

First Industrial Revolution

Background

- 18th Century Economic and Social changes
 - o First revolution is pre-Napoleon
 - o Second revolution is mid-19th century
- Britain is birthplace for Industrial Revolution

Production Methods

- Middle Ages
 - o Guilds
 - Granted monopolies by king
 - Set prices, conditions, quality standards
 - Apprentice and master status
 - Power of guilds slowly broke down
 - Too exclusive and expensive
- Domestic System
 - o Work done at home
 - o Very important at beginning of the Industrial Revolution
 - Increased output due more to an increase in domestic industry than new forms of production
 - Working very well
 - o Gradually technology became important
 - o Low pay rates in the countryside
 - Persistence of Domestic system
 - o Factories eventually replaced workshops
 - Better supervisions and discipline
 - Machinery too expensive
- Thomas Malthus (1766-1834)
 - o *Essay on the Principle of Population*
 - 1798
 - War, disease, etc. are all natural
 - Can't do anything about it
 - Population growing faster than food supply
 - Famine and Starvation are natural
 - Dismal Scientist
- Physiocrats
 - o French economic philosophers
 - Searched for natural laws to explain the economy
 - o Opposed to mercantilism
 - o Land is the source for all wealth
 - Not gold or silver
 - o Favored free trade

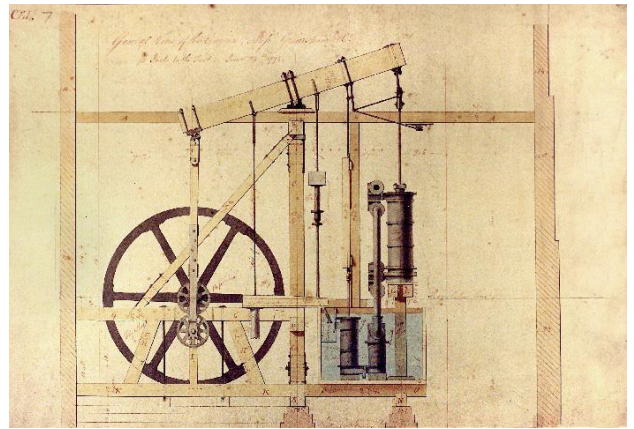


Reasons for Beginning

- Agricultural Revolution
 - o Producing enough food to feed everyone
 - Surplus of food
 - Created labor and capital available for industry

- New farming methods
 - Mechanical drill
 - Breeding programs
 - Crop rotation
 - Instead of leaving fallow
 - Fertilizers
- **Enclosure Movement**
 - Commons
 - Village land available to everyone
 - Poorest farmers could not survive
 - Small farmers forced off land
 - Went to cities to search for jobs
 - Mobile labor source
 - Willing to move anywhere to find a job
 - Land ownership led to incentives to improve production
- Land Reclamation
 - Gained more usable land
- Shifts
 - Warmer and drier climate in 18th century
 - New crops
 - Potatoes, tomatoes, turnips, sugar beets
 - From the New World
 - Animal husbandry improvements
 - Sheep raising
 - Societies and help groups to discuss agriculture and model farms
 - Sharing ideas
- By 1750 England exported 15% of its agricultural output
- Labor Supply (**Demographic Revolution**)
 - Workers forced off land
 - Population growth
 - Because of improved food production
 - Improved health and life expectancy
 - Vaccination
 - Fewer epidemics
 - Improved **sanitation**
 - Fewer and less devastating wars
 - Cotton clothing
 - Earlier marriages and more kids
 - Improved diets
- Invention
 - Continuation of the Scientific Revolution
 - Solve problems through reason
 - One invention begets another
 - Compounding effect
 - Most were in farming or in textiles
 - At first not very important
 - No brilliant discoveries
 - New applications of existing technologies
 - Small workshops replace domestic system

- Inventors
 - **James Watt**
 - Steam Engine
 - Abraham Darby
 - Smelting process
 - Henry Cort
 - Puddling process
 - **James Hargreaves**
 - Spinning Jenny
 - Richard Arkwright
 - Water Fame
- Markets
 - Place to sell goods
 - Need for increased demand
 - Larger populations
 - Growing middle class
 - Colonies
- **Entrepreneurs**
 - People who organize and manage business
 - Wealthy
 - From trade and colonies
 - Built factories
 - Capitalists
 - Interested in profit
 - Willing to take risks
- Transportation
 - Biggest merchant force in the world
 - Made easier to reach market and get materials
 - Infrastructure
 - Canals
 - First major railroad
 - 1830 – Liverpool to Manchester
 - Canals and Macadam roads
- Natural Resources
 - Easy access to natural resources
 - Main components needed
 - **Coal**
 - **Iron**
 - Raw materials in colonies
- Investment Capital
 - Money to invest
 - Wealthy landowners and merchants
 - Low interest rates
 - Banking systems
 - Bank of London
 - Bills of Exchange
 - Extended credit
 - Colonies
 - Cheap resources
 - Large middle class
 - Entrepreneurs



- Stable Political Climate
 - Avoid revolution
 - Peace
 - Developed responsible legislative system
 - British Parliament
 - Worked and was secure
 - Government paid off all debt
 - Act of Union (1707)
 - Created the Kingdom of Great Britain
 - England, Scotland, Wales
 - Same language
 - No internal tariffs
 - Standardized weights and measures
- Religious Attitudes
 - Protestant Ethic
 - Encouraged thrift and hard work
 - Save money
 - Focused on worldly concerns
- State Assistance
 - British navy protected merchant marine
 - Navigation Acts
 - Low taxes and high tariffs on imported goods