

Astroarcheology
in China

Outline

- ◆ How past people have understood the phenomena in the sky.
- ◆ How they used phenomena in the sky and what role the sky played in their cultures.

Understanding the phenomena

-The understanding of the Universe

The original of universe

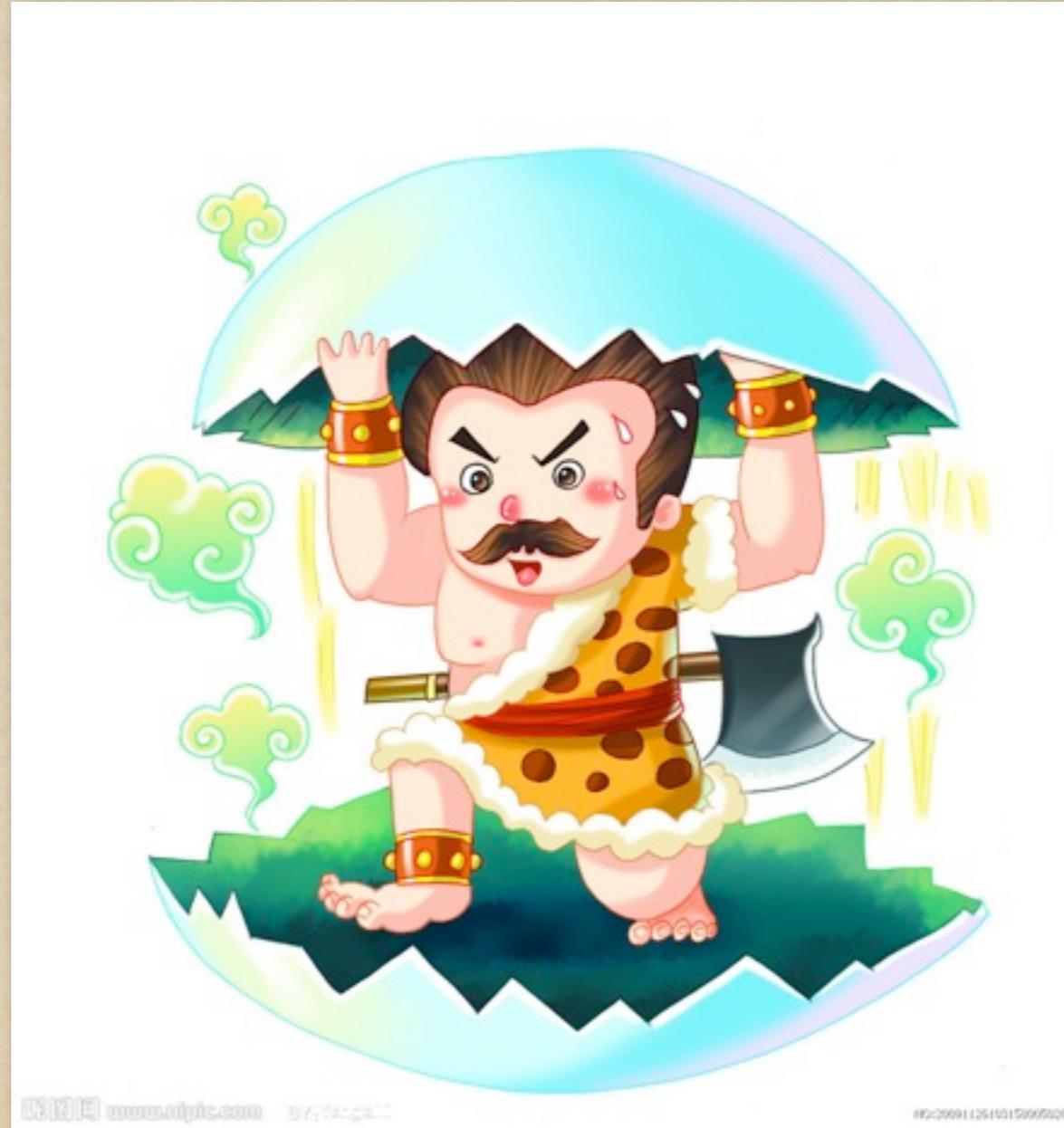
