Appendix 1

The Tychos – Our Geoaxial Binary System

5 May 2018, 12:08 am[1]

How "negative stellar parallaxes" were swept under the rug

As expounded and illustrated in this post[2] of mine, there simply cannot be any "negative" parallax under the Copernican model's geometry: it would be a physical impossibility, since (if Earth were revolving around the Sun) all the visible stars would at all times be located "to our right", i.e. around the "outer side" of Earth's orbit. Conversely, the Tychos predicts that the observed stellar parallaxes should be distributed much like they are, in fact, listed in our modern star catalogues. That is: 25% positive, 25% negative and 50% zero (i.e. not showing any measurable parallax at all). It is important to understand that (as explained elsewhere)[3] in the Tychos model stellar parallaxes can indeed be either positive or negative, or zero, depending on whatever period/time window is chosen to perform any such measurements. In fact, the Tychos model would actually expect the stellar parallaxes to be distributed as they are, in the official catalogues. That is: 25% positive, 25% negative, and 50% zero (no measurable parallax at all).

In spite of "negative" parallax being exhibited by about one fourth of our stars, this whole topic seems to be, incredibly enough, practically absent (i.e. shunned/undebated) in modern astronomy literature. This is in stark contrast with older astronomy literature (of the 17th and up to the 20th century) where one can find numerous mentions and heated debates about the vexing question of negative stellar parallax. Below are a few extracts of old writings which I have come across in order to highlight this fact, and to substantiate my growing suspicion that some sort of "concerted effort" may ultimately have been deployed in order to, so to speak, "sweep the vexing question of negative stellar parallax under the rug".

Make no mistake: this is no petty issue, since the entire Copernican model's credibility was (and still is) at stake, pending on the true and verifiable empirical observations of annual stellar parallax. For a very long time, astronomers could not detect any stellar parallax at all (perhaps because Earth only moves along its PVP orbit at the "snail-pace" of 1 mph). It was only as late as 1838 that Friedrich Bessel announced the first-ever stellar parallax measurement:

> *"[Bessel] is credited with being the first to use parallax in calculating the distance to a star. Astronomers had believed for some time that parallax would provide the first accurate measurement of interstellar distances - in fact, in the 1830s there was a fierce competition between astronomers to be the first to measure a stellar parallax accurately. In 1838 Bessel won the race, announcing that 61 Cygni had a parallax of 0.314 arcseconds."*[4]

However, this is by no means the full story of Bessel's long-lasting, tireless efforts to detect stellar parallax. As few people will know (or remember), several years before (around 1815) his triumphant announcement of 1838, Bessel had reported a negative parallax for that very same star. Not only that, but he had also observed negative parallaxes for Cassiopeae and even for Polaris, our current North Star. Fortunately, this has been duly documented in a book[5] by astronomy historian Mari Elen Wyn Williams:

But Bessel was to be disappointed again: when he had finished the reduction of the position of 61 Cygni relative to the six different stars he was forced to the conclusion that its parallax was negative! The paper in which this result was announced took the form of a report only, with no explanation of why a negative answer might have been obtained. Bessel gave tables of observations, and results of the application of the method of least squares to these observations for each comparison in turn; he followed this with exactly the same information for μ Cassiopeiae which he had compared with θ Cassiopeiae. For this star also he had a negative, though numerically smaller result. In volume III of the Königsberg observations Bessel gave another set of observations, this time of the difference of right ascension between α and 61 Cygni from which he deduced an even larger negative result for the parallax of 61 Cygni (57).

