

The Movements of Celestial Bodies in Plato's *Timaeus*

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Many interpreters have disputed Plato's method for the science of astronomy. The main cause for this controversy lies in Plato's explanation of astronomy in the *Republic* VII (528E-530C). From our modern point of view, astronomy is clearly the empirical science that studies celestial bodies as observable physical objects; Plato, however, seems to suggest quite the opposite view. In the passage at issue he incorporates astronomy into the mathematical disciplines that the future rulers should study, and moreover, assimilates the method of astronomy to that of geometry, such as the use of "problem." This analogical explanation of astronomy and geometry (529D-530C), and the comparison of the dialectical method with those of the mathematical sciences, including astronomy, (531D-535A) strongly suggest that Plato conceives of astronomy as a deductive science. Further, he also explicitly states, "we shall let the things in the heavens alone," which is sometimes interpreted as a blunt rejection of observation in astronomy.

Faced with this puzzling explanation, commentators are roughly divided into two interpretive groups. One takes Plato's account in a rather straightforward way, and interprets him as envisaging an "*a priori* astronomy" that expels observation completely. In contrast, the other group, putting less emphasis on Plato's negative attitude toward observational astronomy, attempts to assign some role to it in his thought. Gregory Vlastos, who belongs to the latter group, argues that Plato's astronomy in the *Republic* (and probably also in the *Timaeus*) not only emphasizes the deductive method as in geometry, but also admits the use of observational data when setting "problems" for deductions.

In this presentation, which basically adopts (or, at least, admits the possibility of) this line of interpretation of Vlastos for the *Republic*, I argue that the role of observation in astronomy is extended further in the *Timaeus*, where Plato's view of the movements of celestial bodies changes. In the *Republic*, he repeatedly emphasizes that the celestial bodies are imperfect and that their movements are irregular (529BC, 529D, 530AB). In the *Timaeus*, by contrast, there are many passages that suggest the regularity and uniformity of these movements (so I shall argue). As a result of this change in Plato's view of the celestial bodies, I propose that he extends the role of observation in astronomy from merely contributing to the setting of "problems" to judging if certain astronomical theories are tenable.