◆ Pan Gu



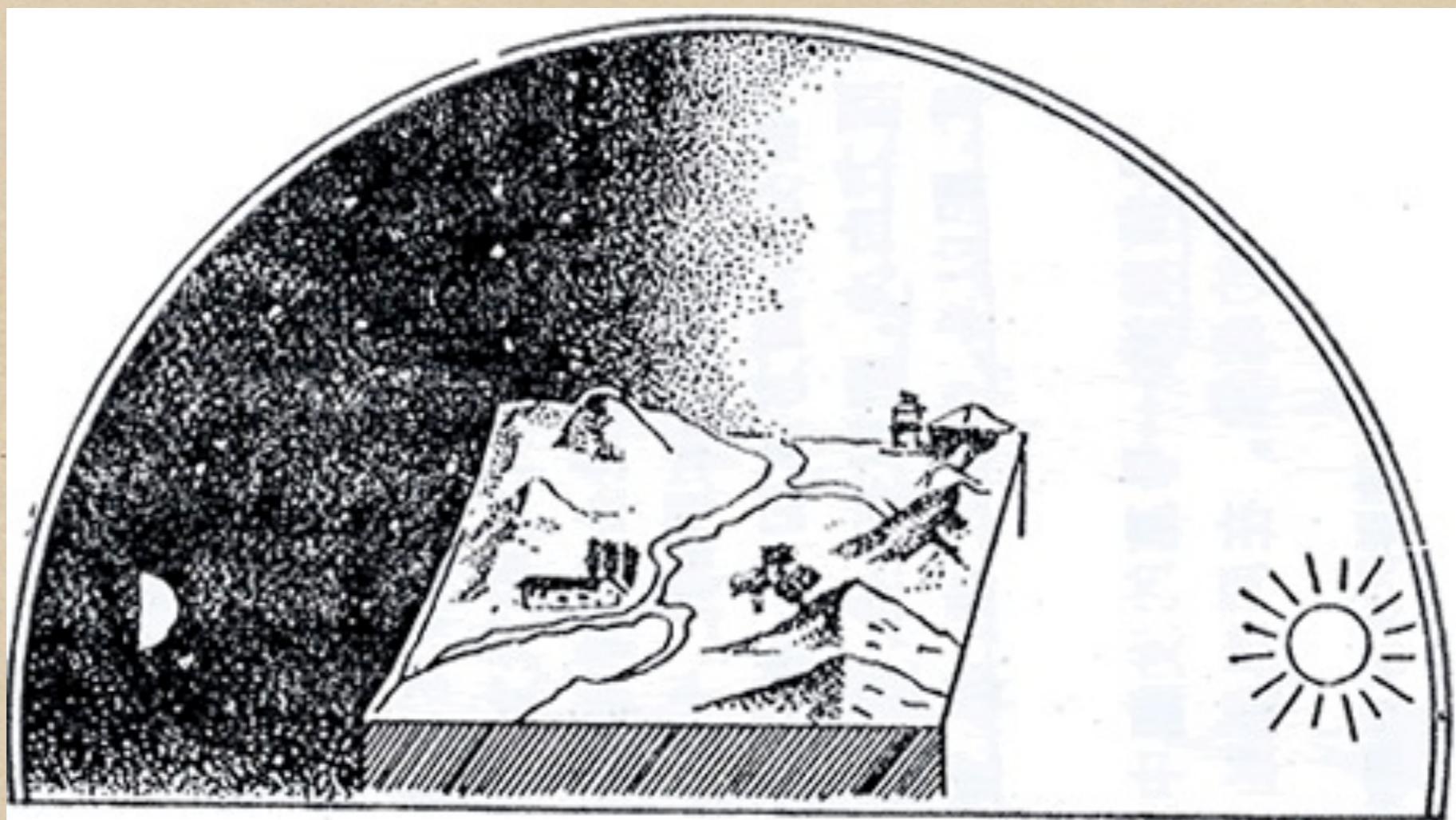
昵图网nipic.com/

The original of universe

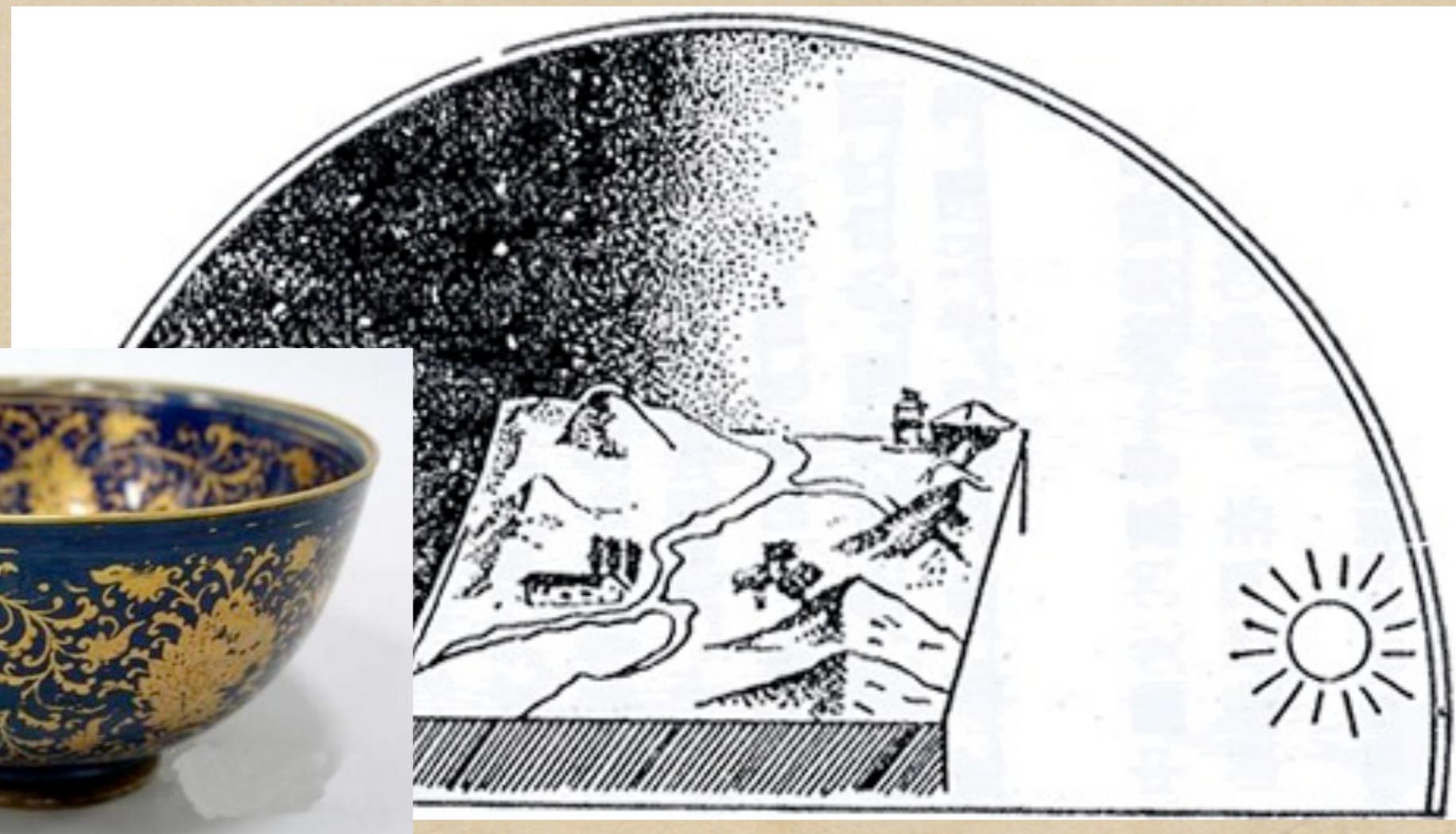
◆ Pan Gu



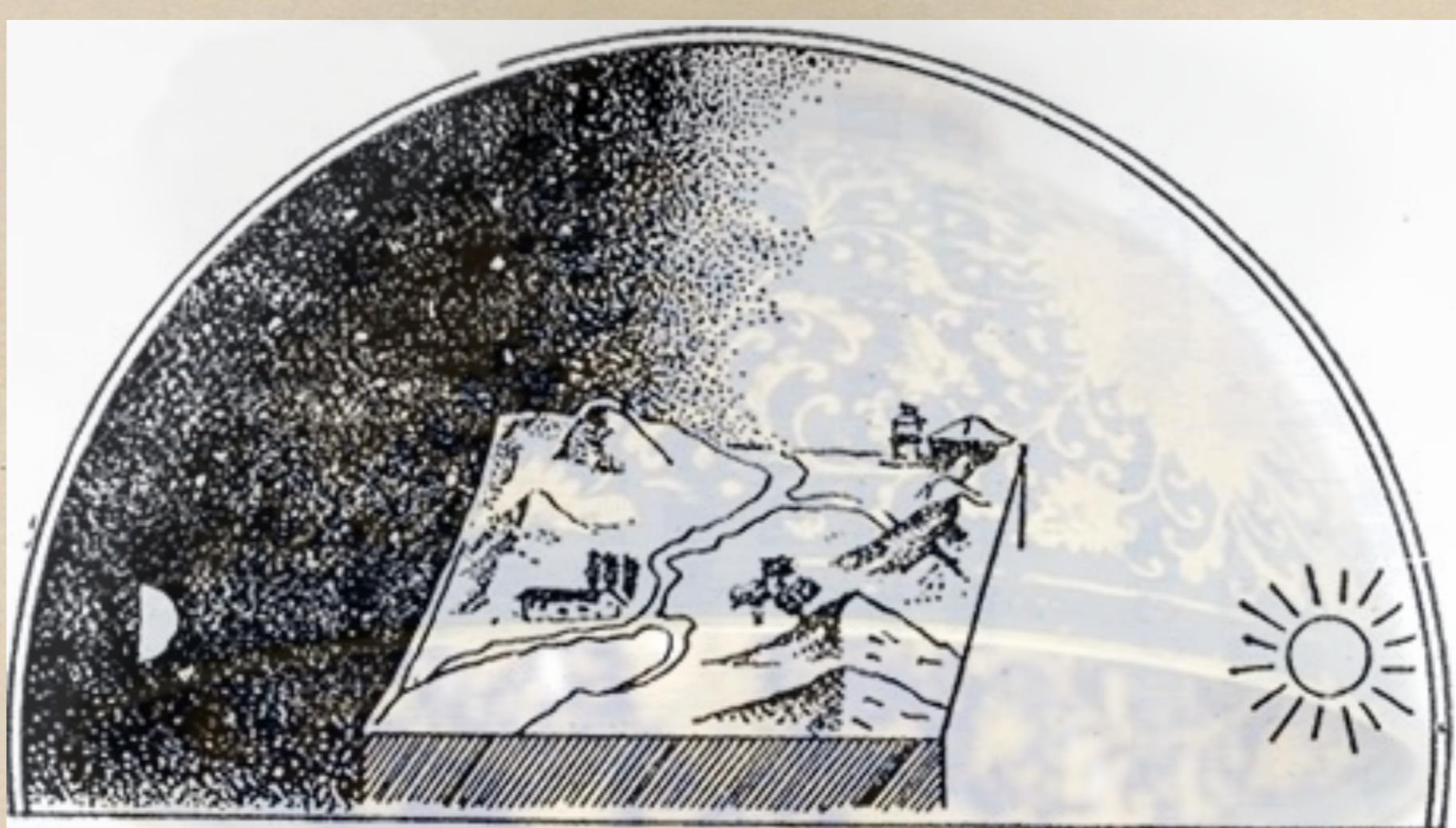
Understanding of universe



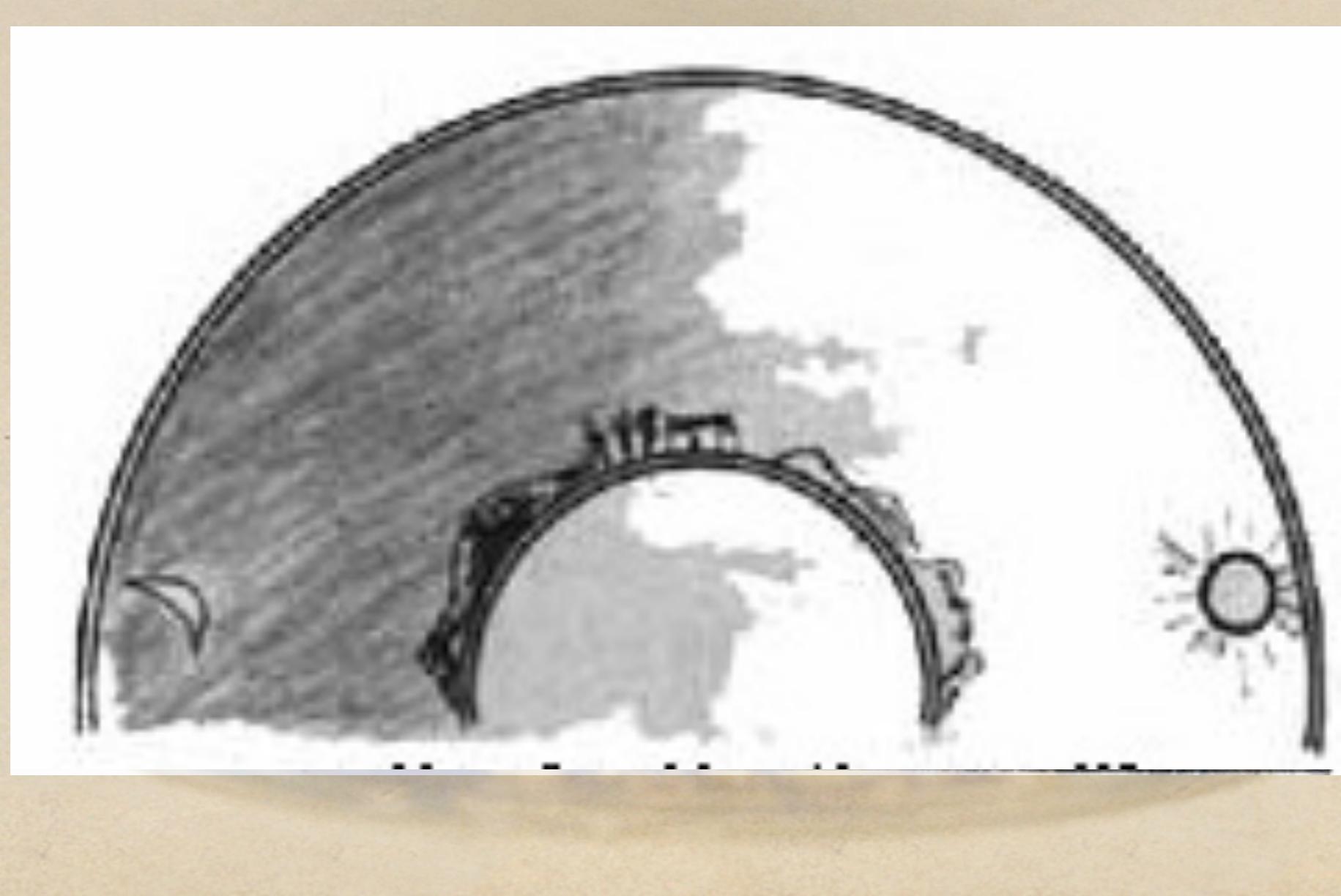
Understanding of universe



