ESSENTIAL QUESTION:
What were the results of early 19c industrialization in America?

Early 19c Industrialization in America:
The Market Revolution

The Transportation Revolution

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

Erie Canal System
Erie Canal, 1820s
Begun in 1817; completed in 1825

Robert Fulton & the Steamboat
1807: The Clermont
Principal Canals in 1840

Inland Freight Rates

Clipper Ships

Rates of Toll Allowed by Law on Patucket-Canal.

<table>
<thead>
<tr>
<th>Item</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt, Iron, Pitch, Turpentine</td>
<td>-</td>
</tr>
<tr>
<td>Flour</td>
<td>-</td>
</tr>
<tr>
<td>Sugar</td>
<td>-</td>
</tr>
<tr>
<td>Tobacco</td>
<td>-</td>
</tr>
<tr>
<td>Indigo</td>
<td>-</td>
</tr>
<tr>
<td>China Wood</td>
<td>-</td>
</tr>
<tr>
<td>Mahogany</td>
<td>-</td>
</tr>
<tr>
<td>Ebony</td>
<td>-</td>
</tr>
<tr>
<td>Ivory</td>
<td>-</td>
</tr>
<tr>
<td>Tallow</td>
<td>-</td>
</tr>
<tr>
<td>Tar</td>
<td>-</td>
</tr>
<tr>
<td>Pitch</td>
<td>-</td>
</tr>
<tr>
<td>Sulphur</td>
<td>-</td>
</tr>
<tr>
<td>Arms and Ammunition</td>
<td>-</td>
</tr>
<tr>
<td>Slag</td>
<td>-</td>
</tr>
<tr>
<td>Lead</td>
<td>-</td>
</tr>
<tr>
<td>Grist, Flax, Hemp</td>
<td>-</td>
</tr>
<tr>
<td>All other Articles for transport of goods</td>
<td>-</td>
</tr>
</tbody>
</table>
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.]

The Railroad Revolution, 1850s

- Immigrant labor built the No. RRs.
- Slave labor built the So. RRs.

New Inventions: "Yankee Ingenuity"

- A shift from goods made by hand to factory and mass production
- Technological innovations brought production from farmhouse to factories
  - Invented in Britain in 1750; smuggled to U.S.
  - Beginning of US Factory System
- US slow to embrace factory system
  - Scarce labor
  - Little capital
  - Superiority of British factories
Resourcefulness & Experimentation

- Americans were willing to try anything.
- They were first copiers, then innovators.

1800 → 306 patents were approved.

1838 Clerk of the Patent Office resigns saying all worthwhile inventions had been discovered.

1850 -1860 → 28,000 patents

Eli Whitney’s Cotton Gin, 1791

Actually invented by a slave!
Eli Whitney's Gun Factory

Interchangeable Parts Rifle

Oliver Evans
First prototype of the locomotive

First automated flour mill

John Deere & the Steel Plow (1837)
Cyrus McCormick & the Mechanical Reaper: 1831

Samuel F. B. Morse
1840 - Telegraph

Cyrus Field & the Transatlantic Cable, 1858

Elias Howe & Isaac Singer
1840s Sewing Machine
They all regarded material advance as the natural fruit of American republicanism & proof of the country's virtue and promise.

A German visitor in the 1840s, Friedrich List, observed:

Anything new is quickly introduced here, including all of the latest inventions. There is no clinging to old ways. The moment an American hears the word "invention," he pricks up his ears.

The "American Dream"

The Northern Industrial "Juggernaut"

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!
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!

Samuel Slater ("Father of the 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.
• Slater's Mill was the largest and most modern industrial cotton mill of its day.

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

The Lowell Mills

• Americans beat the British at their own game, made better factories.
• Francis C Lowell (a British "traitor") came over 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
New England Textile Centers: 1830s

New England Dominance in Textiles

Lowell System
Lowell, Massachusetts, 1832

- Young New England farm girls (factory girls)
- Supervised on and off the job
- Worked 6 days a week, 13 hours a day
- Escorted to church on Sunday
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?”
Lowell Boarding Houses

What was boardinghouse life like?
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 wok 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
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.

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

Workers & Wage Slaves

• 1820s & 1830s: right to vote for laborers
  – 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

What’s Happening in America by the 1850s?
Regional Specialization

EAST → Industrial

SOUTH → Cotton & Slavery

WEST → The Nation’s “Breadbasket”

American Population Centers in 1820

American Population Centers in 1860

National Origin of Immigrants: 1820 - 1860

Why now?
Know-Nothing Party: "The Supreme Order of the Star-Spangled Banner"

Changing Occupation Distributions: 1820 - 1860

<table>
<thead>
<tr>
<th>Occupation</th>
<th>1820</th>
<th>1840</th>
<th>1860</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>78.8%</td>
<td>63.1%</td>
<td>52.9%</td>
</tr>
<tr>
<td>Mining</td>
<td>0.4%</td>
<td>0.6%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Construction</td>
<td>2.7%</td>
<td>8.8%</td>
<td>13.8%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>1.6%</td>
<td>1.8%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Trade</td>
<td>4.1%</td>
<td>5.0%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Transport</td>
<td>12.4%</td>
<td>9.4%</td>
<td>10.6%</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of the Census

ECONOMIC? POLITICAL?

The results of early 19th century industrialization in America?

SOCIAL? FUTURE PROBLEMS?