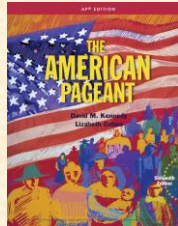


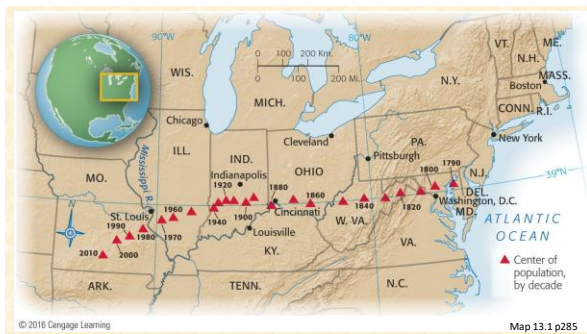
Chapter 14

Forging the National Economy, 1790–1860



I. The Westward Movement

- Rise of Andrew Jackson, first president from beyond Appalachians, exemplified movement west
- Late 1850s:
 - Half of Americans under age of 30
 - By 1840 “demographic center” of population map had crossed Alleghenies (see Map 14.1)
 - By 1860, it had crossed Ohio River



Regional Specialization

EAST → Industrial

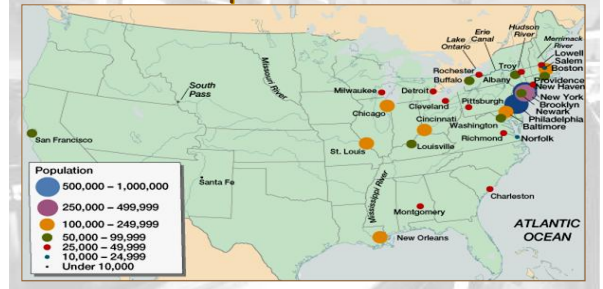
SOUTH → Cotton & Slavery

WEST → The Nation's "Breadbasket"

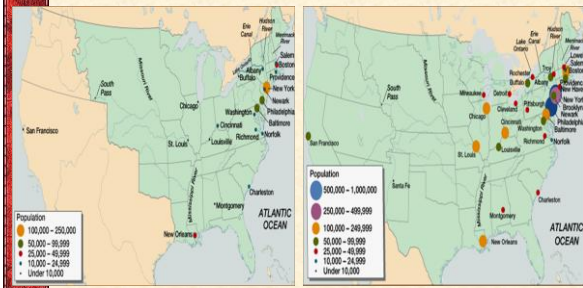
American Population Centers in 1820



American Population Centers in 1860



1820 vs 1860



I. The Westward Movement (cont.)

- Life across Ohio River:
 - Downright grim for most pioneer families
 - Suffered diseases, depression, and premature death
 - Unbearable loneliness, especially for women
 - Breakdowns and madness were frequent
 - Frontier life could be tough and crude for men as well

I. The Westward Movement (cont.)

- **Pioneers, marooned by geography, were often ill-informed, superstitious, provincial, and fiercely individualistic.**
- Popular literature abounded with portraits of unique, isolated figures.
- Even in these days of “rugged individualism” there were exceptions.
- Pioneers relied upon neighbors for help and upon government for internal improvements.



II. Shaping the Western Landscape

- Westward movement molded physical environment:
 - By 1820s trappers active in vast Rocky Mountain region
 - Fur-trapping empire based on **rendezvous** (French for “meeting”) system
 - Trappers and Indians come together to trade beaver pelts for manufactured goods from East

II. Shaping the Western Landscape (cont.)

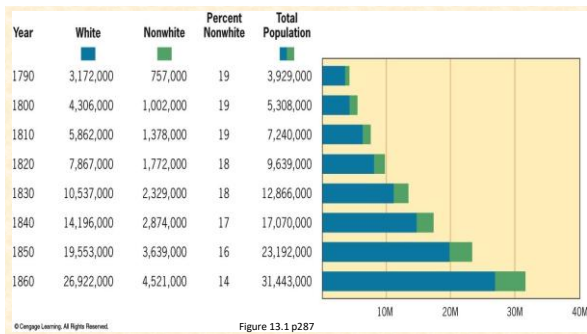
- Beaver all but disappeared from region
- Buffalo were also almost annihilated
- On California coast, traders sought sea-otter pelts, driving them to point of near-extinction
- Some have called this aggressive, heedless exploitation of West's natural bounty **ecological imperialism**.
- Yet Americans revered nature and admired its beauty
 - Many found wild, unspoiled character of land, esp. the West, to be among young nation's defining attributes

II. Shaping the Western Landscape (cont.)

- America had pristine, natural beauty, unspoiled by human hands
 - This national mystique inspired literature, painting, and a powerful conservation movement:
 - George Catlin, painter and student of Native American life, was among the first to advocate preservation of nature as deliberate national policy
 - Proposed creation of a national park in 1830s:
 - Started with Yellowstone Park in 1872

III. The March of the Millions

- As American people moved West, they multiplied at an amazing rate:
 - By midcentury, population doubled every twenty-five years (see Figure 14:1)
 - By 1860, thirteen colonies had more than doubled in numbers; 33 stars graced flag
 - U.S.A. was fourth most populous nation in western world: exceeded by Russia, France, and Austria



III. The March of the Millions (cont.)

- Urban growth continued explosively:
 - 1790 only two American cities that could boast populations of 20,000—Philadelphia, New York
 - 1860 there were 43 and 300 claimed over 5,000
 - New York was metropolis; New Orleans, “Queen of the South;” and Chicago, swaggering lord of Midwest—destined to be “hog butcher for the world”

- <http://all-that-is-interesting.com/wordpress/wp-content/uploads/2015/02/largest-us-cities-by-decade.gif.webm>

III. The March of the Millions (cont.)

- Over-rapid urbanization brought undesirable by-products:
 - Smelly slums, inadequate policing, impure water, foul sewage, ravenous rats, and improper garbage disposal
 - Boston (1823) pioneered sewer system
 - New York (1842) abandoned wells and cisterns for piped-in water supply, thus eliminating breeding place for disease-carrying mosquitoes

III. The March of the Millions (cont.)

- High birthrate accounted for biggest increase in population, but immigration also helped:
 - By 1830s immigration was 60,000 a year
 - Influx tripled in 1840s and then quadrupled in the 1850s
 - During 1840s and 1850s, >1.5 million Irish, and nearly as many Germans came (see Table 14.1)

TABLE 14.1 Irish and German Immigration by Decade, 1830–1900

Years	Irish	Germans
1831–1840	207,381	152,454
1841–1850	780,719	434,626
1851–1860	914,119	951,667
1861–1870	435,778	787,468
1871–1880	436,871	718,182
1881–1890	655,482	1,452,970
1891–1900	388,416	505,152
TOTAL	3,818,766	5,000,519

Table 13.1 p287

III. The March of the Millions (cont.)

- Why did they come?
 - Because Europe seemed to be running out of room, had “surplus people”
 - Majority headed for “land of freedom and opportunity”
 - New transoceanic steamships allowed immigrants to move speedily and cheaply
 - United States received far more diverse array of immigrants than other countries
 - U.S.A. received immigrants from dozens of different nations