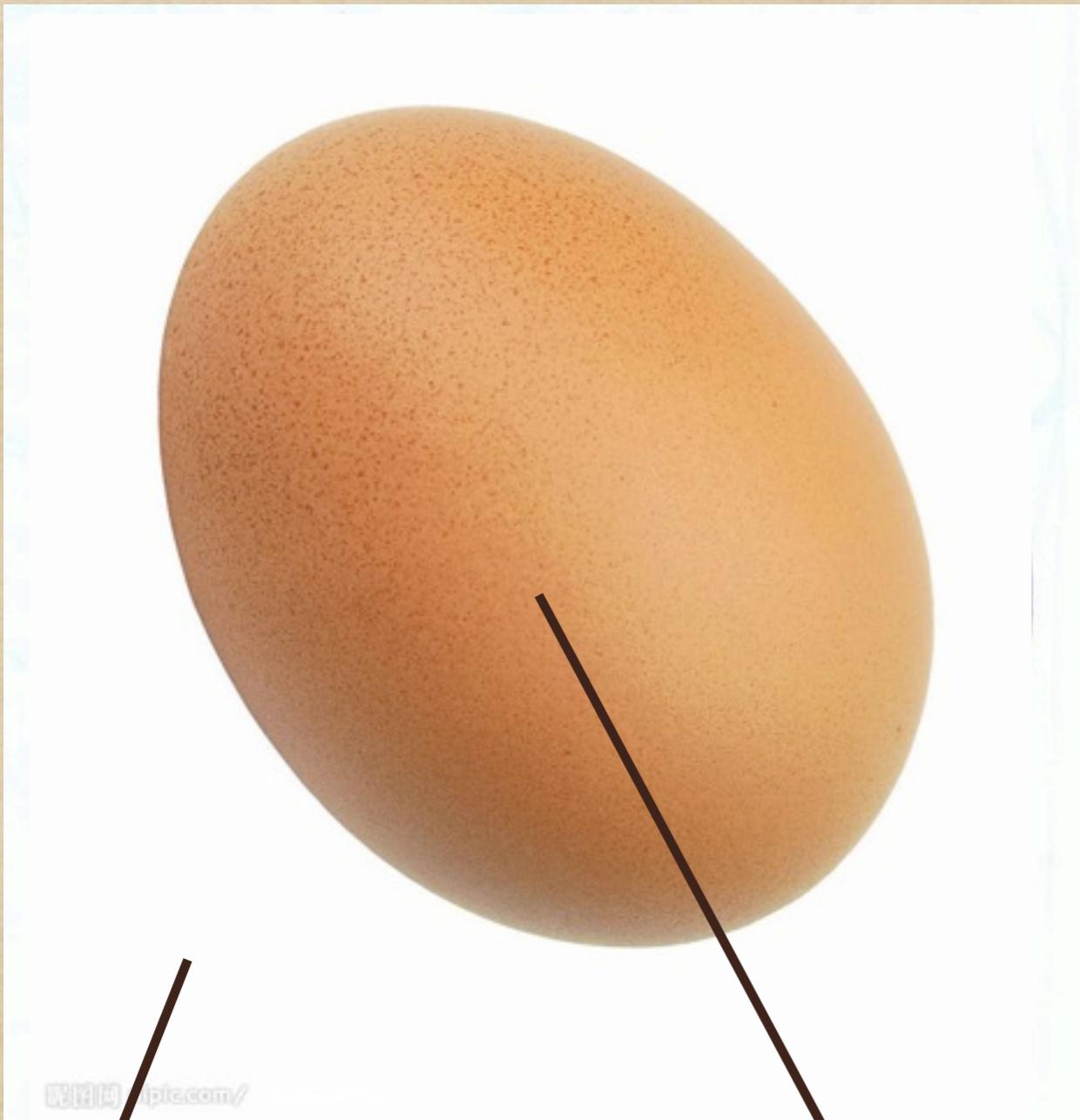
Understanding of universe



Understanding of universe



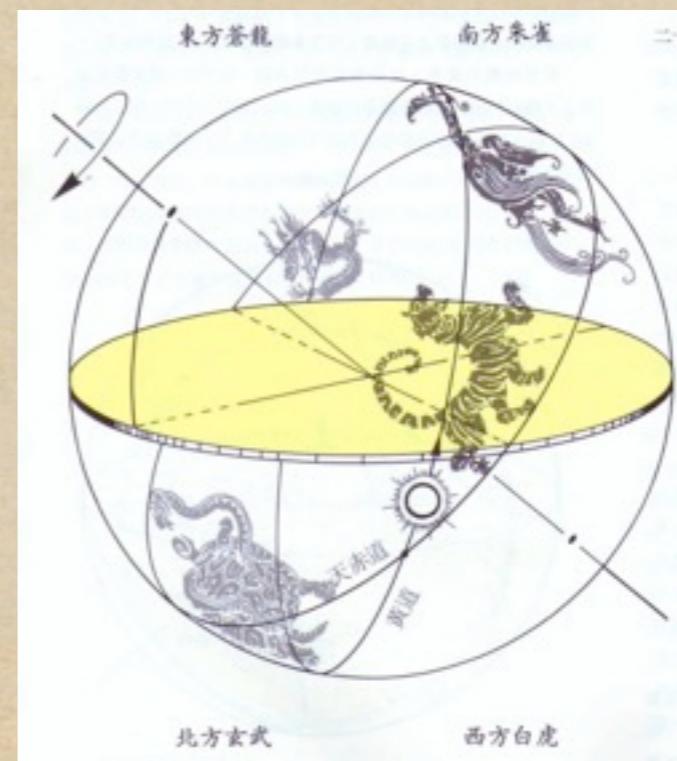
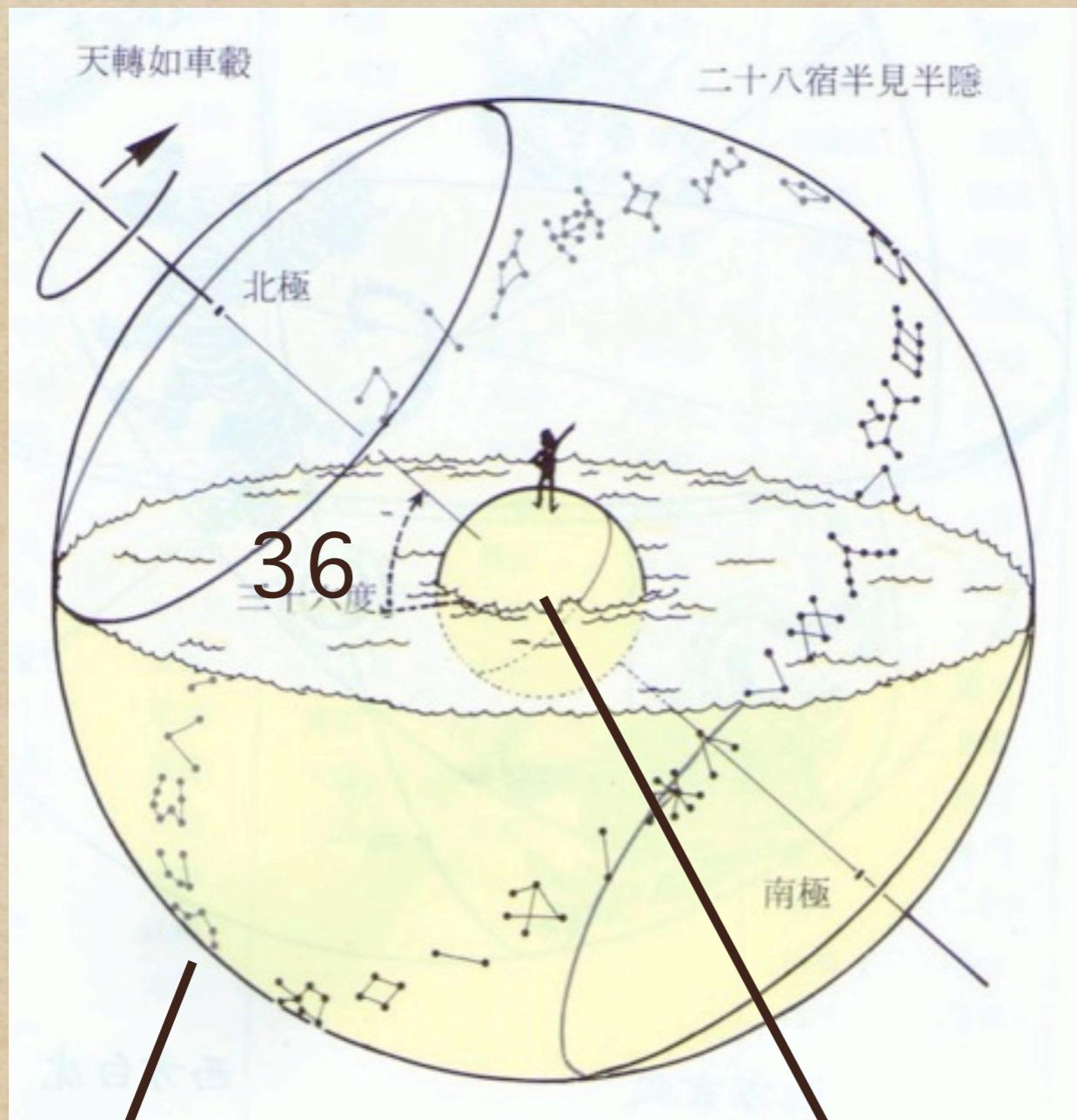
Understanding of universe



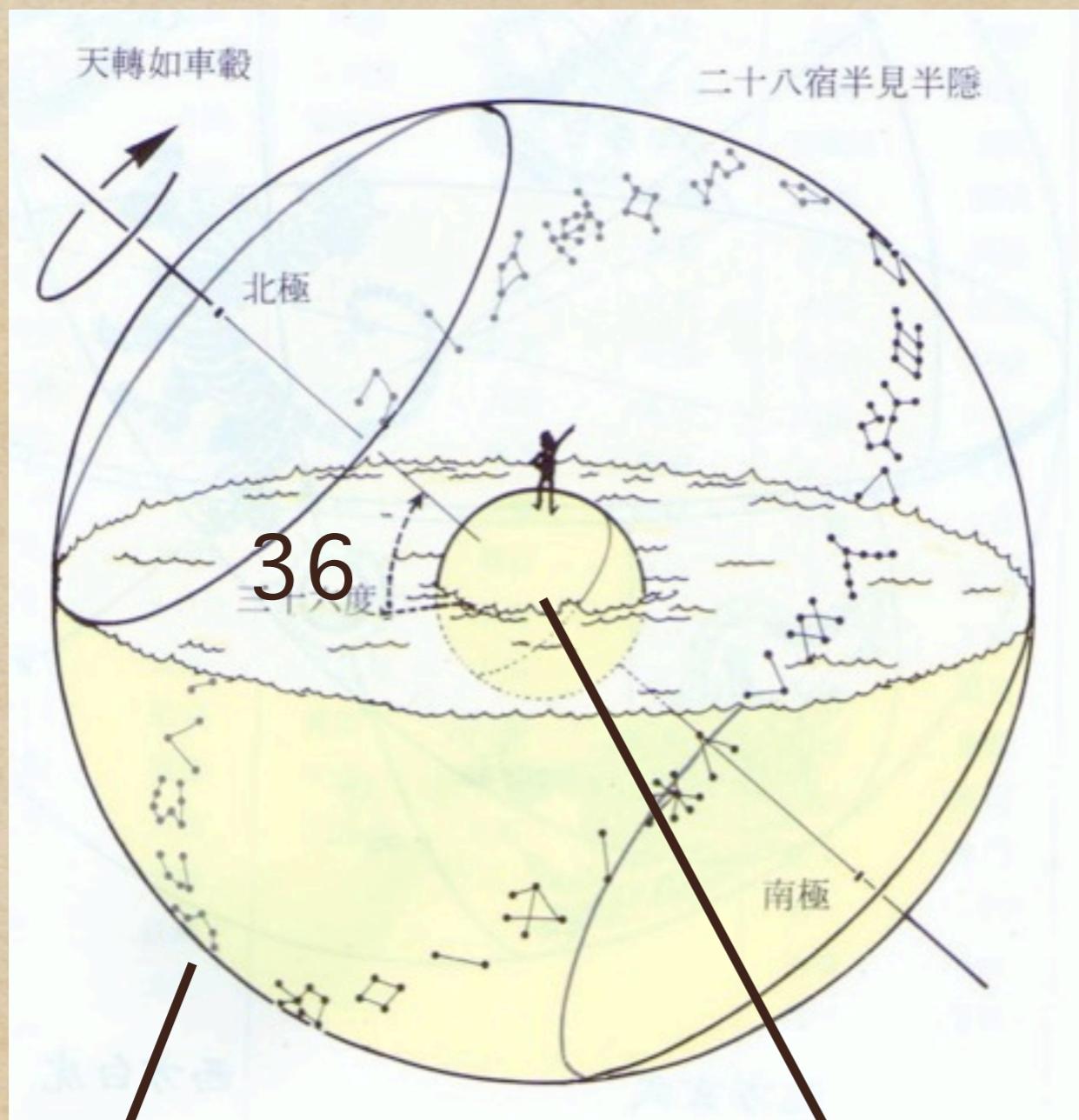
Egg shell

Egg yolk

Understanding of universe



