GEOCENTRICITY: A Fable for Educated Man?

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The creationist literature has been rather silent about their more radical brethren in Christ, the geocentrists. Indeed, few non-geocentric creationists have done more than a cursory investigation of geocentricity. Invariably, those who do take more than a cursory look become geocentrists. A brief survey of what has been written by creationists against geocentrists is in order.

The first anti-geocentric article to appear in the creationist literature was written by Dr. Donald B. de Young[1] [1] in 1988. De Young made some elementary errors in observational astronomy, and had virtually no knowledge about the modern geocentric movement. A reply by Dr. Bouw, against whom de Young's article was primarily directed, was rejected by the referees of *Creation Ex Nihilo*. A letter submitted to CEN was consequently published in *The Bulletin of the Tychonian Society*[2][2]and has been posted on the web in response to the AIG article.[3][3]

The second anti-geocentric article to appear in the creationist literature was published by Gerald Aardsma in 1994.[4][4] That article showed a much broader knowledge of the issues than had de Young's article six years before. Aardsma is well aware that the geocentric and heliocentric models can both account for the observed motions of the universe.[5][5] However, Faulkner is mistaken when he implies through a claim that inertial models are simpler,[6][6] that Aardsma "points out" that the geocentric model is not inertial. Aardsma is too well read on the topic to make a claim so blatantly silly. Furthermore, simplicity and truth are not related.[7][7] Wherever Faulkner's claim originates, it was not in the *Impact* article and whoever made it has not delved deeply into the literature about *Mach's Principle*, the politically correct term for the science of geocentricity. Here is what Ernst Mach had to say about the issue: "all masses, all motion, indeed all forces are relative. There is no way to discern relative from absolute motion when we encounter them … Whenever modern writers infer an imaginary distinction between relative and absolute motion from a Newtonian framework, they do not stop to think that the Ptolemaic and Copernican are both equally true."[8][8]

The third anti-geocentric article appeared recently. Danny Faulkner's "Geocentrism and Creation" was first published in the *Creation Ex Nihilo Technical Journal* (CENTJ)[9][9] and was subsequently posted on the Answers In Genesis (AIG) web site.[10][10] Although the article is lengthy, it is very shallow and often misrepresents geocentricity, geocentrists, the history of the Copernican Revolution, its evidences, and the authority of Scripture. It fails to deal with any of the hard issues, *viz*. the stance of modern science on the matter and the scientific arguments pro and con. But those are sweeping claims that need documentation. Since most of Faulkner's article attempts to debunk Bouw's book, *Geocentricity*,[11][11] we shall look at some of the charges Faulkner lays against that book. But first, we need to define terms so that we can perceive the issues which otherwise might be lost in rhetoric.

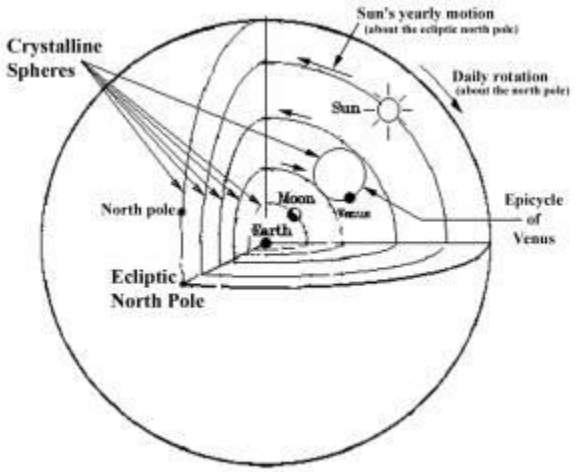
What is geocentricity?

The astute reader will note that Faulkner fights against *geocentrism*, not *geocentricity*. Faulkner says "To distinguish modern geocentrism from ancient geocentrism, Bouw has coined the term 'geocentricity' for the former." Of course, Faulkner doesn't go on to explain the distinction, choosing to dismiss both the

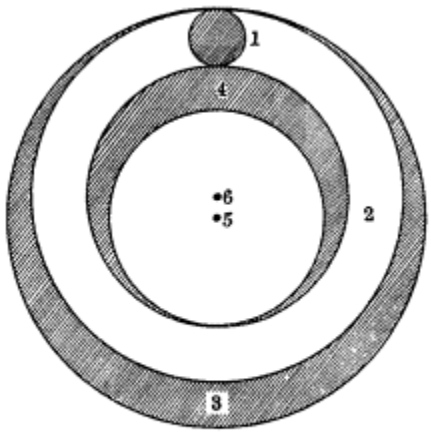
term and the model and to combat geocentrism instead. Needless to say, he succeeds in debunking the ancient form of geocentrism, just as Bouw had in his book. Having done so, the unwary reader is left with the impression that geocentricity is identical with geocentrism, and that Faulkner has dispatched geocentricity once and for all. However, very little of the modern geocentricity is even mentioned in Faulkner's paper, let alone dispatched.

Apparently, none of today's dictionaries have either word–heliocentrism or geocentrism–in them. Even the original twelve-volume *Oxford English Dictionary* (OED), finished in 1928, lacks both words.[12][12] It does have *geocentricism* and *heliocentricism* in it; both referring to the geocentric and heliocentric theories respectively. There is such a word as *heliocentricity*, meaning having a heliocentric quality, and it was first used in 1865 by astronomer Francis Hall.[13][13]

When I coined the word *geocentrism*, I meant it to express belief in the ancient model of the cosmos with the earth at the center of the universe, neither in orbit not rotating; a model that *divided* the universe into layers. Geocentrism, as any –ism, divides into dissociated, differential, or distinctive parts. In its purest form, geocentrism is associated with the belief that the universe was centered on the earth and that the planets moved along crystalline (i.e., clear, invisible) spheres. The planet was not fixed on the sphere but was fixed to another smaller sphere that rolled between two crystalline spheres, one fixing the outer boundary of the orbit and the other the inner. That smaller sphere, called an *epicycle*, was later replaced by another pair of spheres with the planet on a still smaller sphere which, in turn, rolled between the smaller spheres (forming another epicycle), which, in turn, rolled between the huge inner and outer planetary motion sphere. This is pictured above. Note that you are looking down upon the solar system in this picture. Because it is so hard to visualize the three-dimensional view, astronomers, Faulkner among them, revert to a two-dimensional view, but that was not the actual model envisioned by the ancients. It is, however, easier to work with mathematically.[14][14] The simplest nesting of spheres was that of the sun, pictured below.[15][15]

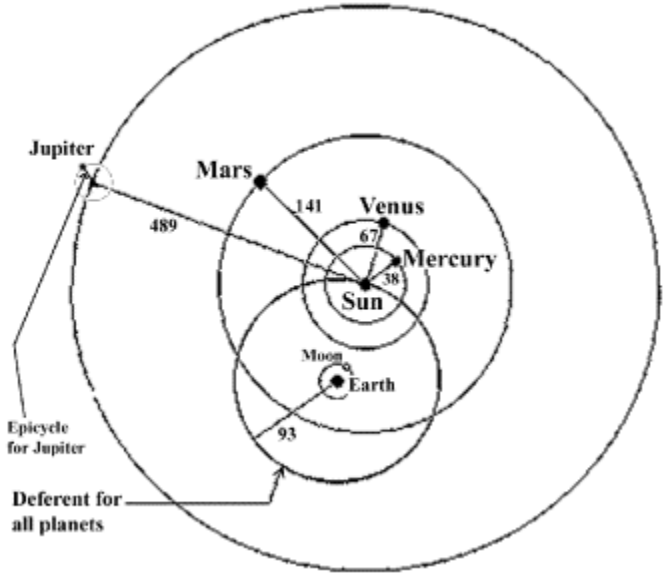


A representation of the complicated crystalline spheres model is the one that generally comes to mind when the word "geocentrism" is uttered. The reader can readily see that the epicycle of Venus in the above figure does not allow it to have phases like the moon and as observed in a telescope. What Galileo disproved with the phases of Venus was not the sum total of all geocentric models, as Faulkner erroneously implies, but most specifically the crystalline spheres model, that is, geocentrism in its classical definition.



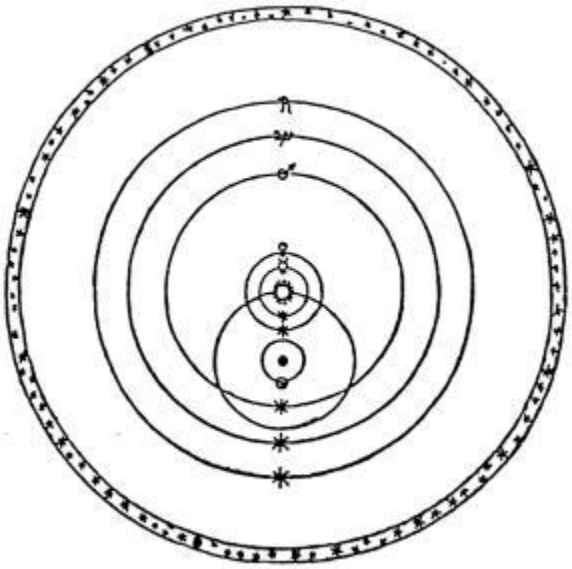
1 The sun. 2 Excentric sphere. 3 The surrounding sphere. 4 The complement of the surrounding sphere. 5 Centre of the world. 6 Centre of the excentric sphere.

"Bouw completely misconstrues Galileo's third evidence for heliocentrism, the phases of Venus,"[16][16] Faulkner wrote. He then claims that Ptolemy's model, as envisioned at the time, could not account for the phases of Venus. He footnotes this with the number 37, which says to see p. 189 of *Geocentricity*. On page 189, one reads the following: "Actually, [Galileo's] argument is correct as long as one insists on circular orbits." Just how that differs from Faulkner's claim regarding the phases of Venus is not clear.



What seems to have confused Faulkner is that "Bouw" claimed that the proof was not definitive. The Ptolemaic model *can* be made to account for the phases of Venus, Faulkner to the contrary. The ancients had no idea of the distances to the planets, moon, and sun. If one takes the radii to the deferents and epicycles to be actual distances, then the Ptolemaic system can be adjusted to take the phases of Venus into account (see figure at right where the distances are in millions of miles). Faulkner claims that in Galileo's day "all celestial objects orbited the earth."[17][17] According to historians of science, however, that is false. At the time that Galileo made his observations of Venus, the Tychonic system and the Copernican system were neck and neck in terms of acceptance. Indeed, historians report that it was not until 1650 that the Copernican model clearly advanced in popularity over the Tychonic.

