

Industry Comes of Age

Chapter 24



Chapter 24 theme:

America's "Second Industrial Revolution" in the Gilded Age (1865-1900) was spurred initially by the transcontinental rail network, and saw large businesses consolidate into giant corporate trusts, as epitomized by the oil and steel industries.

* Key to Remembering the 1st Industrial Revolution:

Textiles

Railroads

Iron

Coal

*** Key to Remembering the 2nd Industrial Revolution (*after* the Civil War):**

Railroads (transcontinental)

Oil

Steel

Electricity

Industrialism

Labor

Steel

Banking

Railroads

Oil

Electricity

Mechanization
of Agriculture

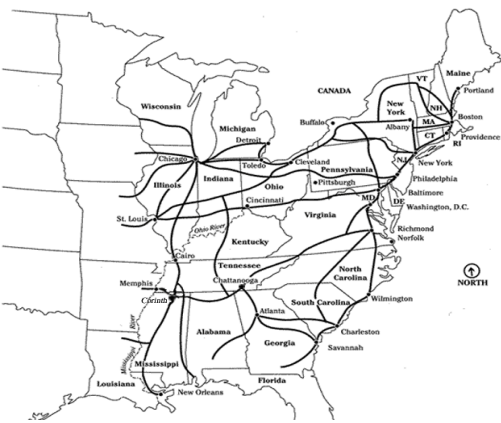
Politics

- Reconstruction
- Political Machines
- Money Issue: 70s & 90s
- Tariffs: 1880s
- Populism
- Progressivism

Urbanization

- "New Immigrants"
- Job opportunities
- Social stratification
- Poverty and Crime
- Social Gospel
- Progressivism

Development of Railroads



1860



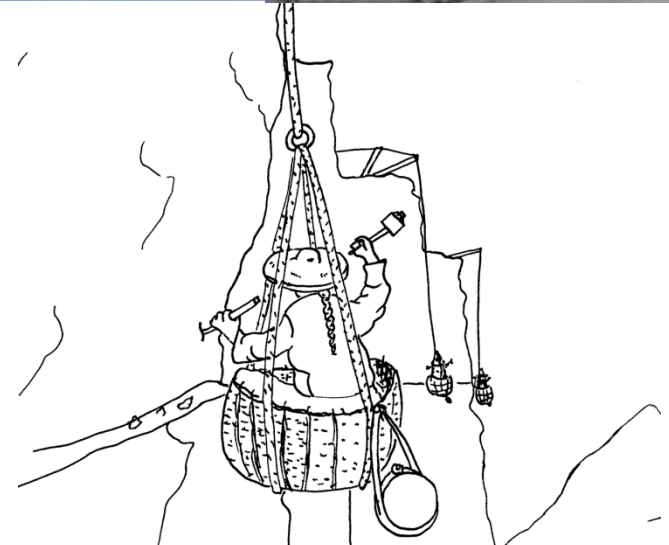
1870

- **1860 – Lincoln promise transcontinental railroad**
 - **Needed government subsidies of money and land to encourage the building of railroads**
- **1862 – Pacific Railroad Act**
 - **Passed to bind California to the Union**
 - **give right to build railroad to two companies**
 - **Union Pacific (Omaha to west)**
 - **Central Pacific (Sacramento to east) led by Big Four (Leland Stanford, Collis Huntington, Mark Hopkins, Charles Crocker)**
 - **railroad companies given loans and land from Congress**
 - **Much money was illegally stolen from government through billing for work never done and overcharging; Credit Mobilier was part of this scandal**
 - **Union and Central race to see who could lay most track**
- **Railroads increased amount of gold through business loans and sale of land**
- **Frontier towns lived or died based on access to railroads**