Understanding of universe

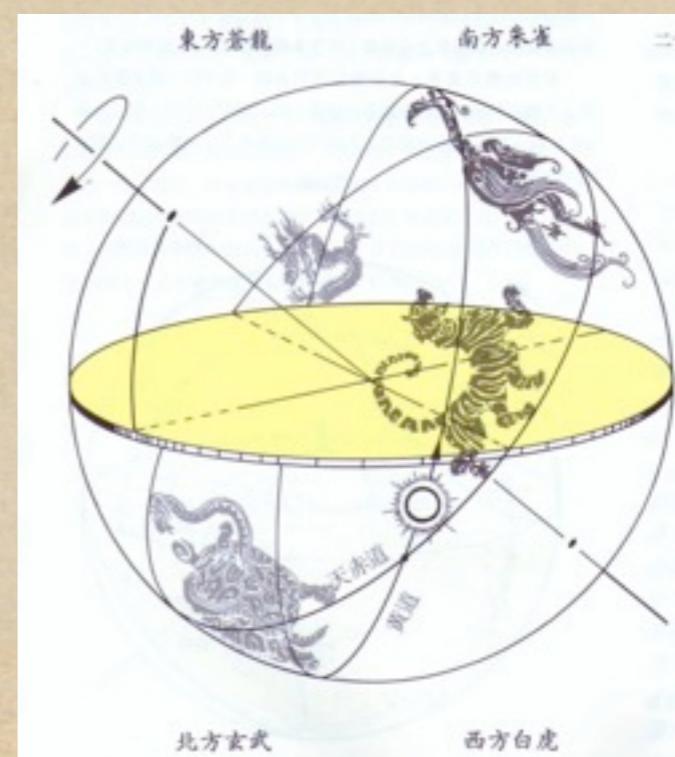


Egg shell

Egg yolk



Luoyang



北方玄武 西方白虎

東方蒼龍 南方朱雀

Understanding the phenomena

-Destiny of the dynasty and country

Destiny of the dynasty and country

◆ 五星聯珠 (Alignment of Five Planet)

Mercury, Venus, Mars, Jupiter, and Saturn.

