

Unit 9

Industrial Revolution

Section 1: Beginnings of Industrialization

The Industrial Revolution

- c. 1750/60- 1850/60
- The Industrial Revolution begins in Britain/England, spreads to other countries, and has a strong impact on economics, politics, and society
- Greatly increases output of machine-made goods

Foundation of Industrial Revolution

- The Agricultural Revolution
 - Enclosures—large farm fields enclosed by fences or hedges
 - Wealthy landowners buy, enclose land once owned by village farmers
 - Enclosure increased farming efficiency

Agricultural Revolution

- Agricultural Revolution led to the Industrial Revolution in three ways:
 - Increased food supplies
 - Contributed to population growth
 - Caused farmers to lose land and seek other work
- Crop rotation—switching crops each year to avoid depleting the soil
 - Increased crop yields= increased nutrients in the soil

Industrial Revolution Begins in England

- Industrialization—move to machine production of goods
- Britain's economy positively impacted industrialization through Britain's highly developed banking system, the availability of loans, and climate of progress
- Britain has all the needed factors of production to support industrialization—land, labor, capital

Inventions Spur Industrialization

- Textile industry- first area to undergo major industrialization
 - Water frame uses water power to drive spinning wheels
 - Power loom, spinning mule speed up production, improve quality

Watt's Steam Engine

- Need for cheap, convenient power spurs development of a steam engine
- James Watt improves the steam engine by making it work faster and more efficiently while burning less fuel, financed by Matthew Boulton
- Boulton an entrepreneur (business investor)—organizes, manages, takes business risks

Improvements in Transportation

- Water Transportation
 - Robert Fulton builds first steamboat, the *Clermont*, in 1807
- Road Transportation
 - British roads are improved; companies operate them as toll roads
- Railroads
 - In 1804, Richard Trevithick builds first steam-driven locomotive
 - In 1825, George Stephenson builds world's first railroad line

Railroads

- Four major effects of the invention and perfection of the locomotive:
 - Railroads spur industrial growth by giving manufacturers a cheap way to transport materials and finished products
 - Create jobs (railroad and mine workers)
 - Offered cheap transportation for materials and goods
 - People move to cities- travel is made easier

Section 2: Industrialization

Domestic System to Factories

- Cottage/Domestic System
 - Before factories, the manufacture of products like textiles was done at home and on a small scale
 - Workers made products in their own homes with materials supplied by entrepreneurs
 - Problems: people tended to work in spurts, lack of standardization
- Factory Work
 - Factories pay more than farms, spur demand for more expensive goods

Industrial Cities

- Urbanization—city-building and movement of people to cities
- The main cause of urbanization was industrialization
- Growing population provides work force, market for factory goods

Living Conditions in the Industrial Revolution

- Sickness was widespread; epidemics, like cholera, sweep urban slums
- Life expectancy of the average worker dropped as a result of the Industrial Revolution
 - Illness caused by unhealthy living conditions contributed to the shorter life span
 - Average age only 17 in some cities
- Cities also do not have adequate housing, education, police protection

Population Increases

- A larger population made possible by greater agricultural production and improved medicine provided plenty of workers for the new industries, so many in fact that wages fell
- When one group demanded a wage hike, employers could find others willing to work

Working Conditions

- Average work day is 14 hours for 6 days a week, year round
- Dirty, poorly lit factories injure workers
- Many coal miners killed by coal dust

Manchester Industrialization

- Factories employed young children, especially orphans
 - Children as young as 6 work in factories; many are injured
- 1819 Factory Act= restricts working age, hours
- Factory pollution fouls air, poisons river
- Nevertheless, Manchester produces consumer goods and creates wealth

Class Tensions Grow

- Middle class—skilled workers, merchants, rich farmers, professionals
 - Emerging middle class looked down on by landowners, aristocrats
 - But they begin to change British society when some members of the middle class achieved top positions in society
- The Working Class
 - Laborers' lives not immediately improved; some laborers replaced by machines
 - Unemployment a serious problem

The Luddites: 1811-1816

- The Luddites were a social movement of English textile artisans
- Protested — often by destroying textile machines — against the changes produced by the Industrial Revolution that threatened their livelihood

Positive Effects of the Industrial Revolution

- Immediate Benefits
 - Creates jobs, enriches nation, encourages technological progress and the production of goods
 - Education expands, clothing cheaper, diet and housing improve
- Long-Term Effects
 - Improved living and working conditions still evident today
 - Governments use increased tax revenues for urban improvements

Section 3: Industrialization Spreads

Industrial Development in the U.S.

