The Second Industrial Revolution
Invention, Big Business & Organized Labor

Quote

"The telephone is a curious device that might fairly find place in the magic of Arabian Tales. Of what use is such an invention? Well, there may be occasions of state when it is necessary for officials who are far apart to talk with each other." -- New York Tribune reporter

1) How did reporter think the telephone would be used?
2) Was he right?

Steel

Before 1850s = very expensive to produce

1850s: Bessemer Process created... produced more steel in 1 day than was produced in a week

Production rose from 15,000 tons in 1865 to 28+ million tons by 1910

Iron ore shipped from Midwest through Great Lakes to steel production plants in Pittsburgh, PA, Cleveland, OH, Gary, Indiana

1) What caused steel $$ to drop & production to rise?
2) Where did Iron Ore come from?
3) How did it get to steel production plants?
### Oil

- 1850s: Chemists created a process to turn crude oil into kerosene for use in lamps.
- US stopped using whale oil.
- 1859: Oil discovered in Titusville, PA.
- Led to an oil boom in Ohio, Pennsylvania, and West Virginia.
- In 1880, 25 million barrels of oil were produced.
- 1901: Texas oil boom started.
- Began to be used in industrial machines for mass production.

### Railroads

- Cheap steel led to railroad expansion and improvement.
- Steel was $12 a ton during the 1890s.
- In 1860, NYC to Chicago took 3 days; in 1870, it took less than 1 day.
- Transcontinental Railroad completed in 1869.
- Double tracks allowed trains to go in opposite directions at the same time.
- Made trade and travel easier, expanded markets.

### Airplanes

- Internal combustion engines = small gasoline engines.
- Orville & Wilbur Wright (Dayton, OH) developed the first working airplane.
- On December 17, 1903, near Kitty Hawk, NC, Orville Wright flew the first plane for 12 seconds, 120 feet.
**Telegraph**

Samuel F.B. Morse developed Telegraph

Communicating over wires with electricity

Could now communicate quickly over distances

By 1866 there were over 2,000 Telegraph Offices

1) How did the Telegraph change communication?

**Telephone**

Alexander Graham Bell created the “Talking Telegraph” in March 1876

Telephone became very valuable for businesses... instant business & personal communication

By 1880s over 1 million telephones were installed in US homes & offices

1) How did the Telephone change communication?

**Typewriter**

Created in 1867 by Christopher Sholes

Mass production of easily legible documents

Sholes original keyboard is still used in computers today (QWERTY)

Business departments created to type

Employed mass amounts of women

I feel that I have done something for the women who have always had to work so hard - Sholes

1) What positives did the Typewriter have?
Edison & Menlo Park

Thomas Alva Edison

1869 = Electric Vote Recorder &
Telegraphic Stock Ticker

1876 = Opened his shop in Menlo Park, NJ

1877 = Phonograph

1879 = Lightbulb

Held over 1,000 patents when he died (1931)

1) Why was Edison important?

Homework

Choose 2 Inventions/Improvements discussed today and describe how they impact your life. What would your life be like without these inventions?

BIG BUSINESS
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- **Capitalism**: US economic system. Private business run industries & competition determines how much goods cost & workers are paid.
- **Free Enterprise**: Businesses would thrive if they were left alone from gov’t regulation & allowed to compete in a FREE market.
- **Communism**: Individual ownership of property should NOT be allowed. Property & the means of production are owned by all of society, in turn the community provides for the needs of all the people.

1) Compare/Contrast Capitalism & Communism

BIG BUSINESS

- **Social Darwinism**: Society progressed through natural competition aka survival of the fittest.
- **The Corporation**: Organizers raise money by selling shares of stock (or certificates of ownership) in the company. Stockholders receive a share of the company’s profits.
- **Trust**: Groups of companies turn control of their stock over to a common board of trustees who then make business decisions.
- **Monopoly**: A trust which gains total control of an industry.

1) How is Social Darwinism related to Capitalism?

Andrew Carnegie & Steel

- **Vertical Integration**: Owned companies that provided materials & services for steel production. By controlling ALL aspects of production he could control its costs. Made steel for cheap. Made $$$$
Carnegie & Steel

"Gospel Of Wealth:"
- 1899 Carnegie sold company to J.P. Morgan for $500 Million
- Lived simply, donated majority of $;
- Rich were MORALLY obligated to give portions of wealth to help fellow citizens
- Donated $350 Million to charity

1) Why was the "Gospel of Wealth" revolutionary?

John Rockefeller & Oil

- Believed that many small companies competing was bad for industry... wanted to control Oil industry
- Founded Standard Oil Company
- First he also used **vertical integration** to control oil prices... then he used **horizontal integration** to expand
- One company's control of all companies producing the same product.
- Standard Oil controlled other oil companies by becoming a Trust (Board of Trustees)

1) What is the difference between Vertical & Horizontal Integration?