=>Good King will appear

Or

=>the Dynasty will be change.

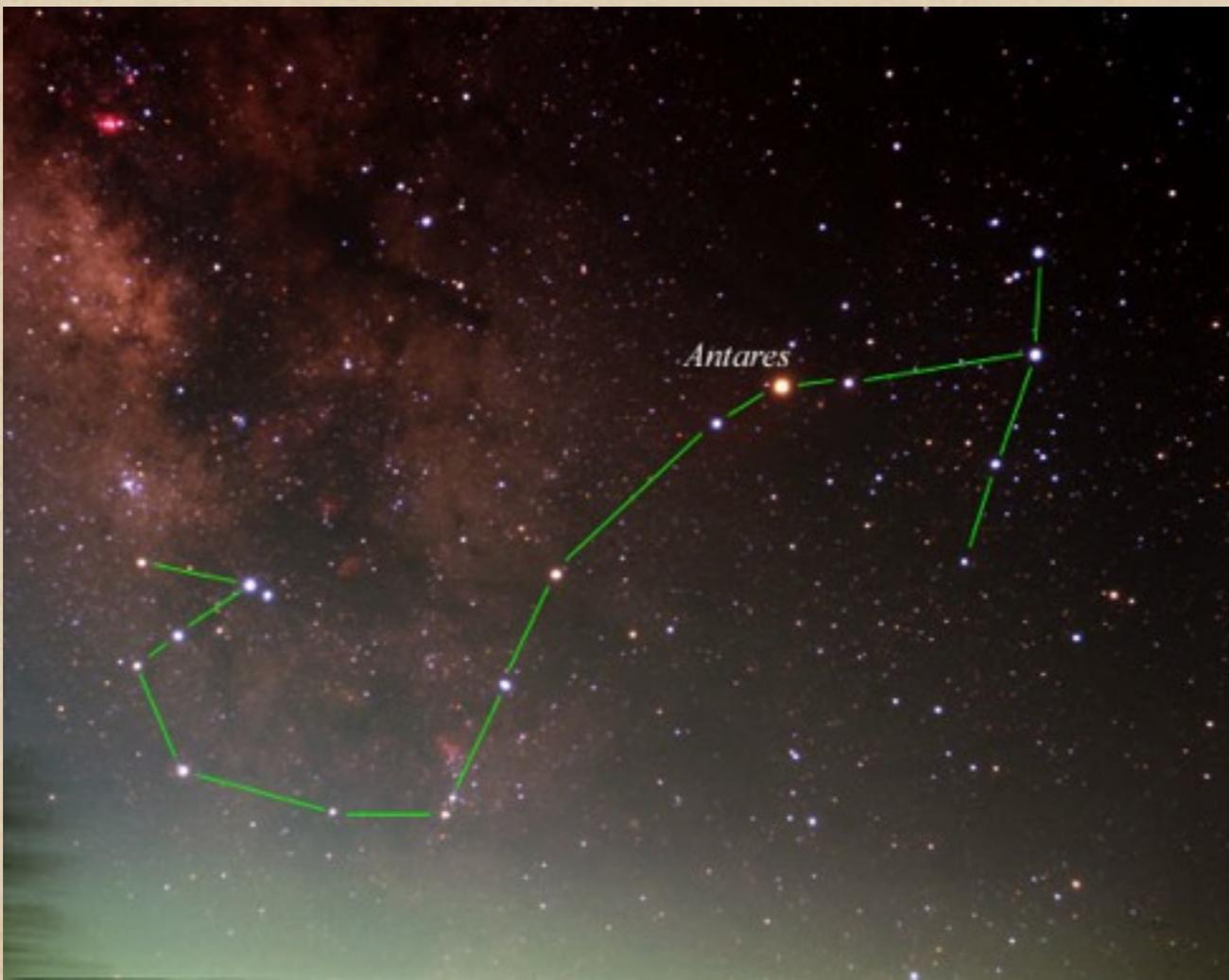
熒惑守心 (Mars Staying at Xīn)

=>warning for the dynasty.

Destiny of the dynasty and country

◆ 燐惑守心 (Mars Staying at Xín)

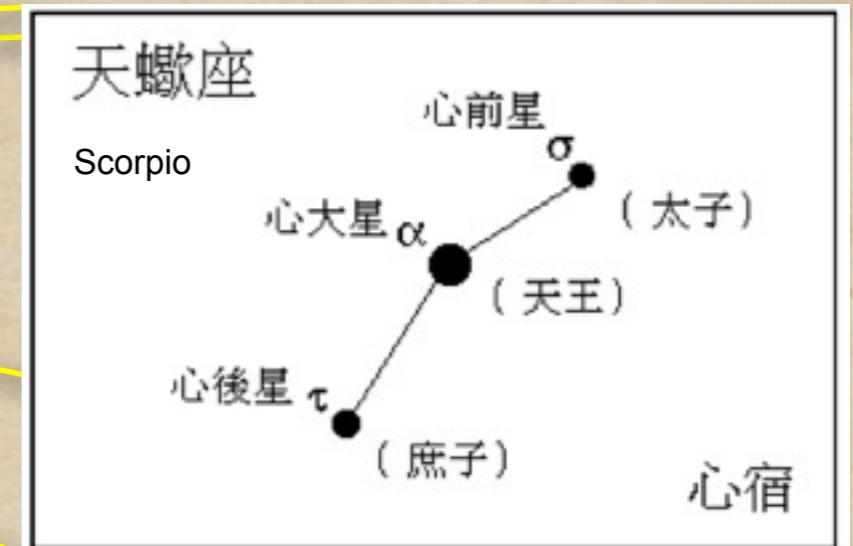
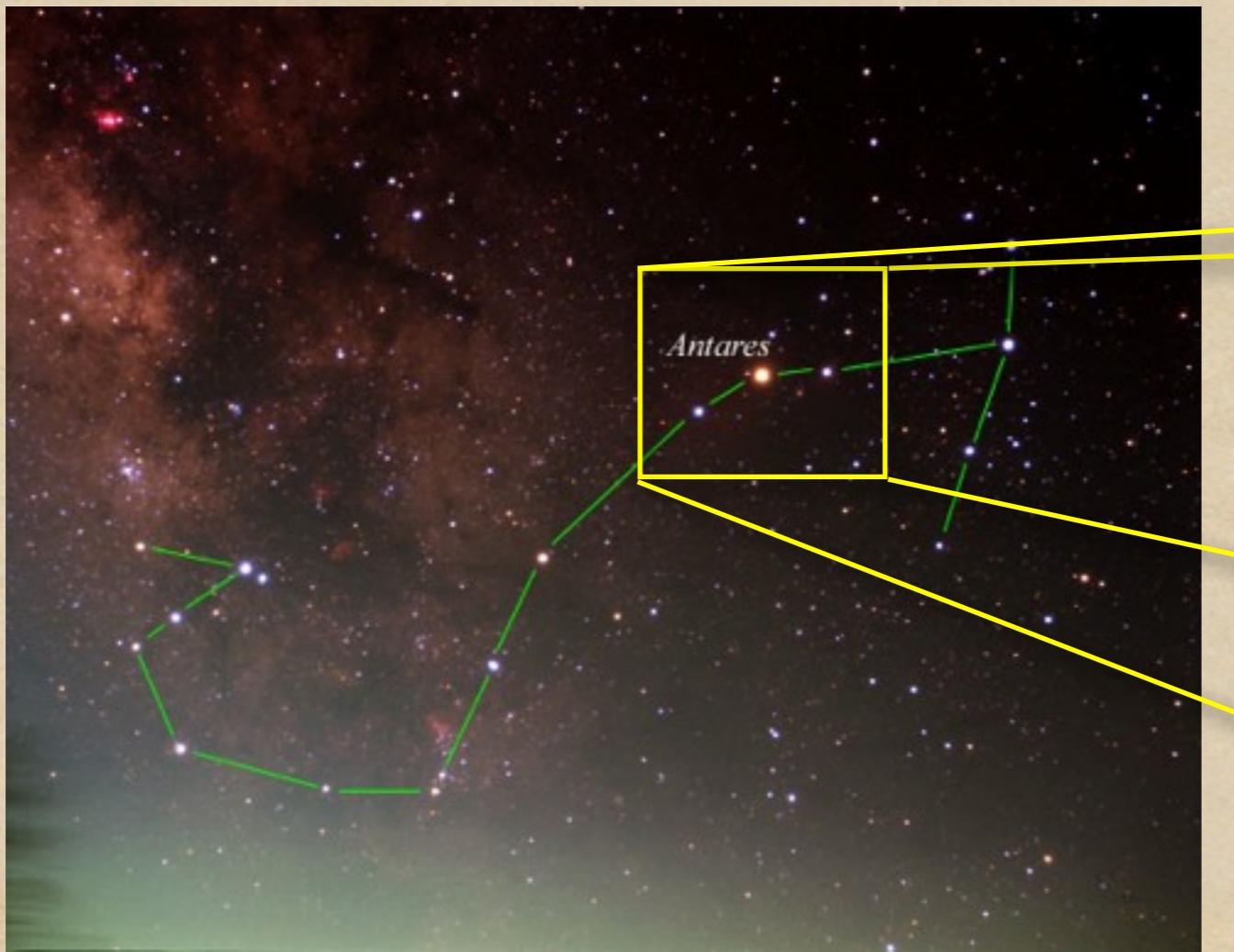
Scorpio



