

AP European History - Chapter 20 *The Industrial Revolution & its Impact on European Society*
Class Notes & Critical Thinking

Focus Question: Why was Great Britain the first state to have an Industrial Revolution? Why did it happen in Britain when it did? What were the basic features of the new industrial system created by the Industrial Revolution?

“Dual Revolution”

- Liberalism of the French Revolution combined with the Industrial Revolution
- After 1815, these economic and political revolutions fused in the form of capitalism, liberalism, nationalism, and socialism throughout Europe.
- This “Dual Revolution” has continued to unfold well into the 20th century.

British Had Incentives to Start Industrial Rev. (1780)

- Government favored it
- Had the markets (big colonial empire) & abundant resources
- Sea power & shipping
- Capital earned in agriculture & commerce
- English life offered rewards to people who took risks & were innovative
- Had “profit motives”
 - Woolen & cotton cloth could be marketed if more could be made
 - Needed to be produced by machine
 - Only country already wealthy could start Ind. Rev.

Industrial Revolution Swept Continental Europe after 1815

- After Napoleon was defeated Europe became conservative
 - All wanted to go back to old ways = reactionary government
- Ind. Rev. worked against political conservatism
 - Industry created larger business & working class (wage earners) = demanded more political rights
 - Industry became sign of progress: proved stronger than reaction

18th, 19th, 20th Centuries More Industrialized Nations

- 18th & 19th: England, W. Europe, & U.S.
- 20th: Russia & China

1st Needed Agricultural Revolution

- England had it before 1780
- Rev. of 1688 got political control to very wealthy property owning class & merchants

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Results: change in farming or Ag. Revolution

- Landowners wanted to ↑ money income
 - Experimented w/ better methods of cultivation, stock raising, fertilizers, seed drills, horseshoes, new crops, crop rotation
- New changes needed more direct control of land
 - Needed to move people off the land
 - Some by law couldn't be moved
 - Small farmers couldn't afford large machines (tractors)
- Needed to change laws to get small farmers off
 - Great Landlords controlled Parliament – passed 100's of "enclosure acts"
 - Fenced off land – privately owned
 - Farmers forced off

Industrial Revolution Characteristics

- 2 Basic Changes
 - From making goods by hand to making them by machine
 - Instead of making goods in the home, making them in factory

Result: Land & farm labor productivity increased

- ↑ English food supply, didn't need as many to produce it
- Released farm labor for other jobs=human capital
 - Some stayed as hired men
 - Some worked as spinners/weavers
 - Some moved to cities & got factory jobs
 - Mobility of farm workers helped create Ind. Rev.
 - Cont. Europe not as mobile & prod.
 - Most tied to land (serfs)
 - Why Ind. Rev. later in Europe?

British Led the Way W/ Textile Industry – Inventions

- Jon Kay: Flying shuttle 1733
 - Weaver-needed 1 instead of 2 people
 - Spinners couldn't keep up
- James Hargreaves: Spinning Jenny
 - Mechanized spinning machine

British Led the Way With Textile Industry – Inventions

- Richard Arkwright: Water Frame 1769
 - Multiple spinning of many threads
 - Needed water power, later used steam engine
 - Needed huge equip.: built factories
 - Began factory system
- Edmund Cartwright: Power Loom
 - Weaver- huge machines-needed factory
- Eli Whitney: Cotton Gin
 - Needed more raw cotton now-could pick seeds out

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Steam Engines

- Steam Engine: worked to develop it for 100 yrs
 - 1st used wood then coal = too costly
 - Used to get water out of mines
- Thomas Newcomen 1702
 - Built 1st economical steam engine
 - Still inefficient & expensive (still used in mines)
- James Watt 1763
- Improved steam engine
- Matthew Boulton (business partner)
 - Financed him
 - Manufactured them for Britain & export
 - Considered most important invention of Ind. Rev.
 - Successful for use in factories to power machines

Transportation Inventions

- Robert Fuller(1807) Commercial river steamboat
- George Stephenson (1829) Steam locomotive

Critical Thinking:



