Appendix 46

The Tychos – Our Geoaxial Binary System

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Galileo 'confirms' the Tychos model

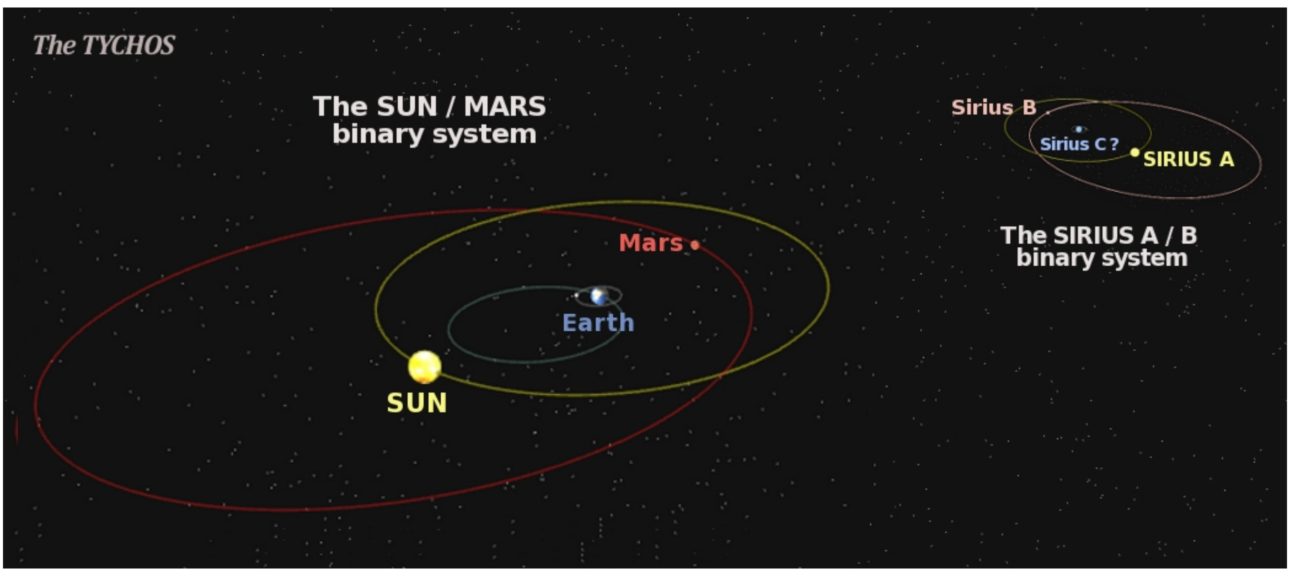
At the dawn of telescopic astronomy, the data supported the Tychonic world system.
- Christopher Graney

Christopher Graney is a contemporary astronomy historian who has authored a number of highly interesting writings concerning the Tychonic system. Graney is a Copernican 'apostle', yet in much of his work he appears to keep an open mind towards Tycho Brahe's world view and that of his various supporters, such as Simon Marius.

> *Simon Marius used the stars to support a Tychonic world system, arguing that the telescopic appearance of stars shows that they are not distant enough to satisfy the requirements of a Copernican world system […]. In 1720, astronomer Edmund Halley (1656-1742) still discussed the issue of whether telescopes revealed the physical bodies of stars. Thus, he criticized a fellow astronomer who measured Sirius to have a disk with a diameter of 5″ and took that to be the physical body of the star […]. At the dawn of telescopic astronomy, the data supported the Tychonic world system.*[2]

Indeed, at the dawn of the telescopic era, many eminent astronomers estimated the angular size of our largest stars to be about 5″ (arcseconds), i.e. roughly 380 times smaller than the Sun (for instance, using his telescope the great astronomer Cassini estimated Sirius, our largest star, to subtend 6″). In another paper, Graney broaches the remarkable accuracy of Galileo's telescopic observations and concludes that, had they been properly appraised in his time, Galileo's own efforts would have spelled an early collapse of heliocentrism! Here are a few extracts from that paper:

> *Galileo's skill as instrument-builder and observer was such that Galileo recorded observations with arc-second accuracy […]. Those measurements would mean that stellar parallax could and, given the knowledge of his time, did 'disprove' heliocentrism […]. Undated notes of Galileo's show that he observed Sirius and measured its diameter to be 5 and 18/60 arc-seconds*[3] *[…]. In short, Galileo's notes and writings indicate that he was able to make and record observations to a high level of accuracy.*[4]



Today, modern astronomers firmly contend that such large angular diameters of the stars (as reported by Galileo and his contemporaries) were erroneous and 'completely illusory' due to an optical phenomenon which would artificially enlarge in our telescopes the perceived angular diameter of the stars—and of the stars only, yet not of our planets! Consider that, if Galileo were alive today, modern astronomers would tell him that his best estimate of Sirius A's angular diameter was too large by a factor of nearly 1,000 (5.33″ *vs.* the currently reckoned 0.005936″). It truly challenges belief that stars would suffer from massive optical distortion/inflation to the tune of a thousand times their perceived telescopic size, whereas our planets would remain unaffected by the same phenomenon.

However, we shall now see that Galileo's empirical measurement of the largest star in our skies, Sirius A, is quite worthy of interest and appraisal in the context of the Tychos model. According to the Tychos, the distance between Earth and Sirius is 12.92 AU—and not 8.709 light years (LY) as claimed by 'official astronomy'—due to the Tychos reduction factor (TRF) 42,633. This factor should be applied to all currently 'established' star distances, as explained in my book.[5]

In the Tychos, 1 LY equals 1.4834 AU (1 LY divided by the TRF).

