

Hist. 2c, L9:  
**The Industrial Revolution:  
Causes & Responses**

What caused the "great divide" in world history?  
(textbook pp. 659-667)

0. E-mails to me--please cc to TA
1. **Causality in History (recap)**
2. **Industrial Revolution: 7 causal factors  
A model/mnemonic of their interaction**
3. **Megan: A 19th century reformer**
4. **Midterm guidelines**

**Recap: Causality**

What causes fundamental change to come about?

- Economic forces (L5: larger & smaller)
  - materialist conception of history (Marx)
- "Culture matters": L5 & chapter 14
  - Ideology: part of culture (or not: chap. 16)
  - Enlightenment as (our) ideology (L6)
- Men/Leaders/Elites (L5, L7: France, L8)
- People (democratic principle: L7, Enlightenment)
- International factors: direct interventions

**WTWA p. 659**

"The political upheavals in the Atlantic world shattered the old mercantilist system and encouraged economic transformations that ... marked the opening of what many scholars regard as 'the great divide' in world history between ... "

- "economically developed areas of the world ..." [economies with surpluses]
- "and less developed areas." [more or less subsistence economies]

**WTWA p. 659 cont'd**

"The presence of a variety of institutional and economic factors enabled the British to pioneer the innovations that have ever since characterized economic modernity."

1. resources (coal and iron=fuel and tools)
2. cascade of technological innovations (which?)
3. political & social conditions (gov't & demography)
4. merchants, industrialists (elites) mobilize capital
5. internal and international markets (distribution and consumption)
6. colonies: investment opp., raw materials, markets

**Concept: Economy**

- **Economics**
  - root: Greek oikos, 'family, household,' and nomos, 'custom, law,' hence: household management
  - the social science that studies the allocation of scarce resources to satisfy unlimited wants. This typically involves analyzing the **production, distribution, trade and consumption** of goods and services.
  - Lionel Robbins (1898-1984), 1932:  
"Economics is a science which studies human behavior as a relationship between ends and scarce means which have alternative uses."

**Types of Economic Organization**

1. **Traditional economies:**
  - subsistence agriculture
  - like parents, like children
2. **Command economies:**
  - slave-based
  - 20th century socialist "plans"
3. **Market economy (who runs?)**
  - (anarchic) pursuit of self interest

## Ind. Rev.: *causal factors*

1. **natural resources**  
(coal & iron, rivers, harbors, canals)
2. **large labor force**  
(food production-> population increase)
3. **availability of capital**  
[surplus not consumed]
4. **availability of markets**
5. **favorable government**  
(landholding-canal; patent law-*innovations*; no taxes on profits)
1. **demographic "revolution"** (labor)
2. **fuel crisis** (energy)
3. **surplus money**
4. **institutional innovations** (banking)
5. **new mindset**
6. **technological innovations**
7. **infrastructure** (transportation)

## Confluence of factors (my list)

1. Demographic "revolution"
2. Fuel crisis (energy)
3. Surplus *money*
4. Organizational innovations (finances)
5. New mindset
6. Technological innovations
7. Infrastructure (transportation)

## 1. Demographic "revolution"

- Surplus population:  
due to *drop in death rate* -- why? (causes...)
- 1720-1750 in England:
  - 30 years of top harvests: surplus food
  - no need to slaughter animals each winter
  - more fertilizer - more intensive agriculture  
possibility of breeding animals
- Innovations in agriculture
  - crop rotation, water meadows,  
enclosure (displaces farmers->urbanization)

## 2. Fuel crisis (energy)

- More people -> wood shortage
- Switch to coal (coke--purified coal)
  - need tools to mine less accessible
  - need more powerful tools (machines)
- smelting of iron
  - need to mine even more coal
  - need better tools (iron ones)

## 3. Surplus *money*

- good harvests
- "capital" from slave production/trade:  
allowed *capital accumulation*  
("deferred gratification")
- more intensive agriculture  
(higher yields per acre & per person)
  - pre-1700:  
England: 8:1; India/China/Japan: 20:1

## 4. Organizational *innovations*

- Dutch banking system:
  - credit and loans (remember Columbus?)
  - corporations
  - paper money
- Cottage industry vs. factory system
  - workers dispersed vs. under one roof
  - classes: capitalists supply goods
  - family routine vs. pace set by machines

## 5. New mindset

- "Dissenters" (new religions)
  - Quakers, Congregationalists, Unitarians, Baptists, Presbyterians
  - prosperity=sign of God's grace (not a sin)
  - living for the here and now -> education in practical things
  - work ethic
  - do not consume all

## 6. mindset -> inventions

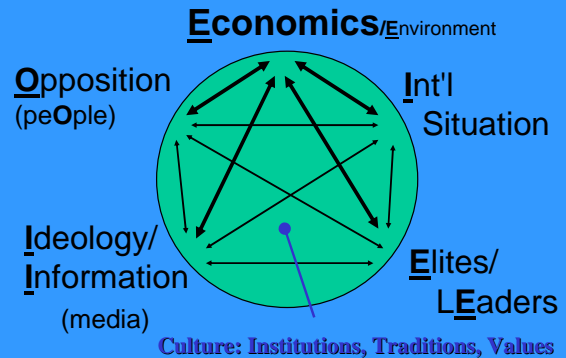
- Abraham Darby (1678-1717)
  - used **coke** to smelt copper, then iron (1708)
  - Coalbrookdale (near low-sulphur coal)
  - 1729 wheels, 1767 rails, 1779 bridge
- 1712 Newcomen engine; 1764 James Watt
  - by 1758: 100, used to pump water out of mines
- Textiles: basic consumer staple
  - Arkwright: 1764 jenny & 1769 water frame
  - Crompton: 1775 mule; Cartwright: 1784 pow.loom
- Josiah Wedgwood (1730-1795)
  - pottery; catalog distribution -> **marketing**

## 7. Infrastructure

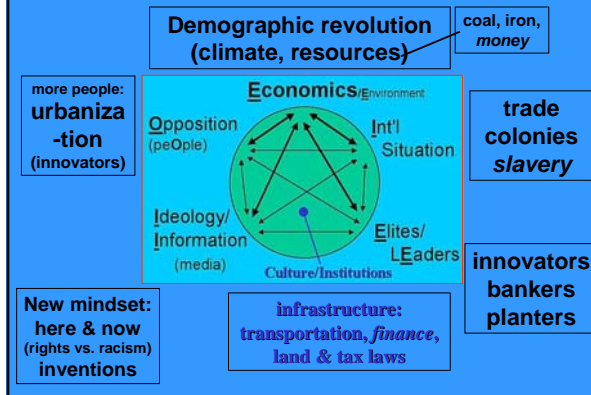
- canals & railroads
- landholding
- patent & tax laws



## Model of Causes in History (EIEIO)



## Ind. Rev.: Confluence of factors



## Midterm guidelines

- **2 Parts:**
  - IDs: select 3 from a choice of 6 (3 x 15 points)
  - Essay: choose one from two (50 points)
- **Study guide (website by 3:30 today):**
  - list of 25-30 IDs with page references.
    - The six will be taken from these
    - The pages may not include the **significance**
  - 4 "themes" for essay question: I am asking/looking for your ability to apply concepts (theory) to *selected* material from the textbook