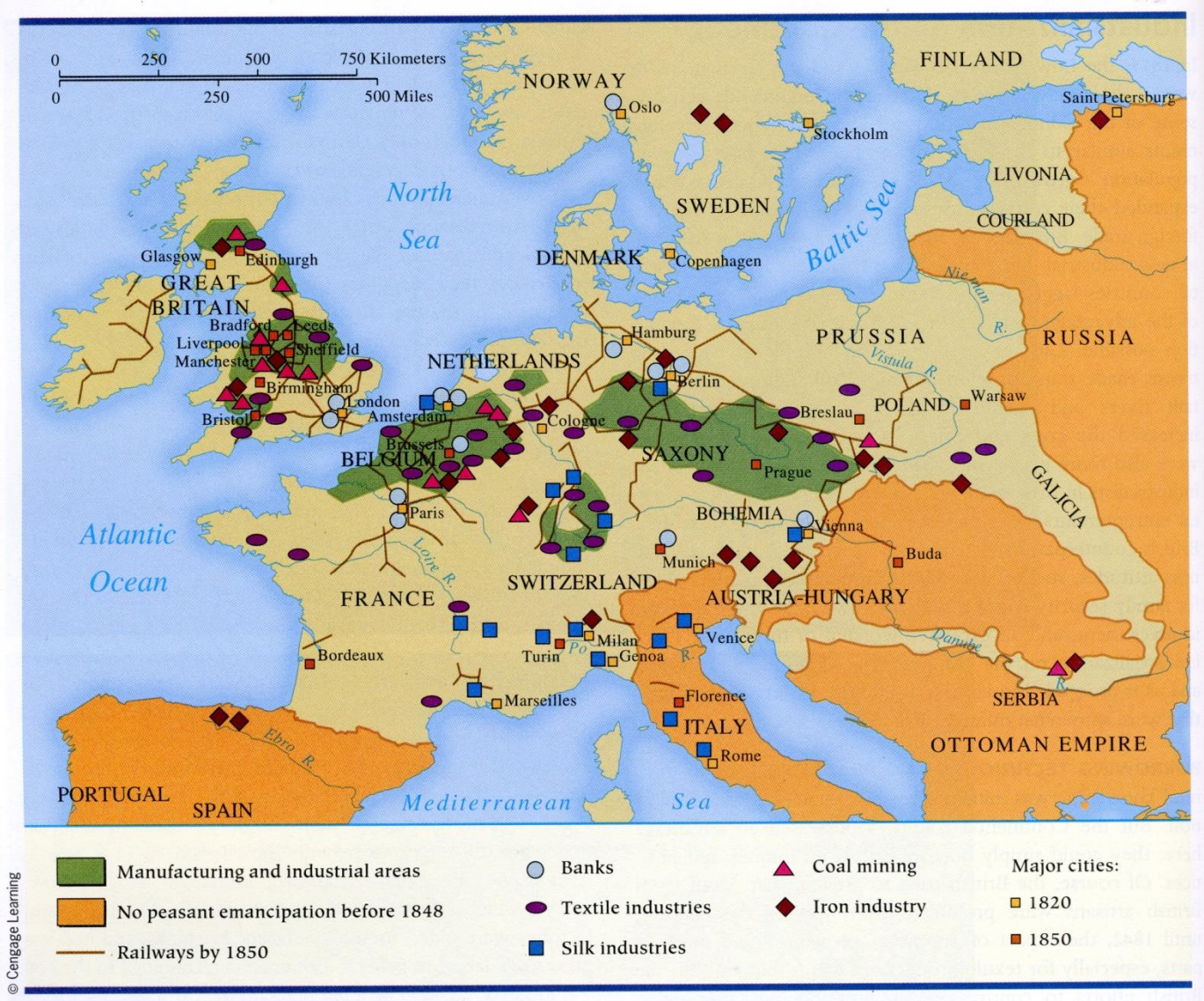
Map 20.1 The Industrial Revolution in Britain by 1850 pg 601

1. Discuss the map with your table partner. What are 2 strong observations you can make about the Industrial Revolution in Britain?

2. How well did the railroad system connect important British industrial areas?

3. Why was most of Britain's industrial production in the north? Where in particular? How will this fact impact Britain?

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Map Analysis:

1. According to the map, what regions of Europe dominated the 1st Industrial Revolution?
2. What reasons could explain why coal mining and iron industries are densely clustered in manufacturing and industrial areas?
3. What reasons could explain why the orange regions lacked industrialization?

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Focus Question: What effects did the Industrial Revolution have on urban life, social classes, family life, and standards of living? What were working conditions like in the early decades of the Industrial Revolution, and what efforts were made to improve them?

