

Industrial Revolution (approx. 1750-1850) Notes

Spielvogel Chapter 20

- I) Causes
 - A) Agricultural revolution
 - 1) Feed more people at lower prices
 - (a) Gives disposable income
 - (b) Allows ability to purchase goods
 - 2) Surplus labor
 - B) Central bank – gave credit
 - C) Attitude that loved wealth & commerce, both individually and nationally
 - D) Resources
 - 1) Rivers
 - 2) New roads & bridges
 - 3) Canals
 - E) No internal customs barriers
 - F) Stable government
 - 1) Laws that protected right to private property
 - G) Markets, foreign & domestic
- II) Technological Changes
 - A) Cotton industry
 - 1) Key items/players
 - (a) Spinning jenny – James Hargreave 1768
 - (b) Mule – Samuel Compton – combines water frame with spinning jenny
 - (c) Power loom – Edmund Cartwright 1787
 - 2) Efficiency of organizing labor together
 - 3) New towns were springing up
 - B) Steam Engine
 - 1) Shortage of timber leads to increased coal mining
 - (a) Need to pump water out of deep mine
 - (b) James Watt (1736-1819) – created first true steam engine when he was required to fix a water pump
 - (i) Later developed the ability to turn a shaft, and therefore drive machinery
 - (a) Factories no longer had to be by rivers
 - C) Iron industry
 - 1) Henry Cort – developed puddling, which used coke to burn away impurities in pig iron, resulting in very high quality iron
 - 2) Important because it allowed them to produce enough of the new machines
 - D) Transportation
 - 1) Railways – originally used horses to transport
 - 2) Richard Trevithick built the first steam-powered locomotive
 - 3) First public railway, Liverpool to Manchester (32 miles), 1830
 - 4) 1840: G. Britain had 2,000 miles of railroads
 - 5) 1850: 6,000 miles
- III) Industrial Factories
 - A) Started with cotton

- B) Move from cottage industry to factory system
- C) Required employee discipline, adjustment to regular hours and shifts
 - 1) Enforcement meant fines or dismissal for adults, & beatings for kids (not uncommon way to discipline children)
 - 2) Businesses aided by the new evangelical churches
 - (a) Preached that laziness was sinful & hard work was heavenly
 - 3) Workers would eventually form a powerful group, but not so at first
 - (a) At the beginning of the Indus. Rev., artisans or craftspeople remained the largest group of urban workers
 - 4) Conditions:
 - (a) 12-16 hour days, six days a week, ½ hour for lunch & dinner
 - (b) No employment security
 - (c) No minimum wage
 - (d) Unhealthy work conditions
 - (i) Consumption – lung diseases
 - (e) Included women & children
 - (i) Children:
 - (a) Had delicate touch for spinning
 - (b) Could crawl under machines to gather loose cotton
 - (c) Easier to control
 - (d) Cheap
 - (ii) Pauper apprentices
 - (a) Abandoned by parents to local parish
 - (b) Cheapest labor
 - (c) Long hours
 - (d) Inadequate food & breaks
 - (e) Often had deformities from staying in unusual positions too long

IV) Great Exposition of 1851

- A) Crystal Palace – see page 560
- B) Symbol of British success
 - 1) Also of humanity domination of nature
 - 2) Shows that Britain is the first and richest industrial nation
 - (a) True: Britain produced ½ the world's coal and manufactured goods
 - (b) In 1851, cotton industry in Britain was equal to the size of all industries in all other European countries combined

V) Spread of Industrialization

- A) After Britain, Belgium, France, German states, & the U.S. were next to industrialize
- B) Problems with continental industrialization
 - 1) Toll stations on rivers & roads
 - 2) Guild restrictions
 - 3) Traditional business attitudes
 - 4) Upheavals from French Revolution & Napoleon's rampage
 - 5) Governments had some control of businesses
 - 6) Government were responsible for building infrastructure
 - (a) Only Germany & Belgium had completed part of rail system by 1850

