STS.007 Fall 2010

The Industrial Revolution

“What does the phrase `the Industrial Revolution broke out’ mean? It means that some time in the 1780s, and for the first time in human history, the shackles were taken off the productive power of human societies, which henceforth became capable of the constant, rapid and up to the present limitless multiplication of men, goods and services.” (p. 28)

- Planting the Liberty Tree
- Exploitation
- The Field Labourers, Artisans, Weavers
- Goods, Homes, Life, Childhood
- The transforming power of the Cross
- Community: rituals of mutuality
- Laws against combination
- Demagogues and martyrs
- Peterloo (Manchester, 1819)
- Class Consciousness, where radicalism and Romanticism meet
“They fought, not the machine, but the exploitive and oppressive relationships intrinsic to industrial capitalism.”
New Sixteenth Century Manor House with Fields still Open, Gidea Hall, Essex. Nichols: *Progresses of Queen Elizabeth*. This image is public domain.
Partially enclosed Fields of Cuxham, Oxfordshire, 1767. (Facsimile map, published by the University of Oxford.)
The Caribbean

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See: http://caribbean4kids.wikispaces.com/file/view/caribbean-map.jpg/126554361/caribbean-map.jpg
Planting Sugar Cane in Haiti

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'Ten Views in the Island of Antigua', 1823
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http://2.bp.blogspot.com/_S-6-kpmvvp8/S9MesH4AEal/AAAAAAAAAR8/cHkR8s_1FLA/s1600/DSC_0076+-+Copy.JPG
Slaves refining sugar
Ruins of sugar refinery, Virgin Islands

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See: http://cruises.about.com/library_GRAPHICS_Virgins/stcx01.jpg
Windmill and chimney, remains of sugar refinery, St. Kitts

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Sugar cane in Costa Rica

Image courtesy of [Linkzilla](https://www.flickr.com/photos/linkzilla) on Flickr.
Elements of industrialization: from pillars to feedback loops

Mechanization of production
Organization of production
Business practices
Landless labor
Energy (fossil fuel)
Materials (iron)
National and international economy
Relation to non-human nature
The energy crisis and new iron age of the 18th century: Ironmaking around Coalbrookdale

• “reverse salient” of fuel shortage especially for iron-making
• Abraham Darby, 1709, use of coke (charred coal) rather than charcoal (charred wood) at blast furnaces in Coalbrookdale
• Darby II producing bar iron as well as pig or cast iron (“puddling”)
• Darby III using iron for bridge building (1770s)
Coalbrookdale at night 1801
Philipp Jakob Loutherbourg the Younger

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Iron bridge over the Severn River

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Iron Bridge over the Severn River

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Iron bridge over the Severn River

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Newcomen’s Steam Engine

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Newcomen Engine
Black Country Living Museum

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Newcomen Engine
Black Country Living Museum

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Wyatt’s Flyball Governor

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Steam engines, London Science Museum

Image courtesy of [neddie on Flickr](https://www.flickr.com/photos/neddie/)
Watt Steam Engine
Madrid

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“The Rocket,” George Stephenson, 1825
(from Samuel Smiles, Lives of the Engineers)
Lancashire Rail Lines

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Near Liverpool, looking towards Manchester
Plate 11 from "Coloured view of the Liverpool & Manchester Railway". (London, 1832-1833).
Olive Mount, on the Liverpool and Manchester Railway

From T. T. Bury, *Coloured Views...,* 1831
Inaugural journey of the Liverpool and Manchester Railway, Painting by A.B. Clayton, 1830
Irish Spinning Wheel

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Spinning Wheel

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see: http://www.joyofhandspinning.com/wheel-parts.shtml
Arkwright’s Water Frame, c 1775

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Crompton spinning mule

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Spinning Mule

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Hand-loom Weaving.

(Hogarth: *The Industrious and theLazy Apprentice.*)
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Cotton mills, Manchester

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Mule spinning 1835
Power loom weaving, 1835

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Cornish Coal Mining

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Canadian buffalo herd

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Canadian buffalo bones

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“The Bridge over Chaos,” illustration for Milton’s *Paradise Lost*,
by John Martin (1827)
Courtesy Board of Trustees, Victoria and Albert Museum
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“The Industrial Revolution was not indeed an episode with a beginning and an end. ..its essence was that henceforth revolutionary change become the norm. It is still going on... (p. 29)