

## **Class Notes - Section 20.1: Railroads Spur Industry, pages 574-577**

Ms. Jakubowski

Main Idea: A boom in railroad building encouraged American industry to grow but gave vast amount of power to a few railroad owners.

### Key Terms

**gauge:** the width of a railroad tract (p. 574)

**network:** a system of connected lines (p. 575)

**consolidate:** combine (p. 575)

**rebate:** a discount for a product or service (p. 576)

**pool:** system in which several railroad companies agreed to divide the business up in an area (p. 576)

### Section Notes:

#### **New Inventions**

- helped make railway travel safer and faster
- George Westinghouse invented the air brake, which allowed an engineer to stop all the railroad cars at once
- George Pullman designed a railroad sleeping car
  - o Convertible berths for sleeping as well as lavatories
- Rail lines added dining cars

#### **Consolidation**

- to operate RRs more efficiently, companies began to consolidate or combine
  - o larger companies bought smaller companies
- Cornelius Vanderbilt used ruthless tactics to buy up most of the rail lines between Buffalo and Chicago

#### **New Rail Lines**

- companies raced to create thousands of miles of new tracks
- James Hill completed the last RR - the Great Northern
- RR companies looked for ways to get rid of competition-especially in the West
- RRs granted secret rebates (discounts) to their biggest customers
  - o Forced many small companies out of business
  - o Hurt farmers who had to pay higher rates
- RR owners looked for ways to end competition, including pooling
  - o Several RR companies agreed to divide up the business in an area
  - o Then they fixed shipping prices at a high level

### **Reaction to Rebates and Pools**

- angered small farmers in the South and the West
  - o both practices kept shipping prices high for them
- many farmers joined the Populist party
  - o party called for gov't regulations of rail rates
- Congress did pass laws regulating RR companies but the laws did not end abuses

### **Economy**

- building of rail lines created thousands of jobs for steelworkers, lumberjacks, miners, and RR employees
- large RR pioneered new ways of managing business
  - o having separate shipping, accounting and service departments
  - o big businesses copied these management techniques
- RRs opened every corner of the country to settlement and growth

## **Class Notes - Section 20.2: The Rise of Big Businesses, pages 578-582**

Ms. Jakubowski

Main Idea: As industry boomed, American businesses grew and developed new ways of organizing and limiting competition.

### Key Terms

**Bessemer process:** enabled steel makers to make strong steel at a lower cost (p. 578)

**vertical integration:** all the steps top change raw materials into finished products  
(p. 579)

**corporation:** a business that is owned by investors (p. 579)

**stock:** shares in the business bought by investors (p. 580)

**dividend:** shares of a corporation's profit (p. 580)

**trust:** a group of corporations run by a single group of investors (p. 581)

**monopoly:** when a person or company controls all or nearly all of the business in an industry (p. 581)

**free enterprise system:** businesses are owned by private citizens who decide what products to make, how much to produce, where to sell, and what prices to charge

**Sherman Antitrust Act:** banned the formation of trusts and monopolies (p. 582)

### Section Notes:

#### **Bessemer Process**

- easy way to make steel at a lower cost
- impact: railroads begin using steel - lasts longer than iron
- skyscrapers can be built, nails, screws, needles and pins
- Pittsburgh is the steel capital

#### **Problems of Steel Mills**

- Pollution - air and water

#### **Carnegie Gains Advantage over Steel Companies**

- he owned/controlled all phases of the steel industry (vertical integration)
- his mills were turning out more steel than all of England
- "Gospel of Wealth" - rich had a duty to help the poor and improve society

#### **Companies Raise Capital**

- new ways of organizing
- became corporations - businesses owned by investors sold stocks or shares in businesses and used the money to build/buy

- stockholders received dividends or share of the profit
- elected board of directors to run corporations
- borrowed millions from banks

### **J.P. Morgan became Powerful**

- invested in stock of troubled companies during economic hard times in 1890s
- won seat on board of directors - adopted policies to reduce competition and make big profits
- 1894-1898: gained control of major rail lines
- began buying up steel companies (including Carnegie Steel) and merged them into one large corporation - U.S. Steel Company

### **Rockefeller Gets Rid of Competition**

- used profits from 1<sup>st</sup> refinery to buy others and formed Standard Oil
- slashed prices to drive rivals out of business
- pressured customers not to deal with other oil companies
- forced Railroad Companies to give rebates to Standard Oil
- formed Standard Oil Trust - group of corporations run by single board of directors which created a monopoly
- controlled 95% of all oil refining

### **Public Feelings Towards Trusts**

- leaders were abusing free enterprise systems
- upset about political influence

### **Sherman Antitrust Act**

- 1890 - banned formation of trusts and monopolies
- too weak to be effective

## **Class Notes - Section 20.3: Inventions Change the Nation**

### **pages 584-589**

Ms. Jakubowski

Main Idea: As industry boomed, American businesses grew and developed new ways of organizing and limiting competition.

