Enlightenment + Revolution

Ch 22
1550-1789
The Scientific Revolution

- Scholars used to refer to the Bible or ancient Greek or Roman authors
- Few are willing to challenge existing beliefs
- The Scientific Revolution occurred when scholars started a new way of thinking about the natural world
  - Started due to exploration + printing press
    - Exploration – discover new peoples + ideas
      -- need more knowledge in math + astronomy for sailing, mapmaking, etc
    - Printing Press – spreads ideas
  - Based upon careful observation + willingness to challenge accepted beliefs
Astronomy

Middle Ages: Geocentric Theory
- Earth is center of universe + doesn’t move
- Sun, moon, + planets revolve in perfect circles around Earth
- Church backed this belief (God placed Earth in the center)

Mid-1500s: Heliocentric Theory is spread first by Copernicus
- Polish Cleric + Astronomer
- Based on old Greek idea
- Sun is the center of universe
- Johannes Kepler proved mathematically that the planets revolve around the sun in elliptical patterns instead of perfect circles (1601)
- Galileo built 1st telescope
  - Writes book supporting Copernicus’s theory
- Church forces him to sign a confession (1633) denouncing Copernicus’s ideas + places him under house arrest
The Scientific Method

- New approach to science requiring logical procedure for gathering + testing ideas
  - 1. Start w/ problem or ? from an observation
  - 2. Form a hypothesis (assumption)
  - 3. Test hypothesis in an experiment
  - 4. Analyze data to reach a conclusion

- Developed by Francis Bacon + Rene Descartes in 1600s

- Bacon
  - Wanted to improve peoples’ lives
  - Encouraged experiments

- Descartes
  - “I think, therefore I am.”
  - Use logic + math
  - Everything should be doubted until proved by reason
The Scientific Method

Here are the facts. What conclusions can we draw from them?

The Creationist Method

Here's the conclusion. What facts can we find to support it?
Law of Gravity

- Developed by Isaac Newton
- Brings together ideas of Copernicus, Kepler, + Galileo w/ a single theory of motion
- States that same force ruled motion in the heavens w/ motion on Earth (universal gravitation) + that every object in the universe attracts every other object

- Gravitational pull depends upon mass + distance
- Universe works like a giant clock + worked in a way that could be expressed mathematically + God was the Clockmaker
Spread of the Scientific Revolution

Scientific instruments
- Microscope (observing bacteria)
- Mercury barometer (predicting weather)
- Thermometer (measuring temperature)

Medicine
- Previously, European doctors had accepted the writings of the ancient Greek physician Galen as fact even though Galen had NEVER dissected a human (only animals)
- Andreas Vesalius dissected human corpses + published his observations w/ detailed drawings of human bones, organs, + muscle
- Edward Jenner produces world’s 1st vaccine (for smallpox)

End Section 1
The Enlightenment

Also known as The Age of Reason

An intellectual movement that stressed reason, thought, and the power of individuals to solve problems

Peaked in mid-1700s in France

French philosophers of the period were known as philosophes –

They had 5 main beliefs:

1. Reason (truth can be reached through reason)
2. Nature (what is natural is good and reasonable)
3. Happiness (People should seek happiness on Earth)
4. Progress (society and humankind can improve)
5. Liberty (The French should have the rights the English had with their Bill of Rights after the Glorious Revolution)
Voltaire (pen name)
Francois Arouet (real name- French)
Most influential philosophe
Published political essays, philosophy, + dramas
Often used satire against clergy, aristocracy, + gov.’t
Fought for tolerance, reason, religious freedom, + free speech
Fought against intolerance, prejudice, + superstition
“I do not agree w/ a word you say but will defend to the death your right to say it.”
Sent to prison twice before exiled to England
2 views of gov.'t

Social Contract
- Agreement in which people define + limit their individual rights + create a gov.'t to serve their interests

1. Thomas Hobbs (English)
- English Civil War convinced him humans are naturally wicked
- Man against Man
- Social Contract: People must give over their rights to a strong ruler (absolute monarchy) in exchange for law + order

2. John Locke (English)
- Believed people were reasonable beings who could govern themselves
- All are born free + equal w/ God–given Natural Rights
  - Life, Liberty, + Property
- Social Contract: a gov.'t (self-gov.'t) was created to protect those rights. If it failed to do so or attempted to take away those rights, it is the privilege of the people to overthrow the gov.'t
- Declaration of Indep.
Separation of Powers

Montesquieu (French)

Britain was the best governed (most politically balanced) country of that time

- Parliament had legislative power (made laws)
- Monarch had executive power (carried out laws)
- Judges had judicial power (interpreted the laws)
  - Oversimplified (somewhat inaccurate)

Proposed that separation of powers would keep individuals or groups from gaining total control of gov.’t

Checks + Balances

- Each branch of the gov.’t should have some powers over the others
Criminal Justice

Beccaria (Italian)
- Laws existed to preserve social order
  NOT avenge crimes
- Against torture + capital punishment
- Those accused of crimes have right to speedy trial
- Those convicted should have a punishment based on the seriousness of the crime
- Gov.'ts should seek the greatest good for the greatest # of people
Women during the Enlightenment

Male philosophes often had traditional views on women’s roles in society + in the home

