

# Phil. 401: Discussion Questions

January 24th, 2017

## 1 Galileo and the telescope

1. Using his telescopic observations, Galileo defends at least four different hypotheses:
  - (a) Jupiter has at least four moons revolving around it,
  - (b) Both the moon and Jupiter have atmospheres like the Earth,
  - (c) There are many more stars than are visible by the naked eye,
  - (d) Sunspots are cloud-like objects near the surface of the sun.

Explain why one who endorsed a roughly Aristotelian worldview might find each hypothesis untenable.

2. Prior to Galileo, one of the most popular theories hypothesized that sunspots were the shadows cast by Venus and Mercury. Why might such a theory appealed to an Aristotelian, and why do Galileo's observations make the theory less plausible?
3. What is Galileo attempting to illustrate when draws two circles on a wall, where one is 400 times larger than the other?
4. Aristotle claimed that the heavens were composed of aether, and therefore, the planets and stars behaved in ways that differed fundamentally from the ways objects on Earth behaved. An Aristotelian might argue, therefore, that Galileo's telescope could not reveal anything about the heavens because the optical theory used to justify its reliability failed to hold once one left Earth. The Aristotelian might further contend that the failure of some stars to get bigger when seen through the telescope provides further evidence that the heavens and Earth differ. Do your best to respond to Aristotle on Galileo's behalf.

## 2 Galileo and the Church

Review your answers to the following questions from last night's reading assignment.

1. According to Galileo, what properties does the Bible, if interpreted literally, attribute to God? Why does Galileo discuss whether the Bible ought to be interpreted literally or figuratively?
2. In your own words, explain one of Galileo's arguments that "nothing physical which sense-experience sets before our eyes, or which necessary demonstrations prove to us, ought to be called in question . . . upon the testimony of biblical passages."
3. In his letter to Paolo Foscarini, why does Cardinal Bellarmine claim that Foscarini and Galileo spoke "prudently" about heliocentrism?

**Debate:** I will divide you into two groups. One group will defend the claim that the passages of the Bible concerning the Earth's (lack of motion) ought to be interpreted literally. Your job is to debunk Galileo's arguments. The other group ought to anticipate criticisms of Galileo's arguments and think of how Galileo might respond.