#### Key Terms:

**patent:** licenses for new inventions (p. 584)

**transatlantic:** across the Atlantic (p. 585)

**moving assembly line:** workers stay in one place while the product travels along a moving belt (p. 588)

**mass production:** process of making large quantities of a product quickly and cheaply (p. 588)

#### Section Notes:

##### **Telegraph Improved Industry**

- helped people and businesses communicate faster

##### **Communicating Across the Atlantic**

- Cyrus Field laid a wire under the ocean in order to communicate between North America and Europe (transatlantic)

##### **Telephone Impacted Businesses**

- Alexander Graham Bell invented the telephone in 1876
- communication was even faster and information was easier to share
- people no longer had to go to the telegraph office to send messages
- formed the Bell Telephone Company in 1885 - sold more than 300,000 phones to businesses

##### **The Power of Electricity**

- Thomas Edison invented the Electric Power Plant in NYC
- Supplied light to homes, businesses, and factories
- Replaced steam-powered engines

##### **Refrigeration Changed American Diets**

- Gustavus Swift invented the refrigerated railroad car
- Now meat could be shipped and travel far distances without spoiling

### **New Technologies at the Office and at the Home**

- Christopher Sholes: perfected the typewriter (1868)
- George Eastman: invented the Kodak camera (1888)

### **African American Inventors**

- Elijah McCoy: automatic engine-oiling machine (1872)
- G. Woods: discovered a way to send telegraphs to trains
- Jan Matzeliger: invented a machine that could complete the steps in shoe making (1883)

### **Henry Ford Impacted the Automobile Industry (1913)**

- Henry Ford introduced moving assembly line: workers stayed in one place as products move on a belt (reduced time needed to make cars)
- mass production: made more cars than needed and this allowed for lower prices so cars could be sold quickly

### **The First Flight**

- Wright brothers: wanted to fly a plane
- No one took interest until the U.S. military used planes to fly over battlefields

## **Class Notes - Section 20.4: The Rise of Organized Labor**

**pages 590-594**

Ms. Jakubowski

**Main Idea:** As workers lost power over their working conditions, they began to organize into unions and fight for better conditions.

### **Key Terms:**

**sweatshop:** a workplace where people labor for long hours in poor conditions for low Pay (p. 591)

**Knights of Labor:** an American labor organization founded in 1869 to protect the Rights of workers (p.591)

**strikebreaker:** replacements for striking workers (p. 591)

**anarchist:** people who oppose all forms of organized government (p. 592)

**Haymarket Riot:** labor rally in Chicago in 1886 that ended in violence when a bomb exploded (p. 592)

**AFL:** American Federation of Labor was a new union for skilled labors (p. 592)

**trade union:** a union of persons working in the same trade (p. 592)

**collective bargaining:** the right for a union to negotiate with management for workers as a group (p. 592)

**ILGWU:** International Ladies Garment Workers Union fought for better pay and shorter hours (p. 593)

**Triangle Fire:** 150 workers died in a fire at a Shirtwaist factory because management locked doors to keep workers working (p. 593)

### **New Work Place**

- Before the Civil War, factories were small and family run - workers were able to bargain with their boss over wages
- By the 1800s the relationship between boss and employee changed
  - o Employees worked on machines in noisy rooms and were replaced because little skill was required to work on the machine
- Sweatshops began paying low wages and making people work very long hours

### **Children in the Workplace**

- 1900s, 2 million children under the age of 15 worked
- boys and girls worked in hazardous conditions in textile mills, tobacco factories, or garment sweatshops
- picked stones out of coal for 12 hours a day, 6 days a week
- little time for school, which reduced their chances to build a better life

## **Hazards of Work**

- Textile mills were filled with lung damaging material
- Cave-ins and gas explosions were hazards of mines
- Workers were severely injured or disfigured from work related accidents
- In one year 195 people died from working at a steel mill in Pittsburgh