IV. The Emerald Isle Moves West

- Ireland was devastated in mid-1840s:
 - 2 million died as result of potato famine
 - Tens of thousands fled Land of Famine for Land of Plenty in “Black Forties”
 - Ireland's great export has been population:
 - Joined Jews and Africans as dispersed people (see “Makers of America: The Irish”)
 - Many swarmed into seaboard cities (e.g., Boston)

IV. The Emerald Isle Moves West (cont.)

- New York City became largest Irish city in world
- Irish did not receive red-carpet treatment
- Friendless “famine Irish” forced to fend for themselves:
 - **Ancient Order of Hibernians**, semisecret society founded in Ireland to fight rapacious landlords, served in America as benevolent society, ailing downtrodden
 - Helped spawn **Molly Maguires**, shadowy Irish miners' union that rocked Pennsylvania coal districts in 1860s and 1870s

IV. The Emerald Isle Moves West (cont.)

- Irish conditions in America:
 - Tended to remain in low-skill occupations
 - Gradually improved their lot, usually by acquiring modest amounts of property
 - Education of children was often cut short
 - Property ownership counted as a grand "success"
 - Politics attracted Gaelic newcomers
 - Gained control of powerful city machines, esp. New York's **Tammany Hall**, and reaped patronage rewards



IV. The Emerald Isle Moves West (cont.)

- Politicians tried to cultivate Irish vote:
 - Nearly two million arrived between 1830 and 1860—and politicians glimpsed political gold in those potential voters, esp. in politically potent state of New York
 - Because Irish hatred of England remained strong, politicians won support with anti-British remarks



V. The German Forty-Eighters

- Influx of refugees from Germany b/t 1830 and 1860 hardly less spectacular than from Ireland:
 - >1.5 Germans stepped onto American soil (see "Makers of America: The Germans")
 - Bulk were uprooted farmers
 - Some were liberal political refugees
 - Germany's loss was America's gain: Carl Schurz became relentless foe of slavery and public corruption

V. The German Forty-Eighters (cont.)

- Germans:
 - Possessed modest amount of materials goods
 - Most pushed to lush lands of Middle West, notably Wisconsin for farming
 - **Formed influential body of voters wooed by politicians**
 - Less potent politically than Irish since were more widely scattered



How is this seen in an age of Mass Democracy?

V. The German Forty-Eighters (cont.)

—German influence in shaping American life:

- **Conestoga wagon, Kentucky rifle, and Christmas tree all German contributions**

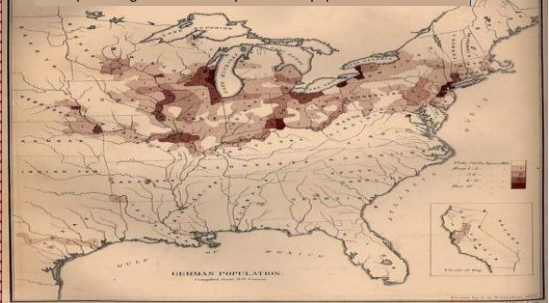
- Supported public schools,
- including *Kindergarten* (children's garden)
- Promoted music and arts
- Relentless enemies of slavery



V. The German Forty-Eighters (cont.)

- Sometimes dubbed **“damned Dutchmen”** and regarded with suspicion:
 - Seeking to preserve language and customs, they settled in compact **“colonies”** aloof from surrounding communities
 - Accustomed to **“Continental Sunday,”** they made merry on Sunday
 - Their Old World **drinking habits** further spurred advocates of temperance

A map showing the 1870 density of German population in the US



VI. Flare-ups of Antiforeignism

- Influx of immigrants in 1840s and 1850s inflamed prejudices of American **“nativists”**:
 - Feared immigrants would outbreed, outvote, and overwhelm **“native”** stock
 - Also took jobs from **“native”** Americans
 - As Roman Catholics were regarded by many old-line Americans as following a **“foreign”** church

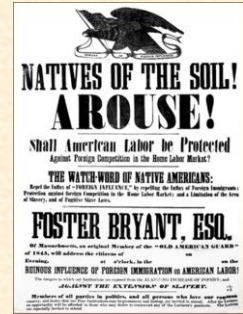
VI. Flare-ups of Antiforeignism (cont.)

- **Roman Catholics** on the move:
 - To avoid Protestant indoctrination in public schools, began in 1840s to construct **separate Catholic educational system**:
 - Expensive, revealed strength of religious commitment
 - With Irish and German influx, Catholics became large religious group:
 - In **1840 ranked fifth** behind Baptists, Methodists, Presbyterians and Congregationalists

VI. Flare-ups of Antiforeignism (cont.)

- **Know-Nothing Party**—organized by “nativists” for political action:
 - Agitated for rigid restriction on immigration and naturalization
 - Agitated for laws authorizing deportation of alien paupers
 - Promoted lurid literature of exposure, much of it pure fiction
 - Example: Maria Monk's **Awful Disclosures**

Know-Nothing Party:
“The Supreme Order of the Star-Spangled Banner”

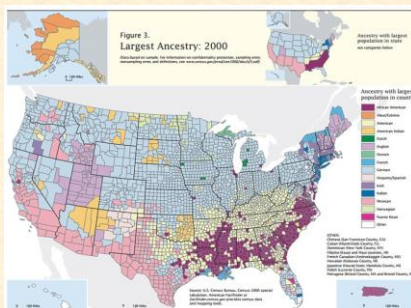


VI. Flare-ups of Antiforeignism (cont.)

- Occasional mass violence against Catholics:
 - Burned churches and schools
 - Some killed and wounded in days of fighting
- Immigrants made U.S.A. one of most ethnically and racially diverse societies in world.
- Not surprising that cultural clashes occurred.

Rapid immigration led to hostility and prejudice by native-born Americans called nativism

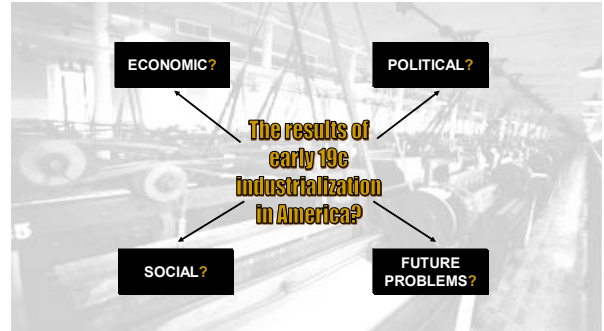
AMERICAN CITIZENS!



