

## **Rebuttal to Dr. Danny Faulkner and Dr. Gerald Aardsma's Views on Geocentrism**

**By Robert Sungenis, Ph.D.**

<http://www.answersingenesis.org/articles/tj/v15/n2/geocentrism>

**Faulkner:** Some creationists believe that the scientific assault on the Bible did not begin with biological evolution, but with the acceptance of the heliocentric (or more properly, geokinetic) theory centuries ago. These people believe that the Bible clearly states that the Earth does not move, and hence the only acceptable Biblical cosmology is a geocentric one. Modern geocentrists use both Biblical and scientific arguments for their case. We examine these arguments, and find them poorly founded. The Scriptural passages quoted do not address cosmology. Some geocentrists draw distinctions that do not exist in the original autographs or even in translations. In short, the Bible is neither geocentric nor heliocentric.

**R. Sungenis:** Since passages such as Joshua 10:10-14 and Psalm 19:1-6, among about two dozen others, state that the sun moves and the Earth does not, how could they not be “addressing cosmology”? The only possibility is that Faulkner is trying to put “cosmology” into the area of the complicated and esoteric so that it cannot be spoken of in simple terms. But this debate is very simple. Either the Earth moves or it doesn't, and the Bible, being God's inspired and inerrant word, certainly has a say on that simple question. The Bible certainly isn't a science book, but when it touches upon any scientific subject it is as inerrant as it is on theology or history.

**Faulkner:** While geocentrists present some interesting scientific results, their scientific arguments are often based upon improper understanding of theories and data.

**R. Sungenis:** Here Faulkner is seeking to preempt the discussion with the common “my opponent doesn't understand,” when in fact his opponent simply has a different interpretation of the data. Gathering data through telescopes and microscopes is easy. Putting the proper interpretation on the data is the difficult part.

**Faulkner:** Much of their case is based upon a misunderstanding of general relativity and the rejection of that theory.

**R. Sungenis:** So here we see that the bulk of Faulkner’s case is built on a “theory,” not fact. But as we will see, both Special Relativity and General Relativity were invented to answer the data from various experiments in the 1800s that, by all logical analysis, indicated that the Earth was standing still in space.

**Faulkner:** While geocentrists are well intended, their presence among recent creationists produces an easy object of ridicule by our critics.

**R. Sungenis:** Here we see one of the main motivations to reject geocentrism. It isn’t based purely on the scientific merits or demerits, but on the fact that supporting geocentrism would make Faulkner and his colleagues look ridiculous by their secular “critics,” namely, those who believe in evolution. If I may venture a guess, this is the real reason for CRI and AIG’s rejection of geocentrism. They have vested so much time and money into appearing as legitimate and credentialed scientists in order to give an air of authority and credibility to their views when they debunk evolution, that to risk it all by defending geocentrism is simply out of the question. Ask yourself how many articles have been written by CRI or AIG on geocentrism in the last 15 or 20 years. I can’t think of any except Faulkner’s and Aarsdama’s. They simply will not discuss the subject, and when they have done so, it is with almost total derision (except for Aarsdama’s, which one of the fairest and most honest I’ve seen, and quite different from Faulkner’s dismissive article). The decision to ignore geocentrism was made many years ago in Christian fundamentalist circles by the late Henry Morris, the author with Whitcomb of *The Genesis Flood*. It was Morris’ belief that taking the Bible literally when it spoke about the Noachic flood and of the creation of man was as far as the Christian community could go with biblical literalism. In reality, it is a bare-faced contradiction to take the Bible literally when it speaks about the creation of man and the great flood, but deny it when speaking about the position and movement of the celestial bodies.

**Faulkner:** Many critics of creationists attempt to malign by suggesting that what creationists teach is akin to belief in a flat Earth. This attack is easy to refute, because the Bible does not teach that the Earth is flat, and virtually no one in the history of the church taught this. In fact, the belief in a flat Earth is a 19th century myth that was concocted to discredit critics of Darwinism. The supposed lesson of this myth was that the Church got it wrong before, so the Church has a chance to redeem itself by getting it

right on the issue of evolution. This false lesson has been indelibly impressed upon common perception.

**R. Sungenis:** This is the typical “pick-n-choose” apologetic that Faulkner and his colleagues use quite frequently. The same Catholic Church who, based on a literal interpretation of Scripture and the known science of the times (e.g., eclipses) said the Bible did not teach the Earth was flat, was the same Catholic Church who, based on the same literal interpretation of Scripture, declared the Earth didn’t move and the sun revolved around it, and used that knowledge to condemn Galileo’s heliocentrism.

**Faulkner:** However, the Church did support the wrong side of a scientific issue four centuries ago. That issue was the question of whether the Sun went around the Earth (*geocentrism*) or if the Earth went around the Sun (*heliocentrism*, which could be called *geokineticism* since the Sun is not regarded as the centre of the universe either, as discussed below). Being based upon real history, creationists in theory could be accused of repeating this mistake by rejecting evolution.

**R. Sungenis:** Here Faulkner is trying to cover his above contradiction. In his view, it was acceptable for the Catholic Church to take Scripture literally and conclude the Earth was round, but it was not acceptable to interpret Scripture literally and conclude the Earth didn’t move. So much for consistency in interpretation, which is precisely the problem for institutions such as CRI and AIG. They don’t believe in biblical literalism as much as they believe in their own prerogative to choose which Scriptures they will interpret literally and which they will not. Faulkner recognizes the contradiction when he says, “Being based upon real history, creationists in theory could be accused of repeating this mistake by rejecting evolution.” Of course. Every accusation Faulkner makes against geocentrists interpreting the Bible literally and concluding that the Earth doesn’t move can be thrown right back at Faulkner and his fellow creationist for taking the Bible literally and concluding that man did not descend from apes. There is no difference. This is the very reason Faulkner tried to make himself immune from the contradiction when he stated above that “Scriptural passages quoted do not address cosmology.” If he can convince himself and his colleagues that the Bible doesn’t deal at all with cosmology; that it is just a figure of speech when the Bible says the Earth doesn’t move and the sun revolves around the Earth, then he can appear to avoid the contradiction presented by his chosen hermeneutic. But that fact is, the Bible does deal with

cosmology, and no abracadabra waving of Faulkner's wand will make it go away.

**Faulkner:** Alas, there are recent creationists in the world today who are geocentrists. They teach that the rejection of God's Word did not begin with Darwin's theory of biological evolution or even with Hutton and Lyell's geological uniformitarianism. Instead, they argue that the scientific rebellion against God began much earlier with heliocentrism. Many evolutionists claim that disbelief in evolution is like disbelief that the Earth goes round the Sun. The obvious flaw is that the latter is repeatable and observable while the former is not. But geocentrists give evolutionists a target, so then it behoves the creation community to have a ready response.

**R. Sungenis:** In other words, evolutionists have accused Faulkner, and rightly so, of being inconsistent and contradictory. Obviously, they aren't stupid. Since Faulkner has decided to take Scripture literally when it speaks of the creation of man in Genesis 1:20-31, why doesn't Faulkner decide to take Scripture literally when it says the Earth was made before the sun and stars and has the latter going around the former? Faulkner's answer is that we can see the Earth going around the sun, but we can't see evolution! This is a classic case of begging the question or *petitio principii*. Faulkner doesn't "know" that the Earth goes around the sun anymore than he knows the sun goes around the Earth. All he knows is that there is relative motion between the two. The very fact that Faulkner admits above to believing in General Relativity means, consequently, that he has no way of distinguishing one frame of reference from another, and it was the very reason that Albert Einstein, the inventor of General Relativity, said the following:

The struggle, so violent in the early days of science, between the views of Ptolemy and Copernicus would then be quite meaningless. Either coordinate system could be used with equal justification. The two sentences: "the sun is at rest and the Earth moves," or "the sun moves and the Earth is at rest," would simply mean two different conventions concerning two different coordinate systems (*The Evolution of Physics: From Early Concepts to Relativity and Quanta*, Albert Einstein and Leopold Infeld, 1938, 1966, p. 212).