- 7) Tariffs
- 8) Lack of banks that lent credit
 - (a) Solved by creating joint-stock investment banks
 - (i) Meant that they used thousands of different investors to supply capital
 - (ii) Started in 1830s in Belgium (see banks listed on pages 562-3)
- C) Differences in cotton manufacture (Britain vs. Continentals)
 - (a) Disperse on continent; mostly together in Britain (in Lancashire & Glasgow areas)
 - (b) On continent, combined old & new (for example, might make thread on machine and then send to cottage industry to hand-weave)
- D) The United States
 - 1) Samuel Slater – smuggled knowledge of textile factories out of Britain
 - 2) The American system – utilized interchangeable parts – more efficient
- E) Control of colonies
 - 1) Attempt to force colonies to buy finished goods instead of making them
 - 2) At the same time, took raw materials from the colonies
- VI) Social Impacts not already mentioned
 - A) Census started in 1801 in Britain
 - B) Population explosion
 - 1) Decline in death rates
 - (a) Less death from famine, epidemics & war
 - (b) General increase in food supply
 - C) The Great Hunger
 - 1) Ireland was a backwoods area – mud hovels
 - 2) 1-2 acres of potatoes could feed a family (Irish married earlier & had kids earlier)
 - 3) Blight on potatoes – turning them black
 - 4) Over one million died of starvation & disease
 - 5) Over 2 million emigrated to the U.S. & Britain
 - (a) Traditional “safety valve” for population problems
 - 6) Ireland had only declining population in the nineteenth century
- VII) Growth of Cities
 - A) Urban areas for centers for manufacturing
 - 1) Access to transportation
 - 2) Access to workers
 - 3) Steam engine made it possible to build factories anywhere
 - B) By 1850, over 50% of the British population lived in urban areas
 - C) Living conditions
 - 1) Rapid urbanization – accompanying infrastructure/policing problems
 - 2) No tradition of care for poor
 - (a) Business owners were new class without established social morays
 - (b) City leaders didn’t feel it was their responsibility to care for the poor
 - 3) Overcrowded
 - 4) Poor sanitary conditions
 - (a) Streets used as sewers
 - (b) Smelly & unhealthy

- (c) Deaths outnumbered births in cities
 - (i) Had to get more workers from the country to replace the dead
 - (d) Poisonous/dangerous substances were used as food additives
- 5) Real wages actually increasing
 - (a) Which I'm sure was a nice thought for people as they died of consumption
- D) Urban Reformers
 - 1) Edwin Chadwick (1800-1890)
 - (a) Advocated modern sanitary reforms to help the lower classes
 - (b) His actions led to the creation of the National Board of Health by the Public Health Act, which formed local boards to improve sanitation
 - 2) People supported reforms because they feared cholera (bacterial infection from poor sanitary conditions & adulterated food – can lead to death by dehydration)
- VIII) The Middle Class Gains more Power by starting businesses
 - A) Who were they?
 - 1) Diverse social origins – sometimes noble, sometimes not
 - 2) Often from dissenting religious minorities
 - (a) Had financial support
 - B) Came to rival landed aristocracy in power
- IX) Evolution of the family
 - A) After children's employment declined, their places were taken by women
 - 1) Women were used to working – cottage industry
 - 2) Traditional types of female labor still predominant – household servants
 - 3) Factory acts that limited women's hours led to separation of work/home
 - (a) Also led to division between men's/women's familial obligations
- X) Change you can believe in
 - A) Unions
 - 1) Purposes
 - (a) Limit entry into trade
 - (b) Gain benefits from employers
 - 2) Combination Acts in 1799 and 1800 – no unions – workers shouldn't come together like they did in French Revolution
 - (a) Didn't work – dissolved after some strikes made Parliament realize they needed to have some legal recourse for workers
 - 3) National Unions – The Grand National Consolidated Trades Union
 - (a) Wanted to have a nationwide strike for eight hour working day
 - (b) Dissolved because it really didn't have support of actual workers
 - B) Luddites
 - 1) Skilled Midlands craftspeople
 - 2) Attacked the machines in 1812
 - 3) Never found – shows that locals supported them (12,000 troops were looking)
 - C) Chartism
 - 1) Wanted a political democracy from 1838-1848
 - (a) Universal male suffrage
 - (b) Payment for Parliament
 - (c) Annual sessions of Parliament

- 2) Never really affected the political establishment
 - (a) Important because it proved that it could organize millions of working-class men & women
- D) Factory Acts
 - 1) Series of acts that limited hours and ages of workers (also required schooling for minors)
 - 2) At first (early 1800s), only applied to cotton mills, and had bad enforcement
 - (a) Improved as time passed
 - 3) 1847 Ten Hours Act
 - (a) Women & children limited to 10 hour workdays
 - 4) Coal Mines Act 1842
 - (a) No workers under 10
 - (b) No women