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# *The Shaping of the “Second Europe” by Revolutions 1750-1914*

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## *The Industrial Revolution*

- *Introduction: Was it a revolution?*
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# *Industrial Revolution*

## *Ideas and Factors Prerequisite to Industrialization*

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- *First some earlier events*
  - *The Rise of Capitalism*
  - *Question:*
  - *We are so accustomed to capitalism and free enterprise that we think these ideas and the practices which accompany them have always been around. But they haven't. Why not? They seem the only logical way to conduct economic activity, do they not? Or do they?*
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# *Industrial Revolution*

## *Ideas and Factors Prerequisite to Industrialization*

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- *Rise of Competitive State System*
  - *Tradition shattering Effects of Enlightenment*
  - *More immediately important were 6 factors:*
    - *1. Capital and a banking system*
    - *2. The capitalist spirit*
    - *3. Markets and transportation*
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# *Industrial Revolution*

## *Ideas and Factors*

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- *4. Labor supply*
  - *5. Raw materials*
  - *6. Machines and machine technology.*
  - *England by 1750 possessed all these factors.*
  - *Discussion of 6 factors and the English advantage.*
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# *Industrial Revolution*

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## *Ideas and Factors*

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- *England possessed capital and banking system, Bank of England*
  - *Greater urge to make Profit.*
  - *Question:*
  - *Does this statement beg the question?*
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# *Industrial Revolution*

## *Ideas and Factors*

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- *England led the way in markets.*
  - *Also in Labor force.*
  - *In raw materials England more favored.*
  - *Advantage in machines and machine technology.*
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# *Industrial Revolution*

## *The Industrial Revolution in England and France*

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- *Cotton Textile manufacturing led the way.*
  - *John Kay*
  - *James Hargreaves*
  - *Richard Arkwright*
  - *Samuel Crompton*
  - *Edmund Cartwright*
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# *John Kay*

## *Flying Shuttle*

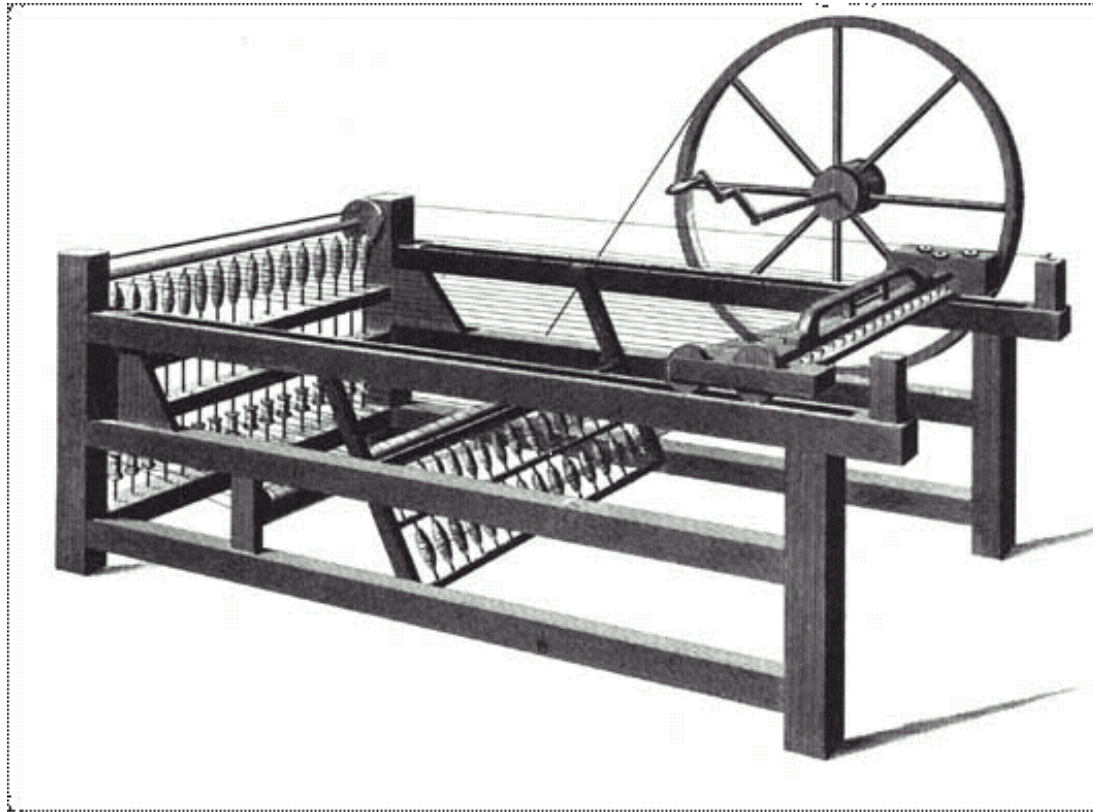
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# *James Hargreaves*