**Faulkner:** So far, there have been few critiques of geocentrism in the creation literature. One example is [Don DeYoung's](#) defence of geokineticism in *Creation* magazine, where he presented some scientific arguments against a rigid geocentric view.<sup>1</sup> DeYoung has

also debated a geocentrist called Martin Selbrede.<sup>2</sup> Another is Aardsma's ICR *Impact* article, where he points out something well known to high-school physics students, but apparently not to biblosceptics—that it's valid to describe motion from any reference frame, although an inertial one usually makes the mathematics simpler.<sup>3</sup> But there are many times when the Earth is a convenient reference frame; i.e. at some point we all use the geocentric model in one sense. For instance, a planetarium is a geocentric model. Calculation of rising, transiting, and setting of various celestial objects is calculated geocentrically. There are numerous other examples. Since modern astronomers often use an Earth-centred reference frame, it's unfair and anti-scientific to criticise the Bible for doing the same.

**R. Sungenis:** “Criticize the Bible for doing the same”? Notice what Faulkner has done here. He sets up the fact that “it's valid to describe motion from any reference frame,” and then assumes, without proof, that the Bible uses the same principle when it says the Earth doesn't move. But this is another case of *petitio principii*. Faulkner doesn't know if the Bible is using phenomenal language in such cases. In order to make such a supposition, he would have to prove that the Bible is speaking thus, and that would entail proving, scientifically, that the Earth cannot be motionless. But Faulkner doesn't present any scientific evidence for heliocentrism in this paper, much less prove the Earth cannot be motionless.

**Faulkner:** But this is hardly the issue, and the use of the geocentric model under these circumstances hardly makes one a geocentrist. I'm using the term to describe those who claim that the Earth is the **only** valid reference frame and oppose the use of **any** other reference frame.

**R. Sungenis:** No, that is not the issue. Geocentrists do not claim that they oppose “any other reference frame.” In fact, geocentrists often argue using the tenets of General Relativity. What the geocentrists oppose is Faulkner's contradictory position, which holds that the Bible can be literally interpreted when it speaks about the creation of man but not when it speaks about the creation of the cosmos. The issue also concerns Faulkner's refusal to turn his use of geocentric frames into the real possibility that, according to Scripture, the geocentric frame is the actual frame. Since Faulkner already admits above to the validity of the geocentric frame, what is it that holds him back from accepting the geocentric frame as the actual frame? I think the answer is plain. He has already told us that he has an ulterior motive that is not scientific. It is none other than: “While geocentrists are well intended, their

presence among recent creationists produces an easy object of ridicule by our critics.”

**Faulkner:** What we need is an examination of the claims of such geocentric creationists to see if there is any merit to what they claim. The claims will fall into three broad areas: 1) the Biblical issues 2) historical record and 3) scientific evidence. Perhaps the best-known geocentrist in the world today is Gerardus Bouw, who has been a professor at Baldwin-Wallace College in Berea, Ohio for many years. He is founder and director of the Association for Biblical Astronomy, as well as editor of *Biblical Astronomer*. Both are organs for geocentrism. To distinguish modern geocentrism from ancient geocentrism, Bouw has coined the term ‘geocentricity’ for the former. Bouw has a Ph.D. in astronomy from Case Western Reserve University, so he certainly is in a position to know and understand the issues and literature involved. Given Bouw’s stature as the chief champion of geocentricity, we will use his book by the same name as the primary source on the topic.<sup>4</sup> A much lesser source is a book by Marshall Hall.<sup>5</sup> This book is poorly written, and thus will not be treated as a primary source for discussing modern geocentrism. However, Hall’s claims are examined in a separate [book review](#) in this issue of *TJ*. **Biblical issues:** Early in his book Bouw quotes the atheist Bertrand Russell (1872–1970) and the supposedly agnostic<sup>6</sup> Augustus De Morgan (1806–1871) on the supposed geocentric nature of the Bible.<sup>7</sup> The appropriateness of quoting these two gentlemen apparently never occurred to Bouw. Since when did two mathematical logicians become authorities in Biblical exegesis (like most biblioscopes, they were ignorant of Biblical languages and historical context<sup>8</sup>—see also [Bible ‘contradictions’ and ‘errors’](#))? Being antagonistic toward the Bible and Christianity, both<sup>6</sup> of these men had a vested interest in discrediting the Bible. What better way to do this than for them to falsely claim that the Bible says things that are patently not true? This straw man technique is a very common strategy in attacking the Bible. A good example is the supposedly incorrect value of p in [1 Kings 7:23–24](#) and [2 Chronicles 4:2](#), a topic that Bouw addresses very well.<sup>9</sup> Bouw does quote<sup>10</sup> an anonymous evangelical source on the geocentric nature of the Bible, but one must ask if that is indeed what Scripture teaches. There are few Biblical texts that in any way even remotely address the heliocentric/geocentric question. In each instance there is considerable doubt as to whether cosmology is the issue. Some of these verses are in the poetic books, such as the Psalms. It is poor practice to build any teaching or doctrine solely or primarily upon passages from the poetic books, though they can amplify concepts clearly taught elsewhere. It is also important not to base doctrines

upon any passage that at best only remotely addresses an issue. That is, if cosmology is clearly not the point of a passage, then extracting a cosmological meaning can be very dangerous.

**R. Sungenis:** The same argument can be used against Faulkner's use of Genesis and other passages to support the Creationist's position against evolution. A modern exegete who has imbibed the evolutionary hypothesis could easily say that the biblical passages Faulkner and his colleagues consistently use to teach that man did not come from apes and was created ex nihilo from the dust "in each instance there is considerable doubt as to whether human origins/cosmogony is the issue." In fact, many of the passages that speak of man being created come from the Psalms – the very book that Faulkner says is "poetic" and thus not really good to support one's position. By the same token, many liberal exegetes think that Genesis is "poetic," and thus reject it as giving historical information. Basically, Faulkner is trying to argue that he has the right to decide which Scriptures can and cannot be used to support one's position.

As for the validity and veracity of the Psalms to confirm truth, except possibly for Isaiah, there is no book of the Old Testament quoted as much in the New Testament to verify the historical and theological facts as the Psalms.<sup>1</sup> Perhaps the reason Faulkner doesn't like the Psalms is that they contain the most passages supporting the doctrine of geocentrism.

**Faulkner: The Galileo canard:** In the middle ages and well into the Renaissance, the Roman Catholic Church did teach geocentrism, but was that based upon the Bible? The Church's response to Galileo (1564–1642) was primarily from the works of Aristotle (384–322 BC) and other ancient Greek philosophers.

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<sup>1</sup> Psalm 2:1-2 (Acts 4:25-26); Ps 2:7 (Acts 13:33; Heb 1:5; 5:5); Ps 5:9 (Rom 3:13); Ps 8:2 (Mt 21:16); Ps 8:4-6 (Heb 2:6-8); Ps 8:6 (1 Cor 15:27; Eph 1:22); Ps 14:1-3 (Rom 3:10-12); Ps 16:8-11 (Acts 2:25-31); Ps 16:10 (Ac 13:35); Ps 18:40 (Rom 15:9); Ps 19:4 (Rom 10:18); Ps 22:1 (Mt 27:46; Mk 15:34); Ps 22:18 (Mt 27:35; Jn 19:24); Ps 22:22 (Heb 2:12); Ps 24:1 (1Cor 10:26); Ps 31:5 (Lk 23:46); Ps 32:1-2 (Rom 4:7-8); Ps 34:12-16 (1Pt 3:10-12); Ps 34:20 (Jn 19:36); Ps 35:19 (Jn 15:25); Ps 36:1 (Rom 3:18); Ps 40:6-8 (Heb 10:5-7); Ps 41:9 (Jn 13:18); Ps 44:22 (Rom 8:36); Ps 45:6-7 (Heb 1:8-9); Ps 51:4 (Rom 3:4); Ps 68:18 (Eph 4:8); Ps 69:9 (Rom 15:3); Ps 69:22-23 (Rom 11:9-10); Ps 69:25 (Ac 1:20); Ps 78:2 (Mt 13:35); Ps 82:6 (Jn 10:34); Ps 94:11 (1Cor 3:20); Ps 95:7-8 (Heb 3:15; 4:7); Ps 95:7-11 (Heb 3:7-11); Ps 95:11 (Heb 4:3-5); Ps 102:25-27 (Heb 1:10-12); Ps 104:4 (Heb 1:7); Ps 109:8 (Ac 1:20); Ps 110:1 (Mt 22:44; Mk 12:36; Lk 20:42-43; Ac 2:34-35; Heb 1:13); Ps 110:4 (Heb 5:6; 7:17, 21); Ps 112:9 (2Cor 9:9); Ps 116:10 (2Cor 4:13); Ps 117:1 (Rom 15:11); Ps 118:6 (Heb 13:6); Ps 118:22 (Ac 4:11; 1Pt 2:27); Ps 118:22-23 (Mt 21:42; Mk 12:10; Lk 20:17); Ps 118:26 (Mt 23:39; Lk 13:35); Ps 140:3 (Rom 3:13).