Destiny of the dynasty and country

◆ 燐惑守心 (Mars Staying at Xīn)

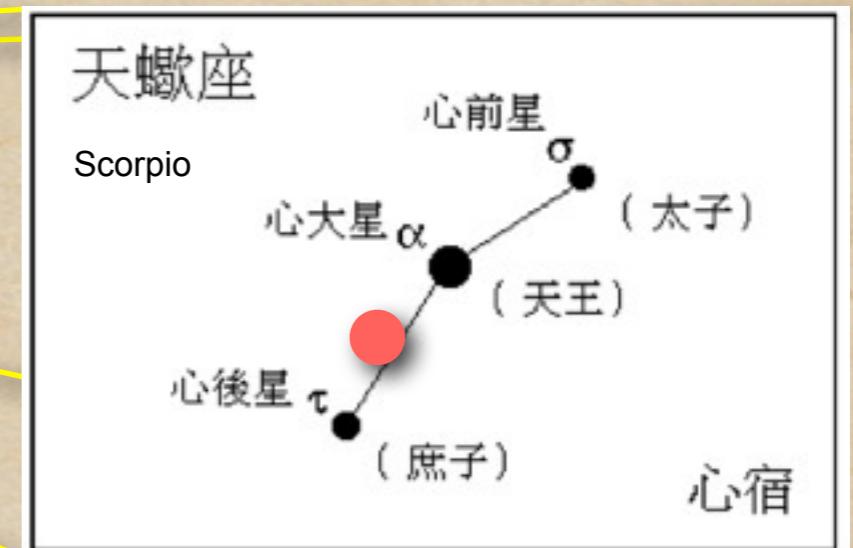
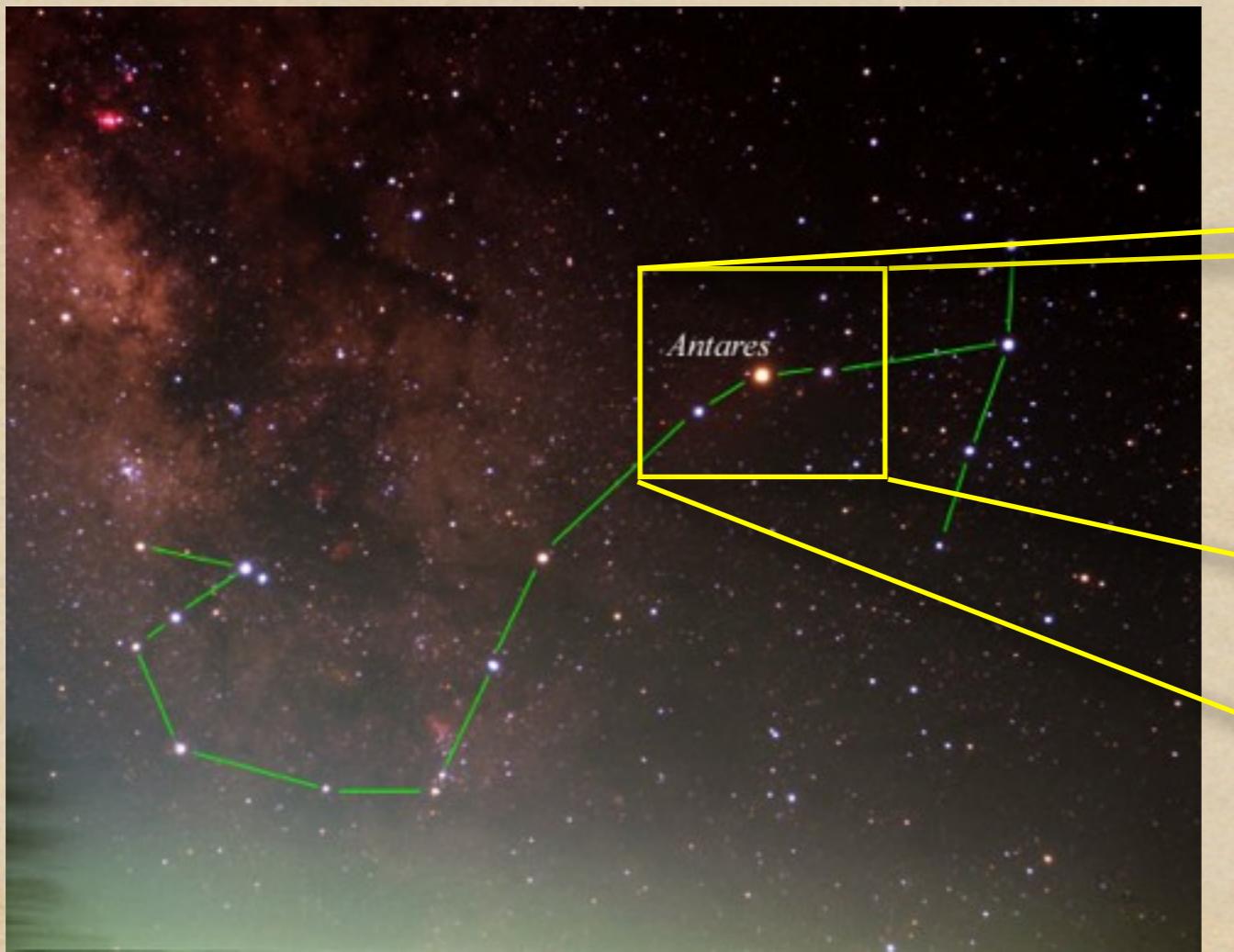
Scorpio



Destiny of the dynasty and country

◆ 燐惑守心 (Mars Staying at Xīn)