Rockefeller & Oil

- By making poor business decisions for his "controlled companies" he drove them out of business
- By 1880 Standard Oil controlled 90+% of Oil Industry
- Donated $550+ Million to charity
Railroad Giant

Cornelius Vanderbilt

Pioneer of RR industry

- 1869... Controlled NY Central RR & controlled 2 RR lines which connected to NYC
- By 1870s... Controlled RR lines from Chicago, Cleveland, Toledo & NY State
- Bought small lines & connected them to main lines
- 1877... Controlled 4,500 miles of RR...
  Personally worth $100 million

Mass Marketing

Companies used Brand Names like Standard Oil to sell products
- Advertising in Newspapers, Magazines, Billboards
- A consumer culture of CHOICE in America
- Advertising expanded into Rural areas
- Department stores created in cities sold a variety of goods at fair prices
- Marshall's in Chicago, Macy's in NYC, Woolworth's had 59 stores by 1900

1) How did Mass Marketing change consumerism in the US?

ORGANIZING LABOR
ORGANIZING LABOR

Gov’t did NOT regulate business practices, pay wages, working conditions, work hours, etc

Sherman Antitrust Act (1890):
- Outlawed all monopolies & trusts that limited trade
- Difficult to enforce b/c Act did not define Monopoly or Trust

By 1890...
- 10% of Population controlled 75% of wealth
- 50% of unskilled workers earned LESS than $500 per year

1) How did the Sherman Antitrust Act change business?
2) Why is the wealth difference so extreme during 1890?

New Working Class

- Demand for MORE labor b/c of Industrial Rev
- Immigrants, African Americans, Women and Children filled labor needs
- Former Slaves now working in factories
- No Child Labor Laws
- No protections for Immigrant workers

Working Conditions

- Children worked 12 hour shifts (at night) for pennies
- Low wages & long hours for all workers
- Unskilled white men - 10 hour days, 6 days a week, less than $10 per week
- Blacks, Asians, Mexicans worked same hours for less $$
- Women & Children worked same hours as men for less than half the $$
- Company towns created where workers lived... all food, clothes, etc was paid for out of workers paychecks

1) How did Working Conditions help change society?
European View of U.S. Workers

"In the New World man is born to conquer. Life is a perpetual struggle... a race in open field across terrible obstacles, with the prospect of enormous rewards for reaching the goal. The American cannot keep his arms folded. He must embark on something, and once embarked he must go on and on forever; for if he stop, those who follow him would crush him under their foot. His life is one long campaign, a succession of never-ending fights... In such a militant existence, what place is left for the sweetness, the rest, the intimacy of home or its joys? Is he happy? Judging by his tired, sad... unhealthy appearance, one would be inclined to doubt it."

1) What is the social commentary in this quote?

Knights of Labor

- Workers
  - Mainly white male workers until 1879... Terrence V Powderly (Irish Catholic) expanded membership
  - Skilled & Unskilled, Men & Women, Blacks
  - By 1886 = 700,000 Member (60,000 Blacks)
  - Did more for Blacks than anyone else, but still tensions
  - "Mother" Mary Harris Jones joined Knights in 1861, became a leader
  - considered "the most dangerous women in America"

1) Why were the Knights of Labor created?

The Great Upheaval

- Knights of Labor gained popularity due to 1877 Railroad Strike
  - RR workers in W.VA went on strike due to massive wage cuts
  - Pres. Rutherford B Hayes ordered federal troops to "protect railroad"
  - Strike spread to 14 states
  - 1886 = Year of Great Upheaval: many strikes, violence & deaths due to Knights of Labor
  - 1,500 Strikes with 400,000 workers taking action
Haymarket Riot

May 1, 1886... 40,000 Chicago workers joined strike vs. McCormick Harvesting Machine Co.
- Wanted 8 hour work day
- Local craft unions started strike... Political radicals & anarchists took over strike
- May 3rd... police killed 2 workers on strike
- May 4th... small peaceful meeting of strikers
- 200 police arrived... Bomb exploded... injuring 60 officers & killing 7... Police arrested 8 anarchists
- Caused a decline in Worker Activism

Homestead Strike

Homestead Strike:
- 1892 @ Carnegie Steel Co., Homestead, PA
- Workers protested wage cuts
- Managers hired 300 guards to protect plant
- 16 people died in violence

Pullman Strike

Pullman Strike:
- 1894 @ Pullman Sleeping Car Factory, Pullman, Ill.
- Pullman cut wages, but not rent & food prices
- (URA) Eugene V. Debs supported Pullman Strikers
- Railways were shut down in support of Strikers
- URA leaders were jailed & Union destroyed
- Pres. Grover Cleveland sent troops to end Pullman Strike
Working Class Hero & Ghost Of Tom Joad

Bruce Springsteen “Ghost of Tom Joad”
John Lennon “Working Class Hero”

Homework

Describe how the songs “Ghost of Tom Joad” and “Working Class Hero” discuss the trials and tribulations faced by middle class workers/laborers. Do you think the Knights of Labor would have accepted these songs as "anthems"? Why/why not?