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UNIVERSITY OF WALES  
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The Sophia Centre for the Study of Cosmology in Culture  
School of Archaeology, History and Anthropology  
**AHAN7024: HEAVENLY DISCOURSES**

## Week 2: Globes

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The iconography of the constellations has a long history; scholars debate their origins from the fourth to first millennia BCE. However, by the time of the Assyrian text the *Enuma Anu Enlil* of the first millennium BCE the use of the images was well-established.

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Francesca Rochberg, *The Heavenly Writing, Divination, Horoscopy and Astronomy in Mesopotamian Culture* (Cambridge: Cambridge University Press, 2004).

Hunger, Hermann, ed. *Astrological Reports to the Assyrian Kings*. Vol. VIII, Neo-Assyrian Text Corpus Project in Helsinki. Helsinki: Helsinki University Press, 1992.

Parpola, S. *Letters from Assyrian Scholars to the Kings Esarhaddon and Assurbanipal Part 1*. Germany: Butzon and Keverlaer 1970.

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By the time of Aratus (c.315–310 BCE–240 BCE) *Phaenomena* these images were described textually. The globes are the only visual records of the constellations to survive from antiquity.

### Ancient sources which describe the constellations:

Homer (c.800-701 BCE): *The Shield of Achilles*

Hesiod (active c.750-650 BCE): *Works and Days*

### Classical sources which describe the constellations:

Virgil (70-19 BCE): *Georgics*

Ovid (43 BC –17CE): *Fasti*

### Ancient sources which list the constellations:

Aratus (c.315–310 BCE–240 BCE): *Phaenomena* (and hence also Eudoxus of Knidos ).

Hipparchus (190-120BCE): *Commentary on the Phaenomena of Aratus and Eudoxus*.

Ptolemy (90-168 CE): *Almagest*.

Ascribed to Psuedo-Eratosthenes (end of 1st century CE):  
*Catasterismi* (may relate to Eratosthenes - 276-194BCE).

## The Ouranion Mimèma (The Kugel Globe) c.300–100 BCE



The Ouranion Mimèma (The Kugel Globe), c.300–100 BCE, now in the *Gallery J. Kugel Antiquaries* in Paris, said to be the oldest celestial globe still in existence, and dating not much later than the prominent celestial globe of antiquity said to have been fashioned by Eudoxus of Knidos (c.360 BCE).



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## The Mainz Globe c.150 BCE - 220 CE

The *Mainz Globe* is thought by classical scholars to be a work from the Roman Empire, c.150 - 220 AD, originating in the eastern half of the Empire, perhaps Egypt. The piece was produced as the crown of a gnomon on a sundial. It is currently on display in the Römisch-Germanischen Museum, Mainz, Germany.

### NOTE:

\* Perspective is looking from outside inwards.