Building the Railroads

- **Laborers**
 - **African Americans, Native Americans, Immigrants**
 - **Union Pacific use Irish, Central Pacific use Chinese**
- **Chinese**
 - **Were not welcomed at first**
 - **Worked hard; Got sick less because drank tea instead of unboiled water**
 - **10,000 Chinese brought to do work**
- **Construction especially difficult through Sierra Nevada's**
- **Joining of the Rails**
 - **May 10, 1869, Promontory Utah – two rail lines connected with golden spike**
 - **Facilitated east-west trade and trade with Asia**



Railroad Standardizations



- **Northern Pacific; Atchison, Topeka and Santa Fe; and Southern Pacific railroads were completed by 1893 – 5 transcontinental railroads**
- **Eastern railroads were combined with transcontinental railroads to improve transportation**
 - **Led by Cornelius Vanderbilt of New York Central Railroad**
- **Time zones were created to enable consistent railroad schedules**
- **Gauges (distance between tracks)**
 - **Standard gauge created to allow trains to move from one company's track to another's**
- **Steel tracks were more durable and cheap**
- **Westinghouse air brake and Pullman sleeping cars improved quality of rail travel**

THROUGH TRAIN SCHEDULE, Via Omaha, between Principal Cities East and San Francisco.											
LEAVE BOSTON 6:00 P. M.	LEAVE NEW YORK 8:35 P. M.	LEAVE PHILADELPHIA 11:35 P. M.	LEAVE BALTIMORE 12:35 P. M.	LEAVE CINCINNATI 7:45 A. M.	LEAVE INDIANAPOLIS 11:47 P. M.	LEAVE CHICAGO 11:40 Noon.	LEAVE ST. LOUIS 8:30 P. M.	LEAVE OMAHA 12:10 P. M.	LEAVE OGDEN 6:40 P. M.	ARRIVE SAN FRANCISCO 11:15 A. M.	
Monday	Monday	Monday	Monday	Tuesday	Tuesday	Tuesday	Tuesday	Wednesday	Friday	Monday	
Monday	Monday	Monday	Monday	Tuesday	Tuesday	Tuesday	Tuesday	Wednesday	Friday	Monday	
Tuesday	Tuesday	Tuesday	Tuesday	Wednesday	Wednesday	Wednesday	Wednesday	Thursday	Saturday	Tuesday	
Wednesday	Wednesday	Wednesday	Wednesday	Thursday	Thursday	Thursday	Thursday	Friday	Sunday	Wednesday	
Thursday	Thursday	Thursday	Thursday	Friday	Friday	Friday	Friday	Saturday	Monday	Thursday	
Friday	Friday	Friday	Friday	Saturday	Saturday	Saturday	Saturday	Sunday	Tuesday	Friday	
Saturday	Saturday	Saturday	Saturday	Sunday	Sunday	Sunday	Sunday	Monday	Wednesday	Saturday	
3,287	3,271	3,181	3,162	2,584	2,479	2,539	2,580	1,847	835	Dist. fr. San Francisco.	

Passengers upon buying Tickets, should make a memorandum of the "Destination,"—"by what R. E. Road,"—"Class,"—"Form Number,"—"Consecutive Number,"—"Counter's Number, or Letter,"—"Date." They should make a memorandum, also, of the "Number" and "Destination" of their Baggage Checks. This precaution will save the passenger both time and trouble in case his ticket be lost or stolen.

TIME.—All Trains between Omaha and Laramie, run on Omaha Time; between Laramie and Ogden, Laramie Time—32 minutes slower than Omaha Time; between Ogden and San Francisco, San Francisco Time—1 hour and 46 minutes slower than Omaha Time, and 3 hours and 14 minutes slower than New York Time.

