
Unit 3

Revolutions

Day 2

Starter Feb. 20th and 21st

Which revolution do you think had the longest lasting impact? The American, French, Haitian, or Scientific? Why?

The Scientific Revolution

- Intellectual and cultural transformation
 - Began in Europe
 - Mid-1500s to early 1700s
- Knowledge acquired through: careful observations, controlled experiments, the formulation of general laws, and mathematical expressions
- No more reliance on: the authority of the Bible, the Church, the speculations of ancient philosophers, or the received wisdom of cultural tradition



The Question of Origins: Why Europe?



Cambridge University in England

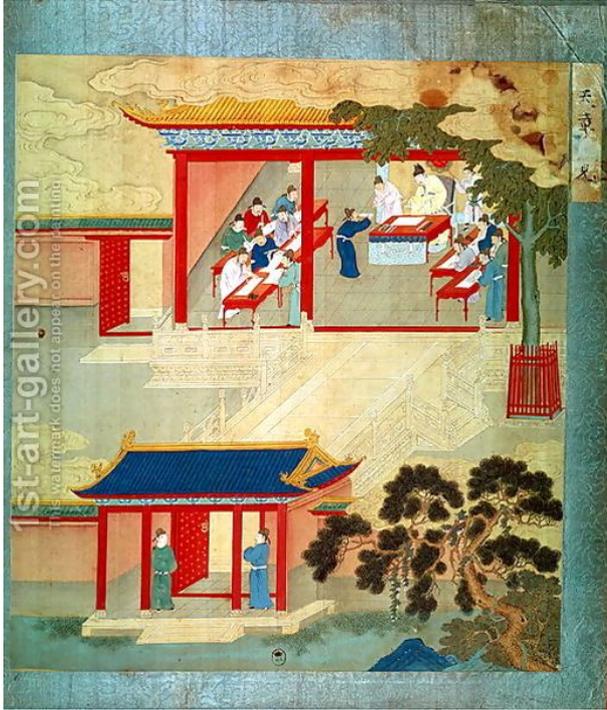
- 12th and 13th centuries = Europeans developed a legal system that gave a measure of independence to a variety of institutions
 - Ex: the Church; towns and cities; workers' guilds; professional organizations; universities
- Independence for universities = scholars had the freedom to pursue their studies without interference from the Church or political authorities
- Most of the major figures in the Scientific Revolution = trained in or affiliated with these universities

Why Not the Islamic World?

- Focus in colleges/universities =
Quranic studies and religious law
 - Science was studied outside the formal system of higher education
- Religious scholars = viewed science and philosophy with suspicion
 - To them = Quran holds all the wisdom
 - Science might challenge the Quran
 - Science and philosophy lead to uncertainty and confusion



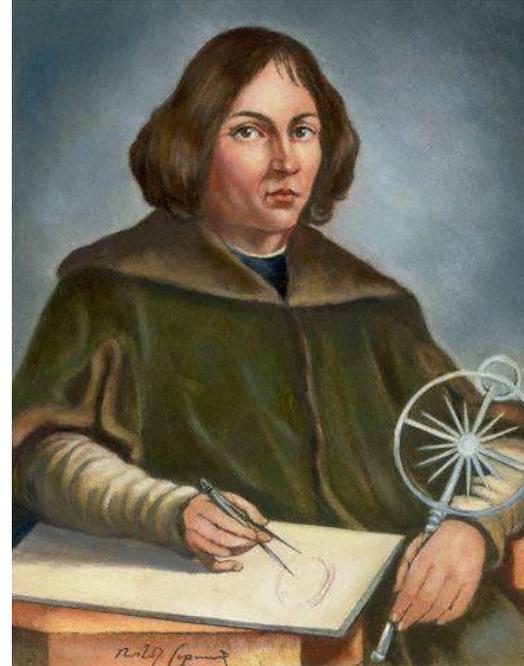
Why Not China?