- <http://all-that-is-interesting.com/wordpress/wp-content/uploads/2015/02/formation-united-states-animation.gif.webm>

VI. Flare-ups of Antiforeignism (cont.)

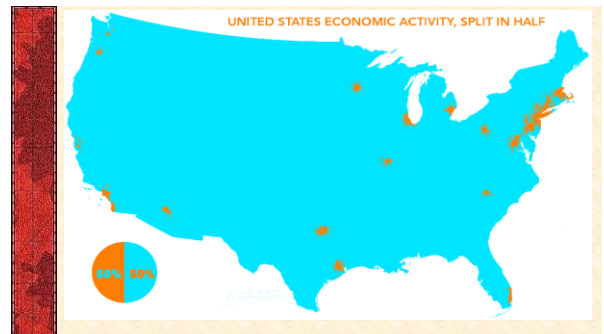
- American economy:
 - Attracted immigrants and ensured them share of wealth without jeopardizing wealth of others
 - Immigrants helped fuel economic expansion
 - Immigrants and American economy needed each other
 - Together they helped bring **Industrial Revolution**



Changing Occupation Distributions: 1820 - 1860

	1820	1840	1860
Agriculture	78.8%	63.1%	52.9%
Mining	0.4	0.6	1.6
Construction	—	5.1	4.7
Manufacturing	2.7	8.8	13.8
Trade	—	6.2	8.0
Transport	1.6	1.8	2.0
Service	4.1	5.0	6.4
Other	12.4	9.4	10.6

Source: U.S. Bureau of the Census.



VII. Creeping Mechanization

- British inventors in 1750s perfected series of machines for mass production of textiles:
 - Harnessed steam to usher in modern factory system of Industrial Revolution
 - Spectacular transformation in agricultural production
 - As well as methods of transportation and communication

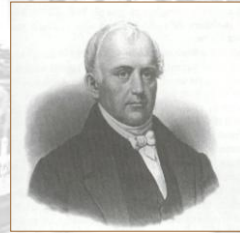
VII. Creeping Mechanization (cont.)

- Factory system slowly spread from Britain, “the world's workshop”.
- Why was America slow to industrialize?
 - Land was cheap
 - Labor was scarce
 - Money for capital investment was scarce

VIII. Whitney Ends the Fiber Famine

- Samuel Slater— “Father of Factory System”
 - After memorizing plans for machinery, he escaped to America
 - Won backing of capitalist Moses Brown
 - Reconstructed essential apparatus in 1791
 - Thus put together 1st efficient machinery for spinning cotton thread in America
 - Problem was accessing cotton fiber
 - Eli Whitney's **cotton gin** solved problem

Samuel Slater ("Father of the Factory System")



US FACTORY SYSTEM



Samuel Slater was the
*"Father of the
American Factory
System."*

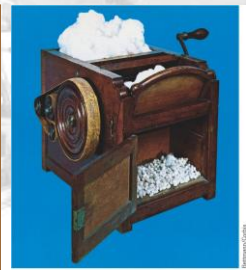


- Built first textile mill in 1793 in Pawtucket, Rhode Island.
- Born in England on June 9, 1768 and worked in British factories.
- Slater came to US to make his fortune in the textile industry.
- Slatersville Mill was the largest and most modern industrial cotton mill of its day

Eli Whitney's Cotton Gin, 1791



Actually invented
by a slave!

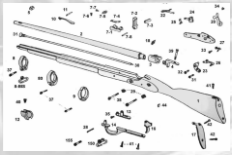






Eli Whitney's Gun Factory

Built at Harpers Ferry, we will hear of this place again!



Interchangeable Parts Rifle



VIII. Whitney Ends the Fiber Famine (cont.)

- Momentous effects of cotton gin:
 - Planters cleared more and more land for cotton
 - Cotton Kingdom pushed westward
 - Insatiable demand for cotton riveted chains of slavery more tightly on southern blacks
 - Yankee machines put out avalanches of textiles
 - America's Industrial Revolution first blossomed in cotton textiles

VIII. Whitney Ends the Fiber Famine (cont.)

- Factories 1st flourished in New England, then branched out to NY, NJ, Pennsylvania
- The South:
 - Increasingly wedded to growing cotton
 - Little manufacturing
 - Capital invested in slaves
 - Local consumers for most part desperately poor

VIII. Whitney Ends the Fiber Famine (cont.)

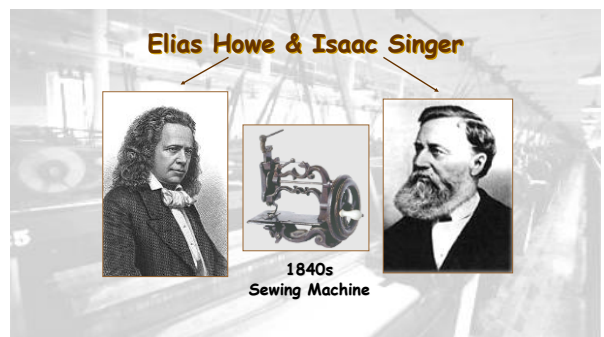
- New England favored as industrial center because:
 - Stony soil made farming difficult and manufacturing attractive
 - Dense population provided labor and markets
 - Seaports provided easy import of raw materials and export of finished products
 - Rivers provided abundant water power
 - By 1860, >400 million pounds of southern cotton poured into mills, mostly in New England

IX. Marvels in Manufacturing

- As factory system flourished, it embraced other industries.
- Contribution of Whitney's interchangeable parts to manufacture of firearms:
 - Basis of mass-production, assembly-line methods
 - Gave North the factories that ensured military preponderance over South
 - Ironically Whitney, by perfecting cotton gin, gave slavery renewed lease on life

IX. Marvels in Manufacturing (cont.)

- Sewing machine:
 - Invented by Elias Howe in 1846
 - Perfected by Isaac Singer
 - Strong boost to northern industrialization
 - Foundation of ready-made clothing
 - Moved sewing from private homes to factory



IX. Marvels in Manufacturing (cont.)

– Each new invention stimulated still more imaginative inventions:

- Decade ending in 1800: only 306 patents registered
- Decade ending in 1860: 28,000 patents registered



IX. Marvels in Manufacturing (cont.)

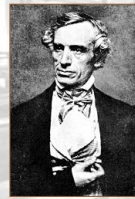
• Key changes in form and legal status of business organizations:

- Principle of **limited liability** aided concentration of capital
- Boston Associates created by 15 Boston families
- Laws of “free incorporation” meant businessmen could create corporations without applying for individual charters from legislature

IX. Marvels in Manufacturing (cont.)

- Samuel F. B. Morse:
 - Invented telegraph
 - Secured \$30,000 from Congress to experiment with “talking wires”
 - In 1844, strung a wire 40 miles from Washington to Baltimore and tapped out historic message, “What hath God wrought?”

