

Natural Resources Fuel Industrialization

The Growth of Industry

By 1920s, U.S. is world's leading industrial power, due to:

- wealth of natural resources**
- government support for business**
- growing urban population**

Black Gold

Pre-European arrival, Native Americans make fuel, medicine from oil

1859, Edwin L. Drake successfully uses steam engine to drill for oil

Petroleum-refining industry first makes kerosene, then gasoline

Bessemer Steel Process

Abundant deposits of coal, iron spur industry

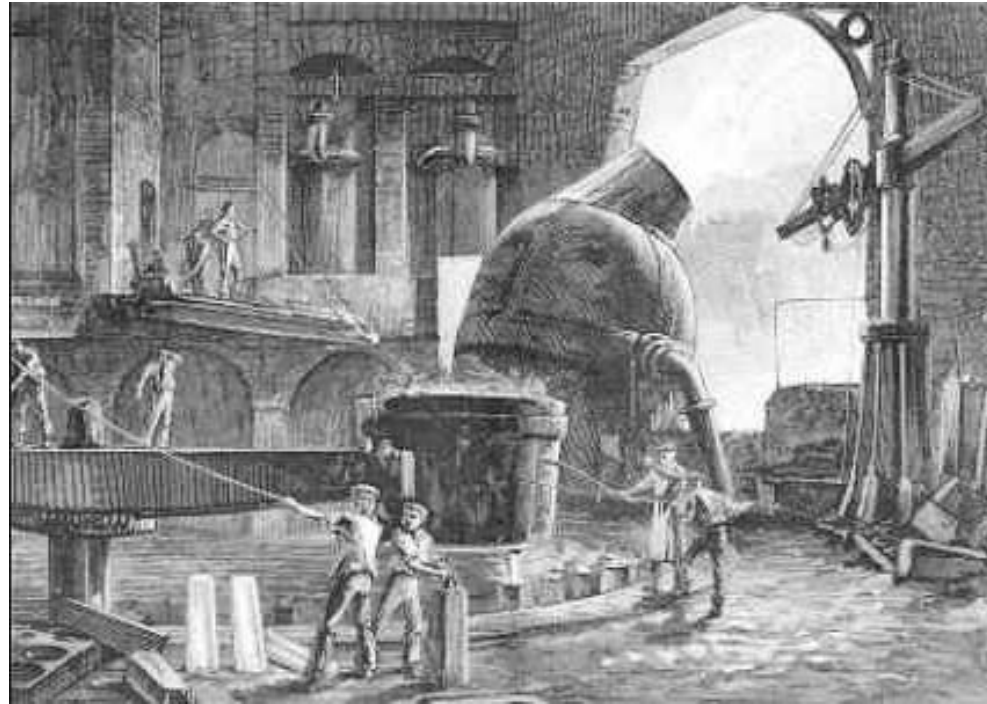
Bessemer process puts air into iron to remove carbon to make steel

Later open-hearth process makes steel from scrap or raw materials

New Uses for Steel

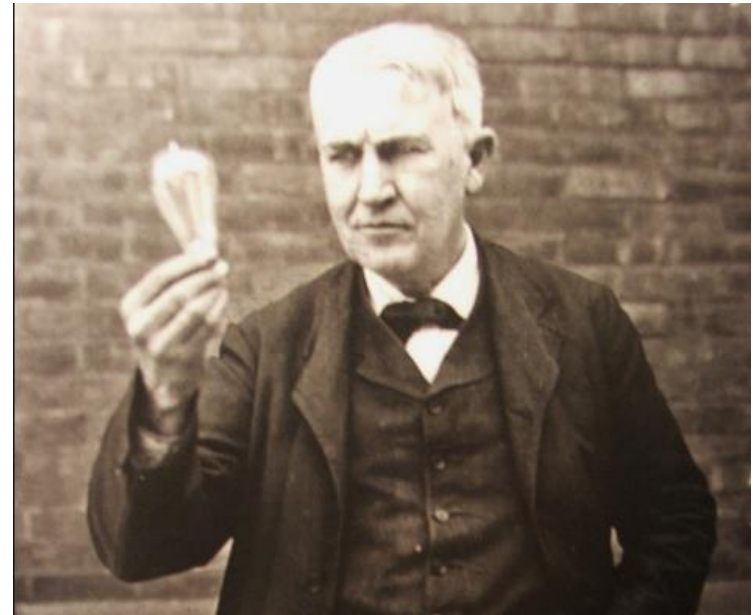
Steel used in railroads, barbed wire, farm machines