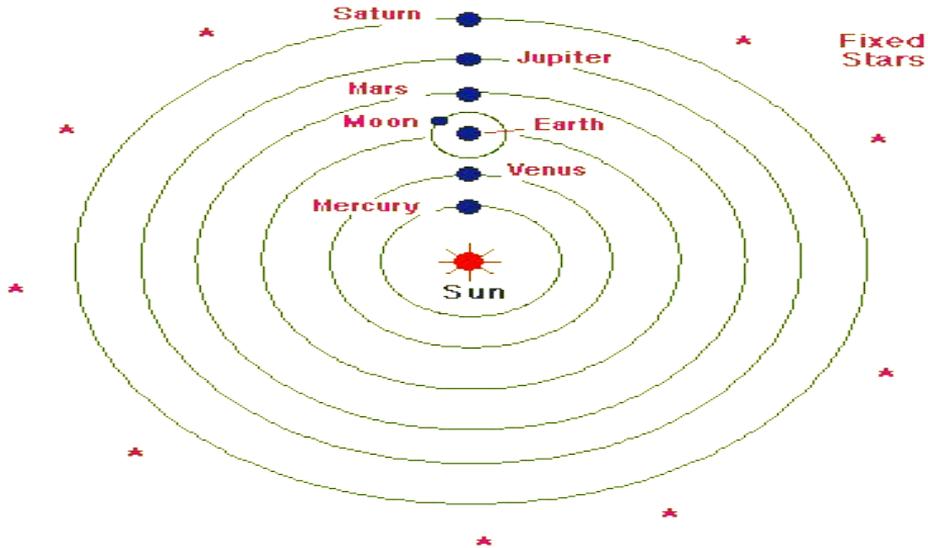
- Chinese education = focused on preparing males for the civil service examinations
 - Focused on classical Confucian texts
- Chinese authorities = did not allow independent institutions of learning where scholars could pursue their studies freely

Nicolaus Copernicus

- Polish astronomer
- Started his career at University of Krakow in Poland in 1492
- At the forefront of the Scientific Revolution
- Started at a time when few people dared to question old beliefs and superstitions



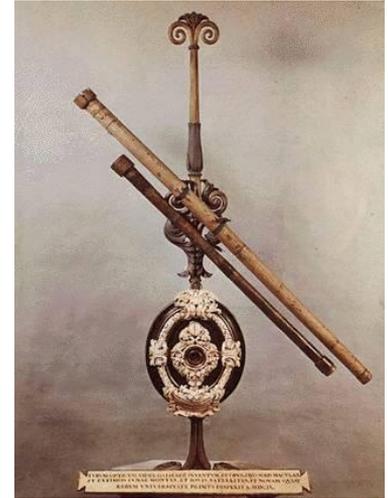
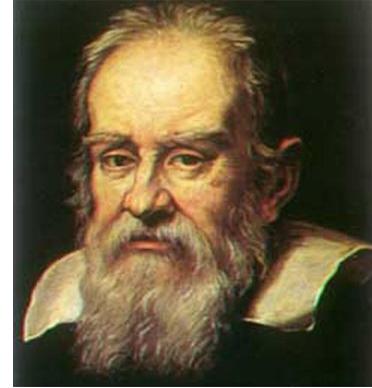
Nicolaus Copernicus



- Believed the Earth was round & that it rotated around the sun
- Said the sun, not the Earth, was the center of the universe
- Challenged the idea that the Earth was unique and at the center of God's attention

Galileo Galilei

- Italian mathematician
- Improved the telescope to make it more powerful
 - Observed: sunspots, mountains on the moon, Jupiter's moons
- Created the pendulum clock
- 1636 = published ideas on physics, astronomy, etc.
 - Book banned by the Catholic Church



Galileo Galilei

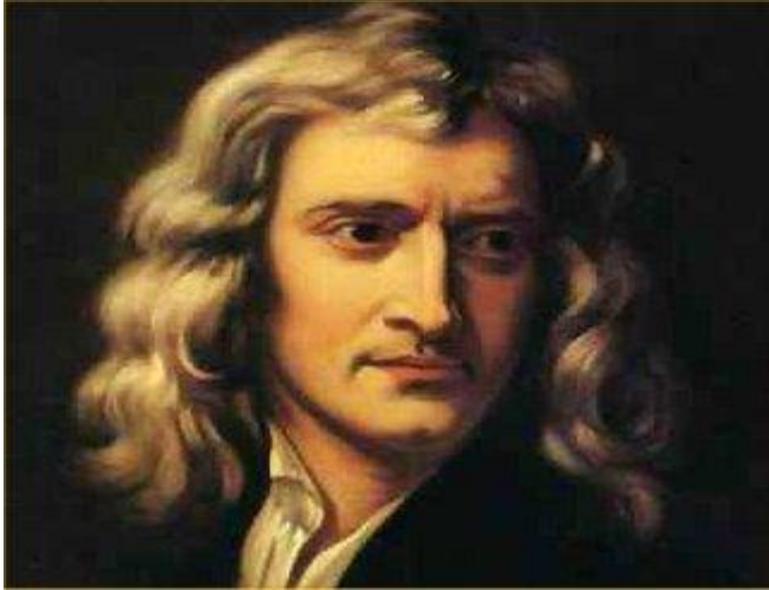


- Faced heated opposition by the Catholic Church
- Placed under house arrest for 50 years
 - Where he made most of his discoveries & achievements

