

Lecture 8

Plato's Cosmology

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The *Timaeus*

- Plato's only book devoted primarily to scientific questions is *Timaeus*. In it, a character named Timaeus presents his account of the universe.
- This lecture will examine Timaeus's cosmology, i.e., theory of the cosmos or universe as a whole.
- Plato uses *Timaeus* to express his own views.

Explanation in terms of the good [28–29]

Timaeus says:

- The universe is perceptible and all perceptible things come to be. Hence the universe must have come into existence.
- Whatever comes into existence does so due to some cause (nothing can come from nothing). Hence something caused the universe to come to be.
- This creator was good and so made things as good as possible.
- Hence we can explain things by showing that they are good and therefore the creator would make them that way.

This is the kind of explanation Socrates wanted in the *Phaedo* but despaired of finding.

Can't have knowledge of the universe

- The universe is perceptible, so we can't have knowledge of it.
- *So we should accept the likely tale on these matters. It behooves us not to look for anything beyond this. [29d]*

The universe is a living being

Now it wasn't permitted (nor is it now) that one who is supremely good should do anything but what is best. Accordingly, the god reasoned and concluded that in the realm of things naturally visible no unintelligent thing could as a whole be better than anything which does possess intelligence as a whole, and he further concluded that it is impossible for anything to come to possess intelligence apart from soul. Guided by this reasoning he put intelligence in soul, and soul in body, and so he constructed the universe. He wanted to produce a piece of work that would be as excellent and supreme as its nature would allow. This, then, in keeping with our likely account, is how we must say divine providence brought our world into being as a truly living being, endowed with soul and intelligence. [30a]

The universe is spherical

Spherical shape best suits the nature of the universe

He gave it a shape appropriate to the kind of thing it was. The appropriate shape for the living being that is to contain within itself all the living beings would be the one which embraces within itself all the shapes there are. Hence he gave it a round shape, the form of a sphere, with its center equidistant from the extremes in all directions. [33b]

Why the sphere “embraces within itself all the shapes there are”:

- There are five regular polyhedra, also called Platonic solids.
See diagrams.
- Euclid Book 13 showed:
 - These are the only regular polyhedra.
 - Each can be inscribed in a sphere so its vertices all touch the sphere.

Spherical shape is most complete and like itself

This of all shapes is the most complete and like itself, which he gave to it because he believed that likeness is incalculably more excellent than unlikeness. [33b]

Why and how time was created

Time . . . came into being together with the universe so that just as they were begotten together, they might also be undone together, should there ever be an undoing of them. And it came into being after the model of that which is sempiternal [eternal] so that it might be as much like its model [the creator] as possible. For the model is something that has being for all eternity, while it, on the other hand, has been, is, and shall be for all time, forevermore. Such was the reason, then, such the god's design for the coming into being of time, that he brought into being the Sun, the Moon and five other stars, for the begetting of time. These are called "wanderers" [Gk. planeta], and they came into being to set limits to and stand guard over the numbers of time. [38b]

Motions of the planets

When the god had finished making a body for each of them, he placed them into the orbits traced by the period of the Different [ecliptic]—seven bodies in seven orbits. He set the Moon in the first circle, around the earth, and the Sun in the second, above it. The Dawnbearer [Venus] and the star said to be sacred to Hermes [Mercury] he set to run in circles that equal the Sun's in speed, though they received the power contrary to its power. As a result, the Sun, the star of Hermes and the Dawnbearer alike overtake and are overtaken by one another. And as for the other bodies, if I were to spell out where he situated them, and all his reasons for doing so, my account, already a digression, would make more work than its purpose calls for. [38c]

Role of observation

Timaeus gives no explanation for the details he mentions, such as:

- There are 7 planets.
- Mercury and Venus have the same period of orbit as the Sun.
- Mercury, Venus, and the Sun overtake and are overtaken by each other.
- The Moon is the planet closest to Earth and the Sun is the next closest.

The existence of time only requires that there be something orbiting. These details are included merely because they are observed.

- 1 Does Timaeus claim to know that the account of the heavens that he is giving is correct? Explain.
- 2 In the *Phaedo* Socrates said he wanted things to be explained by showing how it is best for them to be that way. Describe two explanations of this kind that are presented in the *Timaeus*.
- 3 Does Timaeus explain why each feature of the heavens that he mentions is for the best, or are there features that he mentions only because they are observed? Justify your answer.



Plato.

Timaeus.

Many editions.

Numbers in brackets are standard page numbers given in many editions. Translations given here are by Donald Zeyl.