Changes construction: Brooklyn Bridge; steel-framed skyscrapers



An Age of Inventions

**Numerous new inventions
change the landscape,
life, work**



The Power of Electricity

1876, Thomas Edison establishes first research laboratory

— 1880, patents incandescent light bulb

— creates system for electrical production, distribution

Electricity changes business; by 1890, runs numerous machines

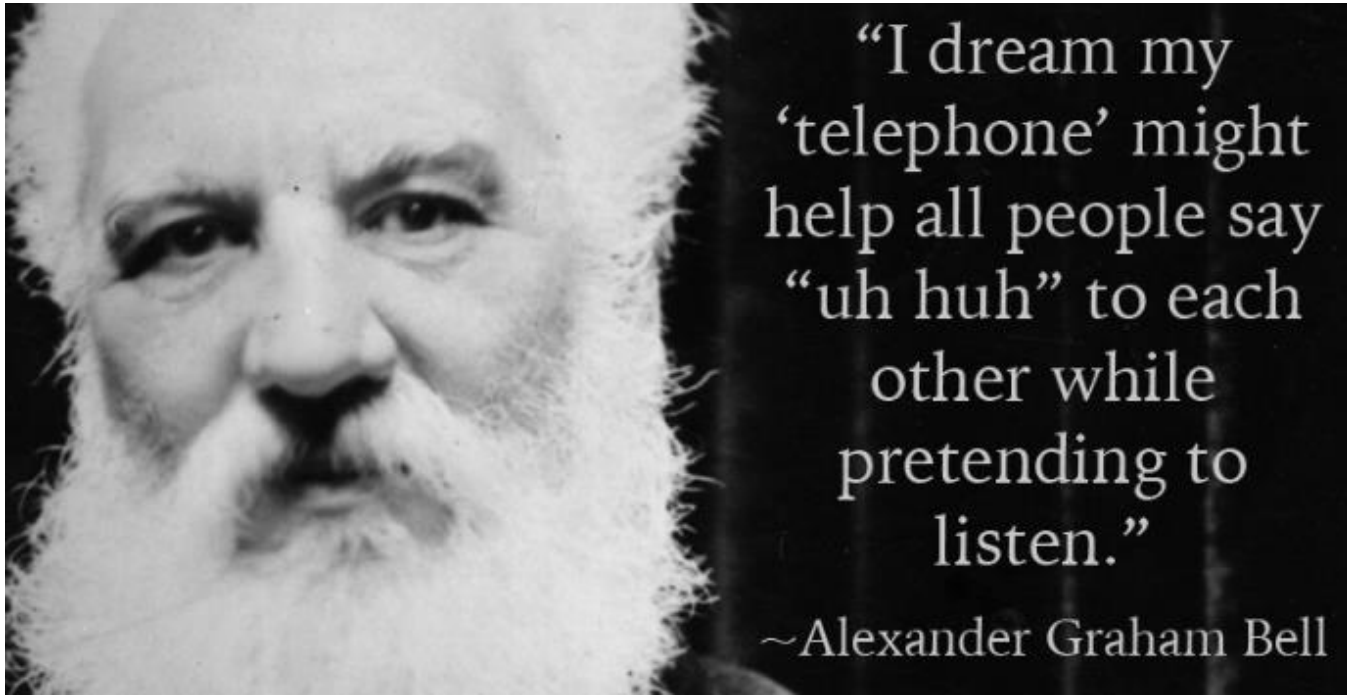
Becomes available in homes; encourages invention of appliances