A different account may be constructed from Bessel's private correspondence. In a letter to Olbers written at about the time that the first set of negative results for 61 Cygni was published, Bessel stated that

" The negative parallax which one [found] here and there and which [he had] in fact found for the Pole Star from Bradley's observations [was] of course the result of observational errors". (58)

Extract from: "ATTEMPTS TO MEASURE ANNUAL STELLAR PARALLAX - HOOKE TO BESSEL" by Mari Elen Wyn Williams (1981)

Now, before proceeding any further, I wish to make it very clear that the entire history of stellar motion measurements reads like an almost kafkaesque novel of utter and dire, tragicomical confusion. Since virtually all of the most acclaimed astronomers of yesteryear were firmly convinced of the heliocentric Copernican model, they simply had no chance to make any sense of their own different stellar observations and measurements. As they compared and cross-checked the data of their various observations of relatively nearby stars (all performed during different annual time periods), they couldn't even agree on the actual direction of any given star's proper motion (a star's "proper motion" simply refers to its own peculiar, independent motion/displacement in space in any given direction).

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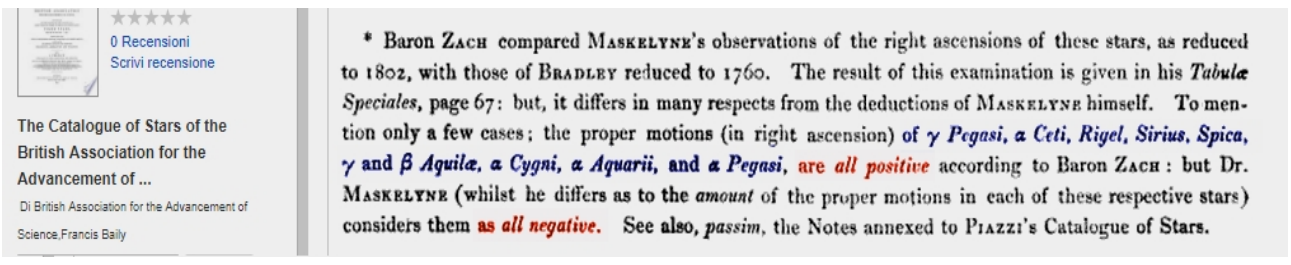
[1] https://cluesforum.info/viewtopic.php?p=2405802#p2405802
[2] http://cluesforum.info/viewtopic.php?p=2405631#p2405631
[3] http://cluesforum.info/viewtopic.php?p=2405772#p2405772
[4] https://en.wikipedia.org/wiki/Friedrich_Bessel
[5] http://septclues.com/TYCHOS/Williams-MEW-1981-PhD-Thesis.pdf

> *"For, in many cases, some of the greatest names have differed even as to the direction of the motion of particular stars: one making it positive whilst in the same star another considers it as negative."*[6]

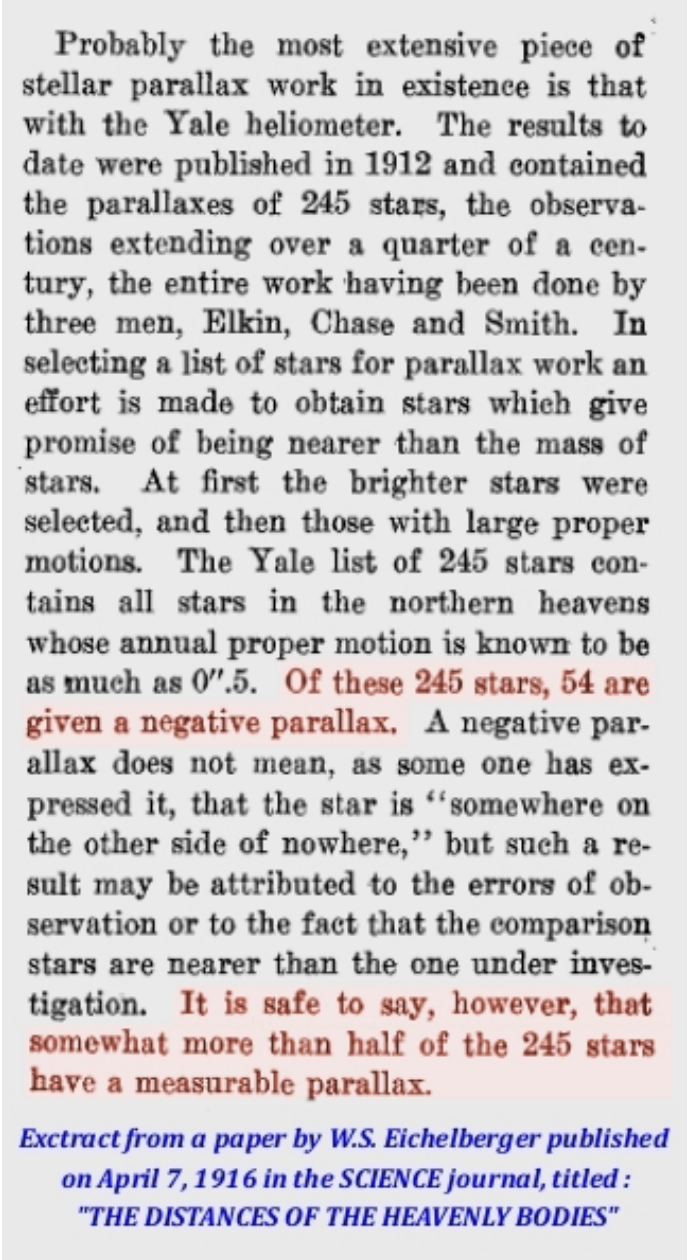
In that academic paper by Francis Baily, we can find this interesting footnote, as if it were some matter of minor relevance:



