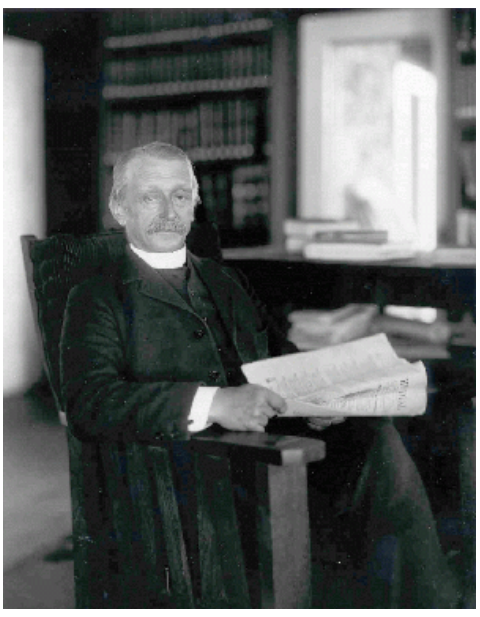
Appendix 9

The Tychos – Our Geoaxial Binary System

4 January 2019, 12:48 am[1]

Many thanks, Professor Kapteyn!



I feel compelled to express my warmest gratitude towards the stellar work of Jacobus Cornelius Kapteyn (1851-1922). Kapteyn is considered as one the world's foremost experts in stellar motions and, in particular, for his unique "statistical" astronomy procedures. Under Kapteyn's "Plan of Selected Areas", according to which a number of observatories would coordinate their observational work of selected stellar regions, Kapteyn's astronomical laboratory provided the resources for reduction and analysis of data collected worldwide. His American colleague Frederick H. Seares famously stated that:

> *"Kapteyn presented the figure of an astronomer without a telescope. More accurately, all the telescopes of the world were his."*[2]

In other words, Kapteyn had vast resources at his disposal to carry through his statistical approach aimed at looking at the "big picture" of our stellar motions.

So why exactly, you may ask, would I be so very grateful for his work? Well, it all has to do with what he considered to be the major finding of his long and distinguished career, namely what became known as "star streaming". Fear not, laymen readers (and those of you with little patience for abstruse astronomical theories), it really is nothing complicated at all. As explained by Cecil G. Dolmage in his "Astronomy of To-Day" (1910):

> *"The well-known Dutch astronomer, Professor Kapteyn, of Groningen, has lately reached the astonishing conclusion that a great part of the visible universe is occupied by two vast streams of stars travelling in opposite directions."*[3]

Several other authors have discussed Kapteyn's theory:[4]

Star Streaming

In 1871, the Swedish astronomer H. Gyldén had analysed the proper motion of stars and found that, in one part of the sky they tended to have a maximum movement across the sky in one direction, while in the opposite part of the sky they moved in the opposite direction. At positions half way between these two places there was no general drift. He correctly interpreted this as showing that the Milky Way was rotating.

Thirty years later, Kapteyn undertook an extensive analysis of the proper motion and radial velocity of stars and found, in 1904, that they appeared to be streaming in two different directions, in a manner similar to that discovered earlier by Gyldén. Kapteyn had, unlike Gyldén, been able to use radial velocity measurements, giving him a three-dimensional picture of stellar movements, and when he corrected for the movement of the Sun, he found that the vertices of the two star streams were in opposite parts of the sky, with the line joining these two points being in the plane of the Milky Way. Kapteyn thought that these results showed that there were two groups of stars streaming in opposite directions, and that this was probably true of the Milky Way as a whole, and not just for that part near the Sun that he had been able to measure. Arthur Eddington and Frank Dyson extended Kapteyn's studies to the proper motions of more distant stars and showed, in 1908, that Kapteyn's results were still valid at these greater distances. Then, in 1915, Campbell, Walter Adams and Kapteyn confirmed the streaming for even more distant stars by measuring their radial velocities.

"A History of Astronomy : from 1890 to the Present"- by David Leverington

Now, the notion that our surrounding stars would be divided in two groups moving in diametrically opposite directions may sound rather bizarre to anyone accustomed to the idea that Earth revolves around the Sun. Yet, this is what this famous (Copernican) astronomer concluded. With the help of the Tychos model, we shall now see how Professor Kapteyn may have reached his peculiar yet ultimately illusory conclusion.

The Tychos model, of course, proposes that Earth rotates around its axis every 24 hours and moves at a tranquil 1.6 km/h pace around its PVP orbit, while the Sun revolves around us once a year. But, for the sake of the following little "thought experiment", let us imagine Earth does not rotate around its axis, but only moves at 1.6 km/h.