## *Spinning Jenny*

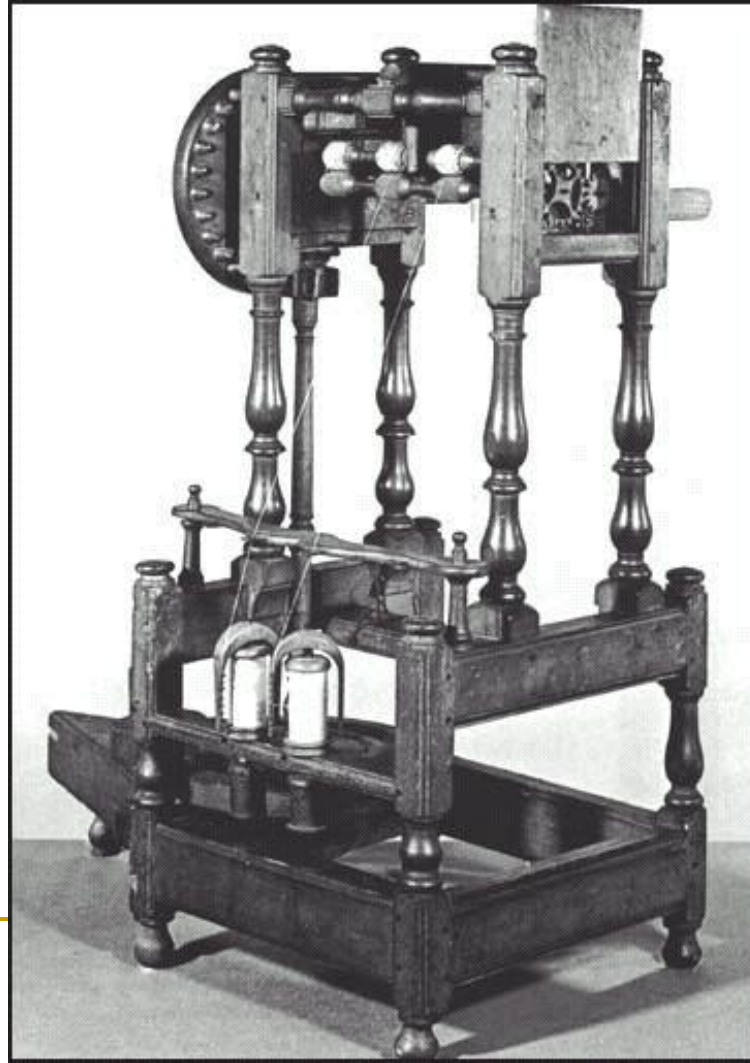
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# *Richard Arkwright*

