

## CHAPTER 6: A NEW INDUSTRIAL AGE

LATE 19<sup>TH</sup> CENTURY AMERICA EXPERIENCED AN INDUSTRIAL BOOM

## SECTION 1: THE EXPANSION OF INDUSTRY

- After the Civil War (1865) the U.S. was still largely \_\_\_\_\_
- By 1920, the U.S. was the leading \_\_\_\_\_ power in the world
- This enormous growth was due to three factors;  
1) \_\_\_\_\_  
2) \_\_\_\_\_ 3) \_\_\_\_\_



## BLACK GOLD



EDWIN DRAKE PICTURED WITH BARRELS OF OIL

- In 1859, \_\_\_\_\_ used a steam engine to drill for oil
- This breakthrough started an \_\_\_\_\_ in the Midwest and later \_\_\_\_\_
- At first the process was limited to transforming the oil into \_\_\_\_\_ and throwing out the \_\_\_\_\_ -- a by-product of the process
- Later, the gasoline was used for cars

## BESSEMER STEEL PROCESS

- \_\_\_\_\_ was not the only valuable natural resource
- \_\_\_\_\_ and \_\_\_\_\_ were plentiful within the U.S.
- When you removed the carbon from iron, the result was a lighter, more flexible and rust resistant compound – \_\_\_\_\_
- The \_\_\_\_\_ did just did (Henry Bessemer & William Kelly)



BESSEMER CONVERTOR CIRCA 1880

## NEW USES FOR STEEL

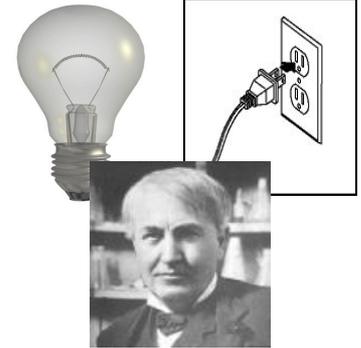


BROOKLYN BRIDGE  
SPANS 1595 FEET IN NYC

- The \_\_\_\_\_, with thousands of miles of track, were the biggest **customers for steel**
- Other uses emerged: barbed wire, farm equipment, bridge construction (Brooklyn Bridge- 1883), and the first \_\_\_\_\_

## ELECTRICITY

- **1876-** established the world's first research lab in New Jersey
- There Edison **perfected the incandescent \_\_\_\_\_** in 1880
- Later he invented an entire system for producing and distributing electricity
- By 1890, \_\_\_\_\_ powered numerous machines



EDISON

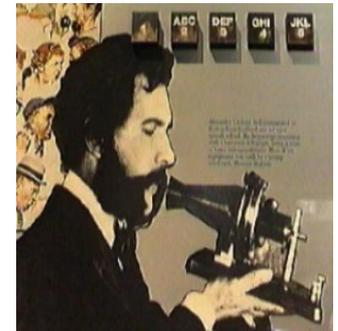
## THE TYPEWRITER



- \_\_\_\_\_ invented the typewriter in 1867
- His invention forever affected office work and paperwork
- It also opened many new jobs for \_\_\_\_\_
- 1870: Women made up less than \_\_\_ of workforce
- 1910: They made up \_\_\_\_\_

## THE TELEPHONE

- Another important invention of the late 19<sup>th</sup> century was the \_\_\_\_\_
- \_\_\_\_\_ and Thomas Watson unveiled their invention in 1876



BELL AND HIS PHONE

## SECTION 2: THE AGE OF THE RAILROADS



- The growth and consolidation of the \_\_\_\_\_ influenced many facets of American life
- However, the unchecked \_\_\_\_\_ of the railroad companies led to widespread \_\_\_\_\_ and then \_\_\_\_\_

## A NATIONAL NETWORK

- By 1869, tracks had been laid across the continent (\_\_\_\_\_)
- \_\_\_\_\_ from \_\_\_\_\_ and \_\_\_\_\_ and out-of-work Civil War vets provided most of the **difficult labor**
- Thousands lost their lives and tens of thousands were injured laying track



