

# The Industrial Revolution

# Agricultural Revolution

- New crops from the Americas:
  - Potatoes, corn
- New crop rotation
  - Townshend: No fallow necessary, increased livestock size
- New farm machinery:
  - Seed drill (Tull), mechanical reapers and threshers, iron plough
- Enclosure movement:
  - Claiming of public land for grazing

# Agricultural Revolution

- Product and cause of population growth
  - More food available, people's diet and health improve
  - More people require more food (leads to development of new methods to meet this need)
  - More people also demand manufactured goods

# Great Britain and the Industrial Revolution

- I.R. originate in GB
- Several factors explain this:
  1. **Factory system** required massive amount of unskilled workers (ample in Britain b/c of the Agricultural revolution and loss of land)
  2. Large market including overseas possessions
  3. Improvement in transportation (crushed rock roads, canals and the largest merchant marine)

# Great Britain and the Industrial Revolution

4. Source of raw materials (iron and coal)
5. Ample investment capital (national and private banks)
6. Government favoured business and commerce (mercantilist policies, protective tariffs, prohibition on unions)
7. Talented inventors whose inventions were protected by patents

# Notable Inventions and Processes

- John Kay – Flying Shuttle (instead of hand-held)
- James Hargreave’s “spinning jenny” (threads)
- Richard Arkwright’s “water frame” (water power)
- James Watt’s steam engine (improved version)
- Henry Beesemer’s process (steel production)
- George Stephenson’s locomotive (steam powered)
- Robert Fulton’s steamship
- Samuel Morse’s telegraph (1851 – underwater telegraph)

# Notable Inventions and Processes

- Alessandro Volta – first electric battery
- Michael Faraday – electric generators
- Alexander Graham Bell – Telephone
- Guglielmo Marconi – Wireless/Radio
- Thomas Edison – phonograph, incandescent light bulb
- Gottlieb Daimler – Internal combustion engine (gas)
- Rudolf Diesel – engine for bigger vehicles (petroleum)

# Notable Inventions and Processes

- Productivity – amount of goods a worker can turn out in a specific time
- Eli Whitney – interchangeable parts (gun)
- Henry Ford – assembly line (automobile)
- Mass Production – turning out large quantities of identical goods



# Financing Industrial Growth

- Corporation – business owned by many investors
- Monopoly – total control over the market for a particular product (Standard Oil – Rockefeller)
- The use of investment banks

# Effects

- Population Explosion (140 to 463 million from 1750-1914)
- Urbanization – industrial cities
- Factories (Working conditions)
- Beginning of organized labour
- Growth of the working class “proletariat”
- Role of women
- Mercantilism replaced by *laissez-faire*
- Militarization and industrialization