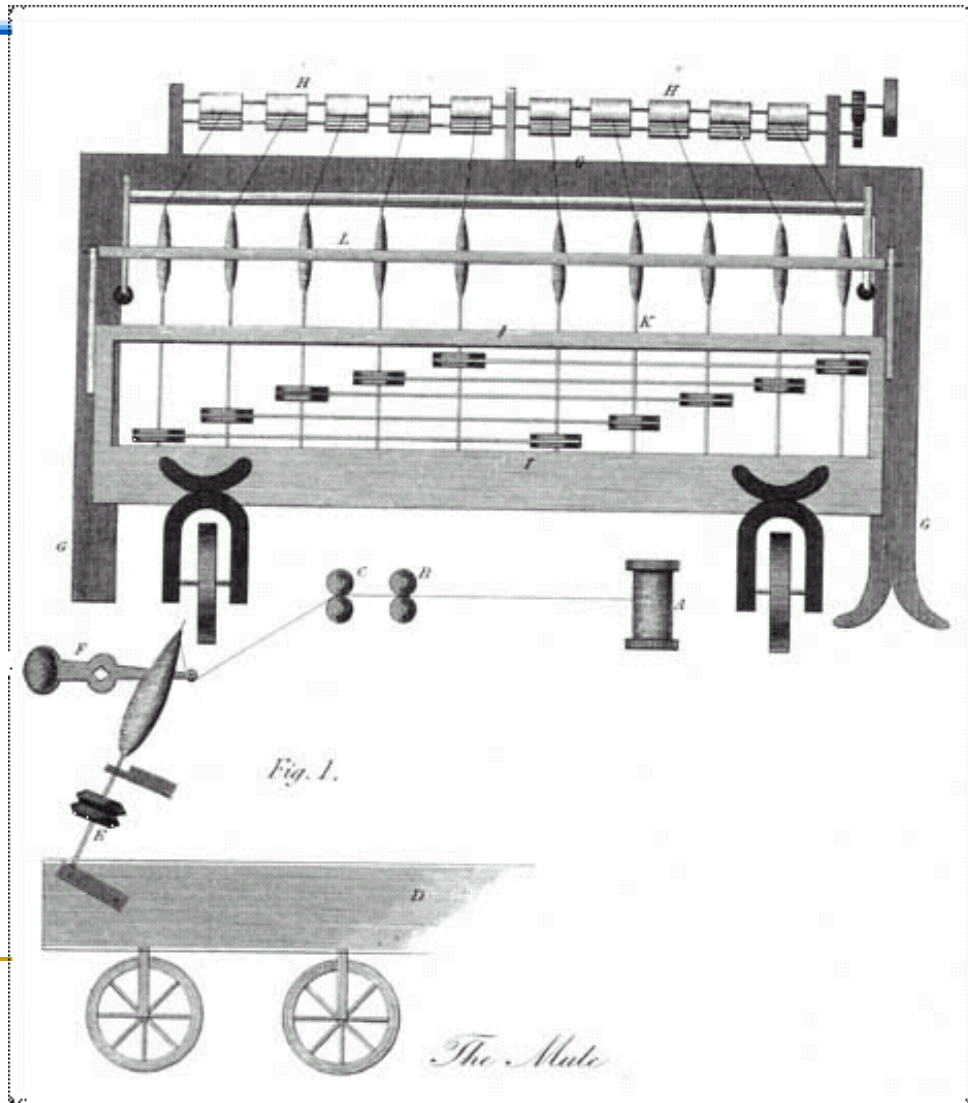
## *Water Frame*

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# Samuel Crompton

## Spinning Mule

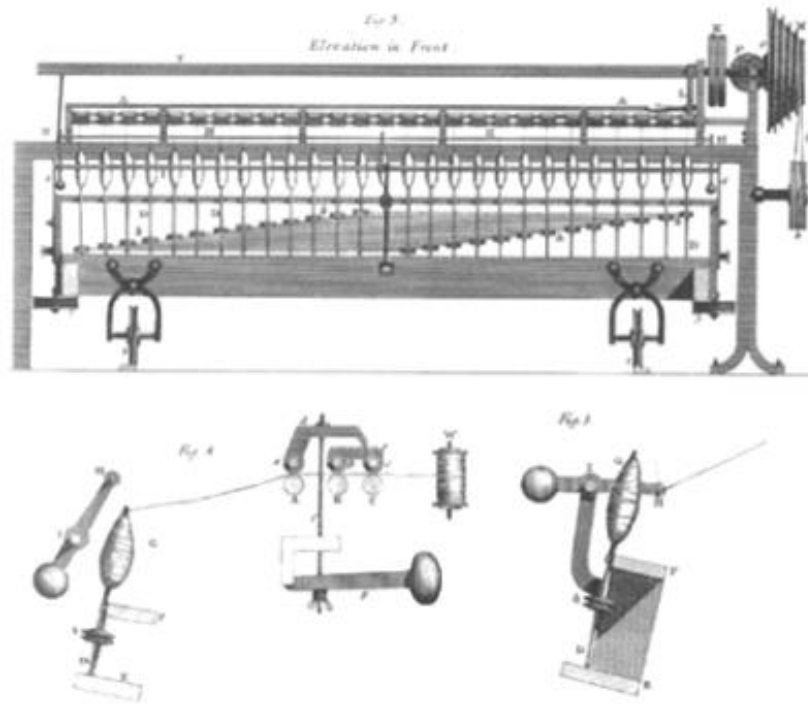


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# *Edmund Cartwright*

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## *Power Loom*



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# *Industrial Revolution*

## *I R in England and France (cont)*

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- *Factory system required by machinery. Richard Arkwright the first to build a mill.*
  - *English had monopoly at first.*
  - *French and others resorted to industrial sabotage to get machines.*
  - *Advances in textiles spurred other industries.*
  - *Sir Henry Bessemer 1857 blast furnace.*
  - *France lagged behind England but also industrialized.*
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# *Industrial Revolution*

## *I R in England and France (cont)*

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- *Questions:*
  - *Does every society want what we call development? Why? Why not? For instance, there is a revolt among many people today who follow what have been called Islamist principles against technological development. They want to turn the clock back to early medieval days and establish theocratic societies based on their version of Islam. Your reaction?*
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# *Industrial Revolution*

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*I R in England and France (cont)*

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*Have you heard the line that we Americans use far more than our fair share of the world's resources and that for various reasons we should learn to use fewer of those resources? Do you agree with this? What are the likely consequences of doing this?*

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# *Industrial Revolution*

## *The Impact of the I R*

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- *Caused the spectacular success of capitalism.*
  - *Fundamental physical changes. Factories and cities.*
  - *Social change. New class and new type of work. Drudgery and monotony. Towns were slums. Living conditions: one case Blantyre Mills, Glasgow, Scotland. David Livingstone's boyhood home.*
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# *Industrial Revolution*