Allows manufacturers to locate plants anyplace; industry grows

An Age of Inventions 3.1

Christopher Sholes invents typewriter in 1867

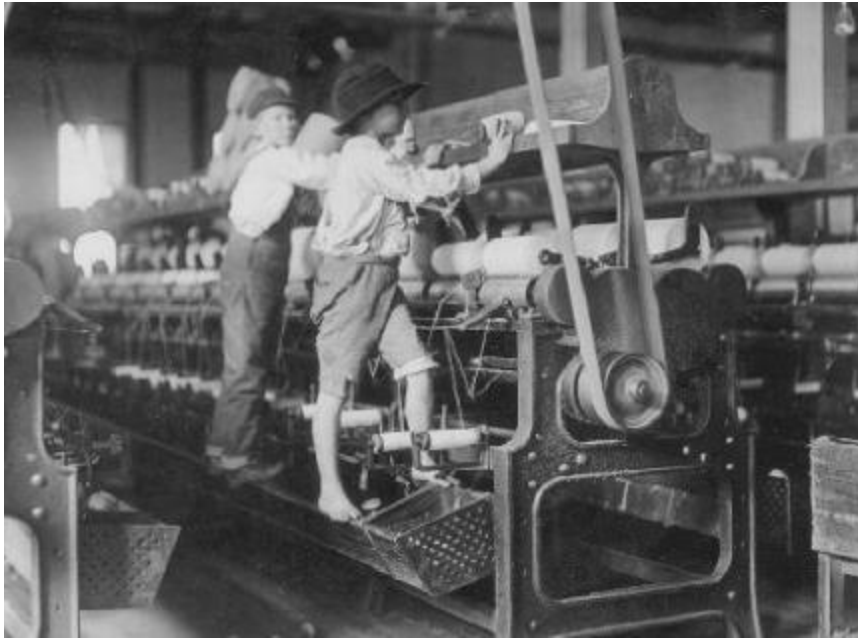
1876, Alexander Graham Bell, Thomas Watson introduce telephone



Office work changes; by 1910, women are 40% of clerical workers
Inventions impact factory work, lead to industrialization
— clothing factories hire many women

An Age of Inventions 3.1

Industrialization makes jobs easier; improves standard of living
— **by 1890, average workweek 10 hours shorter**
— **as consumers, workers regain power in market**