In other words, two of the greatest astronomers of the times totally disagreed about the motions of 10 well-known and important stars in our skies, one claiming they were moving in one direction, while the other claiming they were moving in the diametrically opposite direction. This was certainly no matter of minor relevance, yet such astounding and inexplicable inconsistencies were already back then relegated to mere footnotes. Understandably so, I might add, since they had no frigging clue as to why on Earth negative parallaxes were consistently being observed.

So the question becomes: if our world's most eminent astronomers cannot even agree on the directions of the stars' annual proper motions, what are we to make of the far smaller annual amounts of ("positive" or "negative") stellar parallax published in their star catalogues? More importantly still, has our scientific community ever explained the very existence of "negative" stellar parallax? The plain answer to this is "No".

But let us get on and take a look at some other historical, scientific papers concerned with annual stellar parallax. Here are two extracts from Eichelberger's "The Distances of the Heavenly Bodies" (1916):[7]



Probably the most extensive piece of stellar parallax work in existence is that with the Yale heliometer. The results to date were published in 1912 and contained the parallaxes of 245 stars, the observations extending over a quarter of a century, the entire work having been done by three men, Elkin, Chase and Smith. In selecting a list of stars for parallax work an effort is made to obtain stars which give promise of being nearer than the mass of stars. At first the brighter stars were selected, and then those with large proper motions. The Yale list of 245 stars contains all stars in the northern heavens whose annual proper motion is known to be as much as 0″.5. Of these 245 stars, 54 are given a negative parallax. A negative parallax does not mean, as some one has expressed it, that the star is "somewhere on the other side of nowhere," but such a result may be attributed to the errors of observation or to the fact that the comparison stars are nearer than the one under investigation. It is safe to say, however, that somewhat more than half of the 245 stars have a measurable parallax.

Exctract from a paper by W.S. Eichelberger published on April 7, 1916 in the SCIENCE journal, titled: "THE DISTANCES OF THE HEAVENLY BODIES"

So let's see: if only "somewhat more than half" of those 245 stars had a measurable parallax, this means that somewhat less than one half (shall we say about 120?) had unmeasurable (i.e. "zero") parallax. Of the other "more than half" (shall we say, 125?), as many as 54 had negative parallax. Well, this all seems to support the notion that the stellar parallaxes are roughly distributed in a 25% positive, 25% negative, and 50% zero fashion, just as predicted by the Tychos model.