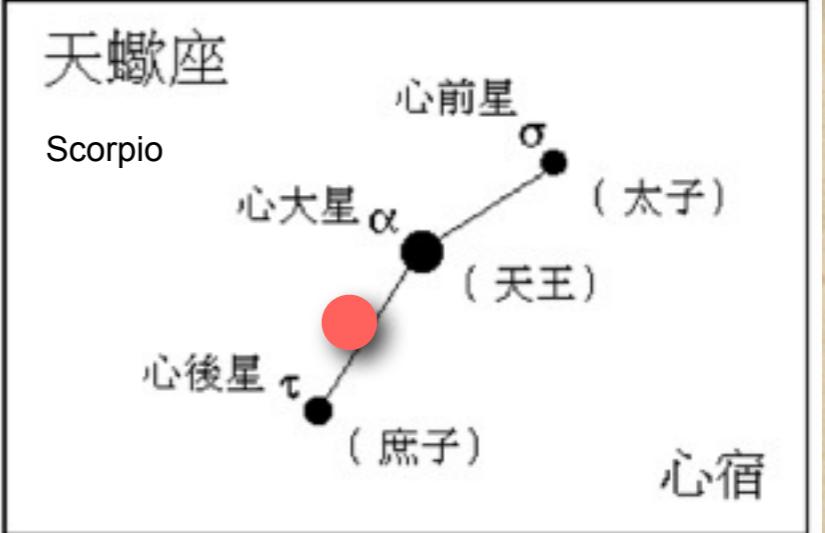
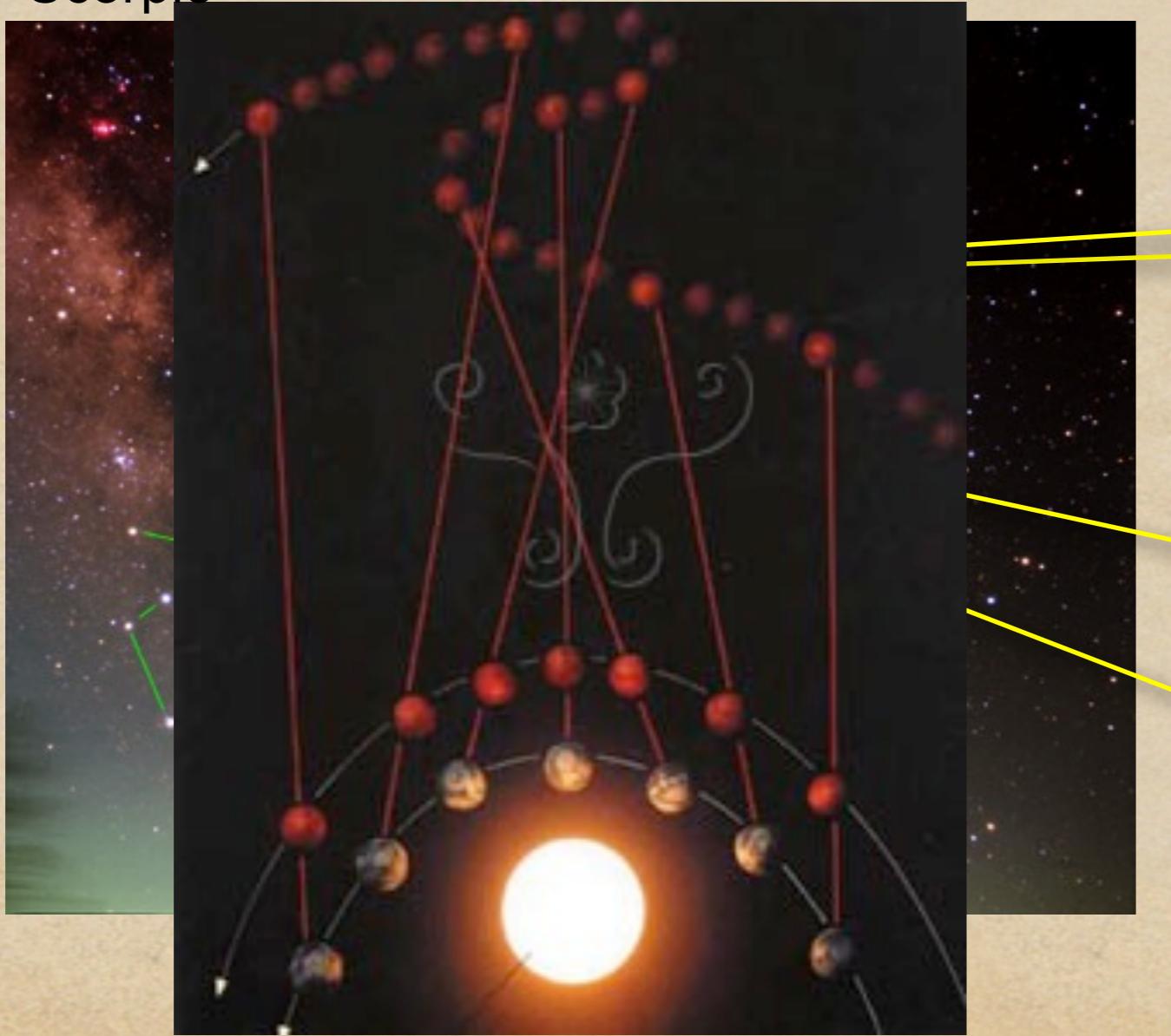
Scorpio



Destiny of the dynasty and country

◆ 燐惑守心 (Mars Staying at Xīn)