Some laborers think mechanization reduces value of human worker

The Age of the Railroads 3.2

Railroads Encourage Growth

Rails make local transit reliable, westward expansion possible

Government makes land grants, loans to railroads

— to help settle West

— to develop country

A National Network

1859, railroads extend west of Missouri River

1869, first transcontinental railroad completed, spans the nation

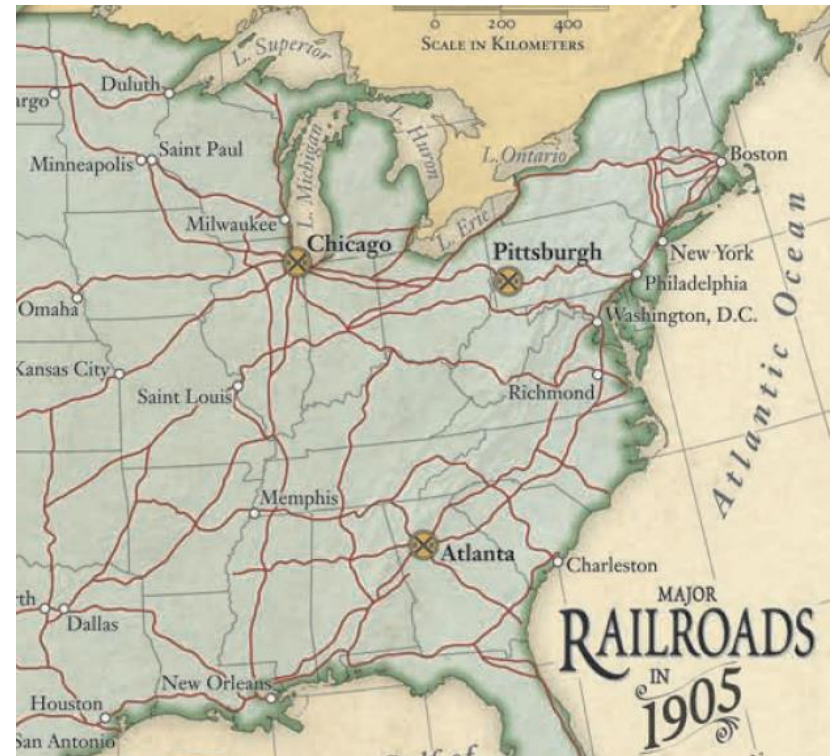
Railroad Time

1869, C. F. Dowd proposes dividing earth's surface into 24 time zones

1883, U.S. railroads, towns adopt time zones

1884, international conference sets world zones, uses railroad time

— Congress adopts in 1918



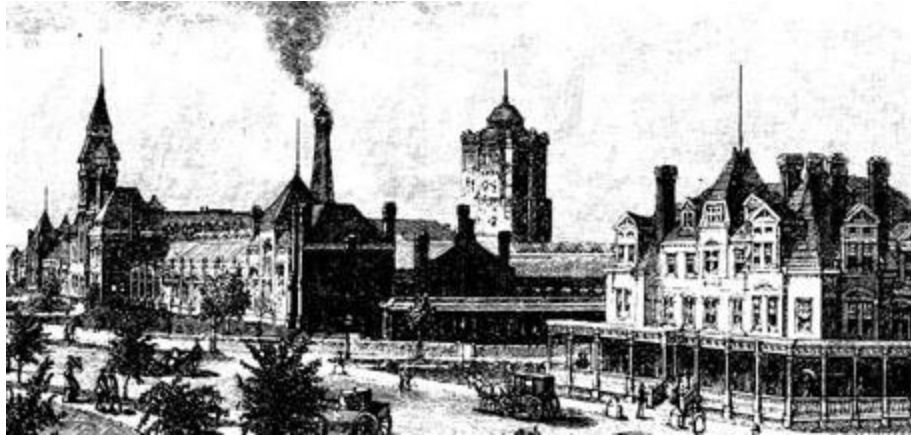
New Towns and Markets

Iron, coal, steel, lumber, glass industries grow to meet demand

Railroads link isolated towns, promote trade, interdependence

Nationwide network of suppliers, markets develops

New towns grow along railroad lines



Pullman

1880, George M. Pullman builds railcar factory on Illinois prairie

Pullman provides for workers: housing, doctors, shops, sports field

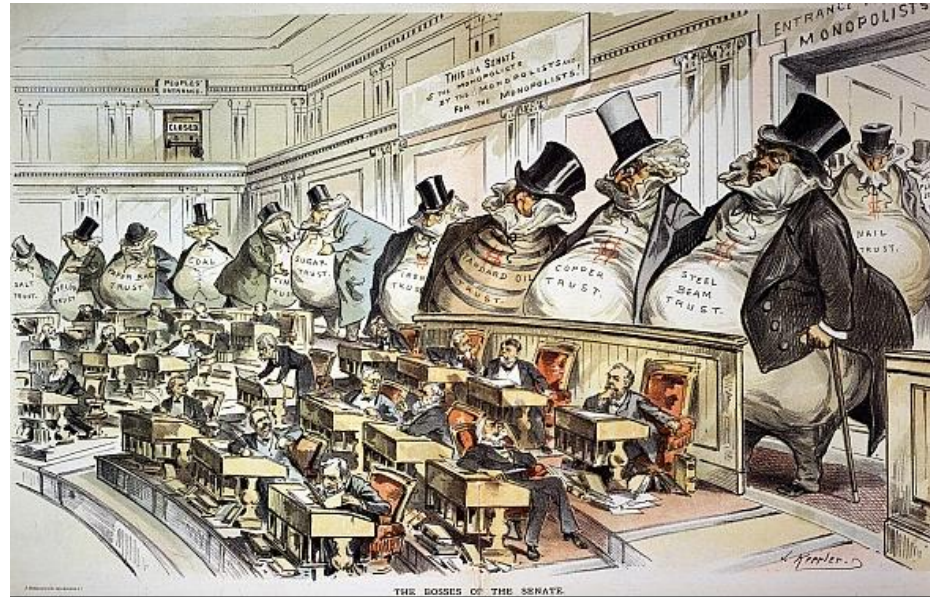
Company tightly controls residents to ensure stable work force

The Grange and the Railroads 3.2

Railroad Abuses

Farmers angry over perceived railroad corruption

- **railroads sell government lands to businesses, not settlers**
- **fix prices, keep farmers in debt**
- **charge different customers different rates**