That Galileo chose not to mention the Tychonic model was apparently done by design. He had the same attitude that Faulkner endorsed in his "Tychonian versus Ptolemaic geocentric models" section.[18][18] There he twists and rejects Bouw's claim that it is up to the challenger (heliocentrism) to the *status quo* (geocentrism, be it Ptolemaic or Tychonic) to prove itself better. He calls that "preposterous," a "blatant," "sloppy approach." His pitch increases until he can hold it no longer and writes: "[I]n a very late chapter...Bouw explicitly discusses geocentric models. There is no heading for the Tychonian model, but there is one for the Ptolemaic model. The problem is, the discussion and diagram clearly represent the Tychonian model."[19][19] In his footnote, he references pages 309-311 in *Geocentricity*. First of all, the Ptolemaic figure appears on page 115 and is clearly referenced in the cited chapter. The figure that appears in the chapter is the *modified Ptolemaic model*, similar to the one shown above. The description is of it, not the Tychonic model. True, in a sense, one could perceive it as the modified Tychonic model (at right), but there are no epicycles in the



modified Tychonic model while there are epicycles in the modified Ptolemaic model. The original Tychonic model[20][20] (which has the stars centered on the earth instead of the sun) is presented on pages 173-177, and the modified Tychonic model is expounded on pages 225-239 in the context of observational "proofs" of heliocentrism. However, the phases of Venus are brought up again on pages 309-311, and apparently every time Bouw disputes Galileo's supposed proofs against geocentrism, Faulkner is blinded.

How, then, does geocentrism differ from *geocentricity*? In geocentricity, the earth is static, but not necessarily at the center if the universe. In geocentricity the earth is actually offset from the geometric center of the universe. The earth is immobile as seen from outside the universe, that is, as seen from the third heaven, the location of the throne of God. (Note: a footstool is not a footstool if it is moving – Isa. 66:1.) And why *heliocentrism* instead of *a-centricity* or *acentrism*? Because the modern acentric model still divides the universe into unrelated sections; and because it was founded on the worship of the sun.[21][21] To model the modern universe one has quantum mechanics, relativity, electric theory, kinetics, and dynamics, not to mention thermodynamics. Geocentric models, mentioned in the same chapter Faulkner cites above, include after (half a page of text on the Ptolemaic model) the advanced potential models, Thirring's models, Birkhoff's model, Moon and Spencer's geocentric model, Mach's, Nightingale's, Rosser's explanation of Thiring's models, and the Barbour and Bertotti model. Faulkner is incapable of handling these. Most of the models, especially the last, have good success explaining more than the dynamics (and kinematics in the process). They are more comprehensive models insofar as they take the gravitational field of the distant stars into consideration. The so-called fictitious forces, namely the Coriolis and centrifugal come out as real gravitational forces. The standard model isolates them (-isms them) from the gravitational field of the stars, that is, from the inertial field. Although the field is invoked to explain the phenomena, it does not appear in the derivation, which is strictly kinetic. Likewise, the geocentric models derive the Euler force as well as some relativistic terms, and even some quantum terms from the foundation of the first law of thermodynamics. That is why the term *geocentricity* was coined for the modern geostatic paradigm. The suffix *–ity* signifies the state or condition of. Hence, *geocentricity* signifies the state or condition of earth-centeredness. Specifically, it denotes the conditions necessary in the universe to keep the earth stationary and stable when seen from outside of the universe. It is an integrative model of the universe, a model that considers the universe as a whole instead of several parts. Today's heliocentrism is rather behind the geocentric or Machian paradigm in its quest for the "unified field theory."

So Faulkner forbids Bouw to coin the word geocentricity to express the differences between the modern and ancient geocentric models. This, in turn, allows him to ignore the geocentric arguments and work only with the ancient straw man, geocentrism. Faulkner himself coins the contentless word *geokineticism* for today's model whereas a perfectly good word, *acentric*, (with no center) is used by the researchers themselves.

The authority of the Scriptures

By now the reader may have noticed that the misstatements and errors in Faulkner's paper are so manifold that it would take a very long paper indeed to counter them all. We will continue to use a representative sample. In the section entitled "Biblical Issues,"[22][22] Faulkner starts by faulting Bouw for attacking allegedly godly, Christian men. His arguments depend for their success on the unwary reader's ignorance or inability to investigating and evaluate the charges for himself.

The first matter that Faulkner brings up concerning his "Biblical Issues" is whether Augustus de Morgan was, along with Bertrand Russell, an agnostic. In a footnote, Faulkner refers to Newman's four-volume work *The World of Mathematics*, where de Morgan called himself a "Christian unattached." Just what that means is made clear in that work, but there is absolutely no evidence that de Morgan was saved; that

he was a Christian in the true sense of the word. Faulkner's riposte is not free of error, however. According to Faulkner's footnote 6, de Morgan worked at Trinity University. But de Morgan did not work there; he was a student there. De Morgan worked at the University of London, which became University College. He left there when the College refused to hire a Unitarian minister to the chair of philosophy. De Morgan refused to confess Christ with his lips "because in my time such confession has always been the way up in the world," although Romans 10:9[23][23] is clear that such is not an option. In the footnote, Faulkner chastises Bouw with the words "De Morgan is not the only person whose faith Bouw attacks," but then back in the text, Faulkner calls de Morgan a "bibliosceptic." Worse, after chastising Bouw for attacking de Morgan's faith in Christ, Faulkner accuses de Morgan and Russell of "Being antagonistic toward the Bible and Christianity, both of these men had a vested interest in discrediting the Bible. What a better way to do this than for them to falsely claim that the Bible says things that are patently not true?" Bouw called the man an agnostic, but Faulkner, after defending him as a Christian, calls him a liar. It calls into serious question the reliability of Faulkner's claims.

Of course, Faulkner does not reproduce the quotes from de Morgan and Russell, and does not address the issues raised by them. He arbitrarily dismisses them as ignoramuses, men "ignorant of Biblical languages and historical context." Furthermore, Faulkner claims that "The appropriateness of quoting these two gentlemen apparently never occurred to Bouw." These men were scholars, and de Morgan at least, knew more Scripture than the vast majority of today's Christians. Read de Morgan's books and see for yourself. One of the arguments that creationists use against geocentrists is that geocentricity destroys the credibility of the creationist in the eyes of *unbelievers* like these two men. What makes them hard to win to the creationist cause is that they clearly see the hypocrisy. They have more insight into the nature of the argument than Faulkner has, for they cannot be "snowed" by illogical arguments. Geocentrists find that most atheists will acknowledge, as de Morgan, that geocentricity is science, whereas they will never admit that of creationism. Indeed, on a personal note, it was people like Danny Faulkner and Hugh Ross who converted me to atheism in my teen years. How? Because according to them, science led the way to the truths of heliocentrism and evolution while the Christian scholars needed thirty years or more to "come around."

Here is de Morgan's quote Faulkner refused to analyze:

> The question of the earth's motion was the single point in which orthodoxy came into real contact with science. Many students of physics were suspected of magic, many of atheism: but, stupid as the mistake may have been, it was *bona fide* the magic or the atheism, not the physics, which was assailed. In the astronomical case it was the very doctrine, as doctrine, independently of consequences, which was the *corpus delicti*: and this because it contradicted the Bible. And so it did; for the stability of the earth is as clearly assumed from one end of the Old Testament to the other as the solidity of iron. Those who take the Bible to be *totidem verbis* dictated by the God of Truth can refuse to believe it; and they make strange reasons. They undertake, *a priori*, to settle Divine intentions. The Holy Spirit did not *mean* to teach natural philosophy: this they know beforehand; or else they infer it from finding out that the earth does move, and the Bible says it does not. Of course, ignorance apart, every word is truth, or the writer did not mean truth. But this puts the whole book on its trial: for we can never find out what the writer meant, unless we otherwise find out what is true. Those who like may, of course, declare for an inspiration over which they are to be viceroys; but common sense will either accept the verbal meaning or deny verbal inspiration.[24][24]

The reader can judge for himself whether or not the quote is appropriate. To claim it is not echoes the complaints that evolutionists voice when creationists quote them in "ignorance."

Continuing with the Scriptural arguments, Faulkner spends a long time arguing against scriptures that even in his book Bouw admits are weak. Nowhere does he address those scriptures Bouw identifies as

definitive. At this point, Faulkner places his finger on what galls him most, indeed, what galls most modern Christian scholars most about Bouw's arguments: Bouw relies entirely on the King James Bible and even rejects the authenticity of the *Septuagint*. Faulkner claims without a thought that it is "the original languages of Scripture that matter, not any translation."[25][25] Proof? None is offered. Indeed, there is none. Not a single scripture says that a translation is worse than an original. It does imply the contrary.[26][26]

Psalm 119:89 says "Thy word is settled in heaven." Is Hebrew spoken in heaven? If so, is the New Testament, written in Greek, not a translation from the Heavenly Hebrew? Or did Greek become the official language of heaven sometime between the Testaments? And if not, which is the "original" version, the one in heaven's language, or the ones in Hebrew and Greek? And if Faulkner's profession is orthodox throughout the history of the Church, then why is there no insistence upon the original languages in the writings of the early Christians? Many creationists and even fundamentalists believe that Matthew was originally written in Hebrew or Aramaic. And Eusebius reports that Luke translated Hebrews from Hebrew to Greek,[27][27] so it is obvious that the long-lost Hebrew originals of Matthew and Hebrews are what matters, and the Greek translation that remains today has no more authority than a King James Bible. The translations into Greek of Matthew and Hebrews must be inferior and errant because they are translations, at least, according to today's Christian scholars. And if translations were never authoritative to the Church of Jesus Christ, why did the Scillitan Martyrs at Carthage (A.D. 180) accept martyrdom for possession of the "letters of Paul, the just man," in Latin? And the Smithfield fires burned not because of Greek and Hebrew originals but because of English Bibles. Besides, which of the many original language editions is the one that matches the original autographs? In Hebrew, is it found in the *Ben Hachim* edition? Kittel's? the Masoretic? And if the Masoretic, is it with or without the emendations of the Sopherim? And which of the Greek originals is the correct one? That of Tregelles, or Tischendorf, or Lachmann, or Griesbach, or Mill, or Walton, or Fell, or Alford, or Souter, or Aland, or Metzger, or Hort, or Scrivener, or Bengel, or Scholtz, or Birch, or Alter, or Warfield, or Von Soden, or Hugh, or Harwood, or Nestle, and if so, which edition? Or maybe it's the Textus Receptus, but which edition? One of Erasmus's? Or one of Beza's? And what of the Colinaeus, or Elzevir, or Stephanus editions? Then, too, there is the Majority Text, one that no scholar has yet collated. And clearly, the translations of Old Testament passages quotes in the New Testament cannot count as "it is the original languages of Scripture that matter, not any translation."

In criticizing one of the least of the geocentric scriptures, Faulkner claims that the word "stablished" in Psalm 93:1 should be "established." In *Geocentricity*, Bouw noted that stablish implies an on-going stabilization whereas established means to set up, without any on-going maintenance to keep the stability. Faulkner continues that "None of the English dictionaries (including the Oxford) I consulted support this distinction. All the dictionaries revealed that 'stablish' is an archaic variation of 'establish.'" That most dictionaries would parrot the common line today, that stablish is an obsolete variant of establish, should not be surprising, for these days it's scholars of Faulkner's ilk that write the dictionary definitions. That is the best that 21st century scholarship can offer. However, in the original edition of the *Oxford English Dictionary*, we find this revealing note between the first meaning of *stablish* and after the list of variant spellings (see figure at left):

Stablish (stæ·blĭʃ), *v.* Now *arch.* Forms: 3–5 **stablis**, 4 **stablys**, **stablisce**, 4–5 **stablisse**, 4, 6 **stablische**, 4–6 **stablisshe**, 5 **stablice**, **-esshe**, **-ych**, **-ysh**, 5–6 **stablysche**, **-yssh**e, 6 **stablyshe**, **-ishe**, (**stablyszshe**), 8–9 **'stablish**, 4– **stablish**; also *pa. t.* and *pa. pple.* 3–4 **stablist**, 4 **stablyste** (*Sc.* **stabelaste**), 4, 6 **stabliste**. [Variant of ESTABLISH *v.*] = ESTABLISH *v.* in various senses.

