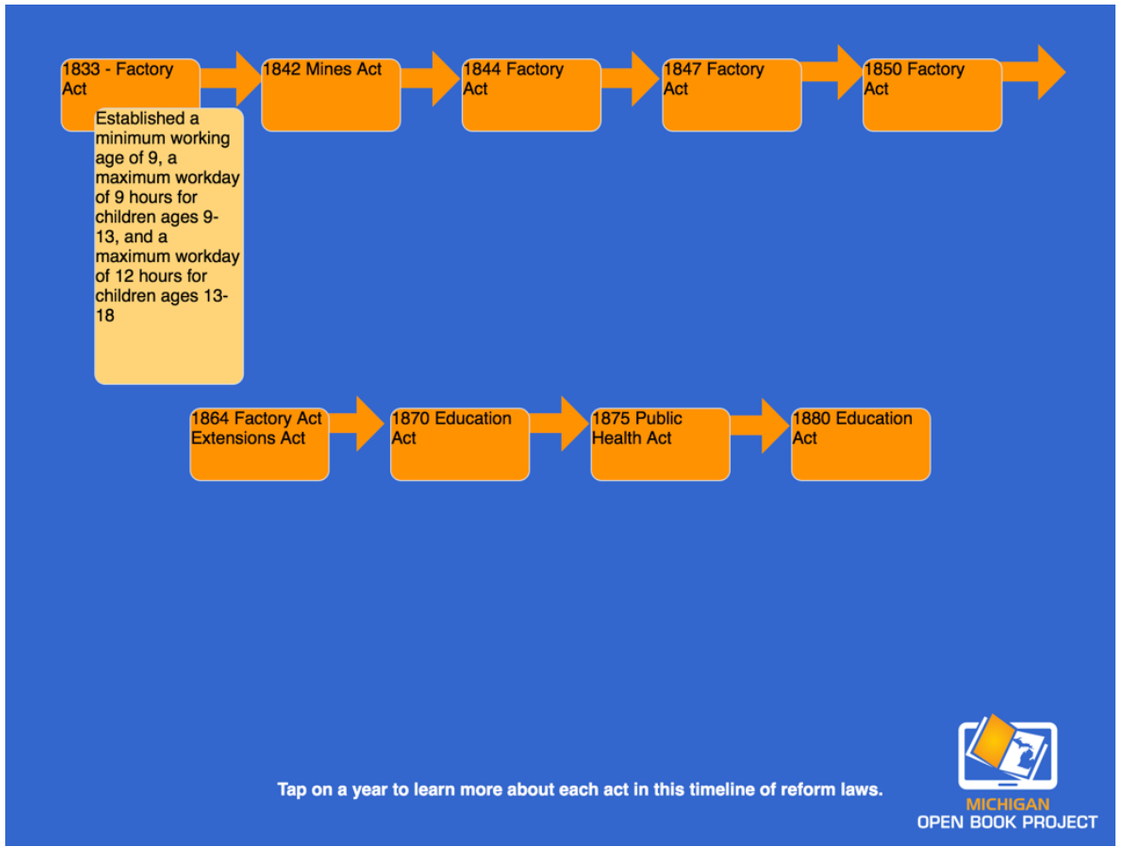
Rapid changes in industrialization resulted in many people living in poverty and fed up with working conditions. Some advocates for change came from within industry, such as Robert Owen. As a manufacturer-turned-reformer, Owen ran textile mills in New Lanark, Scotland. He sought to improve the standard of living for his workers by transforming the entire community. Owen took steps to improve housing, lower crime rates, improve the quality of education, regulate alcohol consumption, and improve sanitation.

Other advocates for change turned to legal means. Some politicians were motivated to improve the plight of the working class, whereas others sought change to avoid a possible revolution stemming from the discontent. A series of laws improved living and working conditions.

Labor Unions

While some reforms were initiated by factory owners and politicians, organizations of workers also developed to advocate for better conditions. These organizations evolved into **labor unions**, or groups of people in a trade or profession working together to protect their rights and further their interests. Chief concerns included wages, setting parameters for work hours, safety in the work environment, ending child labor, negotiating health benefits, and setting up programs to support workers if they became ill, got injured, or retired. Labor unions employed strategies including collective bargaining and strikes to leverage their unity.

Interactive 6.6 Timeline of Reform Laws



Learn more about the reform laws passed in this era in this interactive.

Effects on Gender and Family

Industrialization had massive impacts on social structures, especially gender roles and families. Prior to industrialization, village life offered support networks including friends, neighbors, and extended family. However, typically migrants left villages and moved to urban areas as **nuclear family** units, including only parents and children. The result was feeling less supported and more isolated in cities.

