

## Industrialization in America

- ❖ The Brooklyn Bridge opened in New York City in 1883.
  - Longest suspension bridge at that time
  - 16-inch cables supported bridge 1,595 feet long
  - It became a symbol of America's transition from a rural to an industrial nation.
  
- ❖ The impact of industry between 1865 and 1910 as uneven.
  - Most common in the northeast and Midwest
  - Began to flourish in the South
  
- ❖ The impact on the people even more uneven
  - A few wealthy businessmen made vast fortunes
  - Hundreds of thousands of laborers worked long hours under dangerous conditions for little pay

- ❖ The Bessemer process of refining iron into steel was developed in 1859.
  - Large quantities of steel could be made cheaply and easily
  - Accelerated the spread of industry
  - Production increased from 2,000 tons in 1867 to more than 7 million tons by 1900
  - Stronger and more durable than iron, so it spurred other technical advances
    - ✓ Used to make railroad tracks
    - ✓ To make girders for skyscrapers
    - ✓ For beams and cables of Brooklyn Bridge
  
- ❖ New York's famed skyscrapers began to appear at turn of the century
  - Multi-storied buildings could not have been made out of iron
  - Steel industry thus fueled the growth of construction
  - Skyscrapers were visual reminders that industry brought change to growing cities.
  - Quick growth resulted in diminishing space

- ✓ Taller the skyscraper, the more offices it held
- ✓ And the larger the developer's profit

❖ Innovations and inventions which sparked industrial growth allowed many business leaders to earn huge fortunes.

- More than 4,000 millionaires by 1900
- Had been only a few prior to Civil War

❖ One of wealthiest and successful was Andrew Carnegie.

- Scot immigrant
- Earn \$1.20 a week in textile mill as a boy
- Realized potential of Bessemer steel-making process
  - ✓ Sunk his and other investors' money into largest steel-making plant in the country
  - ✓ Became one of country's wealthiest men through control of the steel industry
    - Retired to Scotland

- Donated millions of dollars to churches & charities and universities
- He argued that the wealthy had a right to make money but also a responsibility to spend it properly
- ✓ The millionaire, he said, should be "a trustee for his poorer brethren, bringing to their service his superior wisdom, experience, and ability to administer, doing for them better than they would or could do for themselves."

❖ The first successful oil well was drilled at Titusville, PA, in 1859.

- Prospectors scrambled to locate more oil nearby
- Soon the hills of northwestern Pennsylvania were studded with oil derricks as industrialists raced to exploit the area
- Oil refining became big business as automobiles, locomotives, and turbines

began replacing steam- and horse-powered machines

❖ Just as Carnegie took over steel industry, John D. Rockefeller controlled the oil business.

- Knew oil was relatively useless until refined
- Bought up several refineries
- Used ruthless methods to eliminate competition
  - ✓ Standard Oil lowered prices to woo competitor's customers, then raise them after competitor was driven out of business
  - ✓ Created huge trust trading stockholders of independent companies trust certificates in exchange for their shares of stock
    - Shareholders got dividends, but had no management say
- By 1879, Standard Oil acquired virtual monopoly over market, controlling more than 90 percent of American refining

- ❖ Transportation was the key to industrialization
- ❖ To succeed industrially, the United States needed to be able to move freight and passengers quickly
- ❖ Prior to 1860, there were few rail lines
  - Most were in the East
  - They were also not interconnected
    - ✓ Goods sometimes had to be loaded and unloaded several times
    - ✓ This proved very timely and costly
- ❖ After the Civil War, more efficient and economic rail lines were built
  - Smaller lines were combined, or consolidated
  - Consolidating led to inexpensive and fast shipping
  - New steel tracks allowed heavier and faster locomotives to be used
  - Two sets of tracks laid side by side allowing traffic in both directions
- ❖ By 1883, railway shipping was so important to industrialization that

the American Railway Association divided the nation into four time zones which still exist today (Eastern, Central, Mountain, and Pacific)

- ❖ Cornelius Vanderbilt bought most lines connecting New York to Chicago
  - New York Central line held out
    - ✓ Vanderbilt refused to let passengers or goods be transferred from or to his lines
    - ✓ New York Central surrendered
      - Vanderbilt thus gained control of the most important railway system in the country
      - At his death, he controlled more than 4,500 miles of rail

❖ Did men like Carnegie, Rockefeller and Vanderbilt cause more harm than good?

- Those who are against argue:
  - ✓ They ruthlessly drove small companies out of business
  - ✓ They exploited their workers
  - ✓ They cut corners of quality
  - ✓ They "bought off" government officials
  - ✓ Their monopolies overcharged for goods because of lack of competition
  - ✓ They polluted the environment
  - ✓ They wasted natural resources
- Those who are for argue:
  - ✓ Industrialization could not have occurred without such men taking a gamble
  - ✓ They were philanthropic, donating millions of dollars to charities and other areas
  - ✓ Big corporations invested or perfected many technologies that ultimately lowered the cost of products and improved Americans' lives