From the 16th c there seems to have been a tendency to confine the use of the form *stablish* to those uses in which the relation of meaning to *stable* adj. is apparent, i.e. where the notion is rather 'to strengthen or support (something existing)' than 'to found or set up'. The modern currency of the word is purely literary, and reminiscent of the Bible or Prayer Book.

1. *trans.* To place or set (a material thing) firmly in position; to station (a person) in a place. *Obs.* exc. *in figurative context.*

a **1300** *Cursor M.* 21288 Tuin axils [of an allegorical 'wain'] er tuin laghs, i-wiss, ..þe carter self is iesus crist, His bodi es yock he has stablist. *a* **1325** *Prose P's.* xxx[i]. 10 Ne þou ne shettest me noust in þe hondes of þyn enemy; þou stablisced my fete in large stede. *c* **1450** *Merlin* iii. 59 Ye shall stablisshe the thirde table in the name of the trinite. *c* **1500** *Melusine* i. 17 There the lady Pressyne stablysshed a stronge geaunt to the sauegarde of the tresoure. **1650** *Sc. Psalms* xciii. 5 The world is also stablished, that it can not depart. **1845** BAILEY *Festus* (ed. 2) 198 Heaven's eternal base, Whereon God's throne is stablished.

From the 16th c. there seems to have been a tendency to confine the use of the form *stablish* to those uses in which the relation of meaning to *stable* adj. Is apparent, i.e. where the notion is rather 'to strengthen of support (something existing)' than 'to found or set up'. The modern currency of the word is purely literary, and reminiscent of the Bible or Prayer Book.

Since the King James Bible was written early in the 17th century, the note applies to it. Of course the old OED also claims stablish is a variant of establish, but a careful reading of the quotes the OED provides to illustrate the meaning shows that even prior to the 16th century, stabilization is evident. Of King Arthur it was written in 1485 that he "Stablysshed all his knyghtes," meaning of course that he trained, fed, and maintained them. Likewise in 1300 we read that "The lady Pressyne stablysshed a stronge geaunt to the sauegarde of the tresoure." Of course she fed and maintained the "geaunt" (giant) who safeguarded the treasure. Likewise we read that "Thus is Iesus become a stabliszher of so moch a better Testamente" in the Coverdale Bible's rendering of Hebrews 7:22 in 1535. Bouw, as Coverdale, is convinced that Jesus actively preserves the Scripture, thus *stablishing* it. Faulkner cannot read the words of God closely enough to see such shades of meaning because he has been taught that he doesn't have the words of God, *viz*., the tens of thousands of differences represented in the "original languages" by the different versions of the originals listed above. If not lying about his "stablish" research, Faulkner is at least guilty of shoddy work.

As is common these days, Faulkner thinks that geocentric references in "poetic books" can safely be assumed devoid of truth. He feels that when God inspires poetry, that he is less bound write the truth, leastwise not absolute truth. Faulkner claims, still on page 111, that "If cosmology is clearly not the point of the passage, then extracting a cosmological meaning can be very dangerous." When Moses saw the burning bush, God identified himself to Moses as "the God of [Moses'] father, the God of Abraham, the God of Isaac, and the God of Jacob. Clearly, the intent was to introduce himself to Moses. But then by Faulkner's logic, Jesus was on dangerous grounds to read into those words evidence for the resurrection (Matthew 22:32; Mark 12:26), when the resurrection was "clearly not the point of the passage."

Skipping over the lesser arguments (Psalm 96:10; 1 Chronicles 16:30; Psalm 104:5) we turn to the section "Sunrise and sunset."[28][28] Here Faulkner writes "Bouw has suggested the words 'tosun' and

'fromsun' for sunrise and sunset to better acknowledge what heliocentrists mean. It is extremely unlikely that these words will catch on, because the terms sunrise and sunset work so well."[29][29] If Faulkner read Bouw's words, he certainly misrepresented them. In context, Bouw suggested that since God founded the languages, and if heliocentrism were the true state of affairs, then it would be a simple matter for God to have created words like "tosun" and "fromsun" instead of sunrise and sunset to better encapsulate the "truth" of heliocentrism. In no way was Bouw proposing a change of words, but, of course, Faulkner's version serves his purpose better than the truth.

Faulkner ignores the real geocentric scriptures in favor of ones he thinks easy to dispatch. He refuses to mention, let alone deal with, geocentric scriptures such as Joshua 10:13, Ecclesiastes 1:5, and Malachi 4:2. All Faulkner can do is to ridicule the conclusions without any support for his ridicule and without any context for Bouw's claims. It is obvious that Faulkner knows far more astronomy than he knows the words of God, and even at that, his knowledge of the history of astronomy and cosmology is minimal.

The real geocentric scriptures Faulkner cannot refute

One may reasonably assume that the reason why Faulkner did not mention, let alone refute the strongest geocentric passages covered by Bouw in his book is because Faulkner has no way to refute their geocentric impact. Here are the three strongest geocentric scriptures.

Joshua 10:13 says:

> And the sun stood still, and the moon stayed, until the people had avenged themselves upon their enemies. *Is* not this written in the book of Jasher? So the sun stood still in the midst of heaven, and hasted not to go down about a whole day.

Ecclesiastes 1:5 says:

> The sun also ariseth, and the sun goeth down, and hasteth to his place where he arose.

And Malachi 4:2 says:

> But unto you that fear my name shall the Sun of righteousness arise with healing in his wings; and ye shall go forth, and grow up as calves of the stall.

In Joshua 10:13 it is the sun that is said to stand still. God could have said "And the earth stopped turning so that the sun appeared to stand still," but he didn't. In effect, Faulkner claims that since it was inconvenient for God to tell the truth, he promoted the commonly accepted story, although the Holy Ghost knew it not to be true. How then can God say that he is the God of Truth and the Spirit of truth? Indeed, God's creative power is such that his very speaking "the sun stood still" would instantly have transformed the acentric cosmos unto geocentric. It has been noted by scholars that God cannot lie because if he ever did, then the "lie" would immediately come to pass and it would instantly no longer be a lie. This they believe because God spoke the universe into being when it was not. So in a very real sense, to be consistent, those that reject the geocentric model must also reject the creationist model.

In Ecclesiastes 1:5 it is the sun that ariseth, goeth down, and hasteth. Again, God could just as well have spoken the "geokinetic truth" by simply adding the sense "seemeth to" before each of the three actions. That is, to say instead "The sun also seemeth to arise, and the sun seemeth to go down, and seemeth to haste to his place where he arose. Why did God persist in his geocentric "error"?

Now note Malachi 4:2 where the Sun, as a type of Jesus (also see Psalm 19:1-6), is said to arise. It is clear that this refers to the resurrection. How, then, can a believer in the resurrection of the Lord Jesus Christ insist that the word "arise" is literal truth when referring to the resurrection here, yet at the same time insist that it is not literally true when applied to the Sun here, in this same verse? And if the geokinetic model is true, then no one before Copernicus could possibly have guessed at the "heliocentric truth" (reread the earlier quote by de Morgan). We are left to ponder what else will science may reveal that is currently misunderstood by Bible believers. Of course, the likes of Hugh Ross will say "Evolution," that the days of Genesis 1 are not literal days but indeterminate periods. After all, if science has proven that the rising of the sun is figurative in Scripture, then how can one escape the charge that

science has also proven that the days of creation are figurative in Scripture? Of course, one can't; and any Christian who thinks an atheist or agnostic too stupid to see this, is an arrogant Bible-illiterate who neither knows nor believes Luke 16:8.[30][30]

It was Aardsma who placed the above debate into focus when he wrote:

> The Biblical status of the doctrine of creation contrasts sharply with that of geocentricity. The Bible opens with the explicit declaration 'In the beginning God *created* the heavens [sic] and the earth,' and Genesis 1 goes on to outline in detail the doctrine of creation. While it is impossible to *find* any definitive teaching in the Bible on the physical form of the universe, it is impossible to *miss* the explicit teaching in the Bible that the world was supernaturally created by God, for it permeates Scripture.[31][31] (Emphases in original.)

Bouw most certainly admits that Genesis 1 makes a clear statement for the six-day creation, but the second sentence misses the point. The issue is not the "physical form of the universe," which indeed is not clearly addressed in Scripture, though some see it in Hebrews 9. No, the issue is the *stability of the earth*; and that, as de Morgan said in the quote at the start of this section, "is as clearly assumed from one end of the Old Testament to the other as the solidity of iron." So, if Genesis 1:1, "In the beginning God created the heaven and the earth" is a clear statement that God created, then Ecclesiastes 1:5, "The sun also ariseth, and the sun goeth down, and hasteth to his place where he arose," is just as clear a statement of geocentricity. And with that, we come to the *real* issue: Is the Scripture to be the final authority on all matters on which it touches, or are scholars, to be the ultimate authority? The central issue is not the motion of the earth, nor is it the creation of the earth. The issue is final authority, is it to be the words of God, or the words of men.

Historical Issues

When looking at historical matters, Faulkner again picks and chooses that he thinks easy to dismiss, without any documentation other than a reference to Henry Morris's *Men of Science – Men of God* which is more devotional than a biographical treatise on each man. The historical and biographical aspects of Copernicus, Brahe, Kepler, Galileo, Wilkins, and Newton are documented not only in books, which tended until very recently to avoid controversy for fear of lost sales, but also in papers published in journals devoted to the history of science in general and astronomy in particular. These include authors such as Drake, Hoyle, Doig, Popper, Wilkins, Redondi, Lear, Lodge, Gingerich, Kepler, Galileo, Copernicus, Johnson, Thiel, Rosen, Oberman, Nelson, Newton, Lasky, Bronowski, Stimson, and Keston, among others. Every charge Bouw lays for or against Copernicus, Brahe, Kepler, Galileo, Wilkins and Newton is documented in *Geocentricity*; not a single countercharge leveled by Faulkner on pages 113 through 116 is documented. He merely expresses his opinion or echoes elementary textbooks of which Kuhn has said that it is in the best interest of science that these should sometimes lie.[32][32] To one who has read the literature extensively, it is clear that Faulkner has fallen for more than one such deception. Thus, for example, Kuhn writes of Kepler "Individual scientists embrace a new paradigm for all sorts of reasons and usually for several at once. Some of the reasons – for example, *the sun worship that helped make Kepler a Copernican* – lie outside the apparent sphere of science entirely"[33][33] (emphasis added). Likewise, introductory astronomy texts will present the modern acentric model as a proven fact, just as they do evolution, whereas an advanced text will admit that no proof exists and that the geocentric model is just as viable as the Copernican.[34][34]

One thing should be mentioned regarding the possibility that Tycho Brahe was poisoned. In 1996, the Landskrona Arts Museum in Sweden had an exhibit on Tycho and some hairs were taken to the Lund Nuclear Microprobe facility at the University of Lund in Stockholm and analyzed at PIXE. The hairs

were examined for traces of lead, mercury and arsenic. Increased levels of mercury and lead were found at the root of a hair (traditionally strands of hair were cut after death, as mementos, so the presence of a root is a bit of a rarity). The analysts concluded that the rise in mercury level was very quick, five to ten minutes. The same was true for the falloff, in accordance with the known high metabolism of hair roots. The mercury was given to Brahe only one day before he died. Of course, that is no proof that Brahe was poisoned by someone else, but it does beg the question of why he would be so careless that one time when the rest of the hairs showed no lethal abundance, even given that he routinely worked with mercury and arsenic.[35][35] It really would help the cause of truth if Faulkner had done his homework instead of making rash and unfounded charges and innuendoes.