**R. Sungenis:** I can tell Faulkner hasn't studied the Galileo case to any great depth. If he had, he would have discovered that the Catholic Church's stance against Galileo was based almost entirely on Scripture. It was precisely because Galileo began teaching that Scripture need not be interpreted literally that the Church came down hard on him and subsequently made official statements condemning heliocentrism.

**Faulkner:** It was Augustine (AD 354–430), Thomas Aquinas (1224–1274) and others who 'baptized' the work of these pagans and termed them 'pre-Christian Christians'. This mingling of pagan science and the Bible was a fundamental error for which the Church eventually paid a tremendous price.

**R. Sungenis:** First of all, the Catholic Church did not regard Aristotle as a "pre-Christian Christian." It simply recognized that Aristotelian philosophy had some valuable principles (e.g., syllogistic thinking) and the Church already had a practice of applying whatever was logical to Christian reason. In reality, there were other Catholic Christians who sided more with Plato than Aristotle (e.g., Augustine). As for Faulkner's reference to "pagan science," the fact is, heliocentrism comes from the same pagan sources that Faulkner is associating with geocentrism. The Pythagorean school, as opposed to the Aristotelian and Platonic schools, held to heliocentrism and were just as "pagan" in their religious beliefs. So in this case, what's good for Faulkner's goose is also good for his gander.

**Faulkner:** Confusion persists to today in that nearly every textbook that discusses the Galileo affair claims that it was a matter of religion vs science, when it actually was a matter of science vs science. Unfortunately, Church leaders interpreted certain Biblical passages as geocentric to bolster the argument for what science of the day was claiming.

**R. Sungenis:** So, we should ask Faulkner in light of what he said earlier about the Catholic Church not basing its decision against Galileo on the Bible (i.e., "the Roman Catholic Church did teach geocentrism, but was that based upon the Bible? The Church's response to Galileo (1564–1642) was primarily from the works of Aristotle (384–322 BC) and other ancient Greek philosophers"), does he believe the Church based its decision on the Bible or not? He seems to want it both ways.

As for Faulkner's claim that "Church leaders interpreted certain Biblical passages as geocentric to bolster the argument for what



science of the day was claiming,” he is trying to make it appear as if the Church was manipulating Bible passages. But such was far from the case. For a millennium and a half before Galileo, the Church simply took *prima facie* the two dozen biblical passages stating that the Earth did not move and that the sun revolved around the Earth, just as she took *prima facie* that passages that said God created the universe *ex nihilo*. So how can Faulkner conclude that the Church was merely “bolstering” these passages?

**Faulkner:** This mistake is identical to those today who interpret the Bible to support things such as the big bang, billions of years, or biological evolution.<sup>11</sup> Therefore, any evangelical Christian misinformed of this history who opines that the Bible is geocentric is hardly any more credible a source on this topic than an atheist or agnostic.

**R. Sungenis:** But it is obvious that the Bible doesn’t support any of modern cosmology’s ideas. It doesn’t support the Big Bang, since Genesis 1:1-2 says the Earth came first. It doesn’t support billions of years, since Genesis 5 and 11 say there are only 6000 years. It doesn’t support biological evolution, since Genesis says man was created in one day from the dust when God blew a soul into him. But the Bible does, indeed, teach a geocentric universe, since it clearly states in over two dozen passages that either the Earth doesn’t move and/or the sun revolves around the Earth. Faulkner keeps insisting the opposite because he knows as soon as he admits these two dozen passages can be taken at face value and not be dismissed as “poetry” or a “frame of reference” then the game is over.

**Faulkner: Flat Earth myth:** In his second chapter Bouw discusses the allegation that the Bible teaches that the Earth is flat. His refutation is good,<sup>12</sup> except that he apparently accepts the notion that through the Middle Ages belief in a flat Earth was common, which is simply not true. The historian Russell demolished this idea,<sup>13</sup> and I have written on this as well<sup>14</sup> (see also [Does the Bible really teach a flat earth?](#)). This includes the urban myth that Columbus was a lonely voice for a round Earth, invented by Washington Irving in his 1828 book *The Life and Voyages of Christopher Columbus*, a self-confessed mixture of fact and fiction. **Biblical support for geocentrism?** In the second chapter, Bouw also develops what he considers a Biblical model of the Earth’s structure.<sup>15</sup> Others would legitimately question the soundness of his Biblical argument here. Much of this model and what follows in the next chapter is based upon a distinction of the words ‘world’ and ‘Earth’ in the KJV. While this distinction is

generally true, it is not obvious that the distinction is universal, and it is the original languages of Scripture that matter, not any translation. ‘ . . . **it cannot be moved**’ Bouw quotes part of [Psalm 93:1](#) from the KJV, ‘ . . . the world also is stablished, that it cannot be moved’.<sup>16</sup> He claims that ‘stablish’ is the proper translation as opposed to ‘establish’, that is used in most modern translations. He states that the former word means to stabilize, while the latter means to set up. However, none of the English dictionaries (including the Oxford) I consulted support this distinction. All of the dictionaries revealed that ‘stablish’ is an archaic variation of ‘establish’. Bouw further alleges that this subtle distinction is also present in the Hebrew. This is patently not true, as can be demonstrated with Strong’s Concordance.<sup>17</sup> The Hebrew word used in [Psalm 93:1](#) is *kûwn*, which is translated as ‘stablish’, ‘stablished’, and ‘stablisheth’ only one time each outside of [Psalm 93:1](#). The same word is translated as ‘establish’, or ‘established’, 58 times elsewhere in the KJV. A closely related Hebrew word, *qûwm* is translated ‘stablish’ three times and as ‘establish’ or ‘established’ 28 times in the KJV. Indeed, *kûwn* appears twice in [2 Samuel 7:12–13](#), but is rendered ‘establish’ and ‘stablish’ in the same passage. Thus the distinction that Bouw claims in these two words does not exist in either Hebrew or English. Bouw uses this unfounded distinction to draw some questionable meaning from [1 Chronicles 16:30](#) and [Psalm 96:10](#),<sup>18</sup> where the word ‘establish’ is used in the latter verse. These passages declare that the world is not to be moved, from which Bouw concludes that the world does not move. This is fallacious. The Hebrew word for ‘moved’ (*mowt*) is in the *niphal* stem, which often refers to the passive voice, as indeed it does here. This is reflected in the English translations—to be moved or not to be moved suggests the action of an external or causative agent to bring about change in position, but does not exclude the possibility of motion apart from an external agent. Bouw frequently chides those who disagree with him on Biblical passages that speak of the rising of the Sun by claiming that they accuse God of being a poor communicator. Therefore, we may apply Bouw’s standard to his own work: the Lord could have rendered these passages to read, ‘ . . . the world does not move’, if that is what He intended. As is, these passages are hardly geocentric.

**R. Sungenis:** To make an argument that the passages are not teaching the Earth cannot be moved because the verb is in the passive is fallacious. Just as there is no real difference between the English active “it does not move” as opposed to the passive “it cannot be moved,” there is no difference in Hebrew. The Niphal is

simply the reciprocal of the Qal. In other words, it's just another way of saying the same thing.

The point of these passages is to portray the Lord's majesty and strength, as a king who wears his royal robes signifies that he reigns supreme over all the land and has subdued all his enemies. One specific display of the Lord's power is that he has established the world so that it cannot move. Like the throne of a king that does not move unless by his order, so the world has been set and will not be moved.