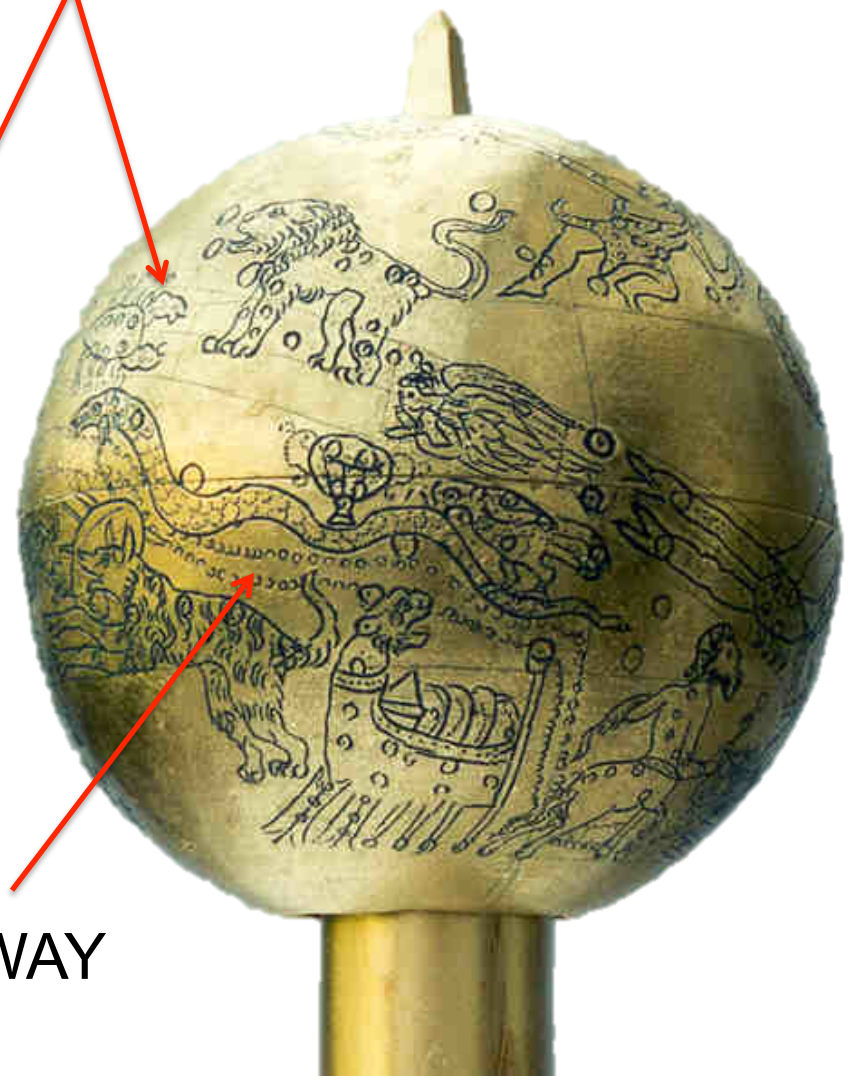
\* Scorpio has not yet been separated into 2 constellations – Ptolemy (c. 130 – 170 CE) in his *Almagest* calls these stars *Forficis* – ‘The Claws of the Scorpion’.

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Ptolemy, Claudius. *Ptolemy's Almagest*. Translated by G.J. Toomer. New Jersey: Princeton University Press, 1998, p.371.



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## The Farnese Atlas

c.150 BCE - 220 CE



The Farnese Atlas first came to modern attention in the early sixteenth century when it became part of the collection of antiquities in the Farnese Palace in Rome, hence its name. The statue was later transferred to the museum in Naples now called the Museo Archeologico Nazionale di Napoli.

It is carved in **white marble** and depicts the bearded Atlas crouched down on one knee with a cloak over his shoulder and holding the celestial globe on his shoulder with both hands. The globe is **65cm in diameter**. A total of **41 constellations** are depicted, **each drawn in positive relief as the classical figure, with no individual stars shown**.

Art historians conclude that the statue is a Roman copy from the second century CE of a Greek original dating to before the birth of Christ.

# The Farnese Atlas

c.150 BCE - 220 CE



The globe places the celestial figures against a grid of circles (including the celestial equator, the tropics, the colures, the ecliptic, the Arctic Circle, and the Antarctic Circle) that allows for the accurate positioning of the constellations.

The positions shift with time due to precession, so the observed positions on the Farnese Atlas correspond to some particular date.