Scientific Issues

Faulkner barely touches on the scientific issues although those take up a third of Bouw's *Geocentricity*. Most of those he does touch are rather historic than scientific. For example, to Faulkner the phases of Venus disprove geocentricity once and for all. "Bouw completely misconstrues Galileo's third evidence for heliocentrism, the phases of Venus." He marks the passage with footnote 37, but the passage he refers to, page 189 of *Geocentricity*, speaks of the Tychonic model, not the Ptolemaic. That the Ptolemaic model can be accommodated to show the phases of Venus can be done, *tu wit*, the third figure in this rebuttal. The figure also appears on p. 311 of *Geocentricity*. Indeed, when commenting on that figure, Faulkner shows his complete lack of understanding of the modification to the Ptolemaic model. Of course it looks like the Tychonic model or even the heliocentric model in some respects. It has to, to fit the observations.[36][36]

When it comes to relativity, Faulkner seems totally lost. On page 117, for example, he cannot see that Bouw's "rejection of relativity," as he calls it, is merely a criticism of the inconsistent application of its assumptions. Because Faulkner doesn't understand those assumptions, he falsely claims that Bouw "mishandles" the twin paradox. Bouw merely pointed out that the resolution of the twin paradox is that the universe supplies an absolute standard of rest, and that the assumption that all motion is relative is violated by that point. Holding the cosmos as the absolute standard of rest is commonly invoked to explain not only the twin paradox, but also the ruler paradox and the Ehrenfest paradox. Faulkner doesn't comprehend the finer philosophical shades of relativity (Col. 2:8, KJB only). Thus, when Bouw pointed out that the deflection of starlight by the gravitational field of the sun is not *proof* for relativity, and that many have objected to the cavalier way that Eddington handled the 1922 solar eclipse data, Faulkner generalizes this to an all-out assault on eclipse data supporting relativity. The reference to Soldner's 1801 prediction that gravity should deflect light is clearly stated in *Geocentricity*. But Faulkner cannot make himself admit that classical physics, too, might explain something that relativity also explains, and to explain it equally well. Bouw's whole point in the text is to deny the claim that the deflection is *proof* of relativity since both relativity and classical physics predict the same results. Faulkner's claim that Bouw denies the reality of the deflection is absolutely and totally false, as anyone with access to Bouw's book can readily verify.

Faulkner is ignorant of the role the perihelion precession played in the relativistic debate. Bouw points out that the reason why relativists refer to the perihelion precession of Mercury's orbit instead of any of the other planets is because it only works for Mercury. Of course, it would work for binary stars, too, but that misses Bouw's point, made later,[37][37] that the geocentric models of Hanson and Barbour and Bertotti[38][38] come closer to explaining the observed perihelion precession of the other planets than does standard relativity. Needless to say, Faulkner won't touch that one with a ten-foot pole.

Since such meat is too tough for Faulkner, he picks on the least of the "lesser evidences"[39][39] *viz*. the orbital resonances that appear between the earth and Venus and the earth and Mercury. He insists that a resonance cannot be verified unless one actually observes the surface of a planet.[40][40] This is, of course, nonsense. All one needs to know is the length of the year and the day. The rest of Faulkner's criticisms on the lesser evidences stem from having observations that did not exist when the book was printed in 1992 and so are moot. Bouw freely admitted that science is the least constant guide to truth and that the third section of the book, dealing with scientific matters, is the only one likely to become obsolete in time. Of other lesser evidences such as the distribution of quasars and stars about the earth, etc. he is mum.

In his appendix,[41][41] Faulkner presents little that contributes to his cause. He exhibits gross ignorance of the behavior of the modified Tychonic model that Bouw champions (see the fourth figure). He ignores its ability to account for retrograde motions as easily as the heliocentric model.[42][42] He is apparently unaware that the Copernican model was actually more complicated than even the original Ptolemaic one it replaced since was the centered on the center of the earth's orbit, not the sun.[43][43]

Science beyond Faulkner's ken

And that brings us to the final points, the ones Faulkner doesn't mention or treats superficially. The firmament is one of those. Faulkner treats the biblical firmament with the post-1750 higher criticism's dictionaries which were based on the assumption that secular sources for the meaning of words are more reliable than sacred.[44][44] He does not understand the underlying physics of Planck particles or massive superstrings and, indeed, misses a golden opportunity for serious criticism because of that lack of understanding. Bouw has an entire chapter on the firmament.[45][45] Although Bouw stands by most of the chapter, there is one error, a computational one, literally, the copying of a wrong sign, that Faulkner is ignorant of. Because of that error, Bouw mistakenly concluded that the earth must rotate once a day in order for the universe to exist.[46][46] The error will be corrected in the next printing of his book.

When it comes to whether or not the geocentric model is physically tractable, Faulkner is totally silent after an initial comment in the context of Aardsma's *Impact* article.[47][47] Bouw lists the following papers, which appeared in refereed, respectable physics journals and which each presented a model geocentric in a mathematically tractable way and which model yielded the same equations of motion, i.e. the same dynamics, as the heliocentric model. These follow:

Gerber, Paul, 1898. *Zeitschrift für mathematik physik*, **43**:93.

Thirring, Hans, 1918. *Physikalische Zeitschrift*, **19**:23.

Lense, J., and H. Thirring, 1918. *Ibid*., p. 156.

Møller, C., 1952. *The Theory of Relativity*, (Oxford: Clarendon Press), pp. 318-321.

Birkhoff, G. D., 1944. *Boletin de la Sociedad Mathematica Mexicana*, **1**:1.

Brown, G. B., 1955. *Proc. Of the Phys. Soc., B*, **68**: 672.

Moon, P. and D. E. Spenser, 1959. *Philos. Of Science*, **26**:125.

Nightingale, J. D., 1977. *Am. Jrn. of Phys.*, **45**:376.

Rosser, W., 1964. *An Introduction to the Theory of Relativity*, (London: Butterworths), p. 460.

Barbour, J. B. and B. Bertotti, 1977. *Il Nuovo Cimento*, **38B**(1):1.

Browne, P. F., 1977. *Jrnl. of Phys. A: Math & Gen.*, **10**:727.

Mach, E., 1883. *Die Mechanik in Ihrer entwicklung Historisch-Kritisch Dargestellt*, (Prague).
Gödel, K., 1952. *Proc. Of the International Congrs. of Math.*, **1**:175.

GEOCENTRICITY: A Fable for Educated Man?

Gerardus D. Bouw, Ph.D.

The creationist literature has been rather silent about their more radical brethren in Christ, the geocentrists. Indeed, few non-geocentric creationists have done more than a cursory investigation of geocentricity. Invariably, those who do take more than a cursory look become geocentrists. A brief survey of what has been written by creationists against geocentrists is in order.

The first anti-geocentric article to appear in the creationist literature was written by Dr. Donald B. de Young[48 [1]] in 1988. De Young made some elementary errors in observational astronomy, and had virtually no knowledge about the modern geocentric movement. A reply by Dr. Bouw, against whom de Young's article was primarily directed, was rejected by the referees of *Creation Ex Nihilo*. A letter submitted to CEN was consequently published in *The Bulletin of the Tychonian Society*[49[2]]and has been posted on the web in response to the AIG article.[50[3]]

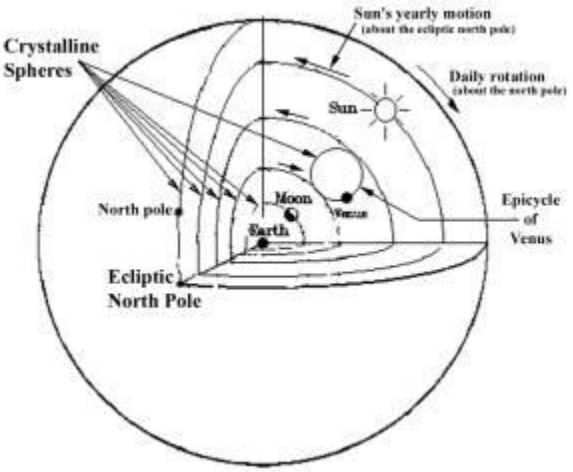
The second anti-geocentric article to appear in the creationist literature was published by Gerald Aardsma in 1994.[51[4]] That article showed a much broader knowledge of the issues than had de Young's article six years before. Aardsma is well aware that the geocentric and heliocentric models can both account for the observed motions of the universe.[52[5]] However, Faulkner is mistaken when he implies through a claim that inertial models are simpler,[53[6]] that Aardsma "points out" that the geocentric model is not inertial. Aardsma is too well read on the topic to make a claim so blatantly silly. Furthermore, simplicity and truth are not related.[54[7]] Wherever Faulkner's claim originates, it was not in the *Impact* article and whoever made it has not delved deeply into the literature about *Mach's Principle*, the politically correct term for the science of geocentricity. Here is what Ernst Mach had to say about the issue: "all masses, all motion, indeed all forces are relative. There is no way to discern relative from absolute motion when we encounter them … Whenever modern writers infer an imaginary distinction between relative and absolute motion from a Newtonian framework, they do not stop to think that the Ptolemaic and Copernican are both equally true."[55[8]]

The third anti-geocentric article appeared recently. Danny Faulkner's "Geocentrism and Creation" was first published in the *Creation Ex Nihilo Technical Journal* (CENTJ)[56[9]] and was subsequently posted on the Answers In Genesis (AIG) web site.[57[10]] Although the article is lengthy, it is very shallow and often misrepresents geocentricity, geocentrists, the history of the Copernican Revolution, its evidences, and the authority of Scripture. It fails to deal with any of the hard issues, *viz*. the stance of modern science on the matter and the scientific arguments pro and con. But those are sweeping claims that need documentation. Since most of Faulkner's article attempts to debunk Bouw's book, *Geocentricity*,[58[11]] we shall look at some of the charges Faulkner lays against that book. But first, we need to define terms so that we can perceive the issues which otherwise might be lost in rhetoric.

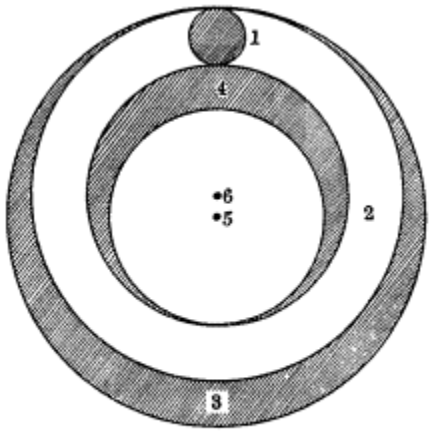
What is geocentricity?