Samuel F. B. Morse



1840 - Telegraph

IX. Marvels in Manufacturing (cont.)

- By time of London World's Fair in 1851:
 - American products were prominent among world's commercial wonders
 - Fairgoers crowded into Crystal Palace to see
 - McCormick's reaper
 - Morse's telegraph
 - Colt's firearms
 - Charles Goodyear's vulcanized rubber goods



Oliver Evans



First automated flour mill



First prototype of the locomotive

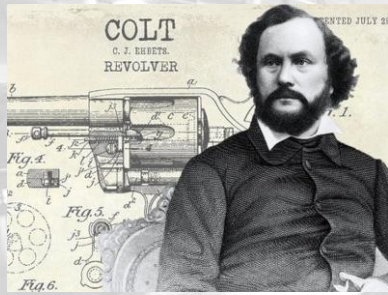
Cyrus McCormick & the Mechanical Reaper: 1831



John Deere & the Steel Plow (1837)



Samuel Colt and the .45 Revolver



*God didn't make
men equal.
Colonel Colt did!*



The name Indians of Central and South America gave rubber was caoutchouc. **Charles Goodyear** gave the word, vulcanization, to his rubber. The word vulcanization comes originates from the Roman God of Fire, Vulcan. Vulcanized rubber was first made when Charles Goodyear, accidentally dropped some rubber on a hot stove with some sulfur, accidentally hardening it, and making it much more durable than it was before in 1839. It was in 1844 that it was patented by Charles Goodyear.



X. Workers and "Wage Slaves"

- Factory system created acute labor problem.
- Manufacturing had been done in home:
 - Master craftsman and apprentice worked together
- Industrial Revolution submerged personal association into impersonal ownership of factories in "spindle cities" surrounded by hovels of "wage slaves."



Courtesy of the Connecticut State Library

Cities saw the greatest extremes:

- 1) Unskilled workers were "drifters" from town to town looking for jobs (1/2 of the industrial population).
- 2) Social mobility existed, though rags-to-riches stories were rare (still better than anywhere else).
- 3) The standard of living did rise, however, as wages rose (this helped diffuse any potential class conflict).



Workers & Wage Slaves

- With industrial revolution, large impersonal factories surrounded by slums full of "wage slaves" developed
- Long hours, low wages, unsanitary conditions, lack of heat, etc.
 - Labor unions illegal
- 1820: 1/2 of industrial workers were children under 10

X. Workers and "Wage Slaves" (cont.)

- Workers' conditions:
 - Hours long, wages low
 - Meals skimpy and hastily gulped
 - Workers toiled in unsanitary buildings (poorly ventilated, lighted, heated)
 - Forbidden to form unions to raise wages
 - Only 24 recorded strikes before 1835

X. Workers and "Wage Slaves" (cont.)

- **Exploitation of child labor:**
 - In 1820, many of nation's industrial toilers were children under ten
 - Victims of factory, children were mentally blighted, emotionally starved, physically stunted, and brutally whipped in special "whipping rooms"
 - Slater's mill of 1791: first machine tenders were seven boys and two girls, all under 12

X. Workers and "Wage Slaves" (cont.)

- Lot of adult wage workers in 1820s-1830s:
 - Many states granted laboring man the vote
 - Strove to lighten burden through workingmen's parties
 - Many workers gave loyalty to Democratic Party of Andrew Jackson – **WHY?**
 - Besides 10-hour day, higher wages, and tolerable working conditions, workers demanded public education and end to imprisonment for debt

X. Workers and "Wage Slaves" (cont.)

- Employers fought 10-hour day:
 - Argued reduced hours would lessen production, increase costs, and demoralize workers
 - Laborers would have so much leisure time that Devil would lead them to mischief
 - In 1840 President Van Buren established ten-hour day for federal employees on public works
 - In later years many states began reducing hours of working people

X. Workers and “Wage Slaves” (cont.)

- Day laborers tried to improve their lot:
 - Strongest weapon was strikes
 - Dozens of strikes erupted in 1830s and 1840s
 - Sought higher wages, ten-hour days, and goals such as right to smoke on job
 - Workers lost more strikes than they won
 - Employers imported strike-breakers
 - **Labor raised voice against immigrants**

X. Workers and “Wage Slaves” (cont.)

- Labor's effort to organize:
 - Some 300,000 trade unionists by 1830
 - Declined as result of severe depression, 1837
 - Won promising legal victory in 1842 in ***Commonwealth v. Hunt***
 - Mass. Supreme Court ruled unions not illegal conspiracies, provided methods were “honorable and peaceful”
 - Case did not legalize right to strike

Workers & Wage Slaves

- 1820s & 1830s: right to vote for labourers
 - Loyalty to Democratic party led to improved conditions
 - Fought for 10-hour day, higher wages, better conditions
- 1830s & 1840s: Dozens of strikes for higher wages or 10-hour day
 - 1837 depression hurt union membership
- ***Commonwealth v. Hunt***
 - Supreme Court ruled unions not illegal conspiracies as long as they were peaceful

XI. Women and the Economy

- Women became part of factory production:
 - Factories undermined work of women in homes
 - Factories offered work to those displaced
 - Factory jobs promised greater economic independence for women
 - And means to buy manufactured products of new market economy

XI. Women and the Economy (cont.)

- “**Factory girls**” toiled 6 days a week, 12 to 13 hours “from dark to dark”
- Textile mill at Lowell, Mass.:
 - Workers mostly New England farm girls
 - Supervised on and off job by watchful matrons
 - Escorted to church from company boardinghouses
 - Forbidden to form unions
 - Few outlets to protest grueling working conditions

US FACTORY SYSTEM **The Lowell Mills**

- Americans beat the British at their own game, made better factories
- (a British “traitor”) came over Francis C Lowell r here to build British factories met up with Boston mechanic, Paul Moody
 - Together they improved the mill and invented a power loom that revolutionized textile manufacturing