Impact of the Railroads

- **End Indian control of West**
 - **White settlers, hunters, miners overrun Indian lands**
- **Economies of East and West were tied together**
 - **Raw materials and processed goods were sent East**
 - **Manufactured goods were sent West**
 - **Help grow American Industry**
- **Help people settle and farm the West**
 - **Farmers grew more products**
 - **Railroads control farmers with pricing of shipping**
 - **Eastern buyers control farmers by what they bought**
- **Change thoughts of environment**
 - **Trains could move in any weather**
- **Towns used to depend on access to water**
 - **Denver, Colorado – Cheyenne, Wyoming grew around Railroad stations**
- **Immigration encouraged because of availability of land**



Robber Barons and Captains of Industry

- **Wealthy entrepreneurs who gained control over entire industries**
 - **J.P. Morgan**
 - **Andrew Carnegie**
 - **John Rockefeller**
 - **Cornelius Vanderbilt**
- **Used ruthless tactics to expand wealth and take control**
- **Used their wealth to build hospitals, schools and other philanthropic assets**

Limits on Railroad industry



Oliver Kelley



- **Government slow to respond to correct economic injustices**
- **Grange founded by Oliver Kelley in 1867**
 - **Originally was a social organization**
 - **Changes to a political organization**
 - **Farmers gathered and talked about their problems**
 - **led to calls for change**
- ***Munn v. Illinois (1877)***
 - **Supreme Court says government can control private business if public interest is involved**
 - **Allows for future government regulation of business**
- ***Wabash v. Illinois (1886)***
 - **Individual states could not regulate INTERstate commerce**
- **Interstate Commerce Act (1887)**
 - **Created Interstate Commerce Commission (ICC) federal agency to regulate interstate trade**
 - **was more effective at settling disputes between corporations instead of protecting consumers**
 - **First attempt of federal government to regulate trade**

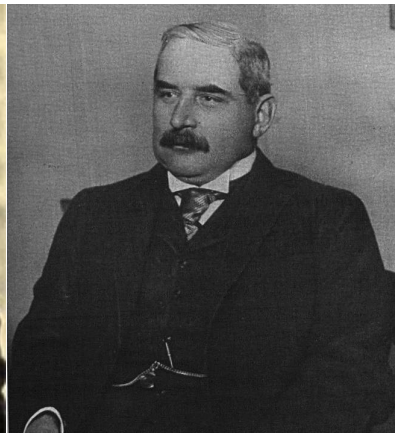


Trust Titan Emerges

- **Entrepreneur**
 - **Someone who sets up a new business to make a profit**
- **Until 1880 individuals owned businesses**
 - **What happen if go broke or die?**
 - **Make banks afraid to loan money**
- **Vertical Integration**
 - **Combine all phases of manufacturing into one company**
- **Horizontal Integration**
 - **Allying with competitors to establish monopoly over industry**
- **Trust**
 - **Smaller companies were brought under control of a giant company so that an industry could be dominated**
 - **Standard Oil (Rockefeller); US Steel (Carnegie)**