Social Consequences

- Developed population problem:
 - England getting crowded
 - People moved to towns where factories were
 - Cities grew up around factories (Manchester)
 - Moved from south to north
- Representation problem
 - New cities (N.) little rep. but many people; south small population but still had representation
- Cities grew too fast – problems:
 - Water, sewage, garbage, police
- Living & Working Conditions
 - Drab & blackened w/ soot
 - Housing: packed in & short supply
 - Lived in 1 rooms & life poor
 - 1000's children running around w/ no last name
- Treatment of Workers
 - Jobs only for unskilled workers
 - Low wages-too low to support families
 - Worked long hrs – up to 14/day
 - Jobs tedious & oppressive
 - Few Holidays
 - Unemployment greatest fear – layoffs often
 - Workers not organized-couldn't improve selves
 - Had to bargain individually – employers no sympathy (competing w/ other industries)
- New Class Arose - Factory Owners: industrial capitalists
 - Rich: profits back into factories
 - Didn't like nobles & poor
 - Honest: gave to charities
 - But would make \$ any way could
 - Didn't like public control of business & child labor
 - Gov't stay out so can make a profit

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Living Conditions of London's Poor pg 612

After reading the excerpt and analyzing the images, write a 1-2 sentence description of what life was like for the poor living in urban industrial cities.

IMAGES OF EVERYDAY LIFE

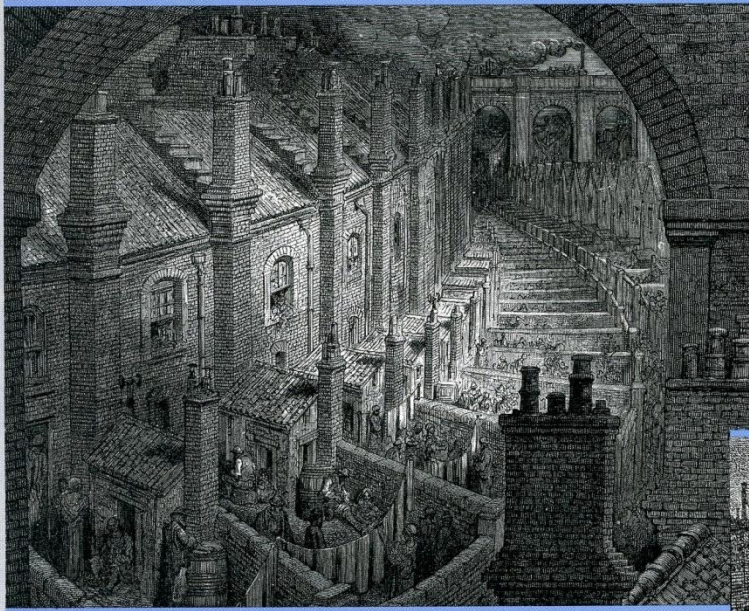
Living Conditions of London's Poor

ALTHOUGH SOME ENVIRONMENTAL HAZARDS existed before industrialization, others intensified in early industrial Britain, with a dramatic impact on living conditions. Burning coal filled the air with ash and soot, metal smelting gave off pungent fumes, and industrial plants belched clouds of smoke from the fires stoked in the steam engines. Water pollution was another problem as slaughterhouses dumped their refuse into the streams and human waste found its way there as well due to a

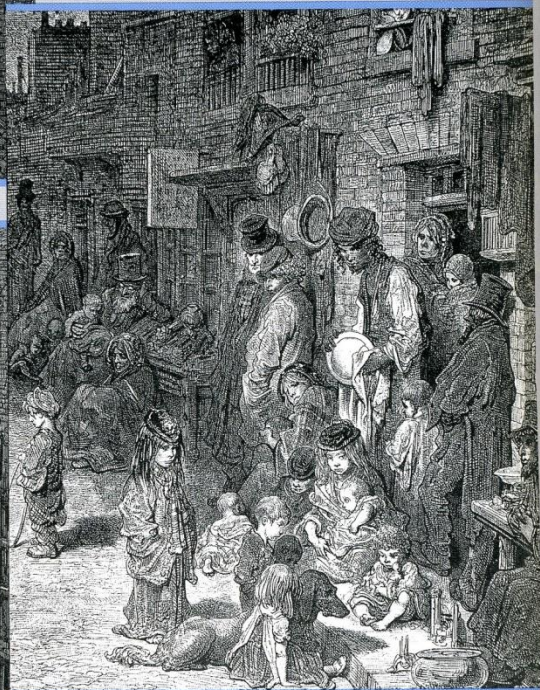
lack of proper sewerage. Consequently, working-class tenants in London found themselves living in crowded rooms surrounded by filth and putrid smells. Many of the houses for the poor were built back to back, leaving little room for sanitation. Despite efforts to improve conditions, the plight of London's workers remained dire. In 1869, an English writer, Blanchard Jerrold, commissioned the French illustrator Gustave Doré (goo-STAHV DOOR-ay) to create illustrations for a