The Lowell/Waltham System: First Dual-Purpose Textile Plant



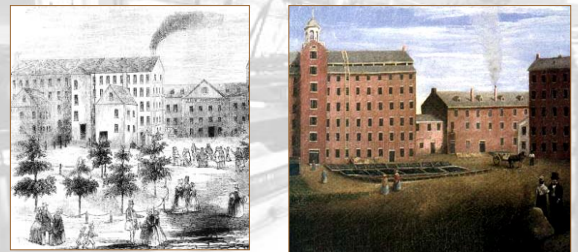
Francis Cabot Lowell's town - 1814



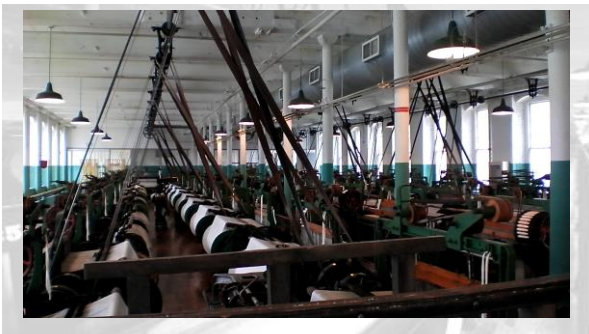
Lowell in 1850

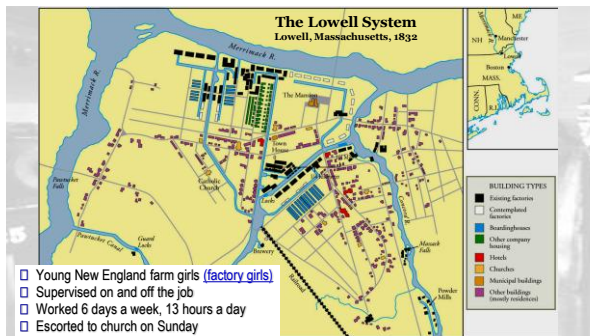
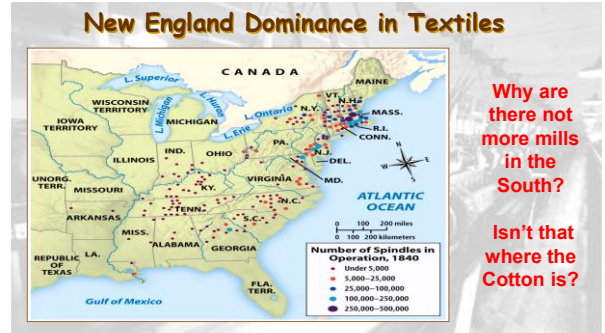
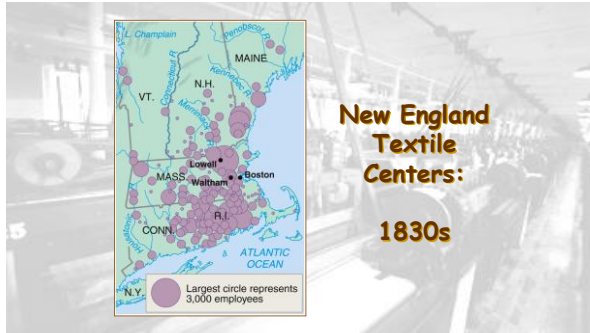


Lowell Mill









US FACTORY SYSTEM

Women & the Economy

- 1850: 10% of white women working for pay outside home
 - Vast majority of working women were single
 - Left paying jobs upon marriage
- "Cult of domesticity"
 - Cultural idea that glorifies homemaker
- Empowers married women
 - Increased power & independence of women in home led to decline in family size



Lowell Girls



What was their typical "profile?"







TIME TABLE OF THE LOWELL MILLS.			
Arranged to make the working time throughout the year average 11 hours per day, To TAKE EFFECT SEPTEMBER 28, 1883. The Standard time being that of the meridian of Lowell, as shown by the Regular Clock of 8605 ADAMS, First-class Century Central Series.			
From March 10th to September 20th, inclusive.			
COMMENCEMENT OF THE SEASON.			
Breakfast	7 A. M.	Hourly, at 15 M.	Commence at 7 A. M., till 7 P. M.
From September 20th to March 10th, inclusive.			
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COMMENCEMENT OF THE SEASON.			
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TIME TABLE OF THE LOWELL MILLS.			
Arranged to make the working time throughout the year average 11 hours per day, To TAKE EFFECT SEPTEMBER 28, 1883. The Standard time being that of the meridian of Lowell, as shown by the Regular Clock of 8605 ADAMS, First-class Century Central Series.			
From March 10th to September 20th, inclusive.			
COMMENCEMENT OF THE SEASON.			
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Early "Union" Newsletter

The Early Union Movement

Workingman's Party (1829)

- * Founded by Robert Dale Owen and others in New York City.

Early unions were usually local, social, and weak.

Commonwealth v. Hunt (1842).

Worker political parties were ineffective until the post-Civil War period.

The Factory Girl's Garland



February 20, 1845 issue.



Women Reading, Writing, and Organizing – Notice the date!

I'm a Factory Girl Filled with Wishes

I'm a factory girl
Everyday filled with fear
From breathing in the poison air
Wishing for windows!
I'm a factory girl
Tired from the 13 hours of work each day
And we have such low pay
Wishing for shorten work times!
I'm a factory girl
Never having enough time to eat
Nor to rest my feet
Wishing for more free time!
I'm a factory girl
Sick of all this harsh conditions
Making me want to sign the petition!
So do what I ask for because I am a factory girl
And I'm hereby speaking for all the rest!



Irish Immigrant Girls at Lowell



XI. Women and the Economy (cont.)

- Factory jobs still unusual for women:
 - Few opportunities to be economically self-supporting (mainly nursing, domestic services, and teaching)
 - Teaching profession became “feminized” as men left for other opportunities

XI. Women and the Economy (cont.)

- Other “opportunities” in household service:
 - One white family in ten employed poor white, immigrant, or black women
 - 10% of white women worked outside home
 - 20% of all women employed at some time before marriage
 - Vast majority of working women single
 - Upon marriage, left job to become wives and mothers, without wages

XI. Women and the Economy (cont.)

- **Cult of domesticity:**
 - Widespread cultural creed that glorified customary functions of homemaker
 - Married women commanded moral power and increasingly made decisions that altered character of family itself
 - Women's changing roles:
 - Industrial Revolution changed life in home of nineteenth-century: traditional "women's sphere"

XI. Women and the Economy (cont.)

- Love, not parental "arrangement" determined choice of spouse—yet parents retained power of veto
- Families became more closely knit and affectionate
- Provided emotional refuge against threatening impersonality of big-city industrialism
- Families grew smaller
- "Fertility rate" dropped for women b/t age 14 and 45
- Birth control still taboo, but women played large part in having fewer children

IX. Women and the Economy (cont.)

- Newly assertive role has been called "domestic feminism"
- Smaller families meant child-centered families
- What Europeans saw in American families as permissiveness was consequence of new idea of child-rearing:
 - Child's will was not simply broken, but rather shaped
- Good citizens raised not to be meekly obedient, but to be independent individuals, making decisions on internalized morals

IX. Women and the Economy (cont.)

- Emerging outlines of "modern" family:
 - Small, affectionate, and child-centered
 - Provided special area for talents of women
 - Big improvement from earlier conditions of grinding toil—often alongside men in fields



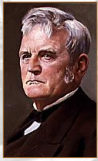
XII. Western Farmers Reap a Revolution in the Fields

- **Flourishing farms changed face of West:**
 - Trans-Allegheny region—esp. Ohio-Indiana-Illinois tier—fast becoming **nation's breadbasket**
 - Before long, would become granary to world
 - Pioneer families hacked clearing out of forest
 - Then planted corn fields
 - Yellow grain amazingly versatile

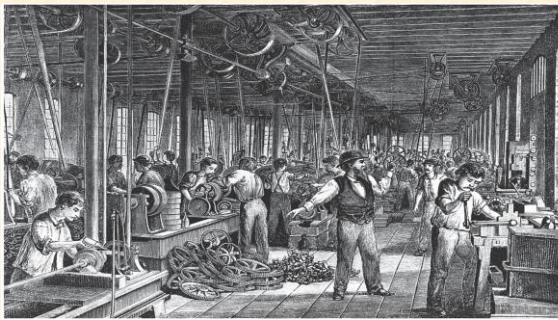
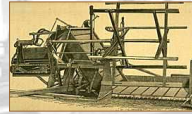
XII. Western Farmers Reap a Revolution in the Fields (cont.)

