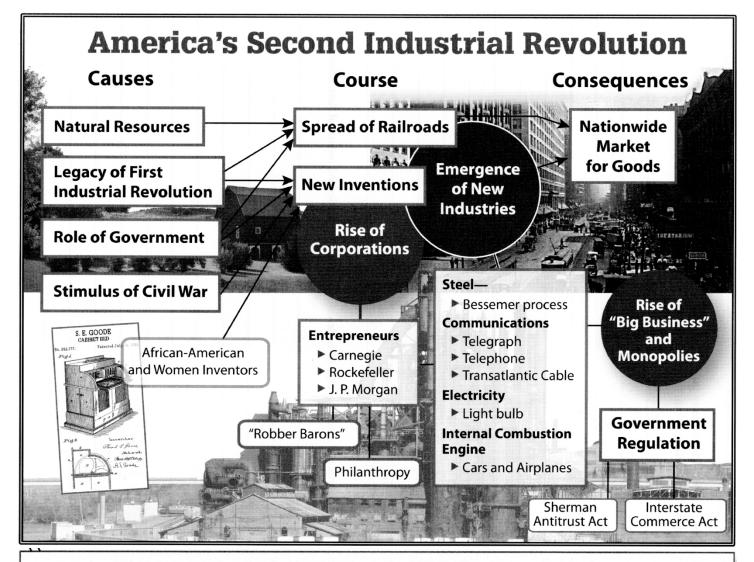
Industrialism & Urbanization

Unit 3A



Factors behind American Economic Growth

- ► Abundant natural resources
- Growing population provided labor
- ▶ Free enterprise system—market economy: *laissez faire* capitalism encouraged individual initiative
- ▶ Legacy of First Industrial Revolution: use of new source of power (steam); mass production; factory system
- ▶ Role of government:
 - · Patents encouraged new inventions.
 - Tariffs protected American manufactured goods.
 - Laws protected property and contracts.
 - Land grants encouraged railroad construction.
 - · Government regulated currency and banks.
- ▶ Stimulus of the Civil War—tariffs, Banking Act, Pacific Railway Act, Homestead Act

America's Second Industrial Revolution

- ► Spread of railways
- ► Technological innovation
 - Bessemer Process
- Elevator

• Telegraph

Sewing machine

• Telephone

- · Electric light bulb
- Transatlantic cable
- Internal combustion engine
- ▶ Emergence of national market
- ▶ Rise of corporations (limited liability; ability to raise more capital)
- ► Contributions of entrepreneurs

Spread of Railways

- ▶ Provided stimulus to iron, coal, and steel industries
- ▶ Provided cheaper transportation costs for carrying raw materials and finished goods
- ▶ Forged a national market
 - Henry Flagler—Florida East Coast Railroad

Key Industries

- ▶ Steel
 - Bessemer process: air blown into hot pig iron to remove impurities; reduces cost of making steel by 80%
 - Andrew Carnegie adopted Bessemer process; built large steelworks
- ► Communications
 - Telegraph: Samuel Morse/"Morse Code" (dots and dashes)
 - Telephone: Alexander Graham Bell
 - Transatlantic Cable: Cyrus Field
- ▶ Electricity
 - Thomas Edison: phonograph (1877); electric light bulb (1879); motion pictures (1896); improved battery; electric power station backed by J. P. Morgan.
 - Nicola Tesla: alternating current
- ▶ Oil
 - Edwin Drake: first oil well drilled in Pennsylvania (1859)
 - John D. Rockefeller: Standard Oil Company; kerosene and gasoline; railroad rebates; pipeline transport
- **▶** Transportation
 - Internal combustion engine: at end of 19th century: used controlled explosions to move piston in cylinder
 - Henry Ford: less expensive automobile
 - Wilbur and Orville Wright: airplane (1903)

African-American and Women Inventors

- ▶ Elijah McCoy: oil-drip cups for trains
- ▶ Sarah Goode: fold-away bed
- ▶ Lewis Howard Latimer: new process for making carbon filaments in lightbulbs
- ▶ Jan Ernst Matzeliger: machine for attaching soles to shoes
- ▶ Garrett Morgan: breathing apparatus for use by firemen; a patent for a traffic signal
- ▶ Madam C. J. Walker: hair-care products, especially for African-American women
- ► Granville Wood: multiplex telegraph

Other Women Inventors

▶ Josephine Cochran: first "automatic" dishwasher

"Captains of Industry" or "Robber Barons"?

- ► Andrew Carnegie (steel)
 - adopted Bessemer process; Homestead Strike; vertical integration; Gospel of Wealth
- ▶ John D. Rockefeller (oil refining)
 - secret rebates from railroads; Standard Oil; horizontal integration
- ▶ John Pierpont Morgan (financier)
 - financed Edison; formed General Electric; formed U.S. Steel in 1901.

Henry Flagler

Henry Flagler (1830–1913) made a fortune with John D. Rockefeller. He then moved to Florida where he built a series of luxury hotels and the Florida East Coast Railway to attract visitors to fill them.

New Business Practices

- ► Advantages of large companies:
 - Economies of scale
 - Cheaper sources of supply
 - More efficient management
- ► Dangers of monopoly:
 - Less incentive to imwprove products
 - Monopolists can overcharge consumers
- ▶ Forms of business consolidation:
 - · Pooling agreement
 - Trust
 - · Holding company

U.S. Supreme Court Cases

- ▶ *Munn v. Illinois*: State governments can regulate grain elevators
- ▶ Wabash v. Illinois: State governments cannot regulate interstate railroads

Federal Laws Regulating Business

- ▶ Interstate Commerce Act: Congress regulates interstate railroads; sets up enforcement agency
- ▶ Sherman Antitrust Act: Combinations "in restraint of trade" are prohibited