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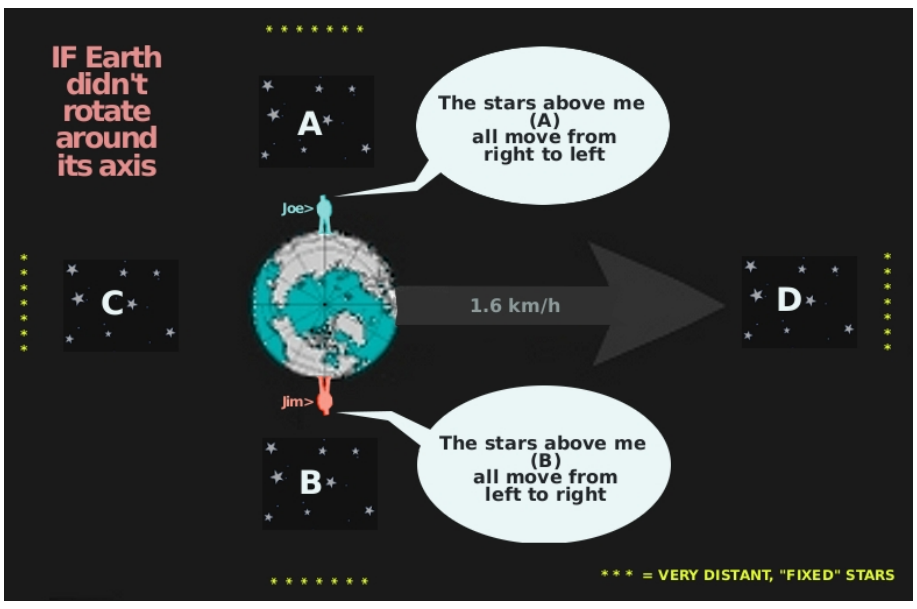
[1] https://cluesforum.info/viewtopic.php?p=2411745#p2411745

[2] https://books.google.it/books?id=A7PA9EsFB84C&lpg=PA80&ots=JP7uS9M2O1&dq=kapteyn%20two%20star%20streams%20opposite%20directions&hl=it&pg=PA83#v=onepage&q=all%20the%20telescopes%20in%20the%20world&f=false

[3] http://www.gutenberg.org/files/28570/28570-h/28570-h.htm

[4] https://books.google.it/books?id=r47qBwAAQBAJ&lpg=PA213&dq=kapteyn%20two%20star%20streams%20opposite%20directions&hl=it&pg=PA213#v=onepage&q=opposite%20directions&f=false
http://septclues.com/TYCHOS/Kapteyn_StarStreaming_01.jpg
http://septclues.com/TYCHOS/KapteynsFailure_01.jpg



Joe and Jim would see the stars moving in opposite directions, that is, *if* Earth did not rotate around its axis. In reality, of course, Earth does rotate around its axis once a day. Therefore, we always see the stars moving around us in one and the same direction at all times (whether we are in the Northern or the Southern hemisphere). And here's where it gets a bit complicated, so please bear with me for a few more minutes (after all, our planet's brightest astronomers have tried—in vain—to wrap their heads around this 'mega-quiz' for centuries ... nay, for millenia!

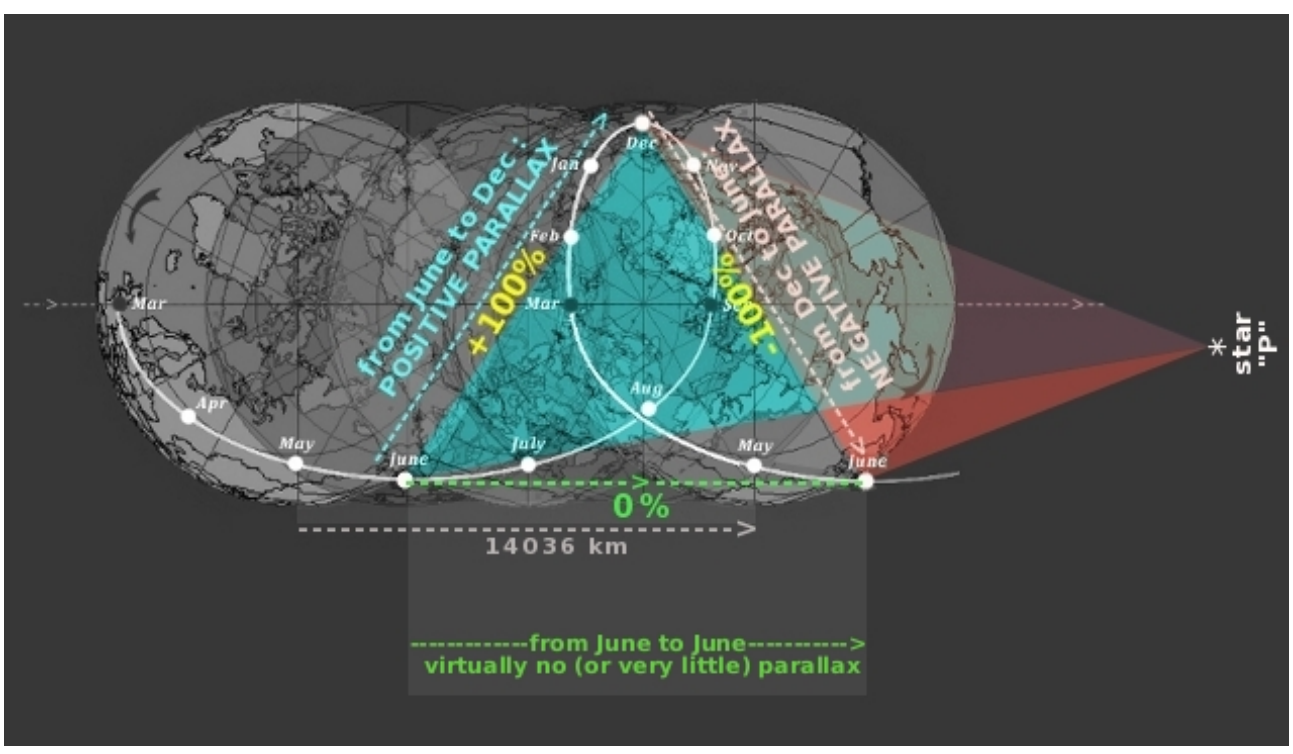
As you look at my above graphic, you may think that Joe will always measure a so-called "negative" parallax for all the "A" stars above him, and that Jim will always measure a so-called "positive" parallax for all the "B" stars above him.