Although the comparison between the strength of God and the stability of the world is quite evident in the passage, there are very few options available regarding the meaning of the "establishment of the world" if one seeks to make a legitimate comparison to God. The world cannot refer to the political machinations of the nations, for they shift quite frequently. It could not refer to the whole universe, since if the universe were moved, to where would it move? The best way the Psalmist's analogy can have its intended effect is if an object exists that is unmoved in the midst of all other objects that are moving. For example, if the Psalmist were referring to an unmoving Earth, then the image displayed by Ps 93:1 would be most accurate, for the Earth would be the only body at rest in the midst of a sea of moving bodies in the heavens. The Earth would be the only foundation point; the only immovable object, and thus the best example to picture of the immutability of God himself. More to the point is that Ps 93:2 adds that God's throne is also "established." Logically, if his throne does not move then the world cannot move. The intended imagery would be identical to passages that call the Earth the "Lord's footstool," since footstools are understood to be at rest, not moving.

Some might object that the phrase "shall never be moved" could also be translated as "shall never be shaken." If that is the case, then one could argue that a "shaking of the world" could have some political overtones. This might be true, except for the fact that the political systems of the world are inherently unstable, and thus they would not make a good comparison in displaying the strength and throne of God almighty. Conversely, the physical world, marked as it is by times and seasons that have been repeating themselves in exact precision for eons, is the only possible "world" that could be compared to the infinite stability of God.

In actuality, if the proper translation were "shaken" rather than "moved," this would only enhance the imagery of an immobile

Earth, for this interpretation would require that the Earth be so firm in its position that it would not only be prohibited from rotating or revolving, but it would also be prohibited from shaking. As we learned in the science portion of this work, the Earth is held in space by the combined torque of the whole universe. To move the Earth would require that it overcome the combined torque of the universe. Consequently, we can see why this particular Hebrew word (*mōht*) for “move” or “shaken” was chosen, since it includes the Earth’s resistance to even the slightest outside movement. If vibration occurs, it will occur within the internal structure of the Earth but not with respect to the Earth’s position in space. In fact, the reason earthquakes occur is that the internal movements within the Earth are rubbing against the external forces that are keeping the Earth immobile in space.

The only other detail of Ps 93:1-2 regards the meaning and usage of the word “world.” As it stands, the Hebrew consistently uses the term in reference to the earth, not the universe at large. Hence, it is the Earth alone that is kept immobile, not the universe.

**Faulkner:** It is important to note that the same Hebrew word for ‘moved’ (*mōwt*) in the same *niphal* stem is used in [Psalm 16:8](#), ‘I shall not be moved’. Presumably even Bouw wouldn’t accuse God of poor communication if he didn’t believe that the Bible taught that the Psalmist was rooted to one spot! Rather, the passage teaches that he would not stray from the path that God had set for him. If that’s so, then it’s impossible to deny that ‘the world . . . cannot be moved’ could mean that Earth will not stray from the precise orbital and rotational pattern God has set for it.

**R. Sungenis:** This is fallacious reasoning. The reason one would not interpret “the world...cannot be moved” as referring to the Earth not moving is because all the other passages in Scripture also refer to the Earth not moving. There is no passage in Scripture that says the Earth moves, much less are there passages that say the Earth goes around the sun in a “precise orbital and rotational pattern.” Unfortunately, the fact that the Bible always says the Earth doesn’t move and never says the Earth moves or orbits the sun, never seems to bother Faulkner.

**Faulkner:** In both [1 Chronicles 16:30](#) and [Psalm 96:10](#), the word ‘shall’ appears, which Bouw obviously and correctly takes as an imperative. However, the next passage that he discusses, [Psalm 104:5](#),<sup>19</sup> reads, ‘ . . . laid the foundations of the Earth that it should not be removed forever’. Bouw notes that the word ‘should’ is a conditional that does not necessarily reflect things as they are.

While it is true that many people today use the word ‘should’ in this sense, this is not the correct and original meaning of the word (the usual intended meaning when many people say ‘should’ is better conveyed by the word ‘ought’). The word ‘should’ actually is the past tense of ‘shall’, and as such has the same imperative meaning that that word has. Here Bouw makes much ado about the dictionary meaning of the word ‘remove’, but he is very selective in the use of the dictionary, as he apparently did not bother to consult the meaning of the word ‘should’. As an aside, the words for ‘shall’ and ‘should’ are understood but absent in Hebrew and were inserted into English to make the passages intelligible. As such, the choice of when, where, and which word to insert is a matter of preference or sense of the translator, and ought never be used as the basis for any doctrine.

**R. Sungenis:** By concentrating on “should,” Faulkner is missing the point of the passage. Psalm 104:5 makes an important distinction from the other Psalms that speak of the foundations of the Earth shaking, particularly Ps 82:5 (“They have neither knowledge nor understanding, they walk about in darkness; all the foundations of the earth are shaken”). Ps 104:5 is very similar to Ps 96:10: “Yea, the world is established, it shall never be moved,” since both passages are speaking about the Earth’s position in space. The word for “foundations” in Ps 104:5 is not the normal word used for “foundations of the Earth,” but the Hebrew *mahchon*, which refers to a fixed place. As such, it is referring to the fact that the Earth is positioned in its spatial foundation (e.g., Jb 26:7: “he...hangs the Earth upon nothing”) from which it cannot be moved or shaken. Additionally, in contrast to the Earth’s spatial immobility, the Psalmist speaks in vr. 19 of both the moon and the sun moving in space to accomplish their particular tasks.

**Faulkner: Sunrise and sunset:** Much of the case for geocentrism relies upon many Biblical passages that refer to sunrise and sunset. Geocentrists argue that since the Bible is inspired of God, then when He chose to use such terminology, the Lord must mean that the Sun moves. By this reasoning, virtually all astronomers and astronomical books and magazines are geocentric, because ‘sunrise’ and ‘sunset’ is exactly the language that such sources use. Anyone who has spent much time watching the sky can testify that each day the Sun, moon, planets, and most stars do rise, move across the sky, and then set. Such observation and description do not at all address what actually causes this motion. However, the geocentrists will have none of it, insisting that language and usage must conform to their standards. For instance, Bouw has suggested the words, ‘to sun’ and ‘from sun’<sup>20</sup> 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. The attempted coining of these new words demonstrates the desperate attempt to argue the point here. Quoting Bouw: ‘Either God meant what he wrote or he did not mean what he wrote and would, presumably, revise his original writing as well as write differently if he were to write today.’<sup>21</sup> No, He would not, because there is probably not a language now or ever in existence that has simple expressions that concisely and accurately describes the heliocentric rising and setting of the Sun. Why do we need such expressions when the ones that we now possess work so well and are understood in all cultures? Elsewhere Bouw suggests that those who disagree with him are virtually accusing God of being a bad communicator or grammarian. Of course, we do not. However, Bouw has painted himself into a corner: if Bouw is wrong, then he is the one who has made this accusation against our Creator. What he misses is that cosmology is not being addressed at all in these passages. This extremely literal approach to the Bible is reverently intended, but it badly misses the mark. At some points it almost reads as a parody (and sadly it’s not much different from those of bibliosceptics).

**R. Sungenis:** Faulkner has a good point here. In the end, to say the “sun rises” or “sun sets” is phenomenological language in both the heliocentric and geocentric systems since in neither system does the sun actually rise or set. In the geocentric system the sun moves around the Earth but it does not rise or set, per se, except with reference to the Earth’s horizon. Be that as it may, it is wrong for Faulkner to conclude that “cosmology is not being addressed at all in these passages.” The fact remains that in many other places the Bible declares that the sun moves and the Earth does not move. Hence, if one is going to take the phenomenological language of the “sun sets” to its logical conclusion, he must attribute the appearance of the sun setting to the movement of the sun, not the Earth, at least according to the Bible. Faulkner is at a loss to argue against this point unless he can find a passage in the Bible that says the Earth moves.

**Faulkner: Firmament:** Bouw makes a similarly poor case for his Biblical model for space. Light is a wave. All waves require a medium. For instance, sound waves travel in air and water waves obviously use water as a medium. What is the medium in which light travels, given that light apparently can travel through empty space? In classical physics the medium for light is called the ‘ether’ or ‘aether’. However, modern physics takes a different approach, which will not be discussed here.<sup>22</sup> Bouw maintains that

modern physics is in error, and that the classical aether indeed does exist.