Scorpio



Use phenomena in the sky

What role the sky played in the cultures



Solar and lunar calendar ~400 BC

- ✿ The 24 Solar Terms

- example: Dragon Boat Festival



Dragon Boat Festival



Calamus



Realgar

drive insect away
Artemisias



Photo by Lemonsheep



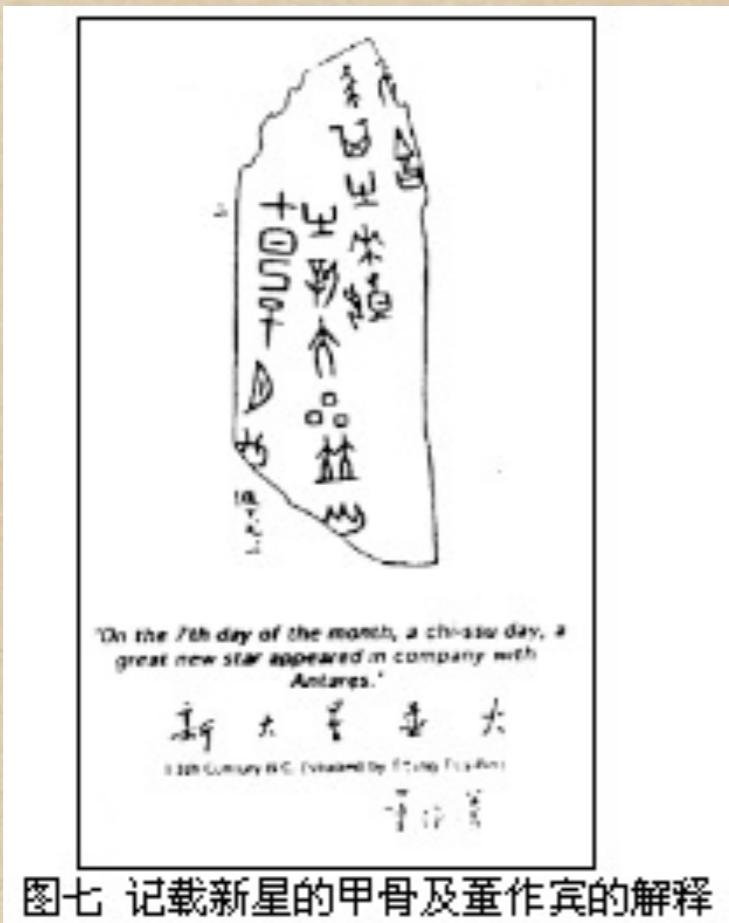
◆ 2011/6/6

drive disease away

http://en.wikipedia.org/wiki/Solar_term

Observations

Records



图七 记载新星的甲骨及董作宾的解释

Nova/supernova

404 BC



1P/Halley-613 BC

29 full records 214 BC-1910 AD

◆ Instruments

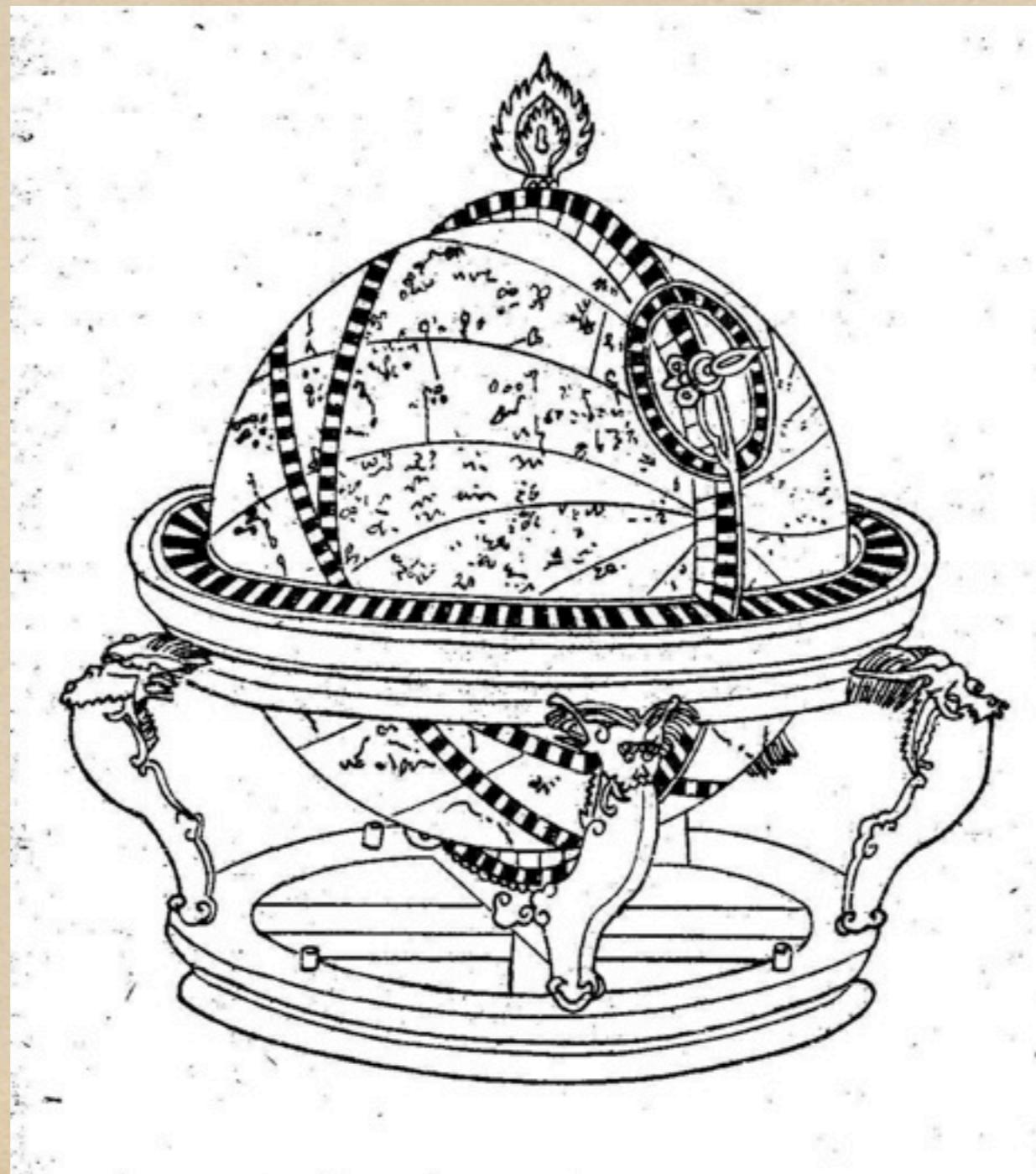
246 BC - 219 AD



Modeling & Prediction

◆ Instruments

960 - 1279 AD



◆ Instruments

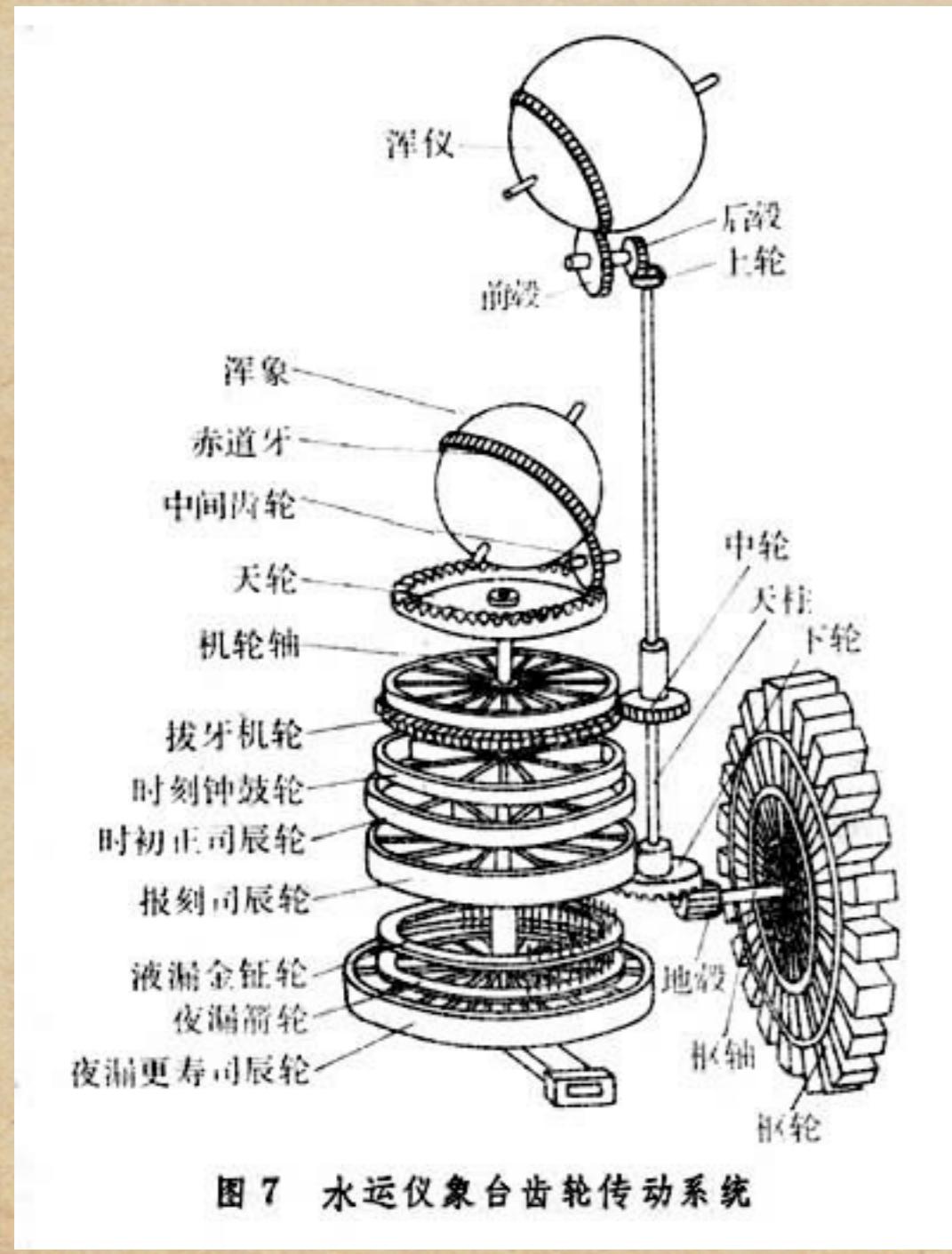
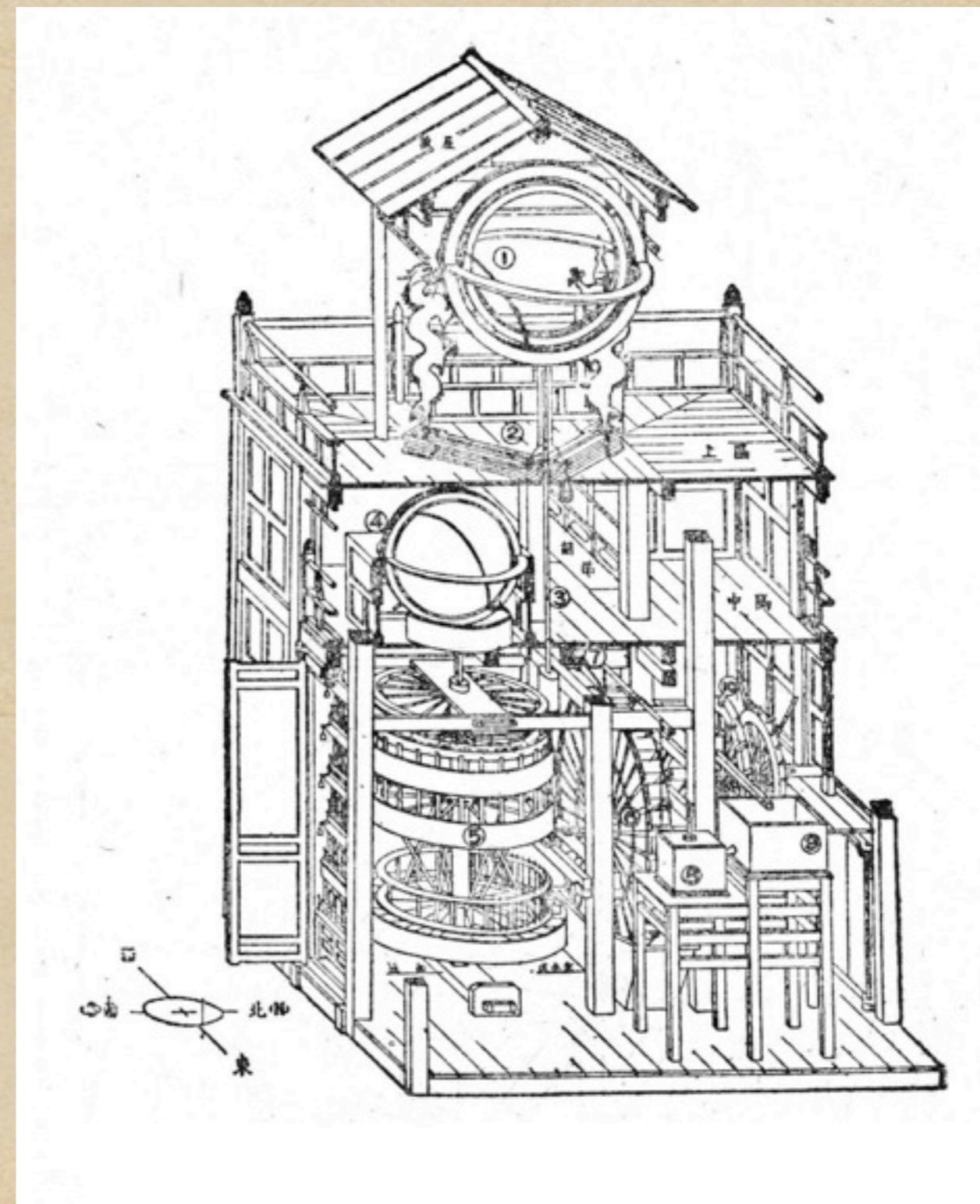


图7 水运仪象台齿轮传动系统



960 - 1279 AD

Summary

- ◆ How past people have understood the phenomena in the sky.
 - ▶ The understanding of the universe
 - ▶ Destiny of the dynasty and country
- ◆ How they used phenomena in the sky and what role the sky played in their cultures.
 - ▶ The 24 Solar Terms
 - ▶ Observations
 - ▶ Modeling & Prediction