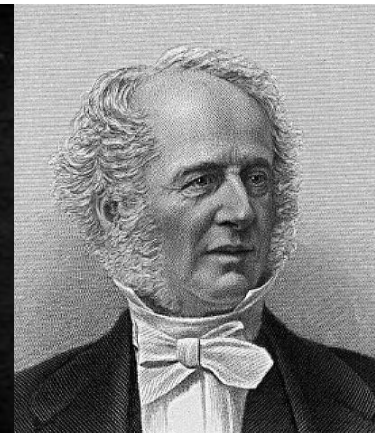
Andrew Carnegie



J.P. Morgan

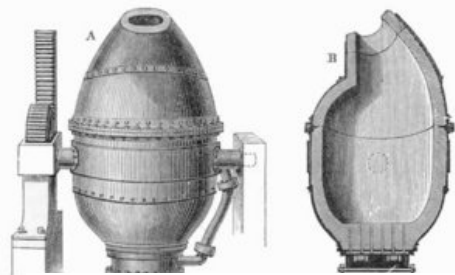


John D. Rockefeller

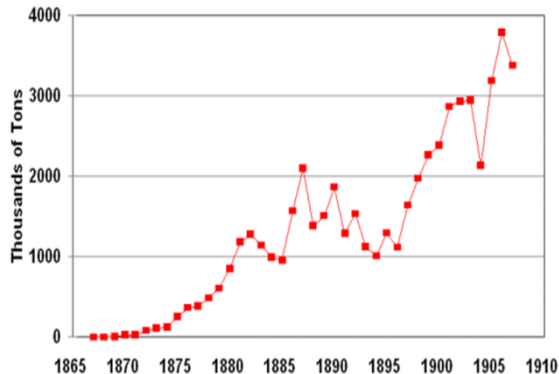


Cornelius Vanderbilt

Steel: Backbone of Industry



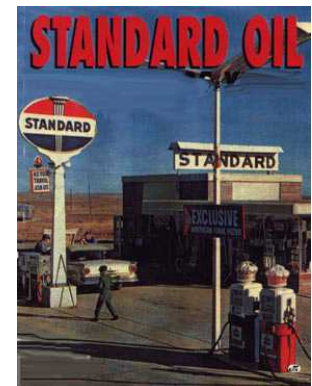
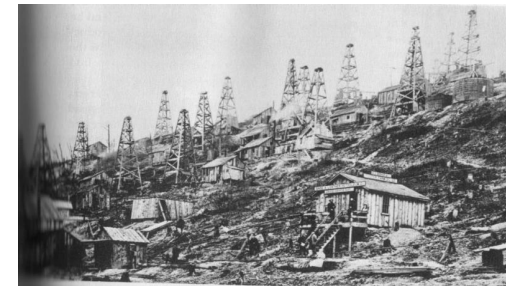
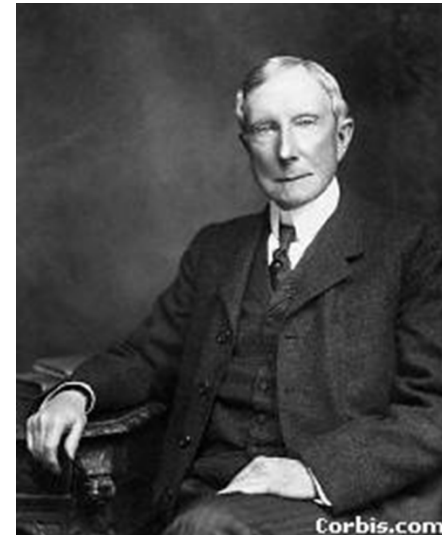
Bessemer Steel Rail Production



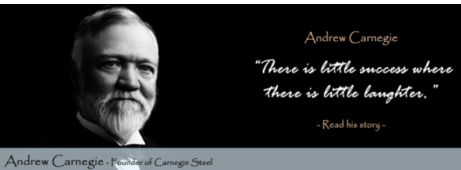
- **Steel is combination of Iron and other metals**
- **Coal needed to make steel**
 - spur on coal mining industry
- **US one of few places that had all resources needed for steel**
- **Bessemer Process**
 - Allowed production of steel at low cost
 - Result in steel output increase by 10 times 1877-1892
- **Railroads use steel – spurred demand for its production**
- **Andrew Carnegie took control of steel industry**
 - Made 1/4 of all nation's steel
- **JP Morgan was most important banker and financier**
 - Purchased Carnegies steel companies and created US Steel

John D. Rockefeller

- **1859 – first oil well was drilled in Pennsylvania**
 - **Oil was purified into kerosene**
 - **Shifted focus west away from New England whaling industry**
 - **Kerosene lamps were replaced by electric light bulbs**
 - **Development of gasoline powered automobile saved the oil industry**
- **Bought oil refinery in 1863 (place to purify oil)**
- **Created Standard Oil Trust**
 - **Trust**
 - **many businesses in one industry controlled by one company**
 - **Created population of “new rich” elite that dominated American economy and society**
- **Purchased oil lines, barrel manufacturers, railroads**
- **Eliminated competition and middle men**
- **Could charge any price he wanted**
 - **Got control of 95% of all oil in country**
 - **Demanded rebates from railroads, used corporate spies**



Social Darwinism



- **Gospel of Wealth**
 - Carnegie believed that wealth created an obligation to society
 - Led to philanthropy; support of hospitals, museums, schools etc.