**R. Sungenis:** Bouw has a lot on his side. Any scientist who holds to quantum mechanics believes in ether, although he may not use the name ether. He may call it zero-point energy field or Planck particles or maximons or a dozen different names being used today, but it is all the same thing – that space is not empty. There are a plethora of articles on this topic to which Faulkner can avail himself.

**Faulkner:** He further insists that the firmament first mentioned in [Genesis 1:6](#) is to be equated with the aether, going so far as to claim that the firmament is God's chosen name for the aether. Physics aside for the moment, is this good exegesis? Hardly. First, there is a problem with the use of the word 'firmament' in the King James Version. The Hebrew word is *raqiya'*, which is a noun that comes from a verb that means to beat out as into a thin sheet. Gold is a good example of this process. Gold is so malleable that hammers and other tools can be used to flatten and stretch the metal into very thin sheets that can be applied to objects to gild them. The question is, what property or properties are intended by the word *raqiya'*? If one wants to get across the hardness of the object, usually a metal, being beaten out, then 'firmament' may not be a bad translation. However, what if the intended property is the stretched out nature of the *raqiya'* rather than hardness? This is consistent with the terminology of [Psalm 104:2](#), which speaks of the stretching out of the heavens, though admittedly the Hebrew word used there for heaven is *shamayim*. However, [Genesis 1:8](#) explicitly states that God called the firmament (*raqiya'*) heaven(s) (*shamayim*). Therefore, there is contextual Biblical evidence for equating these two Hebrew words, at least in some cases. If the stretched out nature of the *raqiya'* is what is intended, then 'firmament' is a bad translation, while 'expanse' used in many modern translations is very good. How did the KJV come to use 'firmament?' The Septuagint rendered *raqiya'* as *stereoma*, which gives the meaning of something very hard. This was an obvious incorporation of Greek cosmology current at the time of the Septuagint translation. That cosmology had the Earth surrounded by a hard crystalline sphere upon which were suspended the stars. In the Vulgate, Jerome followed the lead of the Septuagint and used the Latin equivalent *firmamentum*. The KJV translators merely anglicized this. There are at least two ironies in Bouw's insistence of the correctness of the word firmament. The first is that Bouw severely criticizes both the Vulgate and the Septuagint as being terrible translations, going as far as to express doubt that

the Septuagint even existed before the New Testament.<sup>23</sup> The second is that Bouw completely trashes ancient Greek philosophy, but blindly accepts the heavy influence of the same ancient Greek science on this point. A second problem with Bouw's equating the *raqiya'* (firmament) with the aether is how the firmament is further discussed in the creation account. The first appearance of the word is on Day Two of Creation Week when the waters were separated above and below and with the firmament between. On Day Four, the Sun, moon, and stars were set in the firmament. On Day Five, birds were made to fly in the firmament. It is quite a stretch to conclude that the firmament must be all of space or even any stuff that may fill space. The most obvious conclusion is that the *raqiya'* is the Earth's atmosphere or the sky. If this is true, then much of Bouw's case is destroyed. [Ed. note: see also [Is the \*raqiya'\* \(firmament — KJV\) a solid dome?](#)] The various issues briefly discussed here are just a few of the many examples of how poorly Bouw handles Biblical matters. But these key issues are enough for readers to question Bouw's credibility on Biblical matters and his insistence that the Bible is geocentric.

**R. Sungenis:** The problem with Faulkner's interpretation is that Genesis 1:14 says that God put the sun and stars "in the firmament" (Hebrew: *raqiya*). In fact, verse 17 adds that God specifically "placed the stars in the firmament to give light upon the Earth." So how could the firmament refer only to the Earth's "atmosphere"? Stars are millions of miles outside of the Earth's atmosphere. Bouw's interpretation that the firmament refers to all of space is correct and Faulkner's is short-sighted, since the firmament refers to more than the Earth's atmosphere. Credit is to be given to Bouw for taking Scripture at its word.

**Faulkner: Historical issues:** Bouw claims that heliocentrism has led to all sorts of moral degeneracy.<sup>24</sup> The example he discusses is astrology. This is a bizarre assertion, given that astrology flourished for millennia before the heliocentric theory became popular, and seems to have **decreased** where heliocentrism has flourished. Ironically, the dominant geocentric theory of history, the Ptolemaic system, was devised primarily as a tool to calculate planetary positions in the past and future as an aid for astrological prognostications. **Johannes Kepler (1571–1630):** Kepler comes under great criticism by the geocentrists because of the great role that he played in the acceptance of the heliocentric model. Some of this criticism is quite strained. He is blasted for having dabbled in astrology, although it was common and, as shown, hardly confined to heliocentrists. He is also blasted for his supposed anti-Biblical beliefs<sup>25</sup> as well as the insinuation that Kepler was dishonest in his



co-authoring the work of Tycho Brahe (1546–1601) after he had died.<sup>26</sup> This latter charge includes a hint of a plagiarism charge, even though a few pages earlier Bouw stated at the time this was an acceptable practice.<sup>27</sup> Bouw concludes that Kepler was not a Christian,<sup>26</sup> which places him at odds with many other creationists who claim that Kepler was indeed a Christian. For instance, Morris included a section on Kepler.<sup>28</sup> In addition, Morris listed Copernicus (1473–1543), Galileo, and Tycho at the conclusion of the chapter that briefly discussed Kepler as examples of people, though while they may have not have been true believers in Christ, at the very least were theistic creationists. Bouw rejects all, save Tycho, as Christians.<sup>26</sup> **Tycho Brahe:** Bouw goes to great lengths to salvage the reputation of Tycho, whose cosmology he and modern geocentrists advocate. That is, other planets orbited the Sun, and the Sun and its retinue orbited the Earth. While admitting Tycho's well-known faults and failings during most of his life, he claims without documentation that in the last year of his life some who worked with Tycho noticed a change in his life.<sup>29</sup> Bouw concludes that this was salvation, though he has absolutely no evidence for this. Bouw blasts the heliocentrists of four centuries ago as being ungodly and insinuates that it was their ungodliness that motivated their acceptance of the heliocentric theory. However, by *Bouw's own account* of the events of Tycho's life, his rejection of heliocentricity and the suggestion of his alternate Tychonian cosmology far predated Tycho's alleged conversion. Thus the model favored by modern geocentrists was hatched in the mind of an unregenerate man, even granting Bouw's own revisionist historiography. Therefore, modern geocentrists teach that the heliocentric model is wrong because ungodly men originated it, but fail to apply the same standard to their favored geocentric theory. **Nicolaus Copernicus:** While Bouw finds little or no fault in Tycho, he relentlessly finds fault with every heliocentrist. For instance, Bouw takes a swipe at Copernicus' mathematical skills by noting that the best mathematicians of his day were consumed with the laborious task of calculating horoscopes. According to Bouw, Copernicus had the time to spend investigating alternate cosmological models, because Copernicus was not gifted enough to be in demand for astrological calculations.<sup>30</sup> With Bouw, Copernicus cannot win—if he had done horoscopes, Bouw would have castigated him as a mystic dabbling in the occult; but since he did not do horoscopes, it was because Copernicus was a poor mathematician. A few decades after the death of Copernicus, the situation had not changed much, so it is not surprising that such a good mathematician as Kepler spent a good deal of time calculating horoscopes. Apparently it has never occurred to Bouw that the reason that Tycho was available to

pursue astronomical measurements rather than produce horoscopes may have been the same reason that he claimed that Copernicus had time to pursue other matters. Indeed, late in life, Tycho realized that he was not the best mathematician around and needed help in making sense of his observations. This caused Tycho to seek the best mathematician available, who happened to be Kepler. The simultaneous sycophantic treatment of Tycho and harsh criticism of heliocentrists exposes some of the logical flaws in Bouw's case. Another criticism of Copernicus is that he opined that the 10,000 epicycles required to make the motions of the Sun, moon, planets, and stars was an 'unseemly' large number and 'unworthy' of the Creator.<sup>31</sup> Bouw takes Copernicus to task for failing to notice that the obvious flaw in his reasoning was the assumption that heavenly bodies must move in circles. However, the model under scrutiny at the time was the Ptolemaic model, thus this error came from the philosophical musings of the ancient Greeks, not from Copernicus. Copernicus merely discussed the only geocentric model of his day (the Tychonian model was still more than a half-century away). How Bouw can level this charge at a heliocentrist rather than at geocentrists where it properly belongs boggles the mind. It is as if the modern geocentrists wilfully ignore the Ptolemaic model. Indeed, that model is barely mentioned in Bouw's book.