Trial of Galileo



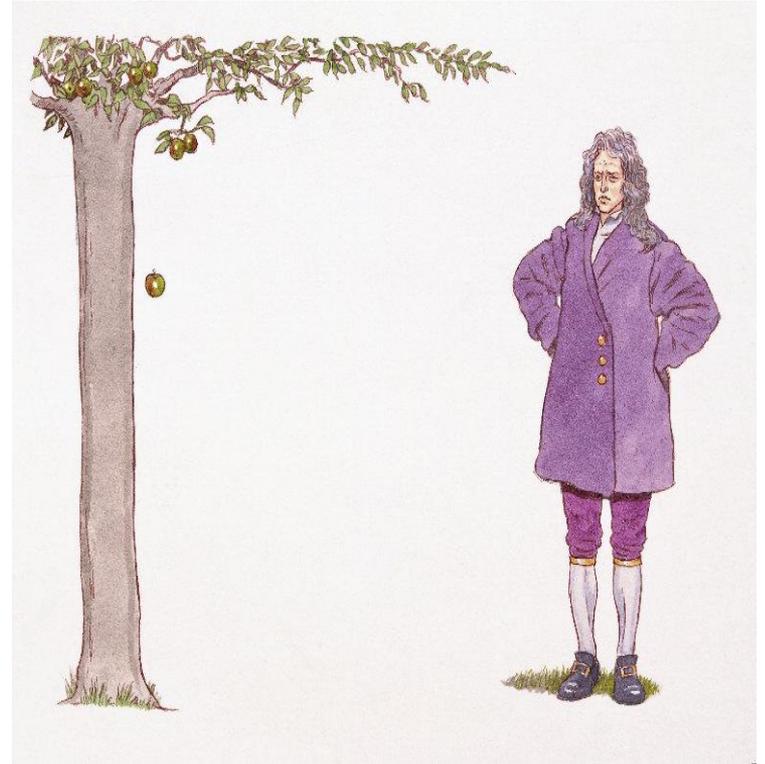
Sir Isaac Newton



- British scientist
- Below average student at Cambridge University
- Explored the most complicated mathematics of his day
- Studied Copernicus & Galileo

Sir Isaac Newton

- 1665 = plague closed his university & he was forced to go home to his family
- Sitting in his garden one day, he saw an apple fall -- helped him develop his theory of gravity
- 1687 = published theories about gravity
 - Prevents objects from flying off the Earth; also holds the solar system together



Sir Isaac Newton

$$\int_a^b f(x) dx = F(b) - F(a)$$

- Formulated modern laws of motion and mechanics
- Developed **calculus** = system of math that calculates changing forces or quantities
- Proved that math can be used to explain the universe

Francis Bacon



- English philosopher
- Truth found through investigation & evidence
- Helped develop **scientific method**
 1. Observe
 2. Make hypothesis
 3. Test hypothesis
 4. Conclusion

The Scientific Revolution leads to the Enlightenment later on. The Enlightenment is the fundamental basis for the revolutions in this unit

Enlightenment Speed Dating

- Have 15 minutes to research your person
- 4 minute rotations
- Record information about who you are meeting
- Decide if your person would agree with that person, if they are your ally

Benjamin Franklin

They who can give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety.

Olympe de Gouges

“Woman is born free and lives equal to man in her rights. Social distinctions can be based only on the common utility.”

Thomas Jefferson

DECLARATION of INDEPENDENCE

LOCATION: UNITED STATES of AMERICA

AUTHOR: THOMAS JEFFERSON

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, & THE PURSUIT OF HAPPINESS. THAT TO SECURE THESE RIGHTS, GOVERNMENTS ARE INSTITUTED AMONG MEN, DERIVING THEIR POWER FROM THE CONSENT OF THE GOVERNED. THAT WHENEVER ANY FORM OF GOVERNMENT BECOMES DESTRUCTIVE OF THESE ENDS, IT IS THE RIGHT OF THE PEOPLE TO ALTER OR TO ABOLISH IT.

IN CONGRESS, July 4, 1776.

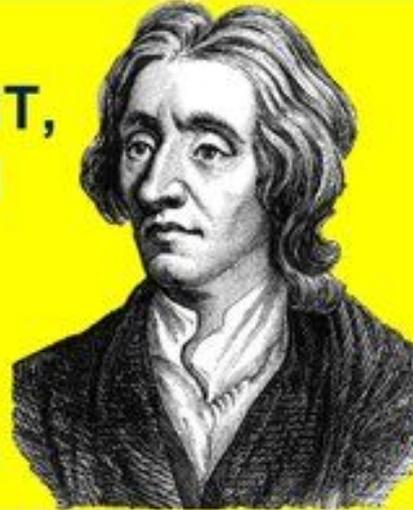
The unanimous Declaration of the thirteen united States of America.