Eichelberger then goes on to describe the Washburn observatory's effort at measuring stellar parallaxes (via an entirely different method):

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[6] Extract from "The Catalogue of Stars" of the British Association for the Advancement of Science, by astronomer Royal Francis Baily, 1850. Francis Baily was a major figure in the early history of the Royal Astronomical Society, as one of the founders and four times president.
https://books.google.it/books?id=A5tOAQAAMAAJ&lpg=PA50&ots=C8_SzWKkV6&dq=stars%20with%20negative%20proper%20motion%20list&hl=it&pg=PA49#v=onepage&q=negative&f=false

[7] https://archive.org/stream/jstor-1639343/1639343#page/n7/mode/2up/search/washburn

Another series of stellar parallax observations, comparable in extent with the one just mentioned, is that of Flint at the Washburn Observatory. This series includes 203 stars and extended from 1893 to 1905. These observations were made with a meridian circle, but not after the method of a century ago. The observations were strictly differential, the general plan being to select two faint comparison stars, one immediately preceding and the other immediately following the parallax star, and to determine the difference in right ascension, the observation of the three stars occupying about 5 minutes. Here as in the case of the Yale heliometer work a large proportion of the resulting parallaxes are negative; somewhat more than half, however, were found to have a measurable parallax. The average probable error of a parallax was the same in each of these two pieces of work, about 0″.03.

Exctract from a paper by W.S. Eichelberger published on April 7, 1916 in the SCIENCE journal, titled: "THE DISTANCES OF THE HEAVENLY BODIES"

Once again, "a large proportion" of the resulting parallaxes turned out negative, while "somewhat more than half" were found to have a measurable parallax. As it turns out though, the Washburn Observatory's official tables show that the amounts/proportions of observed positive and negative parallaxes in their sample group were practically equal (i.e. roughly "50/50", which of course would add up to 25%/25% if we consider that half the stars of the sample group showed no measurable parallax at all):[8]

TABLE XII. COUNT OF RESIDUALS COMPARED WITH THE ERROR CURVE.

Limits of Residuals	Absolute Parallaxes			Residual Parallaxes			Error Curve
	Number of Residuals Positive	Negative	Total	Number Positive	Negative	Total	Total
0″.000 to 0″.050	40	32	72	33	43	76	83
0.050 to 0.100	10	21	31	18	15	33	28
0.100 to 0.150	8	3	11	2	3	5	3
Total	58	56	114	53	61	114	114

Table from a paper published in the Astronomical Journal on January 1912, titled: "RESULTS FOR STELLAR PARALLAX FROM MERIDIAN TRANSITS AT THE WASHBURN OBSERVATORY" - by Albert S. Flint

ESA's "Hipparcos" data

The Hipparcos satellite as depicted on NASA's website, and a "real photo" of the same on Wikipedia.[9]

In more recent times, a number of independent researchers have profoundly questioned the catalogues of stellar parallax data released by ESA (the European Space Agency) allegedly collected with a 29 cm telescope mounted on a satellite (the "Hipparcos") circling the Earth at hypersonic speeds, around an eccentric orbit ranging from 500 km (perigee) to 36,000 km (apogee) altitude. We mere mortals can only wonder how that's supposed to work, but the more fundamental question is: since stellar parallaxes are, by definition, microscopic perspective shifts between closer and more distant stars as viewed from Earth, what purpose would it serve to collect such data from a machine hurtling at hypersonic speeds around some eccentric/elliptical orbit around our planet? Only ESA knows, I guess. Incredibly enough, the Hipparcos was deemed a "roaring success", what with their claimed accuracy of stellar parallax data of 0.001 arcseconds!

> *"Observationally, the objective was to provide the positions, parallaxes, and annual proper motions for some 100,000 stars with an unprecedented accuracy of 0.002 arcseconds, a target in practice eventually surpassed by a factor of two."*[10]

Anyhow, whether you can buy those ESA claims or not, the most interesting fact is that ESA's largest stellar parallax catalogue (named, funnily enough, the "TYCHO catalogue") which contains the parallax data for more than 2 million stars, contains about 1 million negative parallaxes. This was noticed several years ago by a distinguished Italian astronomer, Vittorio Goretti[11] who passed away

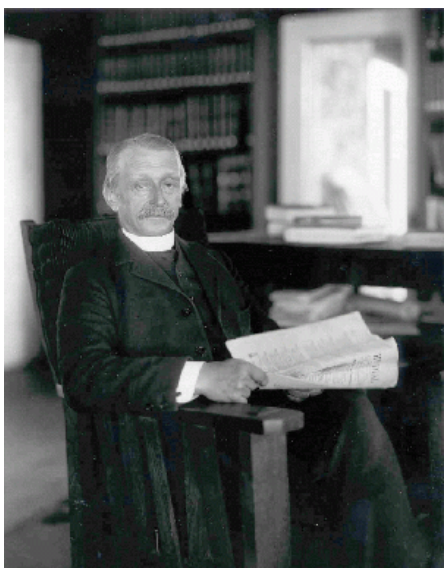
[8] http://adsabs.harvard.edu/full/1912AJ.....27...49F
[9] https://science.nasa.gov/missions/hipparcos
[10] https://en.wikipedia.org/wiki/Hipparcos
[11] https://it.wikipedia.org/wiki/Vittorio_Goretti

in 2016 (Unfortunately, I only came by his work in 2017). In the last years of his life, Goretti vigorously demanded clarifications from ESA regarding this monstrous absurdity, yet (as so often is the case with folks questioning ESA and NASA) his demands were stubbornly met with total silence. Apart from the negative parallaxes, Goretti also had some very serious questions concerning the blatant nitpicking (by ESA) of the stars and stellar parallax data chosen for publication in their far smaller Hipparcos "show-case" catalogue (containing only about 118,000 stars) which they claimed was "more accurate than the larger TYCHO catalogue".

For English readers, I have selected this page of Vittorio Goretti's website. A must read.[12]

"Kapteyn's universe" - and its subsequent "destruction"

We shall now see how Jacobus Cornelius Kapteyn (probably the most eminent authority in matters of stellar motions of the 20th century) interpreted the "vexing" issue of negative parallax. From the Encyclopaedia Britannica: "Jacobus Cornelius Kapteyn (born 19 Jan 1851, in Barneveld, Netherlands, dead 18 June 1922, in Amsterdam), Dutch astronomer who used photography and statistical methods in determining the motions and distribution of stars."[13]



Kapteyn's failure to harmonize observation with theory reaffirmed the anomalous nature of stellar motions, and led him to discover in 1902 that there were two star streams. Finding that the stars tend to move in two distinct and diametrically opposite directions, Kapteyn suggested that this phenomenon resulted from two once distinct but now intermingled populations of stars moving relative to one another.

Extract from "History of Astronomy : An Encyclopedia" - by John Lankford (p.496)

From: "History of Astronomy - an Encyclopaedia", by John Lankford.[14]

That's right: Kapteyn found that the stars tend to move in two distinct and diametrically opposite directions. He called this phenomenon "star-streaming".

Within a short time after publishing his velocity theory in 1900, Kapteyn rejected his theory and by 1902 had disovered star-streaming. Finding that the stars tended to move in two distinct and diametrically opposite directions, Kapteyn suggested that this phenomenon resulted from two once distinct but now intermingled populations of stars moving relative to one another.

Kapteyn first announced his new theory of stellar motions before the St. Louis World Exhibition in 1904, and again more importantly before the 1905 meeting of the British Association for the Advancement of Science. In both cases Kapteyn argued that without exception all the stars belong to one of the two streams. The over-riding consideration, in Kapteyn's opinion, was not a reevaluation of the reality of the phenomenon, but the necessity to confirm the theory, that is, that there exist two independent streams of stars passing through one another in opposite directions with different mean motions relative to the sun.

Extract from "Kapteyn and Statistical Astronomy" - by E.R. Paul (1985)

From: "Kapteyn and Statistical Astronomy", by Erich Robert Paul.[15]

It appears that his theory was promptly mocked by the "upper" scientific establishment who somewhat sarcastically called it "Kapteyn's Universe". Now, please understand that I'm not taking sides with Kapteyn's "star-streaming" theory (since my Tychos model has a much simpler explanation for the co-existence of positive, negative and "null" stellar parallaxes). What I now wish to share with you, dear reader, is the story of how "Kapteyn's Universe" was ultimately destroyed by a most dubious personnage by the name of Harlow Shapley.

Here's some background for the Harlow Shapley character, as published on Wikipedia:

> *Harlow Shapley (2 Nov 1885 to 20 Oct 1972) was a 20th-century American scientist, head of the Harvard College Observatory (1921-1952), and political activist during the latter New Deal and Fair Deal.*
>
> *He used RR Lyrae stars to correctly estimate the size of the Milky Way Galaxy and the Sun's position within it by using parallax.*
> *(...)*
> *Shapley was born on a farm in Nashville, Missouri, to Willis and Sarah (née Stowell) Shapley, and dropped out of school with only the equivalent of a fifth-grade education. After studying at home and covering crime stories as a newspaper reporter, Shapley returned to complete a six-year high school program in only two years, graduating as class valedictorian.*
>
> *In 1907, Shapley went to study journalism at the University of Missouri. When he learned that the opening of the School of Journalism had been postponed for a year, he decided to study the first subject he came across in the course directory. Rejecting Archaeology, which Shapley later explained he couldn't pronounce, he chose the next subject, Astronomy."*[16]

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[12] http://www.vittoriogoretti-observatory610.org/2nd-research-2010-2012-pub-jan-2013/
[13] https://www.britannica.com/biography/Jacobus-Cornelius-Kapteyn#ref157200
[14] https://books.google.it/books?id=Xev7zOrwLHgC&lpg=PA495&ots=pV0T5dZISg&dq=The%20Historical%20Search%20for%20Stellar%20Parallax%20fernie&hl=it&pg=PA496#v=onepage&q=streaming&f=false
[15] http://adsbit.harvard.edu/cgi-bin/nph-iarticle_query?bibcode=1985IAUS..106...25P&db_key=AST&page_ind=6&data_type=GIF&type=SCREEN_VIEW&classic=YES
[16] https://en.wikipedia.org/wiki/Harlow_Shapley

Here we have Harlow Shapley (far right) visiting the White House in 1944:

Caption: “Members of the Independent Voters Committee of the Arts and Sciences for Roosevelt visit FDR at the White House (October 1944). From left: Van Wyck Brooks, Hannah Dorner, Jo Davidson, Jan Kiepura, Joseph Cotten, Dorothy Gish, Dr. Harlow Shapley”.

And here we have a newspaper clip (from the Sarasota Herald Tribune), reporting some rather odd statements by Mr Shapley:

HE'S ANTI-GENIUS — Don't quote the bright sayings of your little Junior when Dr. Harlow Shapley, above, director of Harvard observatory, is around. Declaring that of the five worst enemies of mankind, the "genius maniac" is the most potent killer, he suggested genius could be controlled by killing off, in infancy, "all primates that show any evidence of promise of genius, or even talent." His drastic "remedy" was made in speech to American Association for the Advancement of Science in Boston, Mass. Members elected him president for 1947.

The words of a raving psychopath?

So, to make a long story short, this bizarre Shapley fellow (the failed-journalist-turned-astronomer-and-political-activist) went on to “disprove” Kapteyn’s theories by saying, basically, that the Milky Way is far larger than previously believed. Shapley was assisted by some (theoretical) astronomers, such as Jan Oort, who concocted a number of entirely hypothetical theories which, basically, were meant to explain why some stars are seen to move in the opposite direction of other stars, due to their “speed differentials around the galactic center” (or something to this effect). In fact, it appears that we can thank Mr Shapley for having further inflated the size of our galaxy and further diminished the importance of our own, “insignificant” little planet.

After which, the vexing question of negative stellar parallaxes appears to have been definitively swept under the rug. Great “job”, Mr Shapley!