IMMIGRANTS FROM CHINA LAID TRACK

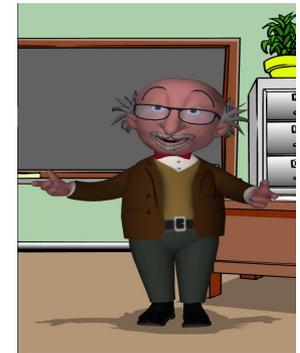
## RAILROAD AND TIME



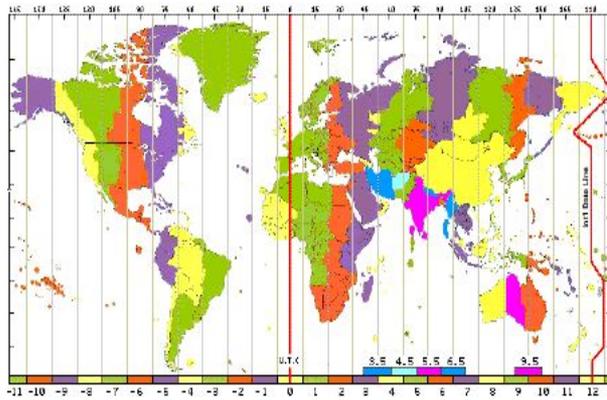
- Before 1883, each community still operated on its own time
- For example: Noon in Boston was 12 minutes later than noon in New York City
- Indiana had dozens of **different times**
- \_\_\_\_\_

## PROFESSOR DOWD CREATES TIME ZONES

- In 1869, to remedy this problem, Professor C.F. Dowd proposed dividing the earth into \_\_\_\_\_
- The U.S. would be divided into 4 zones: the \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_
- \_\_\_\_\_ – Railroads synchronized their watches across U.S.
- \_\_\_\_\_ – International Conference adopts zones



PROFESSOR DOWD EXPLAINS HIS TIME ZONES



THE WORLD IS DIVIDED INTO 24 TIME ZONES



THE UNITED STATES IS DIVIDED INTO 4 TIME ZONES

## RAILROADS SPUR OTHER INDUSTRIES

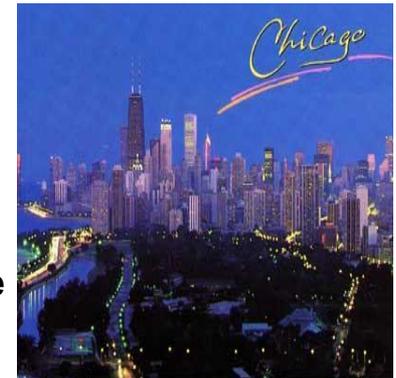


The rapid growth of the \_\_\_\_\_ industry influenced the iron, coal, steel, lumber, and glass businesses as they tried to keep up with the railroads demand for materials

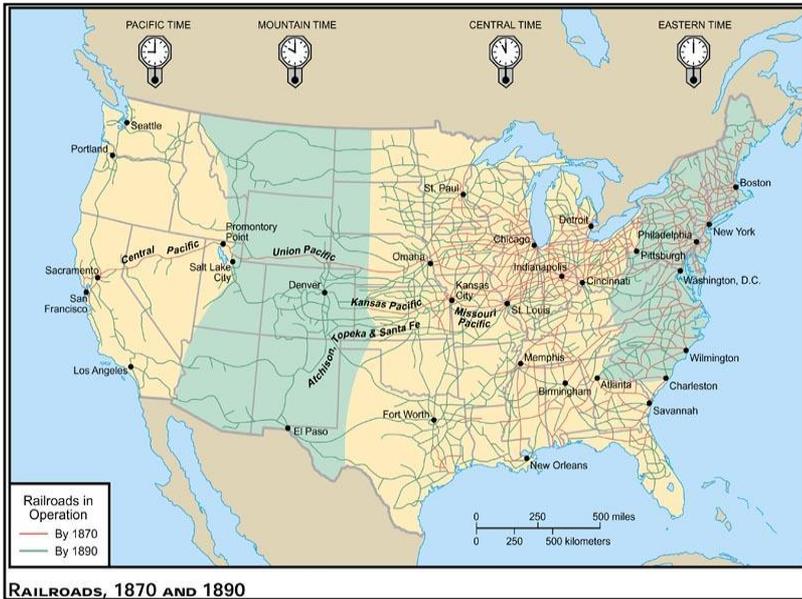
The spread of the \_\_\_\_\_ also led to the growth of towns, new markets, and opportunity for profiteers