Under the **domestic system**, home and workplace were one in the same; men and women shared tasks. However, the factory system meant that families were no longer the primary agents of production. Gender roles diverged as a result. Working class families had men, women, and children traveling to separate job sites each day. Middle class families typically had men going to work while women stayed home.

Female laborers were important in early factories, especially in textile manufacturing. However, the textile industry was also a leader in mechanization, with machines replacing human workers. Most female factory workers were young, intending to work a few years before marrying and having a family. Women's overall status (relative to men) declined over time, furthering the divide in gender roles. Increasingly, men took on traditional roles as skilled laborers and breadwinners while women performed domestic duties. However, there were ways in which middle class women took on new, important roles in society. Housewives sometimes chose to devote time to social and political causes. More women attained high school and college diplomas. Doing the shopping meant that women had more economic power as consumers. Engaging in these arenas laid an important foundation for women to seek voting rights; several industrialized nations awarded suffrage to women in the early 1900s.

Section 5

Industrialization Promotes New Thinking

QUESTIONS TO GUIDE INQUIRY

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TERMS, PLACES, PEOPLE

Laissez-faire

Utilitarianism

Communism

During the first phase of the Industrial Revolution, between 1790 and 1850, British society became the first example of what happens in a country when free-market capitalism had no constraints. Significant social, political, economic, and cultural changes occurred rapidly as the result of mass urbanization in the nation's industrialized cities.

One British economist who studied the effects of the population explosion brought on by the Industrial Revolution was Thomas Malthus. Through careful study of crowded slums, widespread hunger, unemployment, and much misery, he published his work. In An Essay on the Principle of Population, published in 1798, Malthus concluded that because the population was increasing at a faster rate than the food supply could accommodate, poverty was unavoidable. Malthus was just one of many who tried to understand the onslaught of significant changes taking place during the first phase of the Industrial Revolution.

Just as significant as the demographic work of Malthus, was that of Adam Smith. In his best-selling book, The Wealth of Nations, Smith asserted that a free market--unregulated exchanges of goods and services would come to benefit everyone--not just the wealthy or upper class. Smith further asserted that the free market would produce more goods at lower prices, making them affordable to everyone. Furthermore, as the economy continued to grow, capitalists would reinvest profits in new ventures. This cycle would happen without the interference

of government, known as a **laissez-faire** or "hands off" approach.

Even though Malthus was also a laissez-faire economist, his view was in sharp contrast to the economic views that Smith held. Malthus was convinced that the only checks on population growth (the root of widespread misery) were nature's methods of war, disease, and famine. Therefore, Malthus urged families to have less children. Many accepted his bleak view during the early 1800s as lifestyles changed for the worse. Although as the century progressed, and the population boom continued, the food supply grew even faster, thus disproving his primary theory. As the century progressed, living conditions slowly improved and people did begin having fewer children.

While laissez-faire economists such as Smith, Malthus, David Ricardo, and a few others studied the impacts of industrialization on the nation's economy and the importance of no government interference, other thinkers utilized the economic theory to justify modifications to the role the government should play in the nation's economy. Jeremy Bentham was one such person. By 1800, Bentham was a strong advocate for **utilitarianism**, or the idea that the goal of society should be to attain "the greatest happiness for the greatest number" of a nation's citizens. Bentham believed that all actions or laws should be judged by their "utility." In other words, was the end result more pleasure or happiness than pain? And while Bentham was a strong proponent for individual freedom because he believed it guaranteed an individual's happiness, he saw the need for the government to become involved under certain circumstances. Another utilitarian, John Stuart Mill, believed that the government should step in to help improve the lives of the working class by placing some restrictions on middle-class business owners. Mill additionally called for workers and women to have the right to vote because he believed that they could then pool their political power to win reforms. Very slowly (not until the later 1800s) his views were accepted.