# The Farnese Atlas

c.150 BCE - 220 CE



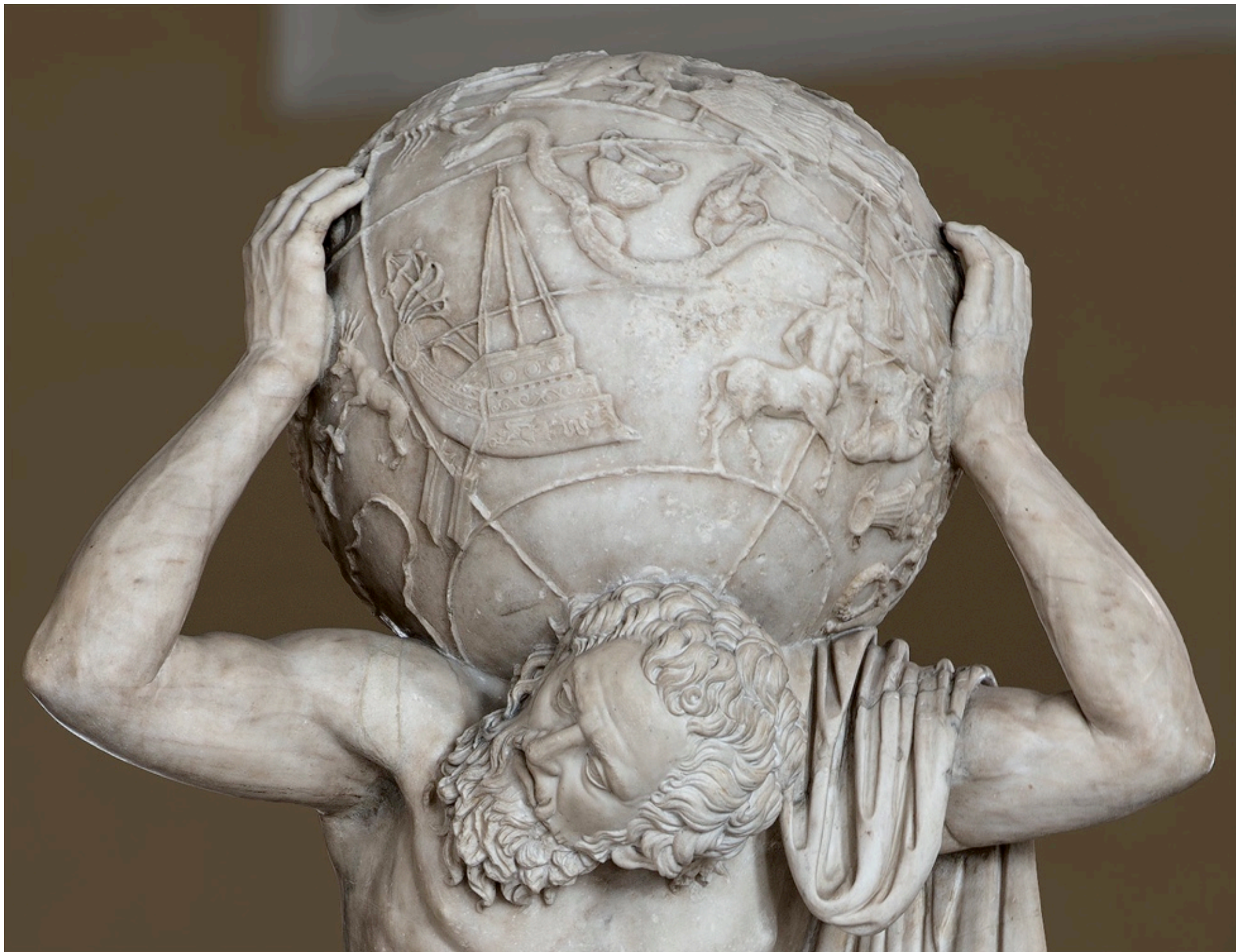
Also, the declination of the Arctic and Antarctic Circles will correspond to a particular latitude for the observer whose observations were adopted by the sculptor. Thus, a detailed analysis of the globe will reveal the latitude and epoch for the observations incorporated in the Atlas.

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Schaefer, B.E. 'The Epoch of the Constellations on the Farnese Atlas and Their Origin in Hipparchus' Lost Catalogue.' *Journal for the History of Astronomy* xxxvi (2005), p.167.





















## REFERENCES:

Grant, Edward. 'Celestial Orbs in the Latin Middle Ages.' *Isis* 78, no. 2 (1987): 153-173.

Schaefer, B.E. 'The Epoch of the Constellations on the Farnese Atlas and Their Origin in Hipparchus' Lost Catalogue.' *Journal for the History of Astronomy* xxxvi (2005): 167-196.

Worrell, W. H. 'Qusta Ibn Luqa on the Use of the Celestial Globe.' *Isis* 35, no. 4 (1944): 285-293.

Mainz globe images:

<http://www.reocities.com/astrologysources/roman/mainzerglobus/index.htm>