## RAILROADS LED TO GROWTH OF CITIES

- Many of **today's major cities** owe their legacy to the \_\_\_\_\_
- Chicago, Minneapolis, Denver, and Seattle all **grew up thanks to the railroad**



“MY KIND OF TOWN”



## PULLMAN: A FACTORY & TOWN



THE TOWN

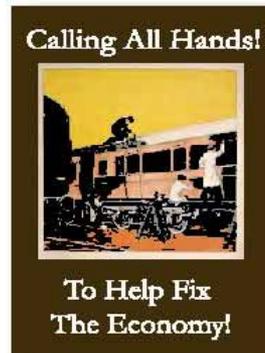


GEORGE PULLMAN

- In 1880, \_\_\_\_\_ built a factory for manufacturing sleepers and other railroad cars in Illinois
- The nearby town Pullman built for his employees was modeled after early industrial European towns
- Pullman workers felt his \_\_\_\_\_ town was too strict
- When he lowered \_\_\_\_\_ but not rent – it led to a violent strike in 1894

## CREDIT MOBILIER SCANDAL

- **Stockholders** of Union Pacific Railroad **formed** a \_\_\_\_\_ in 1864
- Stockholders then gave contracts to the company to lay track at 3 times the actual costs and pocketed the difference
- They donated shares of the stock to 20 \_\_\_\_\_ members of Congress in 1867



POSTER FOR BOGUS CONSTRUCTION COMPANY

## THE GRANGE AND THE RAILROADS



GRANGERS PUT A STOP TO RAILROAD CORRUPTION

- \_\_\_\_\_ were especially affected by corruption in the \_\_\_\_\_ industry
- \_\_\_\_\_ (a farmers organization) protested land deals, price fixing, and charging different rates to different customers
- **Granger Laws** were then passed protecting \_\_\_\_\_
- \_\_\_\_\_ were given regulation control of railroads by the Courts

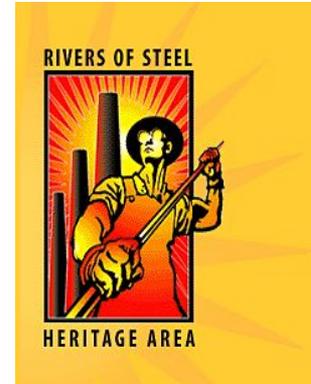
## INTERSTATE COMMERCE ACT

- In 1887, the \_\_\_\_\_ re-established their control over railroad activities
- Congress passed the \_\_\_\_\_ and established a 5-member Interstate Commerce Commission (ICC)
- The ICC struggled to gain power until 1906



1887 – CONGRESS PASSED THE ICA

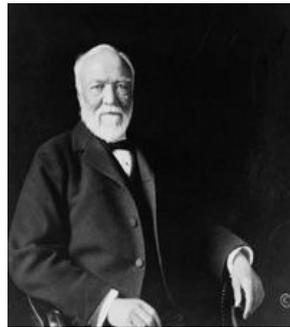
## SECTION 3: BIG BUSINESS AND LABOR



- \_\_\_\_\_ was one of the first industrial moguls
- He entered the steel industry in 1873
- By 1899, the \_\_\_\_\_ manufactured more steel than all the factories in Great Britain combined