## **Knights of Labor**

- President: Terence Powderly
- 1<sup>st</sup> Union for skilled workers: allowed immigrants, Blacks, women and unskilled workers to join (this strengthened the union)
- fought for better working conditions, better pay, equal pay for men and women, the end of child labor, workers and employers sharing in company profits, and reasonable working hours
- 1885: strike against Missouri Pacific Railroad forced the company to restore wages that had been cut (increased membership in the Knights of Labor)

## **Haymarket Square Riot**

- members of the KofL who worked for McCormick Harvester Co. went on strike
- McCormick Harvester Co. hire strikebreakers to replace the striking workers
- May 3, 1886, workers who were on strike clashed with the strikebreakers
  - o Police opened fire and 4 workers were killed
- Following day, thousands of workers protested in the Haymarket Square
  - o bomb exploded killing 7 police officers
- the bomb caused an anti-labor feeling towards unions, membership of the KofL decreased

## **American Federation of Labor**

- President: Samuel Gompers - union for skilled workers
- Joined a trade union first, such as carpenters, electricians, and plumbers
  - o Then that group would join the AFL, which was an organization of different unions
- goals: shorter hours, improved working conditions, and higher wages
- Blacks, women and immigrants were barred from the AFL because they were unskilled

## **Women at Work**

- Mary Harris Jones: 1<sup>st</sup> woman of the labor movement
  - o Spoke out against child labor
  - o Worked for reform in the work place



## **Women and the ILGWU**

- organized by garment workers
- part of the AFL
- 1909, there was a strike for 20 days
  - o results were better pay and better working conditions
- many women did not join the ILGWU

## **Triangle Fire**

- fire breaks out in the Triangle Shirtwaist Factory
- many exits were locked so workers would not take breaks or have lunch
- since the fire was on the upper levels of the building, many fire ladders could not reach the windows
  - o many people jumped to their deaths
- nearly 150 young women lost their lives in the fire
- fire caused many states to create new safety laws to protect workers

## **Hard Time for Organized Labor**

- during a severe depression in 1870, RR workers took severe pay cuts
- workers went on strike in response to the pay cuts, shutting down most of the RRs in the country
  - o riots erupted
- miners in Idaho went on strike, shutting down 2 major mines out west

## **George Pullman and the Government versus Pullman Workers**

- cut the pay for his workers at his RR yard without reducing the rent on the company owned houses the workers lived in
- workers went on strike
- Pullman filed a lawsuit workers for violating the Sherman Anti-Trust Act
  - o Act was to prevent companies from limiting free trade
  - o Courts agreed that the workers were limiting free trade by being on strike

## Chapter 20 Vocabulary

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Network: System of connected railroad lines

Consolidate: To combine several small companies into one big company

Rebate: a discount

Pool: several railroad companies agreed to divide up the business in an area

Bessemer Process: method used to produce stronger steel at a lower cost

Vertical Integration: one manufacturer controls all the steps used to change raw materials to a finished product

Corporation: business owned by investors

Stock: share of ownership in a corporation

Dividend: share of a corporation's profit

Standard Oil Company: Rockefeller built up this company

Trust: a group of corporations run by a single board of directors

Monopoly: a company/group that controls all or most of a business or industry

Free Enterprise System: business owned by private citizens who decide what to produce and what price to charge

Sherman Anti-Trust Act: 1890 law that banned the formation of trusts and monopolies in the United States

Patents: license for a new invention

Transatlantic: crossing or spanning the Atlantic Ocean

Assembly Line: workers stay in 1 place as product moves along a belt

Mass Production: process of making large amounts of a product fast and cheap

Sweatshop: place of work with long hours, low pay, poor conditions

Knights of Labor: organization to protect the rights of workers (union)

Strikebreaker: replacement for a striking worker

Anarchists: person who opposes organized government

Haymarket Riot: labor rally in Chicago that ended in violence when a bomb exploded

American Federation of Labor: union open to skilled workers only

Trade Union: a union of people working in the same trade

Collective Bargaining: the right of unions to negotiate with management for workers as a group

Mother Jones: woman in labor union who devoted herself to the cause of workers and who wanted reforms

ILGWU: International Ladies Garment Workers Union

Triangle Fire: 1911-fire at the Triangle Shirtwaist Factory in New York that killed Almost 150 workers

Pullman Strike: George Pullman cut pay of workers but did not reduce the rents he charged workers for company-owned houses. Workers walked off the job in protest.