**R. Sungenis:** I wish Faulkner had spent as much time on the scientific issues instead of the inordinate time he spends here on the early characters of the debate. In the end it makes little difference what kind of people they were. Be that as it may, Faulkner is welcome to read my extensive biographies of Copernicus, Kepler, Galileo, Newton and Einstein in my book *Galileo Was Wrong: The Church Was Right*. He will find that many of Bouw's charges are correct.

**Faulkner: Heliocentrist vs geocentrist comparisons:** Another example of Bouw's poor logic is the observation that '... the first heliocentrists were pagans who did not hold the Bible in high esteem'.<sup>32</sup> While this statement is technically true, it plants a very false and misleading impression. Such a statement plants in the minds of many people that the near converse is true, that is, that the first geocentrists were not pagans and held the Bible in high esteem. Of course this is nonsense. Virtually all that we know of ancient science and cosmology comes from the Greeks. Most of them were geocentrists. All of them were pagans. Claudius Ptolemy (fl. AD 127–145), who is credited with the longest-lived geocentric model of all time, was a pagan. *By Bouw's own 'reasoning'* (leaving aside the blatant *genetic fallacy*), geocentrism

should be rejected, because it has a long pagan history. Of course, Bouw would respond that the Bible is explicitly geocentric.<sup>33</sup> Since much of the Old Testament predates many of the secular sources, Bouw would claim that the earliest geocentrists were not pagan. But this begs the question—most of the quotes used to support the geocentricity of the Bible are from fellow geocentrists or from biblioscetics. Nearly all Bible-believing heliocentrists think that the Bible is neither geocentric nor heliocentric, but Bouw holds their opinions on the matter in low regard. As another example of Bouw’s poor logic, consider that at several locations Bouw states that the heliocentric theory came to be accepted in the seventeenth century without any proof. Here Bouw seems to be arguing against the legitimacy of heliocentricity, because it was prematurely accepted before there was any evidence. Yet, he also admits that by 1650 there was no solid proof for or against either the heliocentric or Tychonian models.<sup>26</sup> Therefore, by Bouw’s standard we should reject **both** models in favor of the Ptolemaic model or some other alternative, but of course Bouw insists that only the heliocentric model be subjected to such scrutiny. This sort of double standard is common in geocentric arguments.

**R. Sungenis:** Christianity began with geocentrism and held on to it beyond the musings of Copernicus and Galileo. Even the staunch Reformers, Calvin and Luther, rejected heliocentrism. All of them based their belief on the *prima facie* evidence in Scripture. Hence, geocentrism has the pedigree and the tradition. It is only logical that any newcomer, such as heliocentrism, would need to pass rigorous scientific tests before ever dethroning the common belief of geocentrism held for the 4000 years of the Old Testament and almost two millennium in the Church age. There is no “double standard.” The standard is that geocentrism was the belief of God’s people, and it was only in the last few hundred years that heliocentrism was even broached by the churches.

**Faulkner:** Bouw blasts the perceived arrogance of Kepler,<sup>34</sup> all the while overlooking or forgiving similar misgivings in Tycho. *Ad hominem* attacks are common in modern geocentric literature as well. As an example, Bouw spends some time trashing Kepler for alleged witchcraft and dabbling in the occult.<sup>34</sup> Even Kepler’s mother and other family members are brought into the discussion. Bouw mentions that Marshall Hall, a fellow geocentrist, has speculated that Kepler may have poisoned Tycho.<sup>35</sup> It’s a shame that two of the most prominent geocentricists feel that they need to resort to baseless inflammatory accusations.

**R. Sungenis:** Bouw does so because we have been brainwashed for the last few hundred years that the saints of cosmology were Galileo, Kepler, Newton and Einstein, while those who held to geocentrism are often castigated as ignorant religious fanatics who knew nothing about “science.” Bouw also does so because there are a lot of historical facts to back up his charges.

**Faulkner: Galileo Galilei:** Galileo also comes under fire for his role in establishing the heliocentric model. While he did not invent the telescope, Galileo was apparently the first to put the telescope to use observing celestial objects. He found a number of things in the sky that ran counter to what the church, parroting ancient Greek ideas, said. Examples are the craters on the moon and spots on the Sun. Greek philosophers had reasoned that the moon and Sun, as celestial objects, had to be perfect. As such, they ought to have been free from blemishes such as craters and spots. Galileo also claimed evidence for the heliocentric theory in his discoveries. One of them, the rotation of the Sun, was bogus as proof of heliocentrism, as Bouw states,<sup>36</sup> but it was a persuasive argument in the pre-Newtonian world (*cf.* Isaac Newton 1643–1727 Gregorian Calendar). However, Bouw’s poisoned attitude toward all heliocentrists has prevented him from correctly discussing two other evidences for heliocentrism. One was the discovery of four satellites, or moons, that orbit Jupiter. Galileo used this to counter the objection to heliocentrism that the moon would be left behind if the Earth moved. It is obvious that Jupiter moves, and it is also obvious that its motion does not leave behind the satellites of Jupiter. Bouw is correct that this is an argument by analogy, but one cannot so easily dismiss this argument. The critics of heliocentrism must explain how the motions of Jupiter and its moons and the Earth and its moon are different.

**R. Sungenis:** The explanation is simple. Jupiter’s gravity holds its moon, even though Jupiter moves; and the Earth’s gravity holds its moon, and the Earth doesn’t move.

**Faulkner:** However, Bouw misses one of the most important points of Galileo on this. The geocentric model of Galileo’s day was that **all** celestial objects orbited the Earth. Here Galileo had found four celestial objects that did not directly orbit the Earth, but instead orbited something else. The geocentrists were not willing to give up an inch on this, because their already overly complicated Ptolemaic model had already endured a tremendous amount of tinkering. They feared that surrendering this would lead to the discovery of other objects that did not orbit the Sun, which would further chip away the geocentric model.

**R. Sungenis:** No, Faulkner has it backwards. Moons that orbited Jupiter would also orbit the Earth, since Jupiter would carry its moons with Jupiter as Jupiter revolved around the Earth (or revolved around the sun which revolved around the Earth in the Tychonic model). The reason they rejected Galileo's reliance on Jupiter was because Jupiter provided no proof that the universe was not geocentric.

**Faulkner:** Bouw completely misconstrues Galileo's third evidence for heliocentrism, the phases of Venus.<sup>37</sup> The full set of Venereal phases can happen only if Venus passes both in front of and behind the Sun as seen from Earth (Figure 1, left). The Ptolemaic model placed Venus orbiting the Earth closer than the Sun, but always near to the Sun as constrained by observations, but that would preclude gibbous phases from being seen since that would require the Earth to be roughly between the Sun and Venus. On the other hand, moving Venus' orbit beyond that of the Sun would allow gibbous phases, but would not permit crescent phases to be seen.

**R. Sungenis:** Bouw doesn't "misconstrue" it. He fully recognizes that Ptolemy's model could not account for the phases of Venus, which is why Bouw holds to the Tychonic (or neo-Tychonic) model. What Bouw objects to is that too much is made of Ptolemy's inadequacy on this point. The fact is, Ptolemy did not know the distances to the planets or the sun. If he did, he could have made the orbit of Venus lie on the sun as its deferent, and the phases of Venus would be seen from Earth. Ptolemy recognized his model's inadequacy and therefore he left six variables to account for future calculations that could adjust his model. One thing we do know for sure is that Copernicus' model worked no better than Ptolemy's, and Copernicus' model required more epicycles than Ptolemy's to even match Ptolemy's accuracy.

**Faulkner: Tychonian vs Ptolemaic geocentric models:** The Appendix contains a fuller comparison of these two geocentric models and the Copernican one, but it's important to point out a number of points in the main text. Bouw suggests that the phases of Venus are a problem for the Ptolemaic model only if one insists upon using circles, and that Galileo's argument falls flat if ellipses are allowed. The only thing that falls flat here is Bouw's argument. The very reason that the Ptolemaic model existed was to preserve 'perfect' uniform circular motion, with the massive tinkering involving epicycles (circles on circles) and even more complex extensions. The introduction of ellipses would have destroyed the Ptolemaic model every bit as much as what Galileo was suggesting.

