

# *The Threads of Change*

Lowell, Massachusetts  
and the  
American Industrial Revolution

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## The Beginnings—Mid 1700s

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

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## The Beginnings—Mid 1700s

- Changes in agriculture**
  - Poor harvests
  - Increased productivity in farming allows growth of cities/factories

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## British Textiles—Wool

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### □ Woolen Industry

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

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## British Textiles—Cotton

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### □ Cotton Thread

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

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## British Textiles—Cotton

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### □ Automated Loom

- Patented in 1786 by Edmund Cartwright
- Improved in 1803
- Thread (yarn) in one plant, cloth in another

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## American Textiles

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

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## American Espionage

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

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## American Espionage

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

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## Lowell, Massachusetts

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

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## Lowell, Massachusetts

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



US National Park Service model

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## “City of Spindles”

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

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## The Factory Workforce

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- 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)




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## Working Conditions

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- 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

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## Working Conditions

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- Piece rates
- “Kiss of Death”—sucking broken threads through bobbin spread tuberculosis and other infectious diseases

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**Lowell, MA—Today**

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

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**Lowell, MA—Today**

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- Looms still manufacture cloth
    - Souvenir dish towels
    - 1920s weaving room
    - Looms moved up from TN & SC
- NPS Web Page:**  
<http://www.nps.gov/lowe/>

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