The astute reader will note that Faulkner fights against *geocentrism*, not *geocentricity*. Faulkner says "To distinguish modern geocentrism from ancient geocentrism, Bouw has coined the term 'geocentricity' for the former." Of course, Faulkner doesn't go on to explain the distinction, choosing to dismiss both the term and the model and to combat geocentrism instead. Needless to say, he succeeds in debunking the ancient form of geocentrism, just as Bouw had in his book. Having done so, the unwary reader is left with the impression that geocentricity is identical with geocentrism, and that Faulkner has dispatched geocentricity once and for all. However, very little of the modern geocentricity is even mentioned in Faulkner's paper, let alone dispatched.

Apparently, none of today's dictionaries have either word–heliocentrism or geocentrism–in them. Even the original twelve-volume *Oxford English Dictionary* (OED), finished in 1928, lacks both words.[59][12] It does have *geocentricism* and *heliocentricism* in it; both referring to the geocentric and heliocentric theories respectively. There is such a word as *heliocentricity*, meaning having a heliocentric quality, and it was first used in 1865 by astronomer Francis Hall.[60][13]



When I coined the word *geocentrism*, I meant it to express belief in the ancient model of the cosmos with the earth at the center of the universe, neither in orbit not rotating; a model that *divided* the universe into layers. Geocentrism, as any –ism, divides into dissociated, differential, or distinctive parts. In its purest form, geocentrism is associated with the belief that the universe was centered on the earth and that the planets moved along crystalline (i.e., clear, invisible) spheres. The planet was not fixed on the sphere but was fixed to another smaller sphere that rolled between two crystalline spheres, one fixing the outer boundary of the orbit and the other the inner. That smaller sphere, called an *epicycle*, was later replaced by another pair of spheres with the planet on a still smaller sphere which, in turn, rolled between the smaller spheres (forming another epicycle), which, in turn, rolled between the huge inner and outer planetary motion sphere. This is pictured above. Note that you are looking down upon the solar system in this picture. Because it is so hard to visualize the three-dimensional view, astronomers, Faulkner among them, revert to a two-dimensional view, but that was not the actual model envisioned by the ancients. It is, however, easier to work with mathematically.[61][14] The simplest nesting of spheres was that of the sun, pictured below.[62][15]

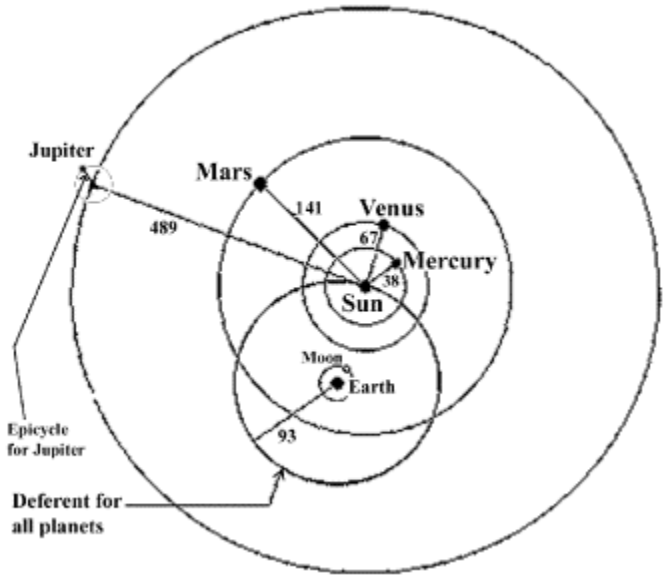


1 The sun. 2 Excentric sphere. 3 The surrounding sphere. 4 The complement of the surrounding sphere. 5 Centre of the world. 6 Centre of the excentric sphere.

A representation of the complicated crystalline spheres model is the one that generally comes to mind when the word "geocentrism" is uttered. The reader can readily see that the epicycle of Venus in the above figure does not allow it to have phases like the moon and as observed in a telescope. What Galileo disproved with the phases of Venus was not the sum total of all geocentric

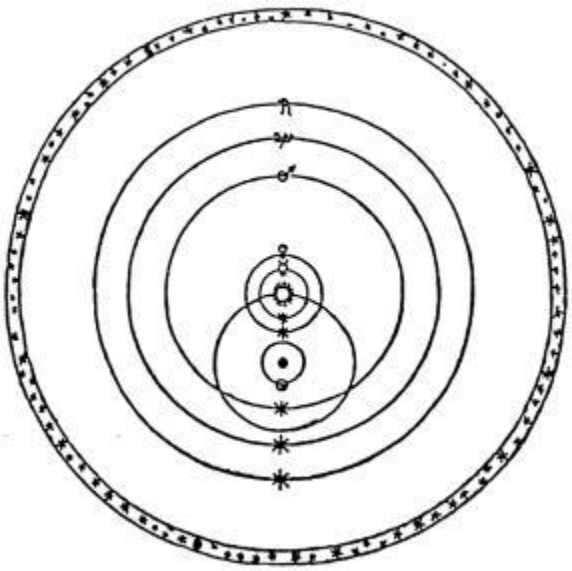
models, as Faulkner erroneously implies, but most specifically the crystalline spheres model, that is, geocentrism in its classical definition.

"Bouw completely misconstrues Galileo's third evidence for heliocentrism, the phases of Venus,"[63][16] Faulkner wrote. He then claims that Ptolemy's model, as envisioned at the time, could not account for the phases of Venus. He footnotes this with the number 37, which says to see p. 189 of *Geocentricity*. On page 189, one reads the following: "Actually, [Galileo's] argument is correct as long as one insists on circular orbits." Just how that differs from Faulkner's claim regarding the phases of Venus is not clear.



What seems to have confused Faulkner is that "Bouw" claimed that the proof was not definitive. The Ptolemaic model *can* be made to account for the phases of Venus, Faulkner to the contrary. The ancients had no idea of the distances to the planets, moon, and sun. If one takes the radii to the deferents and epicycles to be actual distances, then the Ptolemaic system can be adjusted to take the phases of Venus into account (see figure at right where the distances are in millions of miles). Faulkner claims that in Galileo's day "all celestial objects orbited the earth."[64][17] According to historians of science, however, that is false. At the time that Galileo made his observations of Venus, the Tychonic system and the Copernican system were neck and neck in terms of acceptance. Indeed, historians report that it was not until 1650 that the Copernican model clearly advanced in popularity over the Tychonic.

That Galileo chose not to mention the Tychonic model was apparently done by design. He had the same attitude that Faulkner endorsed in his "Tychonian versus Ptolemaic geocentric models" section.[65][18] There he twists and rejects Bouw's claim that it is up to the challenger (heliocentrism) to the *status quo* (geocentrism, be it Ptolemaic or Tychonic) to prove itself better. He calls that "preposterous," a "blatant," "sloppy approach." His pitch increases until he can hold it no longer and writes: "[I]n a very late chapter...Bouw explicitly discusses geocentric models. There is no heading for the Tychonian model, but there is one for the Ptolemaic model. The problem is, the discussion and diagram clearly represent the Tychonian model."[66][19] In his footnote, he references pages 309-311 in *Geocentricity*. First of all, the Ptolemaic figure appears on page 115 and is clearly referenced in the cited chapter. The figure that appears in the chapter is the *modified Ptolemaic model*, similar to the one shown above. The description is of it, not the Tychonic model. True, in a



sense, one could perceive it as the modified Tychonic model (at right), but there are no epicycles in the modified Tychonic model while there are epicycles in the modified Ptolemaic model. The original Tychonic model[67][20] (which has the stars centered on the earth instead of the sun) is presented on pages 173-177, and the modified Tychonic model is expounded on pages 225-239 in the context of observational "proofs" of heliocentrism. However, the phases of Venus are brought up again on pages 309-311, and apparently every time Bouw disputes Galileo's supposed proofs against geocentrism, Faulkner is blinded.

How, then, does geocentrism differ from *geocentricity*? In geocentricity, the earth is static, but not necessarily at the center if the universe. In geocentricity the earth is actually offset from the geometric center of the universe. The earth is immobile as seen from outside the universe, that is, as seen from the third heaven, the location of the throne of God. (Note: a footstool is not a footstool if it is moving – Isa. 66:1.) And why *heliocentrism* instead of *a-centricity* or *acentrism*? Because the modern acentric model still divides the universe into unrelated sections; and because it was founded on the worship of the sun.[68][21] To model the modern universe one has quantum mechanics, relativity, electric theory, kinetics, and dynamics, not to mention thermodynamics. Geocentric models, mentioned in the same chapter Faulkner cites above, include after (half a page of text on the Ptolemaic model) the advanced potential models, Thirring's models, Birkhoff's model, Moon and Spencer's geocentric model, Mach's, Nightingale's, Rosser's explanation of Thiring's models, and the Barbour and Bertotti model. Faulkner is incapable of handling these. Most of the models, especially the last, have good success explaining more than the dynamics (and kinematics in the process). They are more comprehensive models insofar as they take the gravitational field of the distant stars into consideration. The so-called fictitious forces, namely the Coriolis and centrifugal come out as real gravitational forces. The standard model isolates them (-isms them) from the gravitational field of the stars, that is, from the inertial field. Although the field is invoked to explain the phenomena, it does not appear in the derivation, which is strictly kinetic. Likewise, the geocentric models derive the Euler force as well as some relativistic terms, and even some quantum terms from the foundation of the first law of thermodynamics. That is why the term *geocentricity* was coined for the modern geostatic paradigm. The suffix *–ity* signifies the state or condition of. Hence, *geocentricity* signifies the state or condition of earth-centeredness. Specifically, it denotes the conditions necessary in the universe to keep the earth stationary and stable when seen from outside of the universe. It is an integrative model of the universe, a model that considers the universe as a whole instead of several parts. Today's heliocentrism is rather behind the geocentric or Machian paradigm in its quest for the "unified field theory."

So Faulkner forbids Bouw to coin the word geocentricity to express the differences between the modern and ancient geocentric models. This, in turn, allows him to ignore the geocentric arguments and work only with the ancient straw man, geocentrism. Faulkner himself coins the contentless word *geokineticism* for today's model whereas a perfectly good word, *acentric*, (with no center) is used by the researchers themselves.

The authority of the Scriptures

By now the reader may have noticed that the misstatements and errors in Faulkner's paper are so manifold that it would take a very long paper indeed to counter them all. We will continue to use a representative sample. In the section entitled "Biblical Issues,"[69][22] Faulkner starts by faulting Bouw for attacking allegedly godly, Christian men. His arguments depend for their success on the unwary reader's ignorance or inability to investigating and evaluate the charges for himself.