**R. Sungenis:** No, Bouw says that circles would be a problem for any model, since the planets do not move in circles. More egregious is Faulkner's statement: "The very reason that the Ptolemaic model existed was to preserve 'perfect' uniform circular motion." No, it was Copernicus insistence on using both perfect circles and perfect uniform motion as the main reason he decided to reject Ptolemy's model. Copernicus was devoted to the Greek's admiration of the circle as the perfect shape. Ptolemy was the first to depart from the belief of uniform circular motion, and this is proven by the addition of his off-centered Equant to his Epicycles. The Equant allowed the planets to travel at varying speeds in their orbits, and this was the precursor to Kepler's area laws that had the planets travel at different speeds by use of the ellipse. Copernicus had no such understanding.

**Faulkner:** Bouw's defence of the *status quo* Ptolemaic model here and elsewhere is puzzling. Throughout much of his book it is easy to draw the wrong conclusion that this is the model that Bouw is defending. Bouw does correctly point out that Galileo's argument about the phases of Venus does not distinguish between the heliocentric and Tychonian models, but this needlessly clouds the issue since the Tychonian model was not even being discussed at the time. The truth of the matter is that the Tychonian model was a far less significant contender than either the heliocentric or the Ptolemaic theories than modern geocentrists would have us believe. The reason is that the Tychonian model was a sort of halfway house for geocentrists. Geocentrists could hold on to a stationary Earth while discarding virtually everything else that was in the Ptolemaic model. Like so many other compromises, the Tychonian model failed to satisfy many on either side.

**R. Sungenis:** There is no evidence that it failed to satisfy. As noted earlier, both Catholics and Protestants during this time were accepting of the geocentric universe, and Tycho's model was highly accepted as the best model for geocentrism. It was only with the coming of Newton that geocentrism began to wane.

**Faulkner:** Nevertheless, Bouw does a clever slight of hand trick. He insists that heliocentrists of four centuries ago did not offer real proofs and further claims that they improperly attempted to shift the burden of proof to the *status quo*. That is, in the absence of a real challenge to the *status quo*, the *status quo* should prevail. Bouw claims that that *status quo* was geocentrism, so his favoured geocentric model, the Tychonian system, should prevail. This is preposterous. The Tychonian system was not the *status quo* then; the Ptolemaic model was. Again and again Bouw takes this sort of

sloppy approach—he argues for the Ptolemaic model and then slips his model in as a substitute. This is most blatant when in a very late chapter in his book Bouw explicitly discusses geocentric models. There is no heading for the Tychonian model, but there is one for the Ptolemaic model.<sup>38</sup> The problem is, the discussion and diagram clearly represent the Tychonian model.

**R. Sungenis:** Faulkner needs to read up on the history. The Jesuits recognized that the Ptolemaic model was not accurate enough and thus adopted the Tychonic model. It was the perfect answer, especially since the Church for 1600 years prior held to a geocentric universe as the teaching of Scripture and the Fathers and no one was advancing heliocentrism, at least not in the Christian community.

**Faulkner: Scientific issues:** As mentioned earlier, Bouw fails to apply the same rigorous standards that he applies to the heliocentric theory to his own pet model. **Parallax:** For instance, while he correctly notes that the failure to detect stellar parallax was an argument against the heliocentric model, he quickly concludes that this was circumstantial evidence for geocentrism (or as he prefers, the Tychonian model).<sup>39</sup> Of course the heliocentric model can explain the lack of trigonometric parallax if the stars are at incredible distances. This turned out to be the case, and there is compelling evidence that even the nearest stars are more than 200,000 times farther from us than the Sun is. If lack of parallax was evidence against heliocentrism and for geocentrism, then one would expect that when parallax was finally detected in the 1830s, trigonometric parallax would be taken as evidence against geocentrism and for heliocentrism. However, this is not Bouw's conclusion. Instead, Bouw modifies the Tychonian model so that the Sun in its annual motion drags along the distant stars. In other words, Bouw cries foul whenever physicists change models (as with modern relativity theory) to correctly describe new data, but he feels free to tinker with his model at will to meet the challenge of new results. It is impossible to refute any theory with these kinds of rules.

**R. Sungenis:** Both parties need to realize that science proceeds step by step, and that models need to be improved from time to time. The fact remains, however, that the neo-Tychonic model answers the phenomena that was previously used as proof of heliocentrism (e.g., stellar parallax, stellar aberration, star-streaming, Doppler shift, etc). General Relativity, on the other hand, seemed at first to answer various problems in physics, but as the years went on it became increasingly the opposite case. Today

cosmologists find that General Relativity is actually getting in the way of helping to understand the universe (e.g., the need for Dark Energy, Dark Matter, adjustments to Lambda and the Hubble constant, the incompatibility between quantum mechanics and General Relativity, etc).

**Faulkner:** Bouw uses the same skewed rules in discussing star streaming.<sup>40</sup> The Sun is moving through space, as can be deduced by proper motions (the gradual motion of stars across the sky) of many stars. The first measurement of this was done more than two centuries ago by the great German-born English astronomer William Herschel (1738–1822), though the measurement has been refined many times since then. When the proper motions of many stars are considered, we find that stars seem to stream out of a region called the solar apex, presumably in the direction in which the Sun is moving. Conversely, stars appear to stream toward a convergent point, called the solar antepex, diametrically opposed from the solar apex and presumed to be the direction from which the Sun is moving. This would appear to be strong evidence that neither the Sun nor the Earth is the centre of the universe, but Bouw baldly asserts that stars could be moving past the Sun rather than the other way around.

**R. Sungenis:** All Faulkner needs to see the flaw of his own argument is to apply the principles of the Relativity theory he believes in. In other words, if Faulkner could find an instance in which one explanation of movement to explain a certain phenomenon could not be reversed so that the phenomenon could be produced by making the moving object rest and make the resting object move, then he has defied the Relativity principle and should win the Nobel Prize. Bouw is simply applying the very rule that Faulkner lives by, but Faulkner, not seeing this trap, tries to make a case that the stars cannot be moving past the sun and toward a fixed Earth. He presents no proof for this claim. In fact, he begins his analysis by assuming, without proof, that the sun is moving through the stars (“The Sun is moving through space, as can be deduced by proper motions (the gradual motion of stars across the sky) of many stars”).

**Faulkner: Rejection of Relativity:** One geocentrist assumption is that modern relativity theory is wrong. Unfortunately, many creationists reject general relativity or at least are very suspicious of it, mainly because they misunderstand it.

**R. Sungenis:** This is a common ploy among those who believe in General Relativity, that is, the critics reject it because they



“misunderstand it.” No, they reject it because it contradicts itself. For one of the better current arguments against it, see Steven Crothers at

<http://vixra.org/pdf/1207.0018v2.pdf>

<http://www.youtube.com/watch?v=fsWKINfQwJU>

Not only does it contradict itself, it, and Special Relativity, were invented under very suspicious circumstances – to answer the Michelson-Morley experiment that showed the Earth wasn't moving at 30km/sec around the sun, as Copernicus and Newton taught. See my book *Galileo Was Wrong* for the whole history of this issue.

**Faulkner:** Common misconceptions include the beliefs that general relativity does not allow for a preferred standard of rest and that general relativity leads to moral relativism. Mach's principle, which is an important assumption of general relativity, postulates that the sum of all the mass in the universe offers the correct rest frame.

**R. Sungenis:** If Faulkner believes GRT provides a “preferred standard of rest,” then he is the first GRT advocate I've seen advance such an idea. I would challenge Faulkner to find GRT advocates who claim the same.