- **Social Darwinism**
 - Developed by Herbert Spencer and William Graham Sumner
 - Applied Darwin's theory to businesses and poor. Heavily influenced by David Ricardo and Thomas Malthus
 - Justified harsh tactics in business and not helping poor; also encouraged contempt for poor
 - Laissez – faire – government took no role in business



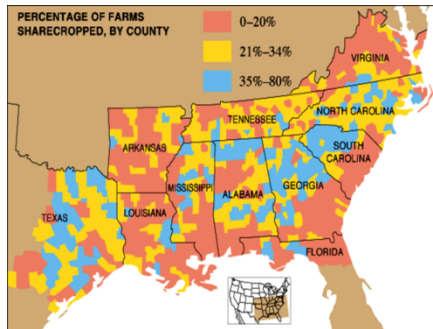
- **Corporations only concerned about making money, not conditions**

Government tackles the Trust Evil



- **Sherman Anti-Trust Act (1890)**
 - **Forbade combinations of businesses that would restrain trade**
 - **Did not distinguish between “good” and “bad” trusts**
 - **Was ineffective against business but was used against labor unions**
 - **Did establish precedent that private business *could* be limited in favor of public good**

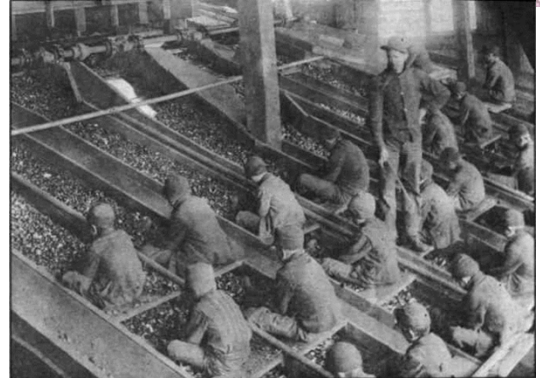
South in Age of Industry



- **Most southerners worked as sharecroppers and had absentee landlords**
- **Very limited industries develop in steel, cloth, tobacco**
 - **Development of cigarette industry by James Buchanan Duke and American Tobacco Company**
- **Railroads repaired but railroad companies charged higher rates for goods shipped north than those going south**
- **Steel trusts forced railroads to charge higher prices for steel in Birmingham instead of Pittsburg**
- **Although more money in south, still earned $\frac{1}{2}$ of northerners**
 - **Attractiveness of south was cheap labor, so industrialists intentionally kept wages low**
- **New South based on industrialization and modernization was supported by Henry Grady and others**

