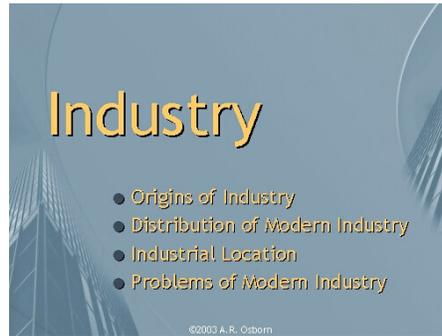


Industry

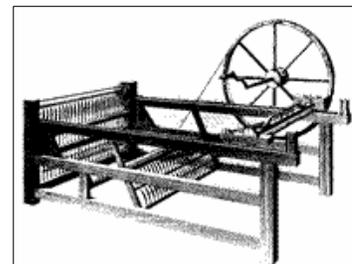


Origins of Industry

- ❖ In the modern world, industry means the “manufacturing of goods in a factory.”
- ❖ Industrial activities certainly existed before the modern world – as cottage industry:
 - Small scale.
 - Home based (often family based).
- ❖ Cottage industry still exists – but it is of relatively little economic importance since the industrial revolution.

The Industrial Revolution

- ❖ Revolution is a misleading term – it was a process, not a single event.
- ❖ The revolution happened because of a coming together of many social, economic, political and technological changes.
- ❖ The revolution begins in Great Britain around 1750 – why here? Why then?
 - Changes in agriculture (new crops, new agricultural practices, new machines).
 - Changes in technology (especially the steam engine – James Watt's improved model of 1769).
 - Changes in culture (the end of the guilds, the rise of capitalism, the English nonconformists).



Another piece of the technological revolution -- James Hargreaves "spinning jenny," invented in 1767.

Image source:

http://www.nps.gov/lowe/2002/loweweb/lowe_history/lowe_handbook/england.htm

Diffusion of the Industrial Revolution

- ❖ Diffusion by industry:
 - Iron and steel (more iron means more transportation, which means more use for iron, which means more need for mining, which means more need for transportation, better engineering, etc.)
 - Textiles (new machines meant more cloth, which meant more need for

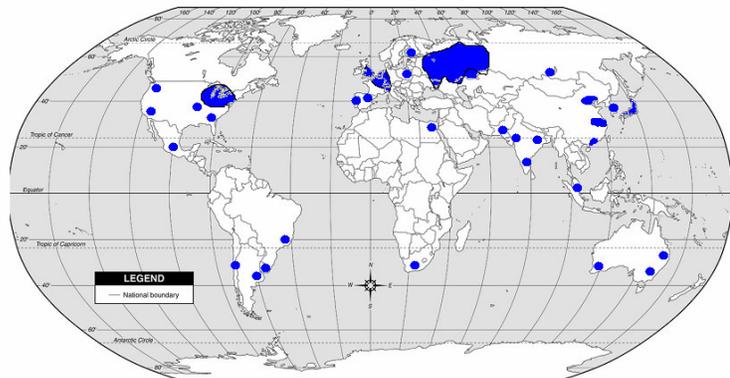
Principles of Cultural Geography

dyes and bleaches, which meant more and better chemistry, which lead to new ways to preserve food).

- Ceramics (new methods meant cheaper, better ceramics, which meant individual plates and bowls, which improved sanitation, which also lead to the development of ceramic sewer pipes, toilets, etc.)
- ❖ Diffusion from the United Kingdom:
 - Western Europe
 - The United States
 - Eastern Europe
 - East Asia
 - And now – the rest of the world?

Industrial Regions of the World

- ❖ North America
 - New England
 - Middle Atlantic
 - Mohawk Valley
 - Pittsburgh-Lake Erie
 - Western Great Lakes
 - St. Lawrence-Ontario
- ❖ Western Europe
 - Rhine-Ruhr
 - Mid-Rhine
 - UK
 - Northern Italy
- ❖ Eastern Europe
 - Moscow
 - St. Petersburg
 - Eastern Ukraine
 - Volga River
 - Ural Mountains
 - Kuznetsk
 - Silesia
 - Irkutsk
- ❖ East Asia
 - Vladivostok
 - Japan
 - South Korea
 - Taiwan
 - Yangtze Valley
 - Shenyang
 - Beijing-Tientsin
 - Guangzhou-Hong Kong
- ❖ And now – the rest of the world?