- Most western products first moved by Ohio-Mississippi Rivers
- Inventions helped farmers:
 - **John Deere** in 1837 produced a steel plow that broke stubborn soil:
 - Light enough to be pulled by horses, rather than oxen
 - 1830 **Cyrus McCormick** invented mechanical mower-reaper
 - Could do work of **5 men with sickles and scythes**
 - To western farmers what cotton gin was to South

John Deere & the Steel Plow (1837)



Cyrus McCormick & the Mechanical Reaper: 1831



XII. Western Farmers Reap a Revolution in the Fields (cont.)

• McCormick reaper:

- Made ambitious capitalists out of humble plowmen
- Subsistence farming gave way to large-scale food production**
- Specialized, cash-crop agriculture came to dominate trans-Allegheny West
- With it followed mounting indebtedness
- Wanted more land and more machinery
- Dreamed of **new markets** in mushrooming factory towns of East or across Atlantic
- However, still landlocked—needed transportation revolution

XIII. Highways and Steamboats

- In 1789, when Constitution launched, primitive methods of travel still dominated:
 - Waterborne travel slow, uncertain, often dangerous
 - Stagecoaches and wagons lurched over bone-shaking roads
 - Cheap, efficient transportation increasingly needed
- In 1790s, private company completed profitable Lancaster Turnpike in Pennsylvania, running 62 miles from Philadelphia to Lancaster

The Transportation Revolution

XIII. Highways and Steamboats (cont.)

- As driver approached tollgate, they confronted barrier of sharp pikes, which were turned aside when toll paid (hence, **turnpike**)
- Western road building, always expensive, encountered many obstacles:
 - Noisy states' righters opposed federal aid to local projects
 - Eastern states protested against being bled of populations by westward-reaching arteries
 - Westerners scored key triumph in 1811 when federal government started construction of National Road—known as Cumberland Road

First Turnpike- 1790 Lancaster, PA



By 1832, nearly 2400 mi. of road connected most major cities.

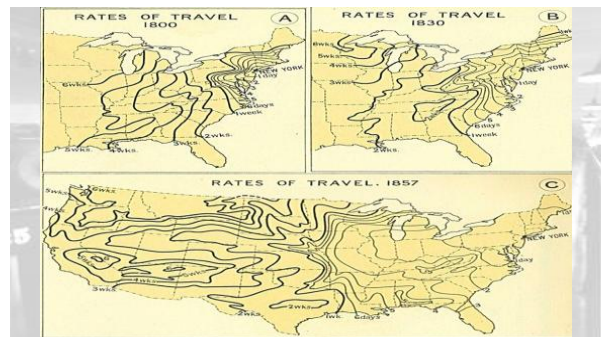
Cumberland (National Road), 1811



Conestoga Covered Wagons



Conestoga Trail, 1820s



XIII. Highways and Steamboats (cont.)

- **Robert Fulton** started steamboat craze:
 - Installed powerful steam engine on **Clermont**:
 - In 1807, it went from New York City up Hudson River to Albany—150 miles in 32 hours
 - Success of steamboat was sensational
 - Fulton changed all of America's navigable streams into two-way arteries, doubling carrying capacity
 - (1820): 60 steamboats on Mississippi and tributaries
 - (1860): 1,000
 - April 1865, steamer *Sultana* exploded killing 1,700 passengers
 - Steamboats played vital role in opening West and South

Robert Fulton & the Steamboat

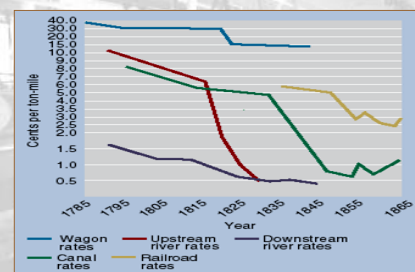


1807: The *Clermont*

Principal Canals in 1840

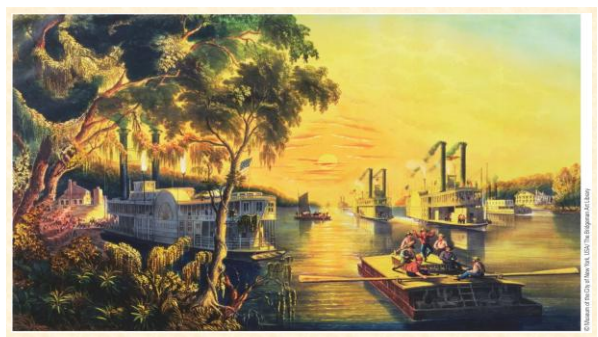


Inland Freight Rates



RATES OF TOLL ALLOWED BY LAW ON PATUCKET-CANAL.			
Sulf. lime, Plaster, Gun Iron, Pig Iron, Iron Castings, Anthracite Coal, Shovel and Hay per Ton 22 40 lbs. 8 Cents.			
Baltimore Coal, per Chaldron of 36 Bushels 22 Cents	Hard Wood Per Cord		20 "
Brick, Per Thousand			40 "
Manure Per Bushel			20 "
Oak Timber Per Ton of 40 Cubic feet			60 "
Pine "			35 "
Spruce "			30 "
Pine Plank and Boards Per M (Board Measure)			50 "
Oak "			60 "
Ash and other hard wood "			40 "
Chopwood Per M			25 "
Shingles "			6 "
Lath "			6 "
Posts and Rails Per Hundred			15 "
Terraces Per Thousand			50 "
Hop Poles "			20 "
Pine "			40 "
Bark "			20 "
White Oak Pipe Staves Per M			60 "
Red "			67 "
White Oak Hogshead Staves Per M			60 "
Red "			40 "
White "			30 "
Red "			20 "
Hoghead Hops "			40 "
Barrel "			12 "
Hoghead Hoop Poles "			30 "
Barrel "			20 "
All other Articles Per Ton of 22 40 lbs.			10 "

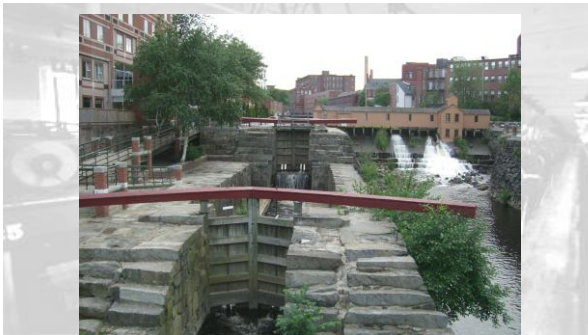
Articles that do not pass through more than three Locks to be charged only half the above rates of Toll.



XIV. "Clinton's Big Ditch" in New York

- Canal-cutting craze paralleled boom in turnpikes and steamboats (see Map 14.2):
 - New Yorkers, denied federal aid by states' righters, funded **Erie Canal** themselves to link Great Lakes with Hudson River
 - Driving leadership of **Governor DeWitt Clinton**
 - Project called "**Clinton's Big Ditch**" or "**Governor's Gutter**"

Erie Canal System



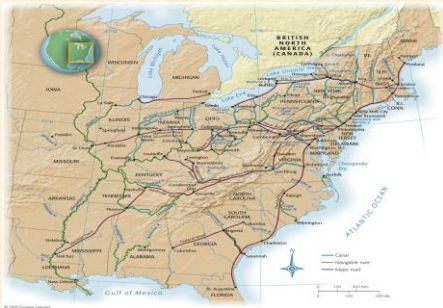
Erie Canal, 1820s



Begun in 1817; completed in 1825



Compare and Contrast Transportation in the North, West, and South.