guide to London called *London: A Pilgrimage*. The book was published in 1872 with Doré's illustrations accompanying Jerrold's textual descriptions of the living conditions of London's poor. Doré's most haunting images are of tenement housing and its inhabitants in areas such as Whitechapel. In the first illustration, Doré shows a London slum district overshadowed by rail viaducts. The image directly below depicts an open air market on Dudley Street, where men, women, and children are attempting to sell their wares. In the third image, bottom left, children in ragged clothes play in the street.

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Urbanization in the Late 19th Century

- By 1900 much of Europe had become urban and industrial
- First Industrial Revolution: 1780-1850 – textiles, coal, iron, railroads
- Industrial Revolution attracted huge numbers of workers into the cities
- Britain the first large country to experience urban growth (over 50% of population in 1891)
- Other countries followed
- Poor living conditions
- Parks and open spaces almost nonexistent
- Many people lived in extremely overcrowded attics or cellars (as many as 10 per room)
- Open drains and sewers flowed along streets with garbage and excrement
- Total absence of public transportation

Public Health Movement

- **Edwin Chadwick** became most important reformer of living conditions in cities.
- Influenced by **Jeremy Bentham**: idea of “greatest good for greatest number”
- Believed disease and death caused poverty
- “Sanitary idea” most important: believed disease could be prevented by cleaning up the urban environment
 - Adequate supply of clean piped water to carry off excrement of communal outhouses.
 - Would cost only 1/20 of removing it by hand.
 - Britain (cholera epidemic), Germany, France and U.S. adopted Chadwick’s ideas in light of cholera epidemic in 1840s.

Social Structure as a Result of Industrial Revolution

- Increase in standard of living eventually resulted from urbanization
- Gap between wealthy and working class still remained enormous
- Industrial and urban development made society more diverse and less unified.
- Diversity within middle class
- Upper middle class: bankers, industrial leaders, large-scale commerce
- Diversified middle class: businessmen, professionals, merchants, doctors and lawyers
- Lower middle class: independent shopkeepers and small traders
- Working class: about 80% of population
- Many were peasants and hired hands (especially in Eastern Europe)
- Less unified and homogenous compared to middle classes
- Highly skilled workers were at the top of working class (about 15% of pop.)
- Semi-skilled workers: carpentry, bricklaying, successful factory workers
- Unskilled workers and domestic servants were at the bottom.

Critical Thinking:

Child Labor: Discipline in the Textile Mills

CHILD LABOR WAS NOT NEW, BUT IN THE early Industrial Revolution, it was exploited more systematically. These selections are taken from the Report of Sadler's Committee, an investigatory committee established by the government in 1832 to inquire into the condition of child factory workers.

Keeping the Children Awake

It is a very frequent thing at Mr. Marshall's [at Shrewsbury] where the least children were employed (for there were plenty working at six years of age), for Mr. Horseman to start the mill earlier in the morning than he formerly did; and provided a child should be drowsy, the overlooker walks round the room with a stick in his hand, and he touches that child on the shoulder, and says, "Come here." In a corner of the room there is an iron cistern; it is filled with water; he takes this boy, and takes him up by the legs, and dips him over head in the cistern, and sends him to work for the remainder of the day. . . .

What means were taken to keep the children to their work?—Sometimes they would tap them over the head, or nip them over the nose, or give them a pinch of snuff, or throw water in their faces, or pull them off where they were, and job them about to keep them waking.

The Sadistic Overlooker

Samuel Downe, age 29, factory worker living near Leeds; at the age of about ten began work at Mr. Marshall's mills at Shrewsbury, where the customary hours when work was brisk were generally 5 A.M. to 8 P.M., sometimes from 5:30 A.M. to 8 or 9.

What means were taken to keep the children awake and vigilant, especially at the termination of such a day's labor as you have described?—There was generally a blow or a box, or a tap with a strap, or sometimes the hand.