## CARNEGIE BUSINESS PRACTICES

- \_\_\_\_\_ initiated many new business practices such as;
- Searching for ways to make **better products** **more** \_\_\_\_\_
- \_\_\_\_\_ systems to track expenses
- Attracting quality people by offering them \_\_\_\_\_ & \_\_\_\_\_



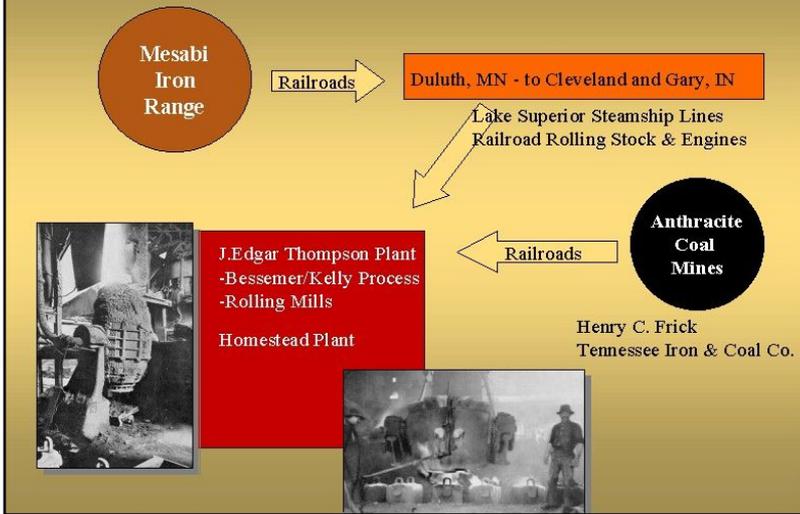
ANDREW CARNEGIE  
1835 -1919

## CARNEGIE'S VERTICAL INTEGRATION



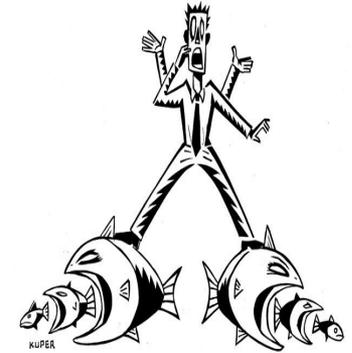
- \_\_\_\_\_ attempted to **control** as much of the steel industry as possible
- **How?** \_\_\_\_\_; he bought out his suppliers (coal fields, iron mines, ore freighters, and rail lines) in order to control materials and transportation

## Carnegie Steel Co. - Vertical Integration of Steel



## HORIZONTAL INTEGRATION

- Additionally, \_\_\_\_\_ **bought up the competition** through friendly and hostile takeovers
- This is known as \_\_\_\_\_; buying companies that produce similar products – in this case other steel companies



MERGERS

## BUSINESS GROWTH & CONSOLIDATION

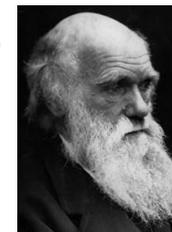
- \_\_\_\_\_ could result in a monopoly (\_\_\_\_\_)
- A \_\_\_\_\_ is complete control over an industry
- An example of consolidation: In 1870, \_\_\_\_\_ Standard Oil Company owned 2% of the country's crude oil
- By 1880 – it controlled 90% of U.S. crude oil



CHICAGO'S STANDARD OIL BUILDING IS ONE OF THE WORLD'S TALLEST

## SOCIAL DARWINISM

DARWIN (RIGHT) LIMITED HIS FINDINGS TO THE ANIMAL WORLD



SPENCER WAS THE ONE WHO COINED THE PHRASE "SURVIVAL OF THE FITTEST"