Officially, Sirius is believed to be 8.709 LY away. Hence, the actual distance to Sirius, in accordance with the Tychos model, is 8.709 LY x 1.4834 ≈ 12.92 AU. This is almost 13 times farther away than the Sun. In stark contrast, Copernican astronomers believe Sirius to be 62,341 times farther away than the Sun!

Next, let's use this well-known and widely accepted optical formula, found on Wikipedia:

> *An object of diameter 725.27 km at a distance of 1 astronomical unit (AU) will have an angular diameter of 1 arcsecond.*[6]

This means that, in the Tychos model (which has Sirius at 12.92 AU)—and if Galileo's best estimate of 5.33″ is correct—the true physical diameter of Sirius A can be reckoned to be:

725.27 x 5.33 x 12.92 = 49,976 km (or roughly 50,000 km)

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[1] https://cluesforum.info/viewtopic.php?f=34&t=1989&start=195#p2415658
[2] Christopher Graney: "Seeds of a Tychonic Revolution". http://cgraney.jctcfaculty.org/cmgresearch/PhysicsAstro/SeedsOfATychonicRev-Preprint.pdf
[3] In decimal form: 5.33″ periodic.
[4] Christopher Graney: "The Accuracy of Galileo's Observations and the Early Search for Stellar Parallax". https://arxiv.org/ftp/physics/papers/0612/0612086.pdf
[5] Simon Shack: "The Tychos – Our Geoaxial Binary System", 1st Ed., chapter 36. https://www.tychos.info/chapter-36/
[6] https://www.tychos.info/citation/_WIKIP-Feb-2017_Angular_diameter.pdf

The Sun's angular diameter being 1920″, Galileo's estimate of Sirius A's angular diameter (5.33″) would make it almost exactly 360 times smaller than the Sun, if the two bodies were located at the same distance from Earth (which, of course, they are not). In the Tychos model, Sirius is 12.92 times farther away from Earth than the Sun. Given that the Sun's diameter is 1,392.000 km, the true physical diameter of Sirius A can be reckoned to be:

1,392,000 / 360 x 12.92 = 49,957 km (or roughly 50,000 km)

Remarkable, isn't it? Galileo's most accurate observations of Sirius, the largest star in the sky, turn out to be highly consistent with the tenets of the Tychos model. It looks like Galileo was, after all, on to something, but failed to realize his observations actually supported the Tychonic world system rather than the Copernican one! To be sure, this is precisely the point that Christopher Graney makes in his above-cited papers. Today, Copernican astronomers will likely object that the telescopic star-size estimates made by Galileo (and his contemporaries) were grossly in error and were all invalidated, in one fell swoop, by the so-called 'Airy disk' diffraction phenomenon, according to which the stars—and the stars only—would be spuriously magnified in telescope lenses by up to 100,000%! I will stand by my opinion that this alleged optical phenomenon (affecting only the stars) is highly dubious and may well have been contrived in order to rescue the Copernican theory from its most abhorrent implication: namely, the utterly preposterous mega-distances to our visible stars.

A final thought which, however speculative, is worth mentioning:

I have often wondered why the Sirius binary pair (Sirius A and the tiny Sirus B) employ as many as 50.1 years to complete one revolution around each other (as viewed from Earth), whereas our Sun and Mars (which are proportionally identical to Sirius A and Sirius B) do so in only about 1.85 years (as viewed from Sirius).

Well, should the above-estimated diameter of Sirius A (approx. 50,000 km) be correct, we see that:

1. Our Sun's diameter is roughly 27 times larger[7] than that of Sirius A (1,392,000 km *vs.* 50,000 km).
2. The Sun/Mars binary pair complete one revolution roughly 27 times faster than the Sirius A/B binary pair (1.85 y *vs.* 50.1 y).

In light of this, one could conjecture that the orbital periods of binary stars might be 'governed' by their respective sizes. To wit, the Sirius A/B binary duo is not only proportionally identical to the Sun/Mars duo, but the two pairs also share the same 7/1 eccentricity ratio in relation to their common barycenters.[8] Hence, if the Sun is 27 times larger than Sirius A and completes a revolution around its companion (Mars) 27 times 'faster' than Sirius A revolves around Sirius B, this could indicate some sort of orbital velocity/star size correlation. As it is, our outer planets (from Jupiter to Pluto) appear to follow such a 'rule' since their orbital speeds gradually decrease with their respective sizes. However, this is by no means to say that this 'rule' would apply universally, given the vast variety of binary systems (of various sizes and separations) throughout the universe. For instance, the easily observed binary pair composed of the 'identical twin stars' Mizar A and Mizar B (both officially reckoned to be 2.4 times the size of our Sun) employ only 20.5 days to revolve around each other.

I leave this final speculation as a mere suggestion for future inquiry.

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[7] Interestingly, on the modern magnitude/brightness scale, Sirius 'scores' -1.46 whereas our Sun comes in at -26.74. On the other hand, astronomers have estimated the intrinsic luminosity of Sirius to be 25.4 times greater than that of the Sun. Note that both these optical values gauging Sun-vs-Sirius relationships are fairly close to 27.

[8] https://septclues.com/TYCHOS%20Appendix%20folder/App39_MORE%20SIMILARITIES%20BETWEEN%20OUR%20SOLAR%20SYSTEM%20AND%20THE%20SIRIUS%20SYSTEM.pdf