## *The Impact of the I R*

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- *Cities had to be cleaned up for reasons of disease. London as case study.*
  - *Stench of Thames and problem of Cholera. Joseph Bazalgette and new sewer system, pumping stations, and holding tanks.*
  - *Other cities followed London's example.*
  - *Technology solved the problem after helping create it.*
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# *Industrial Revolution*

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## *The Impact of the I R*

*The pumping stations Bazalgette built are a marvel in themselves for anyone interested in technology. One of them, the Abbey Mills station in East London, is still in use today. Housing eight large beam engines with huge flywheels, the station pumped sewage into large tanks where it was eventually released downstream into the Thames at high tide when the flow would carry the waste out to the ocean. By the way he was a friend of Isambard Brunel, another genius engineer, whose contributions I mentioned in the lecture on “Isms”. Do we still have people like Bazalgette and Brunel today?*

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# *Industrial Revolution*

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*The Impact of the I R*

■ *Before leaving this topic let me ask you whether you agree with the following statement? “Horrible as the effects of the Industrial Revolution were, conditions would have been far worse without that revolution. Indeed, poverty like that seen in the poorest regions of the globe would be the norm everywhere.” Do you agree? Disagree?*

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# *Industrial Revolution*

## *Impact of the I R*

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- *Political impact*
  - *Encouraged later trend toward imperialism.*
  - *The Luddite Reaction*
    - *“Ned Ludd”*
    - *Is there a parallel to recent times: the reaction to globalization? The G8 Summits .*
    - *Dissent ! A Network of Resistance Against the G8*
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# *Industrial Revolution*

## *Impact of the I R*

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- *Question: Are protestors Luddites? What do you think about the global economy? About jobs going overseas? About the environmental impact of world-wide industrialization and economic development?*
  - *The revolution goes on.*
  - *Question:*  
*Have you been affected by the shifting southern economy?*
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