- The philosophy known as \_\_\_\_\_ has its origins in Darwin's \_\_\_\_\_
- \_\_\_\_\_ theorized that some individuals in a species flourish and pass their traits on while others do not
- Social Darwinists (like **Herbert Spencer**) believed riches was a sign of God's favor, and being poor was a sign of \_\_\_\_\_ and \_\_\_\_\_

## ROBBER BARONS



J.P.  
MORGAN  
IN PHOTO  
AND  
CARTOON



- Alarmed at the cut-throat tactics of industrialists, critics began to call them “\_\_\_\_\_”
- Famous “Robber Barons” included \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_

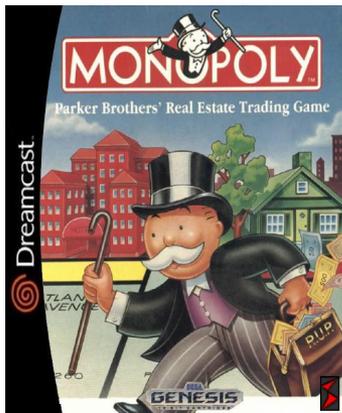
## ROBBER BARONS WERE GENEROUS, TOO

- Despite being labeled as greedy barons, rich industrialists did have a generous side
- When very rich people give away lots of money it is called “\_\_\_\_\_”
- Carnegie built \_\_\_\_\_, Rockefeller, Leland Stanford, and Cornelius Vanderbilt built \_\_\_\_\_



ROCKEFELLER CHAPEL –  
UNIVERSITY OF CHICAGO

## SHERMAN ANTI-TRUST ACT



- In 1890, the \_\_\_\_\_ made it illegal to form a monopoly (Trust)
- Prosecuting companies under the Act was not easy – a business would simply reorganize into single companies to avoid prosecution
- Seven of eight cases brought before the \_\_\_\_\_ were thrown out

## WORKERS HAD POOR CONDITIONS

- Workers routinely worked \_\_\_\_\_ days a week, had no \_\_\_\_\_, no \_\_\_\_\_, and no compensation for \_\_\_\_\_
- **Injuries were common** – In 1882, an average of 675 workers were killed **PER WEEK** on the job



## LABOR UNIONS EMERGE



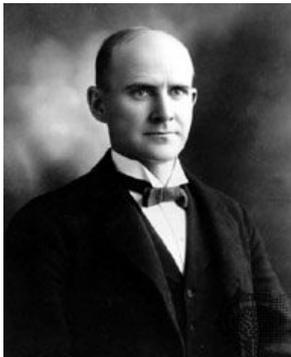
- As \_\_\_\_\_ for laborers \_\_\_\_\_, workers realized they needed to \_\_\_\_\_
- The first large-scale national organization of workers was the \_\_\_\_\_ in 1866
- The Colored National Labor Union followed

## CRAFT UNIONS

- \_\_\_\_\_ were unions of workers in a skilled trade
- \_\_\_\_\_ led the Cigar Makers' International Union to join with other craft unions in 1886
- Gompers became president of the \_\_\_\_\_ (AFL)
- He focused on \_\_\_\_\_ to improve conditions, wages and hours



## INDUSTRIAL UNIONISM

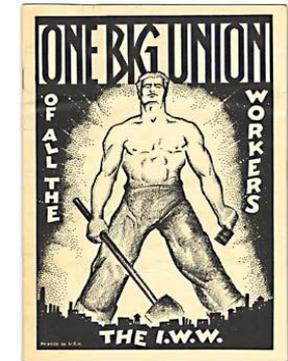


EUGENE DEBS

- Some unions were formed with workers within a \_\_\_\_\_ industry
- \_\_\_\_\_ attempted this Industrial Union with the \_\_\_\_\_ workers
- In 1894, the new union won a \_\_\_\_\_ for higher wages and at its peak had 150,000 members