The first matter that Faulkner brings up concerning his "Biblical Issues" is whether Augustus de Morgan was, along with Bertrand Russell, an agnostic. In a footnote, Faulkner refers to Newman's four-volume work *The World of Mathematics*, where de Morgan called himself a "Christian unattached." Just what

that means is made clear in that work, but there is absolutely no evidence that de Morgan was saved; that he was a Christian in the true sense of the word. Faulkner's riposte is not free of error, however. According to Faulkner's footnote 6, de Morgan worked at Trinity University. But de Morgan did not work there; he was a student there. De Morgan worked at the University of London, which became University College. He left there when the College refused to hire a Unitarian minister to the chair of philosophy. De Morgan refused to confess Christ with his lips "because in my time such confession has always been the way up in the world," although Romans 10:9[70][23] is clear that such is not an option. In the footnote, Faulkner chastises Bouw with the words "De Morgan is not the only person whose faith Bouw attacks," but then back in the text, Faulkner calls de Morgan a "bibliosceptic." Worse, after chastising Bouw for attacking de Morgan's faith in Christ, Faulkner accuses de Morgan and Russell of "Being antagonistic toward the Bible and Christianity, both of these men had a vested interest in discrediting the Bible. What a better way to do this than for them to falsely claim that the Bible says things that are patently not true?" Bouw called the man an agnostic, but Faulkner, after defending him as a Christian, calls him a liar. It calls into serious question the reliability of Faulkner's claims.

Of course, Faulkner does not reproduce the quotes from de Morgan and Russell, and does not address the issues raised by them. He arbitrarily dismisses them as ignoramuses, men "ignorant of Biblical languages and historical context." Furthermore, Faulkner claims that "The appropriateness of quoting these two gentlemen apparently never occurred to Bouw." These men were scholars, and de Morgan at least, knew more Scripture than the vast majority of today's Christians. Read de Morgan's books and see for yourself. One of the arguments that creationists use against geocentrists is that geocentricity destroys the credibility of the creationist in the eyes of *unbelievers* like these two men. What makes them hard to win to the creationist cause is that they clearly see the hypocrisy. They have more insight into the nature of the argument than Faulkner has, for they cannot be "snowed" by illogical arguments. Geocentrists find that most atheists will acknowledge, as de Morgan, that geocentricity is science, whereas they will never admit that of creationism. Indeed, on a personal note, it was people like Danny Faulkner and Hugh Ross who converted me to atheism in my teen years. How? Because according to them, science led the way to the truths of heliocentrism and evolution while the Christian scholars needed thirty years or more to "come around."

Here is de Morgan's quote Faulkner refused to analyze:

> The question of the earth's motion was the single point in which orthodoxy came into real contact with science. Many students of physics were suspected of magic, many of atheism: but, stupid as the mistake may have been, it was *bona fide* the magic or the atheism, not the physics, which was assailed. In the astronomical case it was the very doctrine, as doctrine, independently of consequences, which was the *corpus delicti*: and this because it contradicted the Bible. And so it did; for the stability of the earth is as clearly assumed from one end of the Old Testament to the other as the solidity of iron. Those who take the Bible to be *totidem verbis* dictated by the God of Truth can refuse to believe it; and they make strange reasons. They undertake, *a priori*, to settle Divine intentions. The Holy Spirit did not *mean* to teach natural philosophy: this they know beforehand; or else they infer it from finding out that the earth does move, and the Bible says it does not. Of course, ignorance apart, every word is truth, or the writer did not mean truth. But this puts the whole book on its trial: for we can never find out what the writer meant, unless we otherwise find out what is true. Those who like may, of course, declare for an inspiration over which they are to be viceroys; but common sense will either accept the verbal meaning or deny verbal inspiration.[71][24]

The reader can judge for himself whether or not the quote is appropriate. To claim it is not echoes the complaints that evolutionists voice when creationists quote them in "ignorance."

Continuing with the Scriptural arguments, Faulkner spends a long time arguing against scriptures that even in his book Bouw admits are weak. Nowhere does he address those scriptures Bouw identifies as definitive. At this point, Faulkner places his finger on what galls him most, indeed, what galls most modern Christian scholars most about Bouw's arguments: Bouw relies entirely on the King James Bible and even rejects the authenticity of the *Septuagint*. Faulkner claims without a thought that it is "the original languages of Scripture that matter, not any translation."[72][25] Proof? None is offered. Indeed, there is none. Not a single scripture says that a translation is worse than an original. It does imply the contrary.[73][26]

Psalm 119:89 says "Thy word is settled in heaven." Is Hebrew spoken in heaven? If so, is the New Testament, written in Greek, not a translation from the Heavenly Hebrew? Or did Greek become the official language of heaven sometime between the Testaments? And if not, which is the "original" version, the one in heaven's language, or the ones in Hebrew and Greek? And if Faulkner's profession is orthodox throughout the history of the Church, then why is there no insistence upon the original languages in the writings of the early Christians? Many creationists and even fundamentalists believe that Matthew was originally written in Hebrew or Aramaic. And Eusebius reports that Luke translated Hebrews from Hebrew to Greek,[74][27] so it is obvious that the long-lost Hebrew originals of Matthew and Hebrews are what matters, and the Greek translation that remains today has no more authority than a King James Bible. The translations into Greek of Matthew and Hebrews must be inferior and errant because they are translations, at least, according to today's Christian scholars. And if translations were never authoritative to the Church of Jesus Christ, why did the Scillitan Martyrs at Carthage (A.D. 180) accept martyrdom for possession of the "letters of Paul, the just man," in Latin? And the Smithfield fires burned not because of Greek and Hebrew originals but because of English Bibles. Besides, which of the many original language editions is the one that matches the original autographs? In Hebrew, is it found in the *Ben Hachim* edition? Kittel's? the Masoretic? And if the Masoretic, is it with or without the emendations of the Sopherim? And which of the Greek originals is the correct one? That of Tregelles, or Tischendorf, or Lachmann, or Griesbach, or Mill, or Walton, or Fell, or Alford, or Souter, or Aland, or Metzger, or Hort, or Scrivener, or Bengel, or Scholtz, or Birch, or Alter, or Warfield, or Von Soden, or Hugh, or Harwood, or Nestle, and if so, which edition? Or maybe it's the Textus Receptus, but which edition? One of Erasmus's? Or one of Beza's? And what of the Colinaeus, or Elzevir, or Stephanus editions? Then, too, there is the Majority Text, one that no scholar has yet collated. And clearly, the translations of Old Testament passages quotes in the New Testament cannot count as "it is the original languages of Scripture that matter, not any translation."

In criticizing one of the least of the geocentric scriptures, Faulkner claims that the word "stablished" in Psalm 93:1 should be "established." In *Geocentricity*, Bouw noted that stablish implies an on-going stabilization whereas established means to set up, without any on-going maintenance to keep the stability. Faulkner continues that "None of the English dictionaries (including the Oxford) I consulted support this distinction. All the dictionaries revealed that 'stablish' is an archaic variation of 'establish.'" That most dictionaries would parrot the common line today, that stablish is an obsolete variant of establish, should not be surprising, for these days it's scholars of Faulkner's ilk that write the dictionary definitions. That is the best that 21st century scholarship can offer. However, in the original edition of the *Oxford English Dictionary*, we find this revealing note between the first meaning of *stablish* and after the list of variant spellings (see figure at left):

Stablish (stæ·blif), *v.* Now *arch.* Forms: 3–5 **stablis, 4 stablys, stablisce, 4–5 stablisse, 4, 6 stablische, 4–6 stablisshe, 5 stablice, -esshe, -ych, -ysh, 5–6 stablysche, -yssh e, 6 stablyshe, -ishe, (stablyszshe), 8–9 'stablish, 4– stablish**; also *pa. t.* and *pa. pple.* 3–4 **stablist, 4 stablyste** (*Sc.* **stabelaste**), 4, 6 **stabliste.** [Variant of ESTABLISH *v.*] = ESTABLISH *v.* in various senses.

From the 16th c there seems to have been a tendency to confine the use of the form *stablish* to those uses in which the relation of meaning to *stable* adj. is apparent, i.e. where the notion is rather 'to strengthen or support (something existing)' than 'to found or set up'. The modern currency of the word is purely literary, and reminiscent of the Bible or Prayer Book.

1. *trans.* To place or set (a material thing) firmly in position; to station (a person) in a place. *Obs.* exc. *in figurative context.*

a **1300** *Cursor M.* 21288 Tuin axils [of an allegorical 'wain'] er tuin laghs, i-wiss, ..þe carter self is iesus crist, His bodi es yock he has stablist. *a* **1325** *Prose Ps.* xxx[i]. 10 Ne þou ne shettest me nouȝt in þe hondes of þyn enemy; þou stablisced my fete in large stede. *c* **1450** *Merlin* iii. 59 Ye shall stablisshe the thirde table in the name of the trinite. *c* **1500** *Melusine* i. 17 There the lady Pressyne stablysshed a stronge geaunt to the sauegarde of the tresoure. **1650** *Sc. Psalms* xciii. 5 The world is also stablished, that it can not depart. **1845** BAILEY *Festus* (ed. 2) 198 Heaven's eternal base, Whereon God's throne is stablished.

From the 16th c. there seems to have been a tendency to confine the use of the form *stablish* to those uses in which the relation of meaning to *stable* adj. Is apparent, i.e. where the notion is rather 'to strengthen of support (something existing)' than 'to found or set up'. The modern currency of the word is purely literary, and reminiscent of the Bible or Prayer Book.

Since the King James Bible was written early in the 17th century, the note applies to it. Of course the old OED also claims stablish is a variant of establish, but a careful reading of the quotes the OED provides to illustrate the meaning shows that even prior to the 16th century, stabilization is evident. Of King Arthur it was written in 1485 that he "Stablysshed all his knyghtes," meaning of course that he trained, fed, and maintained them. Likewise in 1300 we read that "The lady Pressyne stablysshed a stronge geaunt to the sauegarde of the tresoure." Of course she fed and maintained the "geaunt" (giant) who safeguarded the treasure. Likewise we read that "Thus is Iesus become a stabliszher of so moch a better Testamente" in the Coverdale Bible's rendering of Hebrews 7:22 in 1535. Bouw, as Coverdale, is convinced that Jesus actively preserves the Scripture, thus *stablishing* it. Faulkner cannot read the words of God closely enough to see such shades of meaning because he has been taught that he doesn't have the words of God, *viz*., the tens of thousands of differences represented in the "original languages" by the different versions of the originals listed above. If not lying about his "stablish" research, Faulkner is at least guilty of shoddy work.

As is common these days, Faulkner thinks that geocentric references in "poetic books" can safely be assumed devoid of truth. He feels that when God inspires poetry, that he is less bound write the truth, leastwise not absolute truth. Faulkner claims, still on page 111, that "If cosmology is clearly not the point of the passage, then extracting a cosmological meaning can be very dangerous." When Moses saw the burning bush, God identified himself to Moses as "the God of [Moses'] father, the God of Abraham, the God of Isaac, and the God of Jacob. Clearly, the intent was to introduce himself to Moses. But then by Faulkner's logic, Jesus was on dangerous grounds to read into those words evidence for the resurrection (Matthew 22:32; Mark 12:26), when the resurrection was "clearly not the point of the passage."

Skipping over the lesser arguments (Psalm 96:10; 1 Chronicles 16:30; Psalm 104:5) we turn to the section "Sunrise and sunset."[75][28] Here Faulkner writes "Bouw has suggested the words 'tosun' and 'fromsun' for sunrise and sunset to better acknowledge what heliocentrists mean. It is extremely unlikely that these words will catch on, because the terms sunrise and sunset work so well."[76][29] If Faulkner read Bouw's words, he certainly misrepresented them. In context, Bouw suggested that since God founded the languages, and if heliocentrism were the true state of affairs, then it would be a simple matter for God to have created words like "tosun" and "fromsun" instead of sunrise and sunset to better encapsulate the "truth" of heliocentrism. In no way was Bouw proposing a change of words, but, of course, Faulkner's version serves his purpose better than the truth.

