

# The Astronomers: Claudius Ptolemy

By Big History Project, adapted by Newsela staff on 06.15.16

Word Count **491**

Level **770L**



TOP: Portrait of Ptolemy by Andre Thevet. BOTTOM: Map of the Universe according to Ptolemy, from a 17th century Dutch atlas by Gerard Valck Big History Project

**Synopsis:** Claudius Ptolemy was an ancient astronomer who studied the skies with his naked eye. He believed the Earth was at the center of the Universe. This view was accepted for 1,400 years until Nicolaus Copernicus, Galileo Galilei, and Isaac Newton came along.

## An Astronomer In Ancient Times

Claudius Ptolemy lived in Alexandria, Egypt. The famous ancient city was founded by Alexander the Great.

At the time, Alexandria was a great center of learning. There was a famous library where many Greek scholars studied. There was a school for astronomers. Wealthy families gave money to the library and schools.

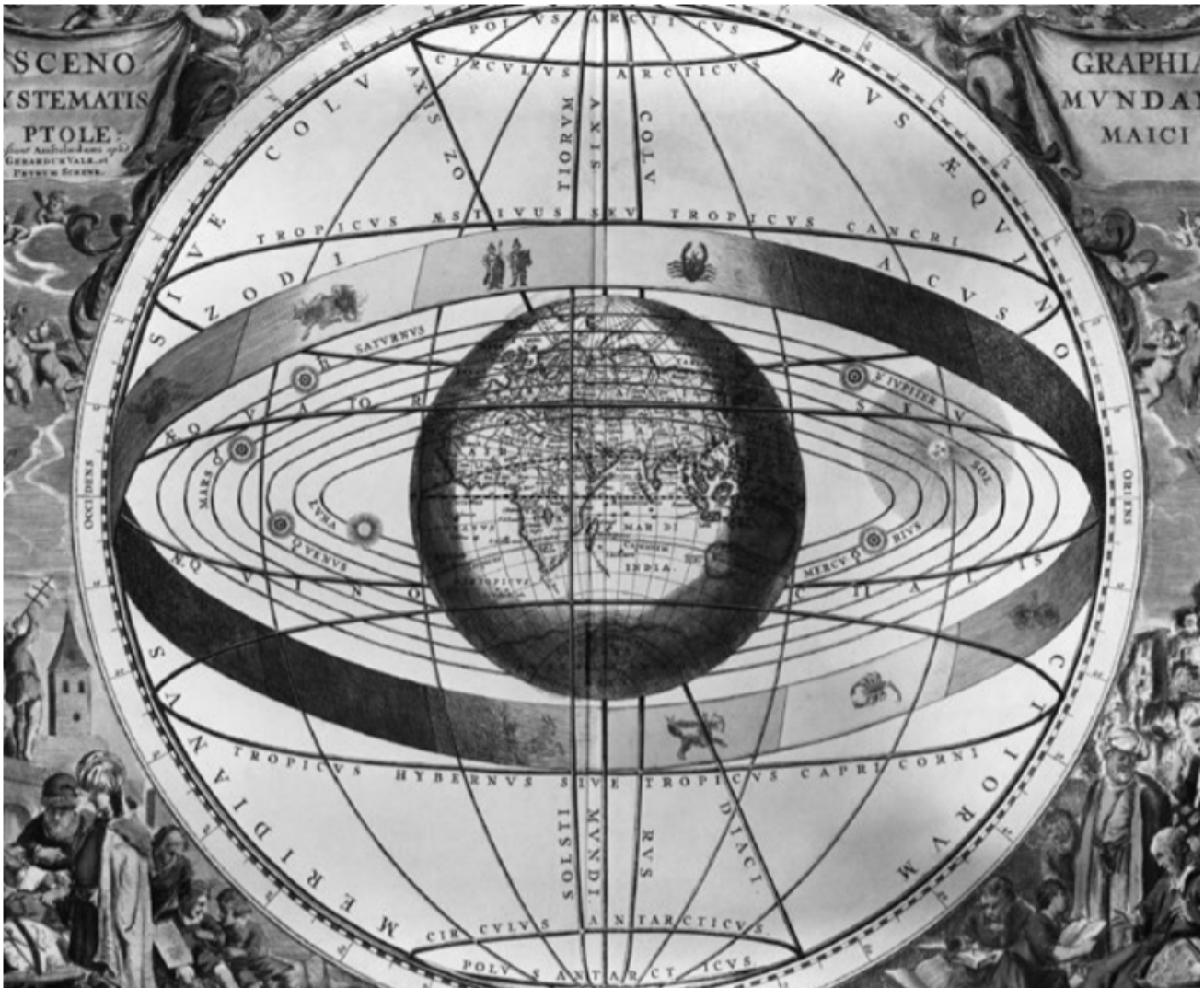
But then the Romans conquered Egypt in 30 BCE. There was less money for studying the stars. Ptolemy was the only great astronomer from Alexandria during this time.