Have you yourself been strapped?—Yes, most severely, till I could not bear to sit upon a chair without having pillows, and through that I left. I was strapped both on my own legs, and then I was put upon a man's back, and then strapped and buckled with two straps to an iron pillar, and flogged, and all by one overlooker; after that he took a piece of tow, and twisted it in the shape of a cord, and put it in my mouth, and tied it behind my head.

He gagged you?—Yes; and then he orders me to run round a part of the machinery where he was overlooker, and he stood at one end, and every time I came there he struck me with a stick, which I believe was an ash plant, and which he generally carried in his hand, and sometimes he hit me, and sometimes he did not; and one of the men in the room came and begged me off, and that he let me go, and not beat me any more, and consequently he did.

You have been beaten with extraordinary severity?—Yes, I was beaten so that I had not power to cry at all, or hardly speak at one time. What age were you at that time?—Between 10 and 11.



What kind of working conditions did children face in the textile mills during the early Industrial Revolution? Why were they beaten?

Source: From *Human Documents of the Industrial Revolution in Britain* by E. Royston Pike. London: Unwin & Hyman, 1966.

Child Labor: The Mines

AFTER EXAMINING CONDITIONS IN BRITISH coal mines, a government official commented that “the hardest labor in the worst room in the worst-conducted factory is less hard, less cruel and less demoralizing than the labor in the best of coal-mines.” Yet it was not until 1842 that legislation was passed eliminating the labor of boys under ten from the mines. This selection is taken from a government report on the mines in Lancashire.

The Black Holes of Worsley

Examination of Thomas Gibson and George Bryan, witnesses from the coal mines at Worsley:

Have you worked from a boy in a coal mine?—(Both) Yes.

What had you to do then?—Thrutching the basket and drawing. It is done by little boys; one draws the basket and the other pushes it behind. Is that hard labor?—Yes, very hard labor.

For how many hours a day did you work?—Nearly nine hours regularly; sometimes twelve; I have worked about thirteen. We used to go in at six in the morning, and took a bit of bread and cheese in our pocket, and stopped two or three minutes; and some days nothing at all to eat.

How was it that sometimes you had nothing to eat?—We were over-burdened. I had only a mother, and she had nothing to give me. I was sometimes half starved. . . .

Do they work in the same way now exactly?—Yes, they do; they have nothing more than a bit of bread and cheese in their pocket, and sometimes can't eat it all, owing to the dust

and damp and badness of air; and sometimes it is as hot as an oven; sometimes I have seen it so hot as to melt a candle.

What are the usual wages of a boy of eight?—They used to get 3d or 4d a day. Now a man's wages is divided into eight eighths; and when a boy is eight years old he gets one of those eighths; at eleven, two eighths; at thirteen, three eighths; at fifteen, four eighths; at twenty, man's wages.

What are the wages of a man?—About 15s if he is in full employment, but often not more than 10s, and out of that he has to get his tools and candles. He consumes about four candles in nine hours' work, in some places six; 6d per pound, and twenty-four candles to the pound.

Were you ever beaten as a child?—Yes, many a score of times; both kicks and thumps.

Are many girls employed in the pits?—Yes, a vast of those. They do the same kind of work as the boys till they get about 14 years of age, when they get the wages of half a man, and never get more, and continue at the same work for many years.

Did they ever fight together?—Yes, many days together. Both boys and girls; sometimes they are very loving with one another.



What kind of working conditions did children face in the mines during the early Industrial Revolution? Why did entrepreneurs permit such conditions and such treatment of children?

Source: From *Human Documents of the Industrial Revolution in Britain* by E. Royston Pike. London: Unwin & Hyman, 1966.

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Protection of Workers

- Rise of trade unions
 - Combination Acts 1824 made union action illegal
- Robert Owen: Grand National Consolidated Trades Union (GNCTU)
 - Used general strike for 8 hr workday but collapsed with lack of support
- Luddites: skilled craftsmen who attacked machines that threatened their livelihood
- Chartists: political movement to improve working conditions through universal male suffrage

Reaction to Industrialization

- Romantic poets encouraged reform
- Huge increase in number of poor people (workers) lived in poverty, disease, & suffering:
 - Rise in socialism & communism
 - Capitalism's role
 - Eventual rise in revolution
 - Britain will avoid revolution due to reforms:
 - Factory Acts
 - Reform Acts
 - Ten Hours Act

Critical Thinking:

Focus Question Answer: