

Astronomical Events During the Time of Epicurus (& Discussion on Letter to Pythocles Section 91)

Post by "Eikadistes" of May 28, 2021 at 11:42 AM

Interesting point, that "**the size it appears to be**" may not have meant: *that the Apparent Size or Apparent Magnitude of the star to an observer on Earth is equivalent to an objective measurement of that star's actual Size or total Luminosity*; and may have meant something more like: *that the non-Platonic, non-Aristotelian-influenced observations of pre-Socratics were **correct**; that the Sun is a massive object, in the same category of objects as stars, which are distant Suns, and that the Moon is something more closely related to the Earth, like the spheres we imagine accompany those distant Suns ... or something like that.*

I agree that the rhetorical function of his mentioning the sizes of the appearances of the Sun and the Moon was to refute the Platonic hypothesis that they were deities.

The prevalent interpretation *that Epicurus was arguing that the Apparent Size of the Sun is equivalent to an objective measurement of its actual Size* is really an Aristotelian idea: 'the Sun is (*duh*) obviously smaller than the Earth, and (*duh*) revolves *around* the Earth, because (*duh*) look up, *stupid*'. It would be uncharacteristic and inconsistent of Epicurus to support this, *especially* when he posits **the explicit existence of exoplanets**. That, and also, he *generally* supported the idea that these physical relationships are obvious to *all* seeing humans, and not simply learned mathematicians, so he wasn't submitting a mathematical figure (*big or small*) in the first place. The point is somewhat moot.

There's something else I thought that makes this criticism more meaningless:

*Suppose another solar narrative like our own, except, allow for the possibility that instead of G-type main-sequence star (our white-yellow Sun), "our Sun" is a neutron star only 20 km in diameter. It would appear to be **incredibly** small in the sky; it would actually be incredibly small, at that. **Unexpectedly** small (even to 21st-century cosmologists).*

In a parallel timeline, **that** society would not have **accurately** measured the diameter of their parent star until *their* 21st-century. However, both that society, and our own would have **functionally** measured the comparative size of the star since antiquity

Epicurus' observation is still true when taken to mean *that all of these objects are what they appear to be, compared to tall trees, massive monuments, and huge mountains: immeasurably massive and immeasurably distant on cosmic scales. Thus, they are "about the size they appear to be", or, in other words "immeasurably large".*

Whether one's planet's parent star is a G-type main-sequence 400x as massive as the Earth's Moon (and almost exactly 400x as distant), or whether it's a neutron star barely one-third of the

size of Rhode Island, the human ethical condition is unchanged. Furthermore, excessive speculation about these measurements *without the necessary scientific tools* will inevitably lead to superstition and mysticism, so are to be avoided.