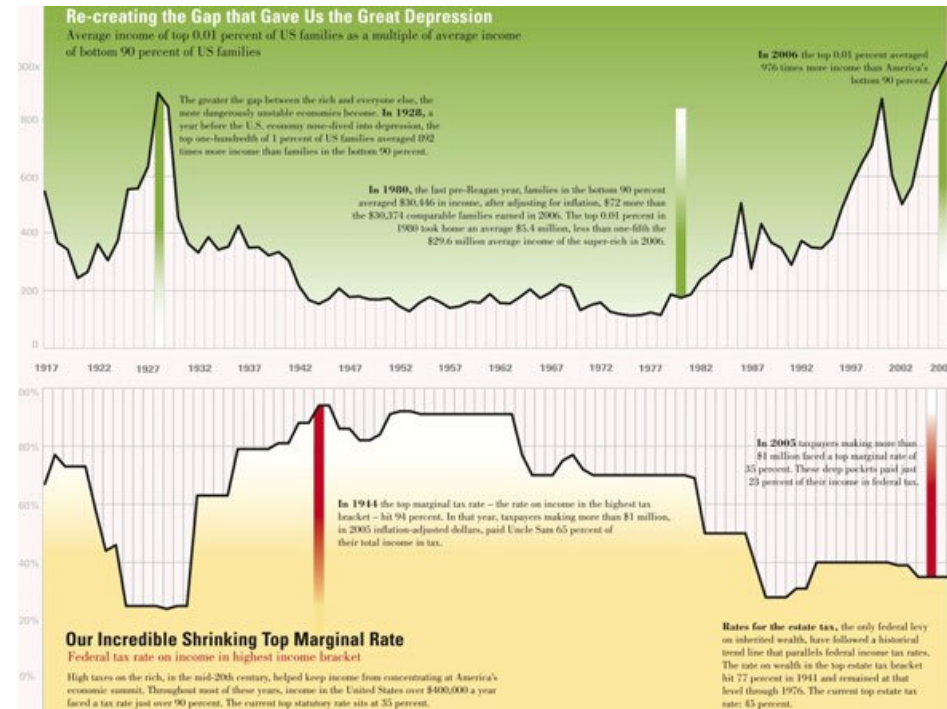
Impact of Industrial Revolution

- **1900 2/3 of population were wage earner**
 - **Ended Jeffersonian ideal of small agriculturalists**
 - **Ended Hamiltonian ideal of manufacturing without government interference**
- **Machines reduce need for skilled labor**
- **People treated as interchangeable parts**
 - **Workers had little contact with management**
 - **Make it difficult for both sides to understand each other**
 - **Children as young as 6 would work in mines and factories**
 - **Owners could pay them less than adults**
 - **Hands were small, so they could fit into machines**
 - **Were faster than adults**
 - **Frequently used orphans**
 - **Changed traditional relationships between family, communities and time**
- **Sweatshops - places where people work long hours, unsafe conditions for little pay**



Wage Slavery and Women

- **1860 50% of all workers were self employed, by 1900 67% depended on a wage**
 - **When wages are high, prosperity benefits workers**
 - **Wages make workers vulnerable to employers and the market**
 - **Family could be destroyed if wage earner couldn't work**
- **Women had opportunity to earn wealth outside of home**
 - **Different expectations for marriage, fitness and interaction in society**
- **Increased division between social classes – wealthiest 10% controlled 90% of wealth**
- **Factory system and corporations encouraged employers to treat workers as interchangeable parts**
 - **Workers had no power or influence over business owners**



Need for Labor Unions

- **Management would hire scabs to replace workers who went on strike**
- **Lock outs used to force workers to give up demands**
- **“Yellow dog contracts” and “Iron clad Oaths” were demanded which workers were not able to join a union**
- **Union organizers were “black listed” and ran out of town and denied future employment**
- **Company towns kept workers in perpetual debt**
- **Strikes were seen as foreign and socialistic – middle class did not support working class attempts to improve rights**
- **National Labor Union (1866)**
 - **Skilled and unskilled and farmers; excluded Chinese**
 - **had 600,000 members**
 - **Fought for 8 hour work day**
 - **Weakened in depression of 1870s**
 - **1877 railroad strikes required federal troops to stop them**
- **Colored National Labor Union**
 - **Created for black workers**
 - **Racism prevented coordinated efforts**

American Federation of Labor

- **American Federation of Labor (1886)**
 - **Created by Samuel Gompers**
 - **Only open to skilled workers**
 - **Was federation of unions, individuals couldn't join**
 - **Opposed socialism and avoided politics**
 - **Would have stronger bargaining position because harder to replace**
 - **Fought for “closed shop” – must be union to work**
 - **This separated AFL from rest of workforce**
 - **ban non whites from joining**
 - **ignored women's issues**
 - **unions grow slowly but surely**