Chapter 7 Section 3

Industrial revolt spreads

Kathy Ingles, Cassie Murry - PRT
England started the industrial revolution. Their methods were protected.

It was illegal to export the technology

1789 Samuel Slater memorized plans and brot them to America – Lowell, Mass

1807 a mechanic in the textile mills took his knowledge to Belgium.

Belgium became the 2nd industrialized nation in Europe.

By 1850 others were industrialized too.
Great Britain lost ground

- Why –
  - Germany, France and USA took the lead
  - They had more iron, coal and workers
  - England had provided the model for transportation, methods, financing and technology.
  - Plans were smuggled all over and others added new technology.
By 1870, after unification, Germany became the leading industrial nation.

By 1900 the USA led.

Other countries in eastern and southern Europe did not have the elements essential to development. Coal, iron, workers, technology, finance, and governmental structure.

Russia had the resources but not the political or governmental structure to develop. Russia will be 100 years behind the rest of Europe.

Japan will become an industrial leader in 1868. The Tokugawa period and Meiji Restoration. It has many similarities to England.
**CAUSE AND EFFECT**

**Causes**
- Increased agricultural productivity
- Growing population
- New sources of energy, such as steam and coal
- Growing demand for textiles and other mass-produced goods
- Improved technology
- Available natural resources, labor, and money
- Strong, stable governments that promoted economic growth

**INDUSTRIAL REVOLUTION**

**Immediate Effects**
- Rise of factories
- Changes in transportation and communication
- Urbanization
- New methods of production using machines and steam power
- Changes in workers' way of life and rise of urban working class
- Growth of reform movements, including liberalism, socialism, and Marxism

**Long-Term Effects**
- Growth of labor unions
- Increase in new, relatively inexpensive products
- Spread of industrialization globally
- Development of large corporations and other new ways of organizing businesses
- Expansion of public education
- Expansion of middle class
- Fierce competition among industrialized nations for world trade
- Progress in medical care and nutrition
- Growth of women's movement

**Connections Today**
- Improvements in world health
- Growth in population
- Industrialization in developing nations
- New sources of energy, including petroleum and nuclear power
- Mass media and mass entertainment
- Efforts to regulate world trade through international agreements
New changes

- New goods at low price workers could afford created more goods at lower prices creating more jobs and more people could buy the goods.
- New and bigger cities, railroads, steamboats, ports, and factories all created work.
- World trade changed the way people thought and acted.
- Western European countries vied for economic domination of the world.
New businesses

- Steel- 1856 Bessemer began to purify iron.
- It was hotter and oxidized the impurities in iron.
- Known in China for 1500 years.
- The capacity was increased from 8 to 30 ton batches.
- It used less energy and time.
- Steel became cheap enough to use in many applications like machinery and skyscrapers.
Chemicals – many new products. Perfume, soap, margarine.

Alfred Nobel invented dynamite. A safer explosive. Nobel set up the Nobel Peace Prize because his invention was used in warfare which he hadn’t intended.
Electricity – new power source that replaced steam engines. Light bulbs lighted factories, houses and cities. Working after dark became more common. By 1890 factories were operated on electricity. Streets were safer. Houses were looking dirtier.
Inventions abound

- In the latter half of the industrial revolution communication and transportation changed dramatically.
- Steamships replaced sailboats.
- Railroads replaced wagons.
railroads

- Europe and North America railroads increased dramatically. Bridges and tunnels took RR across continents. The Trans-Siberian RR, the Trans-Continental RR.

- Travel times dropped dramatically. Many 1/5 to ¼ the time.

- Goods and passengers could travel from one part of the continent to the other.
1887 the first car was built. Cars went 25 mph. They were built on assembly lines by Henry Ford. Mass produced cars led by American manufacturers.

1903 the Wright Brothers flew the first airplane. By 1920 daredevils, passengers and cargo were flying across oceans and continents.

Farm machinery was making food production faster, cheaper and less labor intensive.
In 1844 Samuel Morse invented the telegraph sending electrical pulses over wires. His Morse Code carried news from one end of the country to the other in minutes.

By 1860, Americans could telegraph England and the continent by way of the undersea cable.

1876 saw the telephone by Alexander Graham Bell.

In the 1890’s Marconi’s radio was invented carrying news all over the world.
Types of economies

- **Capitalism – Free Market** –
  - individuals control the factors of production

- **Socialism – Mixed** –
  - government and individuals control the factors of production

- **Communism – Command** –
  - central authority/government control the factors of production
Factors of production

- Land –
  - natural resources, anything from the earth
- Labor –
  - human resources, ideas, education, training, leadership
- Capital –
  - goods that make goods, financing
Business organization

- **Sole proprietorship**
  - One person owns and controls business
- **Partnership** – business owned by more than one person.
- **Corporation** – business owned by many people
  - Sold stock to investors
  - Long lived – stock can be sold or inherited
  - Profit divided by shareholders
  - Legal advantages – limit liability
  - Limited risk – investment only
monopoly

- Total control of an industry.
- Vertical integration – control of all factors in an industry from raw materials to sales. Sales, distribution, resources, and production
- Horizontal integration – control one level of industry.
- Krupp – steel/arms in Germany - total monopoly
- Rockefeller – oil - vertical integration
- These “robber barons” were ruthless driving competition out of business. They then could charge any price they wanted.
- 1890- US passed Sherman Anti-trust Act made monopolies illegal.
CARTEL

- Group of businesses with total control of industry.
  - Goal - to fix prices
    - limit supply
    - limit competition
  - Collusion – illegal. Group of companies join together to fix prices in any level of an industry.
  - OPEC, Cali Cartel, Medellin Cartel, Cosa Nostra, DeBeers.
Business cycle

- Highs and lows of business trends
- Boom and Bust, Bull and Bear
- Depression low point in a business cycle
- Downturn in 1 industry affects the others. Whole economy is loosing productivity.