History of Astronomy

1

Timeline

2000 BCE 0 2000 CE

BCE = Before Common Era

CE = Common Era

2

Floating Disc on Water

- Thales
  - 624 – 546 BCE
  - From Greece
  - "Father of Science"
  - Earth is a disc floating on an endless ocean

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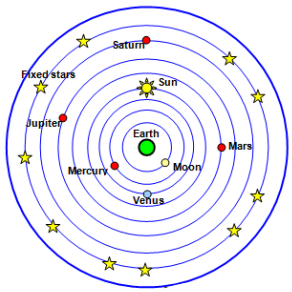
- **Aristotle**
  - 384 BCE – 322 BCE
  - From Greece
  - **Proved** that the Earth is spherical
  - (Anaximander 250 years earlier first proposed a spherical Earth)
  - *Popularized* Geocentric Model



- **Geocentric Model**
  - Earth is the center of the universe, and that the sun, planets and stars orbited around it

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However Aristotle's theory did not explain the real difficulty. This was what was known as "retrograde motion"

Retrograde motion is the backwards movement in the sky of some of the planets at times during the year.

http://astro.unl.edu/classaction/animations/renaissance/retrograde.html

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- Aristarchus
  - 310-230 BCE
  - From Greece
  - First to put forward the idea that the Sun was actually in the center of the universe.
  - His theory was considered far too radical. Unfortunately, history tends to forget that he came to this conclusion about 1,750 years before Copernicus did!

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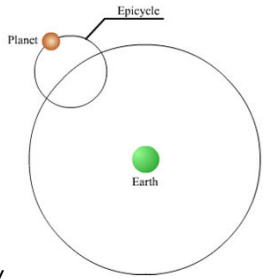
- Ptolemy
  - 85-165 CE
  - From Greece
- Ptolemaic System, each planet moved on a small circle, called an epicycle, that moved on a larger circle
- The Ptolemaic model is one of the longest upheld scientific theories in history: it was the cornerstone of astronomy for 1,500 years.



http://www.polaris.iastate.edu/EveningStar/Unit2/unit2_sub1.htm

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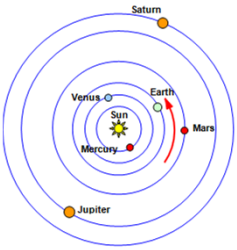
- Nicolaus Copernicus
  - 1473-1543 CE
  - From Poland
  - Sun was the center of the universe instead of the Earth.



Heliocentric Model: Earth and planets revolve around a relatively stationary Sun at the center of the Solar System

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- Tycho Brahe
- 1546-1601
- Danish
- Made the most accurate astronomical observations up to that time especially of the planets

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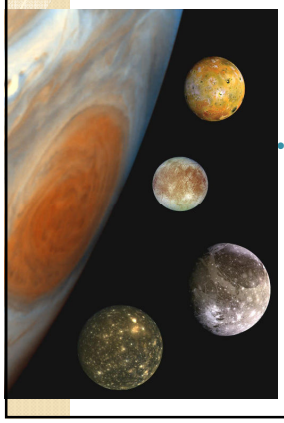

- Galileo Galilei
  - 1564-1642
  - From Italy
  - He heard about the Dutch invention of the telescope, and built one for himself
- Observations:
  - Craters, mountains, and valleys of the Moon
  - Huge number of stars making up the Milky Way
  - Recorded sunspot activity
  - Discovered four moons orbiting Jupiter. These moons are still called the Galilean Moons today.

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