Faulkner ignores the real geocentric scriptures in favor of ones he thinks easy to dispatch. He refuses to mention, let alone deal with, geocentric scriptures such as Joshua 10:13, Ecclesiastes 1:5, and

Malachi 4:2. All Faulkner can do is to ridicule the conclusions without any support for his ridicule and without any context for Bouw's claims. It is obvious that Faulkner knows far more astronomy than he knows the words of God, and even at that, his knowledge of the history of astronomy and cosmology is minimal.

The real geocentric scriptures Faulkner cannot refute

One may reasonably assume that the reason why Faulkner did not mention, let alone refute the strongest geocentric passages covered by Bouw in his book is because Faulkner has no way to refute their geocentric impact. Here are the three strongest geocentric scriptures.

Joshua 10:13 says:

> And the sun stood still, and the moon stayed, until the people had avenged themselves upon their enemies. *Is* not this written in the book of Jasher? So the sun stood still in the midst of heaven, and hasted not to go down about a whole day.

Ecclesiastes 1:5 says:

> The sun also ariseth, and the sun goeth down, and hasteth to his place where he arose.

And Malachi 4:2 says:

> But unto you that fear my name shall the Sun of righteousness arise with healing in his wings; and ye shall go forth, and grow up as calves of the stall.

In Joshua 10:13 it is the sun that is said to stand still. God could have said "And the earth stopped turning so that the sun appeared to stand still," but he didn't. In effect, Faulkner claims that since it was inconvenient for God to tell the truth, he promoted the commonly accepted story, although the Holy Ghost knew it not to be true. How then can God say that he is the God of Truth and the Spirit of truth? Indeed, God's creative power is such that his very speaking "the sun stood still" would instantly have transformed the acentric cosmos unto geocentric. It has been noted by scholars that God cannot lie because if he ever did, then the "lie" would immediately come to pass and it would instantly no longer be a lie. This they believe because God spoke the universe into being when it was not. So in a very real sense, to be consistent, those that reject the geocentric model must also reject the creationist model.

In Ecclesiastes 1:5 it is the sun that ariseth, goeth down, and hasteth. Again, God could just as well have spoken the "geokinetic truth" by simply adding the sense "seemeth to" before each of the three actions. That is, to say instead "The sun also seemeth to arise, and the sun seemeth to go down, and seemeth to haste to his place where he arose. Why did God persist in his geocentric "error"?

Now note Malachi 4:2 where the Sun, as a type of Jesus (also see Psalm 19:1-6), is said to arise. It is clear that this refers to the resurrection. How, then, can a believer in the resurrection of the Lord Jesus Christ insist that the word "arise" is literal truth when referring to the resurrection here, yet at the same time insist that it is not literally true when applied to the Sun here, in this same verse? And if the geokinetic model is true, then no one before Copernicus could possibly have guessed at the "heliocentric truth" (reread the earlier quote by de Morgan). We are left to ponder what else will science may reveal that is currently misunderstood by Bible believers. Of course, the likes of Hugh Ross will say "Evolution," that the days of Genesis 1 are not literal days but indeterminate periods. After all, if science has proven that the rising of the sun is figurative in Scripture, then how can one escape the charge that science has also proven that the days of creation are figurative in Scripture? Of course, one can't; and any Christian who thinks an atheist or agnostic too stupid to see this, is an arrogant Bible-illiterate who neither knows nor believes Luke 16:8.[77][30]

It was Aardsma who placed the above debate into focus when he wrote:

> The Biblical status of the doctrine of creation contrasts sharply with that of geocentricity. The Bible opens with the explicit declaration 'In the beginning God *created* the heavens [sic] and the earth,' and Genesis 1 goes on to outline in detail the doctrine of creation. While it is impossible to *find* any definitive teaching in the Bible on the physical form of the universe, it is impossible to

> *miss* the explicit teaching in the Bible that the world was supernaturally created by God, for it permeates Scripture.[78][31] (Emphases in original.)

Bouw most certainly admits that Genesis 1 makes a clear statement for the six-day creation, but the second sentence misses the point. The issue is not the "physical form of the universe," which indeed is not clearly addressed in Scripture, though some see it in Hebrews 9. No, the issue is the *stability of the earth*; and that, as de Morgan said in the quote at the start of this section, "is as clearly assumed from one end of the Old Testament to the other as the solidity of iron." So, if Genesis 1:1, "In the beginning God created the heaven and the earth" is a clear statement that God created, then Ecclesiastes 1:5, "The sun also ariseth, and the sun goeth down, and hasteth to his place where he arose," is just as clear a statement of geocentricity. And with that, we come to the *real* issue: Is the Scripture to be the final authority on all matters on which it touches, or are scholars, to be the ultimate authority? The central issue is not the motion of the earth, nor is it the creation of the earth. The issue is final authority, is it to be the words of God, or the words of men.

Historical Issues

When looking at historical matters, Faulkner again picks and chooses that he thinks easy to dismiss, without any documentation other than a reference to Henry Morris's *Men of Science – Men of God* which is more devotional than a biographical treatise on each man. The historical and biographical aspects of Copernicus, Brahe, Kepler, Galileo, Wilkins, and Newton are documented not only in books, which tended until very recently to avoid controversy for fear of lost sales, but also in papers published in journals devoted to the history of science in general and astronomy in particular. These include authors such as Drake, Hoyle, Doig, Popper, Wilkins, Redondi, Lear, Lodge, Gingerich, Kepler, Galileo, Copernicus, Johnson, Thiel, Rosen, Oberman, Nelson, Newton, Lasky, Bronowski, Stimson, and Keston, among others. Every charge Bouw lays for or against Copernicus, Brahe, Kepler, Galileo, Wilkins and Newton is documented in *Geocentricity*; not a single countercharge leveled by Faulkner on pages 113 through 116 is documented. He merely expresses his opinion or echoes elementary textbooks of which Kuhn has said that it is in the best interest of science that these should sometimes lie.[79][32] To one who has read the literature extensively, it is clear that Faulkner has fallen for more than one such deception. Thus, for example, Kuhn writes of Kepler "Individual scientists embrace a new paradigm for all sorts of reasons and usually for several at once. Some of the reasons – for example, *the sun worship that helped make Kepler a Copernican* – lie outside the apparent sphere of science entirely"[80][33] (emphasis added). Likewise, introductory astronomy texts will present the modern acentric model as a proven fact, just as they do evolution, whereas an advanced text will admit that no proof exists and that the geocentric model is just as viable as the Copernican.[81][34]

One thing should be mentioned regarding the possibility that Tycho Brahe was poisoned. In 1996, the Landskrona Arts Museum in Sweden had an exhibit on Tycho and some hairs were taken to the Lund Nuclear Microprobe facility at the University of Lund in Stockholm and analyzed at PIXE. The hairs were examined for traces of lead, mercury and arsenic. Increased levels of mercury and lead were found at the root of a hair (traditionally strands of hair were cut after death, as mementos, so the presence of a root is a bit of a rarity). The analysts concluded that the rise in mercury level was very quick, five to ten minutes. The same was true for the falloff, in accordance with the known high metabolism of hair roots. The mercury was given to Brahe only one day before he died. Of course, that is no proof that Brahe was poisoned by someone else, but it does beg the question of why he would be so careless that one time when the rest of the hairs showed no lethal abundance, even given that he routinely worked with mercury

and arsenic.[82][35] It really would help the cause of truth if Faulkner had done his homework instead of making rash and unfounded charges and innuendoes.

Scientific Issues

Faulkner barely touches on the scientific issues although those take up a third of Bouw's *Geocentricity*. Most of those he does touch are rather historic than scientific. For example, to Faulkner the phases of Venus disprove geocentricity once and for all. "Bouw completely misconstrues Galileo's third evidence for heliocentrism, the phases of Venus." He marks the passage with footnote 37, but the passage he refers to, page 189 of *Geocentricity*, speaks of the Tychonic model, not the Ptolemaic. That the Ptolemaic model can be accommodated to show the phases of Venus can be done, *tu wit*, the third figure in this rebuttal. The figure also appears on p. 311 of *Geocentricity*. Indeed, when commenting on that figure, Faulkner shows his complete lack of understanding of the modification to the Ptolemaic model. Of course it looks like the Tychonic model or even the heliocentric model in some respects. It has to, to fit the observations.[83][36]

When it comes to relativity, Faulkner seems totally lost. On page 117, for example, he cannot see that Bouw's "rejection of relativity," as he calls it, is merely a criticism of the inconsistent application of its assumptions. Because Faulkner doesn't understand those assumptions, he falsely claims that Bouw "mishandles" the twin paradox. Bouw merely pointed out that the resolution of the twin paradox is that the universe supplies an absolute standard of rest, and that the assumption that all motion is relative is violated by that point. Holding the cosmos as the absolute standard of rest is commonly invoked to explain not only the twin paradox, but also the ruler paradox and the Ehrenfest paradox. Faulkner doesn't comprehend the finer philosophical shades of relativity (Col. 2:8, KJB only). Thus, when Bouw pointed out that the deflection of starlight by the gravitational field of the sun is not *proof* for relativity, and that many have objected to the cavalier way that Eddington handled the 1922 solar eclipse data, Faulkner generalizes this to an all-out assault on eclipse data supporting relativity. The reference to Soldner's 1801 prediction that gravity should deflect light is clearly stated in *Geocentricity*. But Faulkner cannot make himself admit that classical physics, too, might explain something that relativity also explains, and to explain it equally well. Bouw's whole point in the text is to deny the claim that the deflection is *proof* of relativity since both relativity and classical physics predict the same results. Faulkner's claim that Bouw denies the reality of the deflection is absolutely and totally false, as anyone with access to Bouw's book can readily verify.

Faulkner is ignorant of the role the perihelion precession played in the relativistic debate. Bouw points out that the reason why relativists refer to the perihelion precession of Mercury's orbit instead of any of the other planets is because it only works for Mercury. Of course, it would work for binary stars, too, but that misses Bouw's point, made later,[84][37] that the geocentric models of Hanson and Barbour and Bertotti[85][38] come closer to explaining the observed perihelion precession of the other planets than does standard relativity. Needless to say, Faulkner won't touch that one with a ten-foot pole.

Since such meat is too tough for Faulkner, he picks on the least of the "lesser evidences"[86][39] *viz*. the orbital resonances that appear between the earth and Venus and the earth and Mercury. He insists that a resonance cannot be verified unless one actually observes the surface of a planet.[87][40] This is, of course, nonsense. All one needs to know is the length of the year and the day. The rest of Faulkner's criticisms on the lesser evidences stem from having observations that did not exist when the book was printed in 1992 and so are moot. Bouw freely admitted that science is the least constant guide to truth and that the

third section of the book, dealing with scientific matters, is the only one likely to become obsolete in time. Of other lesser evidences such as the distribution of quasars and stars about the earth, etc. he is mum.