When in the Course of human events, it becomes necessary for one People to dissolve the political bands which have connected them with another, and to assume among the Powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the Opinions and Rights of Mankind 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. That to secure these Rights, Governments are instituted among Men, deriving their just Powers from the Consent of the Governed, 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, laying its Foundation on such Principles, and organizing its Powers in such Manner, as shall seem to them most likely to promote their Safety and Happiness. In Warning of the Powers of the earth, that they have no Right to interfere with the Opinions or Rights of the People, and that the People are entitled to the same.

John Locke

**“ALL MANKIND, BEING
EQUAL AND INDEPENDENT,
NO ONE OUGHT TO HARM
ANOTHER IN HIS LIFE,
LIBERTY, OR ESTATE
(PROPERTY)”**

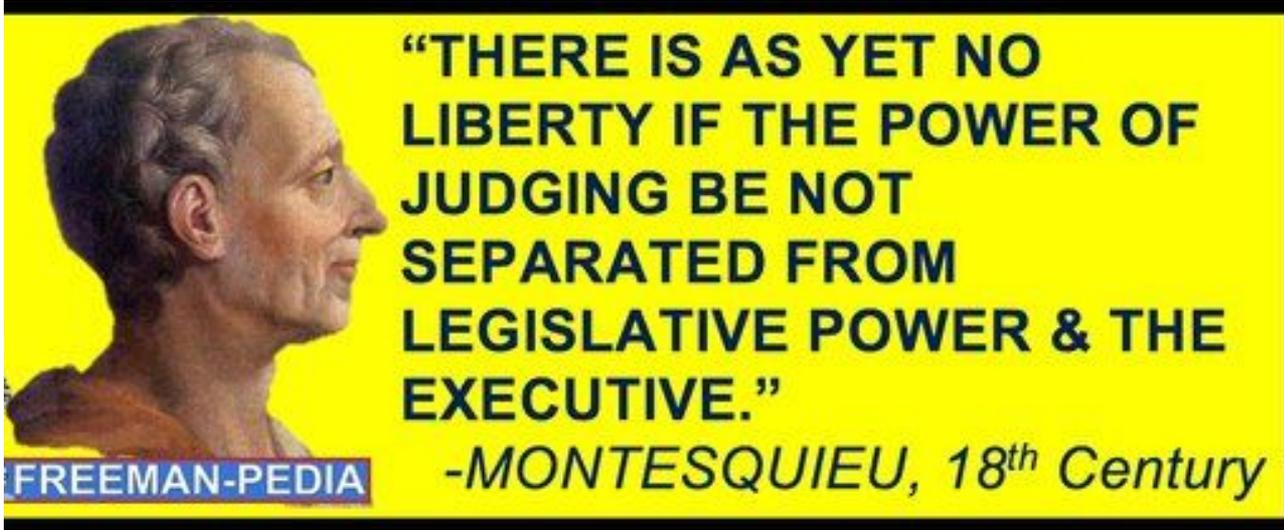
-JOHN LOCKE, 1689



John Locke

**“REASON IS
NATURAL
REVELATION.”**
*-JOHN LOCKE,
1690*

Baron de Montesquieu



FREEMAN-PEDIA

-MONTESQUIEU, 18th Century

Jean Jacques Rousseau

**“MAN IS BORN FREE
& EVERYWHERE HE
IS IN CHAINS.”**

*-ROUSSEAU, THE SOCIAL
CONTRACT (1762)*



FREEMAN-PEDIA

Adam Smith

No society can surely be flourishing and happy, of which the far greater part of the members are poor and miserable.

Adam Smith

Science is the great antidote to the poison of enthusiasm and superstition.

Voltaire

“I SAY THAT WE SHOULD REGARD ALL MEN AS OUR BROTHERS. WHAT? THE TURK MY BROTHER? THE CHINAMAN? THE JEW? YES, WITHOUT A DOUBT; ARE WE NOT ALL CHILDREN OF THE SAME FATHER AND CREATURES OF THE SAME GOD?”

-VOLTAIRE, *TREATISE on TOLERATION* (1763)

Voltaire

“OF ALL RELIGIONS THE CHRISTIAN IS WITHOUT DOUBT THE ONE WHICH SHOULD INSPIRE TOLERANCE MOST, ALTHOUGH UP TO NOW THE CHRISTIANS HAVE BEEN THE MOST ITOLERANT OF ALL MEN.”

-VOLTAIRE, 18th CENTURY

Mary Wollstonecraft

Taught from infancy that beauty is woman's sceptre, the mind shapes itself to the body, and roaming round its gilt cage, only seeks to adorn its prison.

Mary Wollstonecraft

The divine right of husbands, like the divine right of kings, may, it is hoped, in this enlightened age, be contested without danger.