Claudius Ptolemy was not only interested in stars and planets. He also studied maps, math, and astrology. He lived in Egypt, wrote in Greek, and had a Roman first name.

## A Geocentric View

Ptolemy studied the Greek knowledge of the known Universe. Aristotle said that the Sun and the planets all revolve around Earth. This geocentric view sees Earth as the center of the Universe. (geo - Earth, centric - centered).

Ptolemy agreed with Aristotle.



Map of the Universe according to Ptolemy

Of course, the Earth is not the center of the Universe, as we now know. But amazingly, Ptolemy's system worked. He could accurately predict the positions of planets. He could also accurately predict when the Sun and Moon would be eclipsed.

Ptolemy studied the sky with his naked eye — no telescope. He used math to track the planets and stars.

He saw a Universe with Earth in the center. Around Earth were huge transparent spheres.

He thought that the Moon, Mercury, Venus, and the Sun all revolved around Earth. Past the Sun were Mars, Jupiter, and Saturn. Past Saturn was a final sphere that had all the stars attached to it. This final sphere revolved around the other spheres.

Because his system worked, it was believed all over the world. For more than 1,400 years people accepted Ptolemy's spheres.

Then, in 1543, Polish astronomer Copernicus correctly claimed that the Sun is at the center of our Universe, not the Earth.

The Roman Empire dissolved, and Muslim Arabs conquered Egypt in 641 CE. Muslim scholars mostly accepted Ptolemy's astronomy. They corrected some of his errors, and made some advances, but they did not consider a heliocentric (Sun-centered) Universe.

Ptolemy's book was translated into Latin in the 12th century. This allowed his teachings to be spread throughout Western Europe.

### **Ptolemy's Personal Poem**

We know few details of Ptolemy's life. But he left one personal poem, inserted right after the table of contents in his book:

*Well do I know that I am mortal, a creature of one day.*

*But if my mind follows the wandering path of stars*

*Then my feet no longer rest on earth, but standing by*

*Zeus himself, I take my fill of ambrosia, the food of the gods.*

**Quiz**

- 1 Which selection from the article helps the reader to understand that Ptolemy's ideas were very important for a long time?
- (A) He thought that the Moon, Mercury, Venus, and the Sun all revolved around Earth.
  - (B) For more than 1,400 years people accepted Ptolemy's spheres.
  - (C) Wealthy families gave money to the library and schools.
  - (D) The Roman Empire dissolved, and Muslim Arabs conquered Egypt in 641 CE.
- 2 Which sentence from the article explains why Ptolemy believed the Earth was at the center of the universe?
- (A) He could accurately predict the positions of planets.
  - (B) Ptolemy studied the sky with his naked eye — no telescope.
  - (C) Around Earth were huge transparent spheres.
  - (D) Muslim scholars mostly accepted Ptolemy's astronomy.
- 3 Which answer choice BEST describes the structure of the article?
- (A) debate
  - (B) description
  - (C) cause and effect
  - (D) compare and contrast
- 4 Select the sentence from the section "A geocentric view" that uses cause and effect in its structure.
- (A) He used math to track the planets and stars.
  - (B) He saw a Universe with Earth in the center.
  - (C) Because his system worked, it was believed all over the world.
  - (D) Ptolemy's book was translated into Latin in the 12th century.