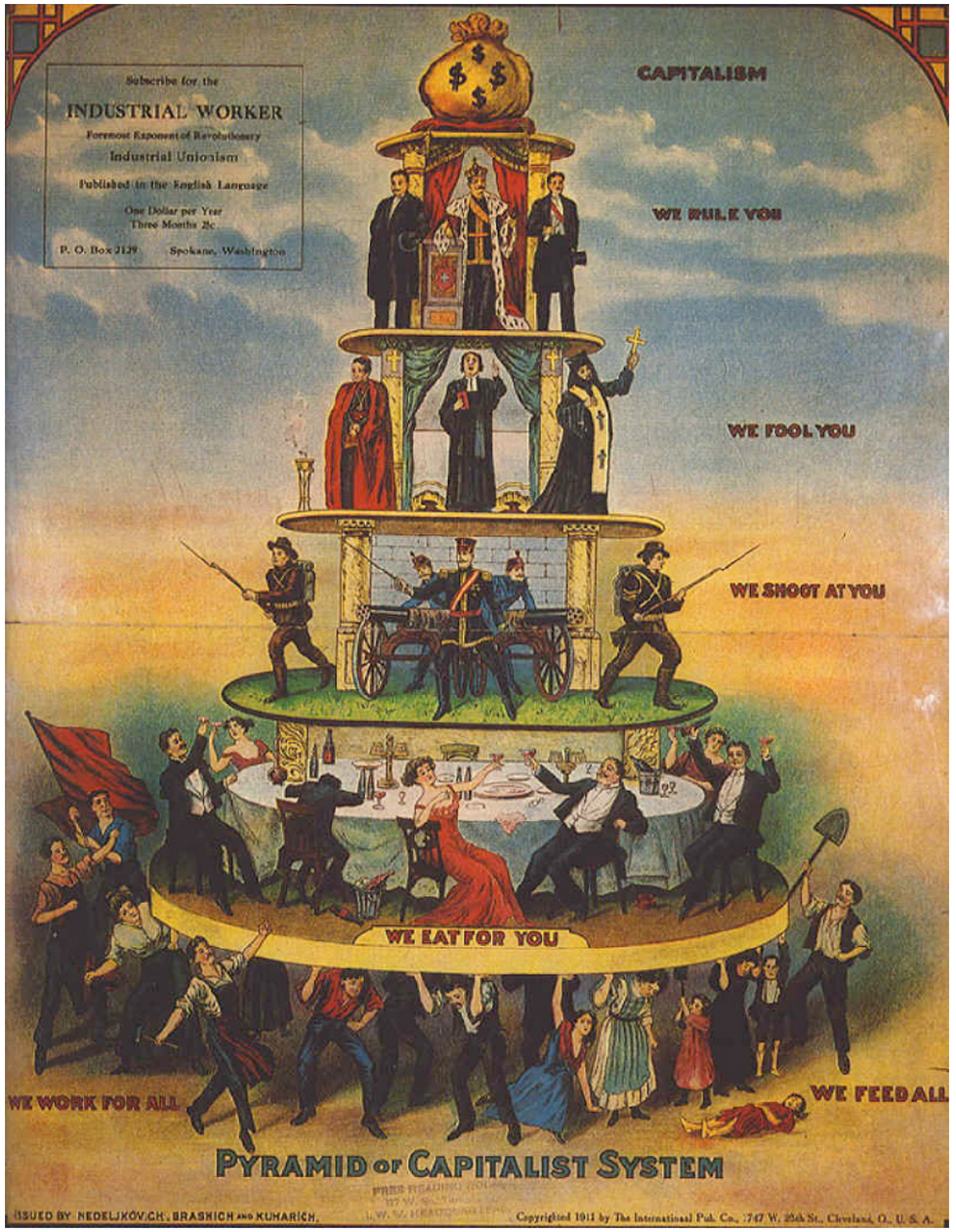
The Emergence of Communist Thought

One of the greatest revolutionary ideals to emerge from this time was led by Karl Marx in the 1840s. Marx condemned the ideals of Utopians such as Robert Owen as being unrealistic. Teaming up with Friedrich Engels, their book, The Communist Manifesto expanded upon concepts behind a communist society. A form of socialism, according to Marx, **communism** went one step further. According to Marx, class struggle was inevitable and would lead to a classless society in which all wealth and property would be owned by a community as a whole. Marx also stated that the only real change can come from a revolution. His manifesto became the working man's code of equality. This idea set the European world on fire. Middle class workers, along with the lower class workers suddenly were working together to get what they believed they were owed. Thus began a whole new era

pitting the proletariat or working class against the bourgeoisie, or upper class. By the 1860s, Germany had adopted a social democracy, a political ideology in which a gradual transition occurred from that of a capitalistic system to a socialistic one thus avoiding a violent overthrow of the system. Toward the end of the century, socialists in Russia had embraced Marxism and the outcome of the Russian Revolution in 1917 established a communist government.

Marxism Eventually Loses its Appeal

Marx had argued that workers would unite across national borders to wage class warfare. Nationalism, however, trumped unity of the working class and by the end of the 20th Century, few nations still retained Communist forms of governments. The capitalistic system was back.



https://upload.wikimedia.org/wikipedia/commons/b/bf/Pyramid_of_Capitalist_System.png

After looking at the above graphic how would you answer the following question: Is this how Capitalism is seen today? Explain any differences or similarities. Be sure to use specific examples.