Granger Laws

Grangers sponsor state, local political candidates

Press for laws to protect farmers' interests

Munn v. Illinois—Supreme Court upholds states' right to regulate RR

Sets principle that federal government can regulate private industry

The Grange and the Railroads 3.2

Interstate Commerce Act

1886, Supreme Court: states cannot set rates on interstate commerce

Public outrage leads to Interstate Commerce Act of 1887

— federal government can supervise railroads

— establishes Interstate Commerce Commission (ICC)

Legal battle with railroads; difficult for ICC to take action

Panic and Consolidation

Abuses, mismanagement, competition almost bankrupt many railroads

Railroad problems contribute to panic of 1893, depression

By mid-1894, 25% of railroads taken over by financial companies

Big Business

A Favorable Climate

The U.S. economy welcome entrepreneurs willing to work hard to create wealth

Belief in Free Markets

U.S. economy based on free enterprise, driven by competition and consumer demand

Laissez-faire capitalism, government takes a hands off approach with business

Business leaders in favor of protective tariffs.

Principles of Social Darwinism

Survival of the Fittest

Charles Darwin's idea of evolution of species



applied to American capitalism



led to the idea of Social Darwinism



This is the belief that wealth was a measure of a person's value and those who had wealth were the most "fit." poor must be lazy, inferior

Maximizing Profits

Carnegie Makes a Fortune

Andrew Carnegie one of first moguls to make own fortune

New Business Strategies

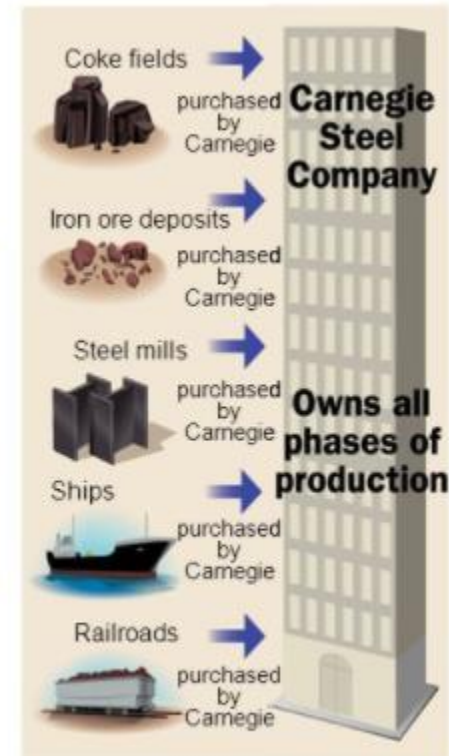
Carnegie searches for ways to make better products more cheaply

Hires talented staff; offers company stock; promotes competition

Vertical Integration
You control all phases of production from the raw material to the finished product



Horizontal Integration
Buy out your competition until you have control of a single area of industry