Furthermore, as you look at my above graphic, you may think that Jim and Joe will always measure zero parallax for all the "C" and "D" stars. Let me remind you that "stellar parallax" means the lateral displacement of nearby stars against the very distant "fixed" stars.

Not so: it all depends on the time window we choose to measure any stellar parallax. Since no timestamps are to be found in official stellar parallax catalogues, their alleged "highly accurate data" is utterly useless. As it is, there are literally infinite combinations of time windows which will all yield different parallax values. This, because we all move around a trochoidal path every year, as thoroughly expounded and illustrated in my book on the Tychos model.[5]

For instance: if Jim decides to measure the parallax of a given star "P" over a full year, he will see star "P" moving in two diametrically opposite directions in relation to the very distant "fixed" stars. That's one way in the period March-September, and the opposite way in the period September-March.

And here's another example showing how a given star "P" (located somewhere in the general direction of Earth's line of travel) can be measured to have either a 100% positive or a 100% negative or a (near) 0% parallax. It all depends on the time window chosen for the measurement.



[5] https://www.tychos.info/chapter-26/

I know, your next question will be the same as I had some time ago: "how come none of the world's greatest observatories has noticed these stellar parallax discrepancies? And how come they haven't discussed and debated this issue?"

The simple answer to this question is: they have! But this hasn't been much publicized, nor have these thorny issues ever been cleared up:

As documented by this 1966 academic paper by Stan Vasilevskis (of the famous Lick observatory), the four major American observatories were totally puzzled by the "disturbing differences, discrepancies and disagreements" between their respective stellar parallax measurements:

> *"Parallaxes of the same stars determined by different observers and instruments often disagreed to such an extent that the reality of some parallaxes were in doubt. [...] Although the homogeneity has high statistical merit, the absence of various approaches makes it difficult to investigate and explain discrepancies between various determinations of parallaxes for the same stars. There are disturbing differences, and many investigations to be reviewed later have been carried out on these discrepancies. The present paper is a review of the present material, and a consideration of the possibilities of modifications in the technique of parallax determination in view of past experience and the present status of technology."*[6]

Dear friends, you may now ask: if all the current stellar parallax measurements are meaningless (due to the impossible geometry of the Copernican model), why should any old theories such as Kapteyn's "star streaming" be of any value insofar as supporting or validating the Tychos model? Well, here's why:

> *"Kapteyn continued with the more literal interpretation in constructing his Universe and interpreted the two streams as two systems rotating in opposite directions. The velocity of the two streams would be around 20 km/s, but in opposite directions."*[7]

Now, Kapteyn's approximate value of 20 km/s has been more recently revised to 19.4 km/s.[8] So let us first convert this value from km/s to km/h: 19.4 km/s = 69,840 km/h. If we now use my reduction factor of 42,633 (see Chapter 36 of my book on the Tychos model),[9] we obtain 1.638 km/h, or very nearly my value of 1.601169 km/h for the orbital speed of Earth.

In other words, Kapteyn's lifetime efforts have unwittingly produced solid—or, if you will, statistical—evidence in support of the Tychos model.

Many thanks, Professor Kapteyn!

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[6] http://adsbit.harvard.edu/cgi-bin/nph-iarticle_query?bibcode=1966ARA%26A...4...57V&db_key=AST&page_ind=0&plate_select=NO&data_type=GIF&type=SCREEN_GIF&classic=YES

[7] P. C. van der Kruit and K. van Berkel: "The Legacy of J.C. Kapteyn - studies on Kapteyn and the development of modern astronomy". https://books.google.it/books?id=AlZtCQAAQBAJ&lpg=PA185&dq=kapteyn%20two%20star%20streams%20opposite%20directions&hl=it&pg=PA340#v=onepage&q=opposite%20directions&f=false

[8] https://www.tychos.info/citation/165B_Solar-Apex.htm, https://www.tychos.info/citation/165C_Antapex.htm

[9] https://www.tychos.info/the-tychos/