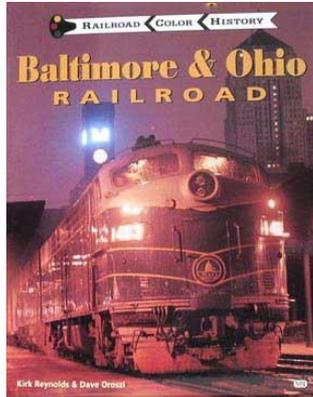
## SOCIALISM AND THE IWW

- Some unionists (including Debs) turned to \_\_\_\_\_ – an economic and political system based on \_\_\_\_\_ control of \_\_\_\_\_ and \_\_\_\_\_ and an \_\_\_\_\_ among all citizens
- The International Workers of the World (IWW) or \_\_\_\_\_, was one such socialist union



PROMOTIONAL POSTER FOR THE IWW

# STRIKES TURN VIOLENT



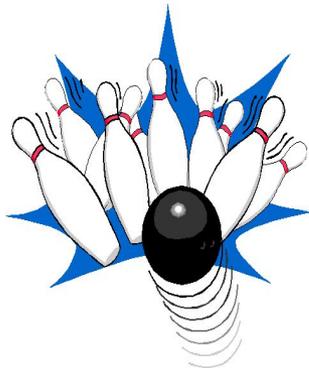
- Several strikes turned deadly in the late 19<sup>th</sup> century as workers and owners clashed
- \_\_\_\_\_: Workers for the Baltimore and Ohio Railroad struck to protest wage cuts
- Other rail workers across the country struck in sympathy
- Federal troops were called in to end the strike

# THE HAYMARKET AFFAIR

- Labor leaders continued to push for change – and on **May 4, 1886** 3,000 people gathered at Chicago's \_\_\_\_\_ to protest police treatment of striking workers
- **A bomb exploded near the police line** – killing 7 cops and several workers
- \_\_\_\_\_ were rounded up and executed for the crime



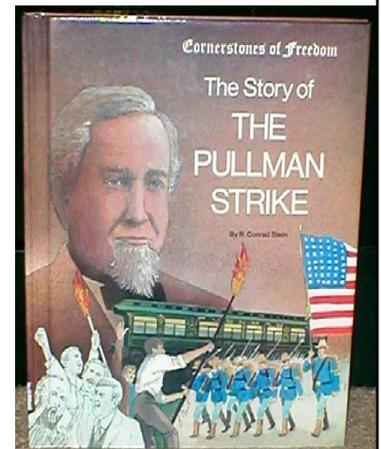
# THE HOMESTEAD STRIKE



- Even **Andrew Carnegie** could not escape a workers strike
- Conditions and wages were not satisfactory in his Steel plant in Pennsylvania and workers struck in 1892
- Carnegie hired \_\_\_\_\_ to guard the plant and allow scabs to work
- **Detectives and strikers clashed** – 3 detectives and 9 strikers died
- The National guard restored order – workers returned to work

# THE PULLMAN STRIKE

- After the \_\_\_\_\_ **Company** laid off thousands of workers and cut \_\_\_\_\_, the workers went on \_\_\_\_\_ in the spring of **1894**
- \_\_\_\_\_ (American Railroad Union) tried to settle dispute which turned violent
- **Pullman hired \_\_\_\_\_ and fired the strikers** – Federal troops were brought in
- Debs was jailed



# WOMEN ORGANIZE



Mother Jones

- Although women were barred from most unions, they did organize behind powerful leaders such as \_\_\_\_\_
- She organized the \_\_\_\_\_ of America
- Mine workers gave her the nickname, “\_\_\_\_\_”
- \_\_\_\_\_ organized the International Ladies Garment Workers Union at the age of 16

# EMPLOYERS FIGHT UNIONS

- The more powerful the unions became, the more \_\_\_\_\_ came to fear them
- **Employers often forbade** \_\_\_\_\_ and refused to recognize unions
- Employers forced new workers to **sign** “\_\_\_\_\_” swearing that they would never join a union
- Despite those efforts, **the \_\_\_\_\_ had over 2 million members by 1914**

