The Threads of Change
Lowell, Massachusetts and the American Industrial Revolution

The Beginnings—Mid 1700s

- Britain
  - Island kingdom
  - Sea power with colonialist tendencies
- Huge war debt

The Beginnings—Mid 1700s

- Changes in agriculture
  - Poor harvests
  - Increased productivity in farming allows growth of cities/factories
British Textiles—Wool

- Woolen Industry
  - Prevented export of
    • Machinery
    • Knowledge
  - Great political power
    • Laws for woolen burial clothing

British Textiles—Cotton

- Cotton Thread
  - The “Mule” by Samuel Crompton (1779)
    • Drawing machine
    • Spinning jenny
    • 48 threads at once

- Automated Loom
  - Patented in 1786 by Edmund Cartright
  - Improved in 1803
  - Thread (yarn) in one plant, cloth in another
American Textiles

- **Cotton yarn**
  - Almy and Brown’s spinning mill in Pawtucket, RI
  - Opened in 1790 by Samuel Slater a British engineer
- **Weaving**
  - Domestic handicraft

American Espionage

- **Before the War of 1812**
  - Scarcity of high quality cotton
  - Handlooms unable to meet needs
- **Francis C. Lowell**
  - visits Manchester 1811

American Espionage

- **Paul Moody**
  Master Mechanic (1813/14)
  - America’s first power loom
  - Inferior cloth, but inexpensive
  - Survived post war glut of English imports
Lowell, Massachusetts

- America’s premier center of textile manufacturing
- Boston Manufacturing Company (1814)
  - Raw cotton to finished cloth at a single site

Lowell, Massachusetts

- Comprehensive industrial system was an integration of
  - Technology
  - Finance
  - Management

US National Park Service model

“City of Spindles”

- Twenty-two mills in operation by 1836
  - 130,000 spindles
  - 4,200 looms
  - 6,800 workers (80% women)
- 320,000 spindles by 1850
The Factory Workforce

- Jefferson—“Let our workshops remain in Europe”
- Massachusetts system
  - “Mill Girls”
  - From area farms
  - Fairly paid
    ($2.25-$4.00/week less $1.25 R/B)

Working Conditions

- Dark, dusty, and deadly...
  - Windows nailed shut to control humidity
  - Close quarters (110 looms, 55 operators)
  - 5 a.m. to 7 p.m. with two half hour breaks for breakfast and noontime dinner

Working Conditions

- Piece rates

- “Kiss of Death”—sucking broken threads through bobbin spread tuberculosis and other infectious diseases
Lowell, MA—Today

- Major tourist attraction
- Museums (NPS)
  - Boott Mill
- Power Station still working
- Pawtucket Canal Tours

Lowell, MA—Today

- Looms still manufacture cloth
  - Souvenir dish towels
  - 1920s weaving room
  - Looms moved up from TN & SC

NPS Web Page:
http://www.nps.gov/lowe/