Industrial Location

- ❖ In a primary economic activity – like agriculture, fishing, forestry, or mining – there isn't much location choice – you go where the soil is good, where the gold is, etc.

- ❖ But industry – manufacturing, construction, any operation that modifies a product and adds value – can try to choose the best possible location based on rational economic factors.
- ❖ Situation factors:
 - Inputs:
 - If an industry's inputs are heavy, bulky, or fragile, then it may make sense to locate near where those inputs come from.
 - Examples: copper, steel, canned tomatoes
 - Because what goes into the factory is heavier or bulkier than what comes out, these are often called weight-reducing or bulk-reducing industries.
 - Outputs:
 - If an industry's outputs are heavy, bulky, or fragile, then it may make sense to locate near the market.
 - Examples: beer, glass, concrete
 - Because what comes out of the factory is heavier or bulkier than what goes in, these are often called weight-gaining or bulk-gaining industries.
- ❖ Other industries may also locate near markets:
 - Single-market manufacturing
 - Perishables

Transportation Factors

- ❖ Different methods of transportation have different characteristics.
- ❖ Depending on what is being manufactured, the cost and method of transportation may also have an impact on industrial location decisions.
- ❖ Methods of transportation:
 - Ship (ocean, lake, river, etc.)
 - Very low cost.
 - Very slow.
 - Best suited to long distance bulk (or non-perishable) commodities.
 - Rail
 - Low cost (usually).
 - Slow to moderate speed (usually).
 - Suitable for long or medium distances.
 - Trucking
 - High cost (per ton).
 - Moderate to high speed.
 - Suitable for long, medium or short distance.
 - Extremely flexible – anywhere with a road!

Principles of Cultural Geography

- Air
 - Very high cost.
 - Very high speed.
 - Suitable for medium or long distance.
- Pipeline
 - Very low cost.
 - Only suitable for bulk liquids.
- ❖ Break-of-bulk points
 - A break-of-bulk point is place where you transfer goods from one kind of transport to another.
 - Every time you go from one transportation method to another – from rail to truck, for example – it takes time and costs money.

Site Factors

- ❖ Site describes the physical (or “fixed”) characteristics of a location.
- ❖ Different industries have different needs, and different sites are best suited to different industries.
- ❖ Site factors include the availability and cost of:
 - Land (some industries need large areas for manufacturing or production – ex. airplane manufacturing)
 - Power (some industries need large amounts of electricity or fuel – ex. aluminum)
 - Labor (unskilled or skilled, depending on the industry – ex. unskilled: electronics assembly; skilled: research and development)
 - Capital (money to start or expand a business)
- ❖ It is never possible to find a perfect location – so compromises have to be made.
- ❖ Some industries today are footloose – they can locate essentially anywhere.

Problems of Modern Industry

- ❖ Stagnant demand:
 - The best markets for manufactured goods are in the developed world – but the population of the developed world isn't growing.
 - Demand for many consumer goods is stagnant because markets are saturated – for many goods there is a limit to how much or how many consumers are willing to buy.
 - “The Decline of Shoddy” – increased global competition means that shoddy goods get replaced – but goods that don't break don't need to be replaced, so demand stays relatively low.

- ❖ Improved technology has increased demand for some products, but decreased demand for others (ex. memory chips vs. steel).
- ❖ Increased capacity at the global scale means increased competition – manufacturing is no longer concentrated in just a few countries – all the developed (and many developing) countries now have advanced manufacturing capabilities.

Industrial Problems in More Developed Countries

- ❖ Impact of trading blocs:
 - Examples of blocs: The North American Free Trade Agreement; The European Union, etc.
 - Trade within blocs is increased – but trade outside is decreased.
 - Competition between blocs – rather than country-by-country.

Industrial Problems in Less Developed Countries

- ❖ Distance from markets (remember the “core and periphery” model).
- ❖ Peripheral economies (remember, $\frac{3}{4}$ of all international investment is between more developed countries).
- ❖ Lack of infrastructure.
- ❖ Dominance by transnational corporations
 - Dependence on more developed countries (for supplies and markets).
 - Concentration on low-skilled (and low paid) labor.
 - The “race-to-the-bottom.”