Mary Wollstonecraft

- *A Vindication of the Rights of Woman* (1792)
- Women needed to be educated to be useful
- Urged women to enter medicine + politics

The Enlightenment of the ideas of the philosophes would lead to a more secular outlook + the ↑ of individualism

End Section 2
The Enlightenment spreads

In the 1700s, Paris was cultural + intellectual capital of Europe

Salons were social gatherings held by wealthy women in their homes where philosophes, writers, artists, + other intellectuals met to discuss ideas

1751, Denis Diderot created a large set of books called Encyclopedia which many leading scholars contributed articles + essays

Salons + Encyclopedia angered French gov.’t + Catholic Church

Other methods of spreading Enlightenment ideas were newspapers, pamphlets, + political songs

Attracted attention of a growing literate middle class
Enlightened Despots (absolute rulers)

Monarchs who embraced ideas of the Enlightenment + made reforms **BUT** had no intention of giving up power

Frederick II (the Great) of Prussia (1740-86)
- Granted many religious freedoms
- Reduced censorship
- Improved education
- Reformed Justice system
  - Abolished torture
- “1st servant of the state”

Joseph II of Austria (1780-90)
- Legal reforms
- Freedom of press
- Freedom of worship
- Abolished serfdom - Undone after his death

Catherine the Great of Russia (1762-96)
- Formed commission to review Russia’s laws + proposed reforms based on philosophes’ ideas – Few were done
- Had to put down serf uprising which led to end of freedoms for serfs b/c she realized she needed nobles’ support
- Expanded Russia’s borders

End Section 3
Before the Rev.

From 1700-1770, American colonies’ population from 250,000-2,150,000. By this time, each of the 13 colonies had its own gov.’t + people were used to **salutary neglect**

“beneficial neglect” England did not supervise the colonies closely in return for economic loyalty of the colonies

1754-63 French + Indian War – British drive out French, leave behind troops though to “protect” the colonists

Creates huge debt British gov.’t must pay
Causes of the Revolution

1. End of Salutary neglect
2. Quartering Act
   - Colonists had to shelter + feed troops from England
3. Taxes to raise $ to pay off Britain’s debt
   - Sugar Act, Stamp Act, + Townshend Act
   - All would be repealed due to colonies’ response EXCEPT for tax on tea
   - Boston Tea Party
   - Boston Port Act
   - Closed Boston’s port
4. Virtual Representation
   - “No taxation w/o representation”
2nd Continental Congress (1775-76)

Representatives from all 13 colonies accomplished 4 things:

1. Congress voted to create the Continental Army out of the militia units around Boston

2. Appointed Congressman George Washington as Commander of the Continental Army

3. July 8, 1775 Congress extended the Olive Branch Petition to the British Crown as a final attempt at reconciliation

4. June 1776 the convention moved for a Declaration of Indep.

- Written by Thomas Jefferson
- Influenced heavily by thinkers of the Enlightenment especially John Locke
  - “Life, liberty, + pursuit of happiness”
  - Right to rebel against an unjust gov.’t
"When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another ... the separate and equal station to which the Laws of Nature and of Nature's God entitle them (John Locke) ... requires that they should declare the causes which impel them to the separation.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness (Locke's Natural Rights) ... deriving their just powers from the consent of the governed, (popular sovereignty / social contract) That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government ..."
Strengths

- #1 Navy + #2 Army in the world
- Wealthiest empire in the world
  - hired mercenaries (Hessians - #1 army in the world)
- American Indians sided w/ the British

Weaknesses

- France bitter about French + Indian War
- British gov.’t had no clear policy
- Citizens in England did not fully support another expensive war
- British soldiers lived under horrible conditions – bad morale, poor leadership
- Distance was great, enormous geography, no major cities to capture, + a rapidly American population
Americans

**Strengths**

- Outstanding leadership in Congress + military (foreign + American)
- Defensive fight – easier to win rather than offensive fighting
- Self-sustaining – could feed / support both the army + civilian population
- “Backcountry” riflemen are among the best in the world
- A belief to fight for – the “Cause”

**Weaknesses**

- Lack of unity
- Selfishly guarded individual rights / needs
- Lack of currency – “ Continentals” were worthless
- Need military supplies
- Morale was undermined by “ profiteers”
Spoiler alert

Americans Win
1st attempt at a gov.’t

Articles of Confederation

Confederation – state gov.’ts keep most of the power

Failed b/c:

- National gov.’t didn’t have power to tax
- Did not allow the national gov.’t to sign or enforce treaties w/ foreign gov.’ts
- Congress couldn’t regulate trade among states
- Congress couldn’t regulate the behavior of citizens
The Constitution

- **Gov.’t**
  - Federal system – both national + state gov.’ts retain some power (national has slightly more)
  - Heavily influenced by thinkers of the Enlightenment
  - 3 Branches:
    - Separation of Powers (Montesquieu)
      - Legislative (congress) – most powerful
      - Executive (president)
      - Judicial (supreme court)
    - Checks + Balances (Montesquieu)
  - Bill of Rights – 1st 10 Amendments to the Constitution
    - Includes freedoms of Speech- (Voltaire), religion – (Voltaire), due process - (Beccaria)

End of Section 4