In his appendix,[88][41] Faulkner presents little that contributes to his cause. He exhibits gross ignorance of the behavior of the modified Tychonic model that Bouw champions (see the fourth figure). He ignores its ability to account for retrograde motions as easily as the heliocentric model.[89][42] He is apparently unaware that the Copernican model was actually more complicated than even the original Ptolemaic one it replaced since was the centered on the center of the earth's orbit, not the sun.[90][43]

Science beyond Faulkner's ken

And that brings us to the final points, the ones Faulkner doesn't mention or treats superficially. The firmament is one of those. Faulkner treats the biblical firmament with the post-1750 higher criticism's dictionaries which were based on the assumption that secular sources for the meaning of words are more reliable than sacred.[91][44] He does not understand the underlying physics of Planck particles or massive superstrings and, indeed, misses a golden opportunity for serious criticism because of that lack of understanding. Bouw has an entire chapter on the firmament.[92][45] Although Bouw stands by most of the chapter, there is one error, a computational one, literally, the copying of a wrong sign, that Faulkner is ignorant of. Because of that error, Bouw mistakenly concluded that the earth must rotate once a day in order for the universe to exist.[93][46] The error will be corrected in the next printing of his book.

When it comes to whether or not the geocentric model is physically tractable, Faulkner is totally silent after an initial comment in the context of Aardsma's *Impact* article.[94][47] Bouw lists the following papers, which appeared in refereed, respectable physics journals and which each presented a model geocentric in a mathematically tractable way and which model yielded the same equations of motion, i.e. the same dynamics, as the heliocentric model. These follow:

Gerber, Paul, 1898. *Zeitschrift für mathematik physik*, **43**:93.

Thirring, Hans, 1918. *Physikalische Zeitschrift*, **19**:23.

Lense, J., and H. Thirring, 1918. *Ibid*., p. 156.

Møller, C., 1952. *The Theory of Relativity*, (Oxford: Clarendon Press), pp. 318-321.

Birkhoff, G. D., 1944. *Boletin de la Sociedad Mathematica Mexicana*, **1**:1.

Brown, G. B., 1955. *Proc. Of the Phys. Soc., B*, **68**: 672.

Moon, P. and D. E. Spenser, 1959. *Philos. Of Science*, **26**:125.

Nightingale, J. D., 1977. *Am. Jrn. of Phys.*, **45**:376.

Rosser, W., 1964. *An Introduction to the Theory of Relativity*, (London: Butterworths), p. 460.

Barbour, J. B. and B. Bertotti, 1977. *Il Nuovo Cimento*, **38B**(1):1.

Browne, P. F., 1977. *Jrnl. of Phys. A: Math & Gen.*, **10**:727.

Mach, E., 1883. *Die Mechanik in Ihrer entwicklung Historisch-Kritisch Dargestellt*, (Prague).

Gödel, K., 1952. *Proc. Of the International Congrs. of Math.*, **1**:175.

Conclusion

In examining Faulkner's case against geocentricity we found that his insistence that the Scriptures do not present a geocentric universe is not founded on any reason other than his opinion. In effect, his view is founded on the assumption that the proper interpretation of the Bible in the realm of science may await future discoveries by science. He is mistaken in his claim that geocentricity rejects relativity, confusing the distinction between the underlying philosophical assumptions with the implementation of the theory.

As can be seen in the above references, relativity is a strong, albeit reluctant, supporter of the geocentric paradigm.

Faulkner rejects all documented, historical evidence for Bouw's claims with undocumented, unsupportable opinions. He ignores the application of Occam's razor at the point that until 1729, the observational evidence favored the Tychonic model. Faulkner also ignored the clear and unelicited testimony from non-geocentric physicists for the validity of the geocentric model.

In the light of this, his charge that geocentrists "offer a very easy target of criticism for our critics" is revealed as sheer nonsense. Evolutionists, atheists, and agnostics in the know can easily shame creationists on the issue of geocentricity by simply pointing out the hypocrisy of their insistence that the days in Genesis 1 are literal while the rising and setting of the sun is not. Likewise, to insist that the rising of the sun is figurative while the rising of the Son is literal is also hypocrisy. Given that the geocentric model is pure physics, mathematically tractable, and realistic, and consistent with Scripture, we conclude that the creationist's desire to reject it can only be for the sole purpose of appearing intellectual and acceptable to the world, which desire is enmity with God (James 4:4[95][48]). The creationist movement is fortunate that evolutionists don't understand these simple issues, for if they did, creationists would be shamed and held contemptible even more than they are now.

[96][1] DeYoung, D., 1988. "Does the Earth Really Move? A Look at Geocentrism," *Creation Ex Nihilo*, **10**(3):8-13.

[97][2] Bouw, G., 1990. "A Response to de Young's *Ex Nihilo* Article," *Bulletin of the Tychonian Society*, no. 53, pp. 35-36.

[98][3] Bouw, G. 1990. "A Response to de Young," http://www.geocentricity.com/bibastron/ba/no53/dyresp.htm.

[99][4] Aardsma, G. 1994. "Geocentricity and Creation," *ICR Impact Series*, no. 253, July.

[100][5] *Ibid*., p. ii.

[101][6] Faulkner, D., 2001. "Geocentrism and Creation," Creation *Ex Nihilo Technical Journal*, **15**(2):110-121. Pg. 110.

[102][7] Proverbs 1:22 – How long, ye simple ones, will ye love simplicity? and the scorners delight in their scorning, and fools hate knowledge?

[103][8] Mach, E. 1921. *Die Mechanik in ihrer Entwicklung historisch-kritisch dargestellt*, (eighth edition, Leipzig), p. 222. My translation is free flowing. The original German text is: "Alle Massen, alle Geschwindigkeiten, demnach alle Kräfte sind relativ. Es gibt keine Entscheidung über Relatives und Absolutes, welche wir treffen könnten, zu welcher wir gedrängt wären... Wenn noch immer moderne Autoren durch die Newtonschen, vom Wassergefäß hergenommenen Argumente sich verleiten lassen, zwischen relativer und absoluter Bewegung zu unterscheiden, so bedenken sie nicht, daß das Weltsystem uns nur einmal gegeben, die ptolemäische oder kopernikanische Auffassung aber unsere Interpretationen, aber beide gleich wirklich sind."

[104][9] Faulkner, ref. 6.

[105][10] http://www.answersingenesis.org/home/area/magazines/tj/docs/tj_v15n2_geocentrism_creation.asp

[106][11] Bouw, G. D., 1992. *Geocentricity*, (Assoc. for Biblical Astronomy: 4527 Wetzel Ave., Cleveland, OH 44109).

[107][12] The second edition of the OED came out about a decade ago. It cannot be relied upon for the meanings of "obsolete" words because its stated goal was to give coverage of recent words, particularly words that have come into vogue since the original OED's 1928 completion. To keep the number of volumes down, much of the coverage in the original OED had to go. In this paper all references to the OED are to the original, first edition.

[108][13] Hall, F., 1865. In H. H. Wilson's translation of the Hindu work *Vishnu Purdna*, vol. 2, note on p. 242: "The heliocentricism taught in this passage ... is remarkable."

[109][14] For a readily available treatise of the Copernican model's technical details compared with the Ptolemaic, the interested reader is referred to J. L. E. Dryer, 1906. *History of the Planetary Systems from Thales to Kepler*, (Cambridge Univ. Press). Dover reprinted it in 1953 and it is available under the title of *A History of Astronomy from Thales to Kepler*, ISBN 0-486-60079-3.
[110][15] *Ibid*., p. 259.
[111][16] Faulkner, ref. 6, p. 116.
[112][17] Faulkner, ref. 6, p. 115.
[113][18] Faulkner, ref. 6, p. 116.
[114][19] Faulkner, ref. 6, p. 116.
[115][20] Though the model is named after Tycho Brahe, it first appeared in the early 1500s. Before that, a similar model came from Egypt. The difference is that whereas Tycho had all the planets going around the sun, the Egyptian model had only Mercury and Venus orbiting the sun, thus accounting for their phases. But the orbits of the superior planets were centered on the earth. This was also the model advocated by the Venerable Bede.
[116][21] Fully documented by Bouw in ref. 11, ch. 17 from Copernicus's own words. Also, see ref. 33.
[117][22] Faulkner, ref. 6, p. 111.
[118][23] Romans 10:9 - "That if thou shalt confess with thy mouth the Lord Jesus, and shalt believe in thine heart that God hath raised him from the dead, thou shalt be saved."
[119][24] De Morgan, Augustus, 1872. *A Budget of Paradoxes*, 2nd edition edited by D. E. Smith, 1915, (Chicago & London: The Open Court Publishing Co.), **1**:36.
[120][25] Faulkner, ref. 6, p. 111.
[121][26] Hebrews 11:5 - By faith Enoch was translated that he should not see death; and was not found, because God had translated him: for before his translation he had this testimony, that he pleased God.
[122][27] Eusebius, ca. A.D. 310. *The History of the Church from Christ to Constantine*, 14.1.
[123][28] Faulkner, ref. 6, pp. 112-113.
[124][29] Faulkner, ref. 6, p. 112.
[125][30] Luke 16:8 - And the lord commended the unjust steward, because he had done wisely: for the children of this world are in their generation wiser than the children of light.
[126][31] Aardsma, ref. 4, p. iii.
[127][32] "In the case of textbooks, at least, there are even good reasons why…they should be systematically misleading" Kuhn, T.S., 1962. *The Structure of Scientific Revolutions*, 2nd ed., 1970, vol. 2, no. 2 of Foundations of the Unity of Science series, p. 137.
[128][33] *Ibid*., pp. 152-153. Kuhn's footnote says "For the role of sun worship in Kepler's thought, see E. A. Burtt, *The Metaphysical Foundations of Modern Physical Science* (rev. ed.; New York, 1932), pp. 44-49."

[129][34] *Ibid.*, p. 154. Also, Hoyle, Sir F., 1975. *Astronomy and Cosmology: A Modern Course*, (San Francisco: W. H. Freeman & Co.), p. 416 where he writes: "We know that the difference between a heliocentric theory and a geocentric theory is one of relative motion only, and that such a difference has no physical significance."
[130][35] Pallon, J. 1996. "Did Mercury Poisoning Cause the Death of Tycho Brahe?" an e-mail posting dated July 3, 1996 by Jan Pallon of PIXE, Jan.Pallon@pixe.lth.se.
[131][36] Faulkner, ref. 6, p, 116 re. footnote 38.
[132][37] Bouw, ref. 11, pp. 316-317.
[133][38] Barbour, J. B. and B. Bertotti, 1977. "Gravity and Inertia in a Machian Framework," *Il Nuovo Cimento*, **38B**(1):1.
[134][39] Bouw, ref. 11, chapter 26, pp. 292-308.
[135][40] Faulkner, ref. 6, p. 118.
[136][41] Faulkner, ref. 6, p. 119.
[137][42] Faulkner, ref. 6, p. 120.
[138][43] See the treatment in ref. 14, ch. 7, 9, & 13.
[139][44] Bouw, G., 2001. "The Morning Stars," *Biblical Astronomer*, **11**(97):69-95.
[140][45] Bouw, ref. 11, ch. 28, pp. 318-329.
[141][46] Bouw, ref. 11, pp. 327-327.
[142][47] Faulkner, ref. 6, p. 110.
[143][48] James 4:4 – "Ye adulterers and adulteresses, know ye not that the friendship of the world is enmity with God? whosoever therefore will be a friend of the world is the enemy of God."