horizontal integration
vertical integration

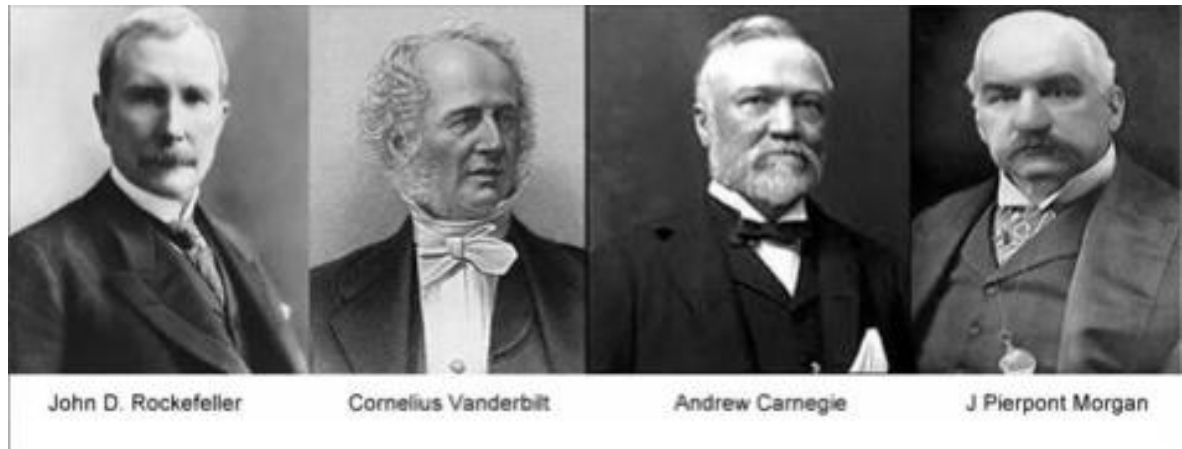
Eliminating the Competition

J.P. Morgan creates holding companies to buy up competitors and merge businesses

John D. Rockefeller Standard Oil Company, forms trust to run separate companies as if one

Business owners in same industry pool businesses to fix prices and eliminate competition

**Captains of Industry
or
Robber Barons?**



Sherman Antitrust Act

Government thinks expanding corporations stifle free competition

Sherman Antitrust Act: trust illegal if interferes with free trade

Prosecuting companies difficult; government stops enforcing act

Long Hours and Danger

Exploitation, unsafe conditions unite workers across regions

Most workers have 12 hour days, 6 day workweeks

—To survive, families need all member to work, including children

Sweatshops, tenement workshops often only jobs for women, children

— require few skills; pay lowest wages

Early Labor Organizing

National Labor Union—first large-scale national organization

1868, NLU gets Congress to give 8-hour day to civil servants

Local chapters reject blacks; Colored National Labor Union forms

Noble Order of the Knights of Labor open to women, blacks, unskilled

Knights support 8-hour day, equal pay, arbitration

Labor Unions of the Late 1800s

Labor Union	Industry and Activity
Knights of Labor	<ul style="list-style-type: none">• included all workers from any trade• devoted to broad social reform
American Federation of Labor (AFL)	<ul style="list-style-type: none">• included skilled workers• focused on specific worker issues
American Railway Union (ARU)	<ul style="list-style-type: none">• included rail workers• conducted the Pullman Strike of 1894

The Power of Unions

Collective bargaining becomes an important tool for negotiating higher wages, better conditions/shorter hours

Closed shops give the unions more power

Increased union membership leads to increased political power

Union Movements Diverge (Two Types)

Craft Unionism

Craft unions include skilled workers from one or more trades

Samuel Gompers helps found American Federation of Labor (AFL)

AFL uses collective bargaining for better wages, hours, conditions

Industrial Unionism

Industrial unions include skilled, unskilled workers in an industry

Eugene V. Debs forms American Railway Union; uses strikes

Socialism and the IWW

Some labor activists turn to socialism:

- government control of business, property
- equal distribution of wealth

Industrial Workers of the World (IWW), or Wobblies, forms 1905

Organized by radical unionists, socialists; include African Americans

Industrial unions give unskilled workers dignity, solidarity



Other Labor Activism in the West

Japanese, Mexicans form Sugar Beet and Farm Laborers' Union in CA

Wyoming Federation of Labor supports Chinese, Japanese miners

The Great Strike of 1877

Baltimore & Ohio Railroad strike spreads to other lines

Governors say impeding interstate commerce; federal troops intervene

The Haymarket Riot

3,000 gather at Chicago's Haymarket Square, protest police brutality

Violence ensues; 8 charged with inciting riot, convicted

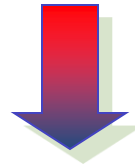
Public opinion turns against labor movement



Yet another conflict broke out with the Homestead Strike. Troops were called in to quell fighting between workers and Carnegie Steel.



One year later, the Pullman Palace Car Company laid off rail workers and cut wages but not rents.



This touched off the Pullman Strike, which halted nationwide railroad traffic and mail delivery.

Women Organize

Women barred from many unions; unite behind powerful leaders

Mary Harris Jones— most prominent organizer in women's labor

— works for United Mine Workers, leads children's march

Pauline Newman—organizer for International Ladies' Garment Workers

1911 Triangle Shirtwaist factory fire results in public outrage

Over 150 workers died in the Triangle Shirtwaist Fire. Many young women jumped to their deaths or burned.



Management and Government Pressure Unions

Employers forbid unions; turn Sherman Antitrust Act against labor

Legal limitations cripple unions, but membership rises