XIV. "Clinton's Big Ditch" in New York (cont.)

- Begun in 1817, canal stretched 363 miles from Buffalo on Lake Erie, to Hudson River, onto New York harbor
- Shipping sped up as cost/time dropped significantly
- Other economic ripples
 - Value of land along route skyrocketed and new cities, Rochester and Syracuse, blossomed
 - New profitability of farming in Old Northwest—Ohio, Michigan, Indiana, Illinois attracted European immigrants
 - Cleveland, Detroit, and Chicago grew in size

XIV. "Clinton's Big Ditch" in New York (cont.)

- Dispirited **New England farmers abandoned rocky holdings and went elsewhere**
- With Erie Canal, easy to go west and take up farming south of Great Lakes
- Transformation in Northeast—canal consequences—showed how long-established local market structures could be changed by emerging behemoth of continental economy
- American goods also affect international market as Europeans began to feel effects of American exports**

XV. The Iron Horse

- Development of railroad:
 - Fast, reliable, cheaper than canals to construct, and not frozen over in winter
 - Able to go anywhere—it defied terrain and weather
 - First railroad appeared in 1828 and new lines spread swiftly
 - Faced strong opposition from canal builders
 - Other obstacles:
 - Brakes so feeble that engineers might miss station
 - Arrivals and departures were conjectural
 - Differences in gauge required passengers to make frequent changes of trains

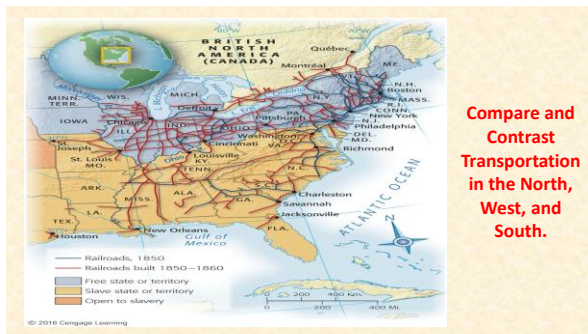
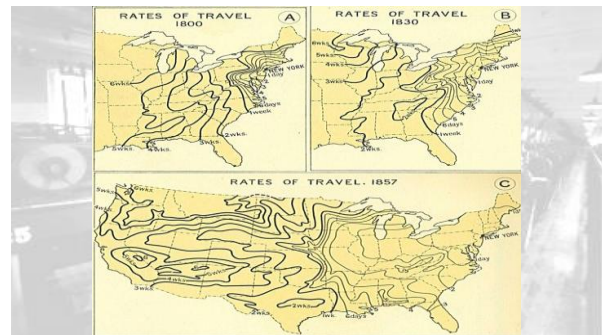
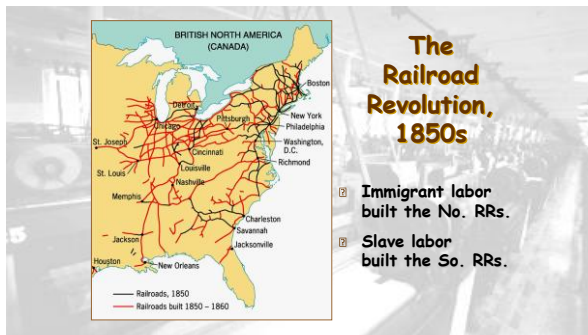
XV. The Iron Horse (cont.)

- Improvements came:
 - Gauges gradually became standard
 - Safety devices adopted
 - Pullman "sleeping palace" introduced in 1859
- America at long last bound together with braces of iron, later to be made of steel

The "Iron Horse" Wins! (1830)



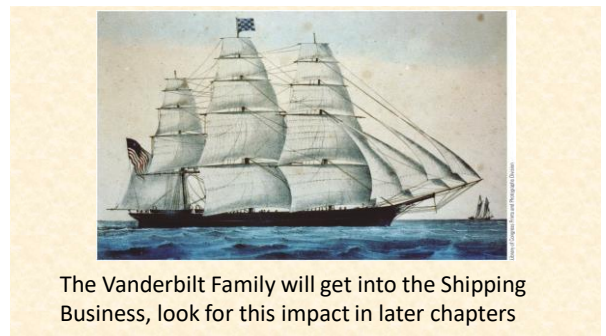
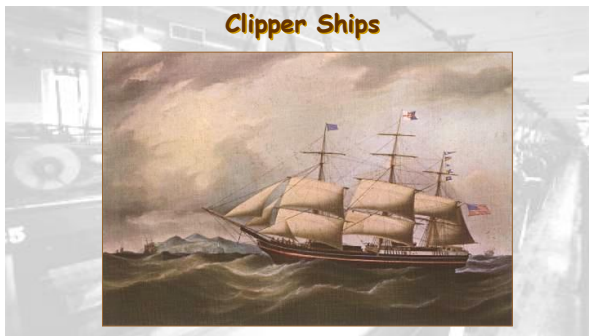
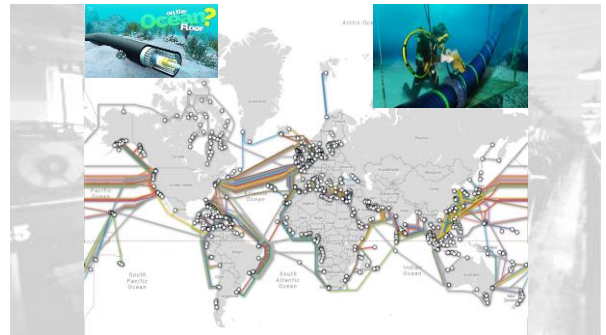
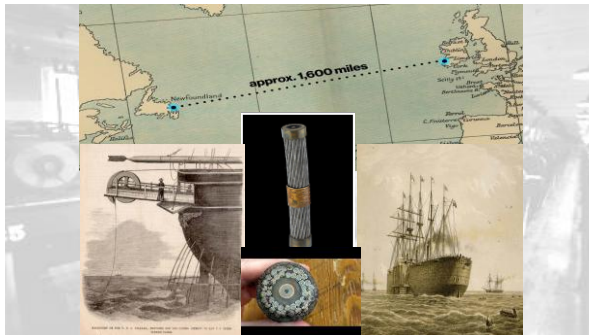
1830 → 13 miles of track built by Baltimore & Ohio RR
By 1850 → 9000 mi. of RR track [1860 → 31,000 mi.]