- U.S. has natural and labor resources needed to industrialize
- Samuel Slater, English textile worker, builds first textile mill in the U.S.
- Lowell, Massachusetts a mechanized textile center by 1820

Industrial Development in the U.S. (cont.)

- Industrialization picks up during the post-Civil War technology boom
- Small companies merge to form larger, powerful companies
- Corporations
 - Stock—limited ownership rights for company, sold to raise money
 - Corporation—company owned by stockholders, share profits not debts

Continental Europe Struggles to Industrialize

- The rest of Europe wished to industrialize as Britain had
- However, the French Revolution and Napoleonic Wars between 1789 and 1815 had:
 - halted trade
 - interrupted communication
 - caused inflation which disrupted European economies
- Additionally, Britain forbade engineers, mechanics, and toolmakers from leaving the country in order to protect their industrial secrets
 - However, William Cockerill illegally emigrated to Belgium in 1799-built mills

Continental Europe Industrializes- Germany

- Germany was politically divided in the early 1800s
 - Scattered resources hampered countrywide industrialization
 - Instead, pockets of industrialization appeared
- Germany built railroads that linked its growing manufacturing cities
- Germany's economic strength spurred its ability to develop as a military power

Industrial Expansion In Europe

- In Europe, industrialization during the early 1800s proceeded by region rather than by country
- Even in countries dominated by agriculture pockets of industrialization arose
- Why All Europeans Did Not Industrialize:
 - In some nations the social structure delayed the adoption of new methods of production
 - Geography held others back
 - Austria-Hungary- mountains prevented transportation
 - Spain- lacked adequate roads and waterways for canals

Foreign Trade

- The industrial revolution stimulated foreign trade
- As more goods were produced than could be consumed on home markets, countries became more aggressive in finding markets overseas
- Led to the search for formal and informal colonial holdings- a new imperialism

Rise of Global Inequality

- Wealth gap widens; non-industrialized countries fall further behind
- Worldwide industrialization became the driving force behind imperialism due to need for raw materials and markets

Section 4: Reforming the Industrial World

***Laissez-faire* Economics**

- *Laissez-faire*—economic policy of the government not interfering with businesses
 - Owners of industry set working conditions- no gov't interference
- Adam Smith—defender of free markets, author of *The Wealth of Nations*
- *Laissez-faire* economics influenced early industrialists by arguing that a free-market economy is governed by natural laws, not government regulations
 - Economic natural laws—self-interest, competition, supply and demand
- In a free-market system the government will not interfere in either domestic or international economic matters

The Economists of Capitalism

- Thomas Malthus and David Ricardo support the concept of *laissez-faire* capitalism
 - Like Smith they believed that natural laws governed economic life; Their ideas were the foundation of *laissez-faire* capitalism
- Capitalism—system of privately owned businesses seeking profits

Utilitarianism

- In contrast to *laissez-faire* philosophy
- Jeremy Bentham's utilitarianism judges actions by their usefulness
 - Argued that gov't policy should promote the greatest good for the greatest number of people- a gov't was only good if it promoted this goal

Socialism

- Socialism—factors of production owned *by*, and operated *for* the people
- Sought to offset the ill effects of industrialization
- 19th century socialists argued that gov't should actively plan the economy rather than depend on the free-market

Marxist Socialism

- German journalist named Karl Marx introduced the world to his brand of socialism= Marxism
 - Associated with Communism
- Karl Marx and Frederick Engels outlined their views in a 23-page pamphlet called *The Communist Manifesto* (published in 1848)
 - Argued that human societies have always been divided into warring classes
 - Long term impact: in the 1900s, Marxism inspired revolutionaries such as Russia's Lenin

Marxist Socialism (cont.)

- According to Marx and Engels the Industrial Revolution had enriched the wealthy and impoverished the poor
- Communism—society where people own, share the means of production (pure socialism)

Capitalism vs. Socialism

Capitalism	Socialism
Individuals and businesses own property and the means of production	The community or the state should own property and the means of production
Progress results when individuals follow their own self-interest and compete for the consumer's money	Progress results when a community of producers cooperate for the good of all
Consumers compete to buy the best goods at the lowest prices	Socialists believe that capitalist employers take advantage of workers, and capitalism creates unequal distribution of wealth and material goods

Unionization

- Unions—associations formed by laborers to work for change
- When the trade movement began in Britain, the strike was an illegal action taken against owners by union workers
- Collective bargaining= carried out between employers and employees
- Union goals were higher wages, shorter hours, improved conditions

Reform Laws

- British, U.S. laws passed to stop worst abuses of industrialization
- 1842 Mines Act in Britain stops women, children working underground
- In 1847, work day for women, children limited to 10 hours in Britain
- Other reform movements included: abolition of slavery, women's rights, public education