XVI. Cables, Clippers, and Pony Riders

- Other forms of transportation and communication linked United States and world:
 - Cyrus Field** in 1858:
 - Called “the greatest wire-puller in history,” stretched a cable from Newfoundland to Ireland
 - A heavier cable in 1866 permanently linked American and European continents
 - Donald McKay** developed new **clipper ships**
 - Sacrificed cargo space for speed
 - Their hour of glory was relatively brief



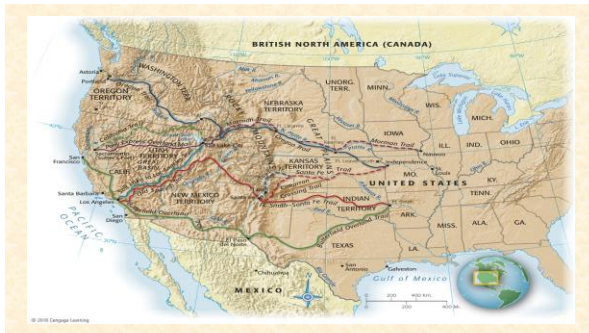


XVI. Cables, Clippers, and Pony Riders (cont.)

- Eve of Civil War, British steamers won race for maritime ascendancy:
 - Steadier, roomier, more reliable – thus more profitable
- Stagecoaches:
 - Immortalized by Mark Twain's *Roughing It*
 - Their dusty tracks stretched from banks of muddy Missouri River clear to California (see Map 14.4)
- Pony Express (1860):
 - Carried mail speedily the 2,000 miles from St. Joseph, Missouri to Sacramento, California; ten day trip
 - Lasted only 18 months

The Pony Express

- Between April, 1860 and Nov., 1861.
- Delivered news and mail between St. Louis, MO and San Francisco, CA.
- Took 10 days.
- Replaced by the completion of the trans-continental telegraph line.



XVI. Cables, Clippers, and Pony Riders (cont.)

- Express riders unhorsed by Morse's clacking keys
 - Began messages to California in 1861
- Swift ships and fleet ponies ushered out a dying technology of wind and muscle
- In future, machines would dominate

XVII. The Transport Web Binds the Union

- Transportation revolution:
 - Stimulated by desire of East to tap West
 - Western rivers drained southward to cotton belt
 - Steamboats reversed flow by bringing finished goods to West and helped bind West and South together
 - Three decades before Civil War, canals and railroads from East tied seaboard with blossoming heartland
 - Impressive grid of “internal improvements” established
 - By 1860, a truly continental economy had emerged
- Who would like this? Hamiltonians or Jeffersonians?

XVII. The Transportation Web Binds the Union

- Division of labor applied on a national level
- Each region specialized in particular type of economic activity
 - » South raised cotton
 - » West grew grain and livestock
 - » East made machines and textiles
- Economic pattern had fateful political and military implications:
 - Many southerners regarded Mississippi as a chain linking upper valley states to southern Cotton Kingdom
 - They believed some or all of these states would secede with them or be strangled

Is this the Henry Clay American System at work?
Will this be enough to keep America United?



Will this be enough to keep America United?



- South raised cotton
- West grew grain and livestock
- East made machines and textiles

XVII. The Transportation Web Binds the Union (cont.)

- They overlooked man-made links that bound upper Mississippi Valley to East
- Southern rebels would not only have to
 - » fight Northern armies
 - » Also tight bonds of interdependent continental economy
- Economically, two northerly sections were conjoined twins

The Northern Industrial "Juggernaut"

XVIII. The Market Revolution

– Market Revolution:

- Transformed subsistence economy of scattered farms and tiny workshops into national network of industry and commerce (see Map 14.5)
- Greater mechanization and robust market-oriented economy raised new legal questions:
 - How tightly should patents protect inventions?
 - Should government regulate monopolies?
 - Who should own technologies and networks?
- Chief Justice John Marshall's Court** protected contract rights by requiring states to grant irrevocable charters



XVIII. The Market Revolution (cont.)

- Monopolies easily developed and new companies found it difficult to break into markets
- Chief Justice Roger Taney argued "rights of the community" outweighed exclusive corporate rights:
 - His decision encouraged greater competition
 - So did passage of more liberal state incorporation laws
- Self-sufficient households of earlier were transformed:
 - Now families scattered to work for wages in factories
 - Or planted just a few crops for sale at market
 - Used money to buy goods made by strangers in far-off factories

Boom/Bust Cycles: 1790-1860



The blue line shows, for comparison, the price of a year's tuition at Harvard College. In 1790 it was \$24, but by 1860 had risen to \$104.

Creating a Business-Friendly Climate

Supreme Court Rulings:

- Fletcher v. Peck* (1810)
- Dartmouth v. Woodward* (1819)
- McCulloch v. Maryland* (1819)
- Gibbons v. Ogden* (1824)
- Charles Rivers Bridge v. Warren Bridge* (1835)

General Incorporation Law → passed in New York, 1848.

Laissez faire → BUT, govt. did much to assist capitalism!

XVIII. The Market Revolution (cont.)

- Store-bought products replaced homemade products
- Changed division of labor and status in household
- Traditional women's work rendered superfluous and devalued
- Home grew into place of refuge from world of work that increasingly became special and separate sphere of women
- Revolutionary advances in manufacturing and transportation brought increased prosperity:
 - Widened gulf between rich and poor
 - New examples of colossal economic success
 - John Jacob Astor left estate of \$30 million in 1848

Distribution of Wealth

- ✓ During the American Revolution, 45% of all wealth in the top 10% of the population.
- ✓ 1845 Boston → top 4% owned over 65% of the wealth.
- ✓ 1860 Philadelphia → top 1% owned over 50% of the wealth.
- ✓ The gap between rich and poor was widening!

XVIII. The Market Revolution (cont.)

- Cities bred greatest extremes of economic inequality:
 - Unskilled workers fared worst; “drifted” from city to city
 - These workers accounted for up to ½ the population of new industrial centers
 - Were forgotten men and women of American history
- Many myths about “social mobility:”
 - Mobility did exist in industrializing America
 - Rags-to riches success stories relatively few
 - American did provide more “opportunity” than elsewhere
 - Millions of immigrants headed for New World shores
 - General prosperity defused potential class conflict



CHRONOLOGY

ca. 1750	Industrial Revolution begins in Britain	ca. 1843-1868	Era of clipper ships
1791	Samuel Slater builds first U.S. textile factory	1844	Samuel Morse invents telegraph Anti-Catholic riot in Philadelphia
1793	Eli Whitney invents cotton gin	1845-1849	Potato famine in Ireland
1798	Whitney develops interchangeable parts for muskets	1846	Elias Howe invents sewing machine
1807	Robert Fulton's first steamboat Embargo spurs American manufacturing	1848	First general incorporation laws in New York Democratic revolutions collapse in Germany
1811	Cumberland Road construction begins	1849	American, or Know-Nothing, party formed
1817	Erie Canal construction begins	1851	London World's Fair
1825	Erie Canal completed	1852	Cumberland Road completed
1828	First railroad in United States	1858	Cyrus Field lays first transatlantic cable
1830s	Cyrus McCormick invents mechanical mower-reaper	1860	Pony Express established
1834	Anti-Catholic riot in Boston	1861	First transcontinental telegraph
1837	John Deere develops steel plow	1866	Permanent transatlantic cable established
1840	President Van Buren establishes ten-hour day for federal employees		
1842	Massachusetts declares labor unions legal in <i>Commonwealth v. Hunt</i>		