As for Mach's principle, Einstein's devotion to it was ambivalent. As soon as de Sitter showed that Einstein's equations could be solved without matter in the universe, Einstein wasn't as enamored with Mach as he was previously. Even so, Mach's principle does not offer a “preferred standard of rest” as much as it offers a preferred universal inertial frame, and an inertial frame can either be at rest or moving uniformly. If it is moving uniformly, then it is not at rest and it would need to use the Lorentz transform to make it fit the category of a preferred rest. Other physicists have tried to do the same as Faulkner is doing here. For example Julian Barbour and George F. R. Ellis believe that the Cosmic Microwave Background Radiation (CMB) is a preferred standard of rest. But this is specious, especially since Big Bangers like Barbour and Ellis believe the universe is expanding (that is, not only moving but accelerating) and thus carrying the CMB along with it. The problem is that Faulkner wants his cake and eat it, too. He wants a preferred frame like Bouw, but he also wants General Relativity that doesn't have preferred frames. Faulkner's solution is to mix

and match General Relativity and Mach's principle and declare he has a preferred universal frame. But it doesn't work.

**Faulkner:** This standard of rest is not very different from the concept of absolute space assumed by Newton. General relativity **does** posit that there are absolutes. Therefore, if two objects have relative motion, it is possible to determine which, if either, is at rest and as such has not undergone acceleration. This explains the so-called twin paradox that Bouw mishandles.<sup>41</sup>

**R. Sungenis:** No, General Relativity does not posit absolutes. Notice how Faulkner slyly slips in the words "undergone acceleration" rather than "is undergoing acceleration." He does this because General Relativity tries to answer the Twin Paradox by claiming that when the ship turns around it is performing an acceleration, and since General Relativity, not Special Relativity, deals with acceleration, then there is no longer any Twin Paradox posed by Special Relativity since General Relativity has now taken over the problem. Faulkner can then claim that the ship has "undergone acceleration" because the ship has turned around. How convenient. Let's say, for the sake of argument, that the ship continues to travel and does not turn around. In that case, Faulkner is stuck with Special Relativity and the Twin Paradox remains and there is no way to determine which, if either, is at rest. This kind of sleight-of-hand physics is constantly employed by Relativists to get them out of contradictions in their theories. They do the same with the Sagnac effect and the Global Positioning Satellites, among other anomalies.

**Faulkner:** The speed of light is always a constant, regardless of one's motion.

**R. Sungenis:** No, not even General Relativity believes that. The speed of light is constant only according to the Special Theory of Relativity. In General Relativity light can travel at any speed, depending on the gravitational and inertial forces present. As for Special Relativity, it only found that  $c$  was constant, in vacuo, in the terrestrial environment, not in outer space. Even then, it only measured the two-way speed of light.

Be that as it may, limiting  $c$  to 186,000mps gets biblicists like Faulkner into trouble when he has to explain how the light of the stars can reach Earth during creation week when, in fact, he believes they are thousands of light-years away from Earth. This is another reason why Faulkner probably holds on to General Relativity, since the popular way to solve the star-light problem is

to claim there is a time dilation or compression of space between the star and earth – the cornerstones of Special and General Relativity.

In reality, time dilation and length contraction were invented by Lorentz and Einstein in order to answer the 1887 Michelson-Morley experiment that showed the Earth wasn't moving in space. Instead of accepting the experiments results, Lorentz and Einstein opted for shortening time and the arms of the experimental apparatus in order to make it appear that the Earth was moving. See my book *Galileo Was Wrong* for a full and extensive treatment of this issue.

As Einstein's biographer puts it, after the 1887 Michelson-Morley experiment:

The problem which now faced science was considerable. For there seemed to be only three alternatives. The first was that the Earth was standing still, which meant scuttling the whole Copernican theory and was unthinkable.<sup>2</sup>

Everyone in the physics establishment saw the same implications, and they were beside themselves with consternation. As several authors describe it:

The data [of the interferometers] were almost unbelievable....There was only one other possible conclusion to draw – that the Earth was at rest. This, of course, was preposterous.<sup>3</sup>

Always the speed of light was precisely the same....Thus, failure [of Michelson-Morley] to observe different speeds of light at different times of the year suggested that the Earth must be 'at rest'...It was therefore the 'preferred' frame for measuring absolute motion in space. Yet we have known since Galileo that the Earth is not the center of the universe. Why should it be at rest in space?<sup>4</sup>

In the effort to explain the Michelson-Morley experiment...the thought was advanced that the Earth might be stationary....Such an idea was not considered seriously, since it would mean in effect that our Earth

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<sup>2</sup> *Einstein: The Life and Times*, 1984, p. 109-110.

<sup>3</sup> Bernard Jaffe, *Michelson and the Speed of Light*, p. 76.

<sup>4</sup> Adolf Baker, *Modern Physics & Antiphysics*, pp. 53-54.

occupied the omnipotent position in the universe, with all the other heavenly bodies paying homage by revolving around it.<sup>5</sup>

Even Albert Michelson couldn't avoid the implications of his own experiment:

This conclusion directly contradicts the explanation of the phenomenon of aberration which has been hitherto generally accepted, and which presupposes that the Earth moves.<sup>6</sup>

But...

As Einstein wrestled with the cosmological implications of the General Theory, the first of these alternatives, the Earth-centered universe of the Middle Ages, was effectively ruled out...<sup>7</sup>

**Faulkner:** The laws of physics are invariant under transformation of coordinates.

**R. Sungenis:** This statement would go over the head of most people who read it, so let me explain what Faulkner is trying to do here. As I noted above, Lorentz and Einstein opted for shortening time and length in order to make it appear as if the Earth was moving around the sun. It is called the "Lorentz transform" or, in Faulkner's words a "transformation of coordinates." In other words, as Einstein claims that the laws of physics are "invariant" (i.e., the same) for all inertial frames of references (i.e., those places where objects are either at rest or moving at the same speed), the reality is that those laws are only the same if one uses the Lorentz transform.

Understand what is going on here. It's very tricky. Lorentz and Einstein invented the Lorentz transform because they needed a mathematical fudge factor to keep the Earth moving when the experiments showed it wasn't moving. They then made the Lorentz transform a principle of nature that must be used automatically and invariably whenever someone is using the "laws of physics." Talk about pulling the rug over someone! These guys are more magicians than they are physicists. They change the rules of

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<sup>5</sup> Arthur S. Otis, *Light Velocity and Relativity*, p. 58.

<sup>6</sup> Albert A. Michelson, "The Relative Motion of the Earth and the Luminiferous Ether," *American Journal of Science*, Vol. 22, August 1881, p. 125.

<sup>7</sup> *Einstein: The Life and Times*, p. 267.

physics so that they can keep the Earth moving, and then they claim that the change was not really a change at all but was always there from the beginning! This is modern physics in a nutshell, and it is filled with nuts.

**Faulkner:** In fact, Einstein himself preferred the name ‘Theory of Invariance’ for his ideas, rather than ‘General Relativity’.

**R. Sungenis:** Of course he would. If one can put in a fudge factor (the Lorentz transform) and make it appear as if one’s system of physics is now consistent, then “Invariance” gives the impression of being very stable, doesn’t it?

**Faulkner:** Early in the 20<sup>th</sup> century, moral relativists misappropriated the widespread acceptance of Einsteinian relativity theory as support for their contention that there are no moral absolutes. Even aside from the scientific misunderstandings, this is an elementary blunder in ethical theory known as the *naturalistic fallacy*, i.e. trying to derive what we **ought** to do from the way the natural world **is**. We should not be repelled from relativity theory by this misapplication by the moral relativists.

**R. Sungenis:** Faulkner is right. Relativity should be rejected only by exposing its scientific fallacies, not by those who transpose its dubious principles into moral applications. In regards to morality, however, at this point I would say to Faulkner that it is his moral obligation to recognize and expose the scientific fallacies of Special and General Relativity. Once one sees that both theories were invented to deny the biblical teaching that the Earth isn’t moving, one has an obligation to reject them and restore the Bible to its rightful place of authority.

**Faulkner:** Fortunately, there are many creationists who have no problem with relativity. For example, Humphreys accepts and uses general relativity as a physical basis for his cosmology and has offered a very brief defence of relativity.<sup>42, 43</sup> A detailed defence of relativity from a creation perspective is badly needed. That will not be attempted here, but a few claims of those opposed to Einsteinian relativity in the context of geocentrism will be briefly discussed.

**R. Sungenis:** Unfortunately, Humphreys is one who distorts the language of Genesis in order to fit it into his unproven scientific theory. Ignoring the fact that Genesis 1:1-2 says the Earth was created first, Humphreys says the universe came as the result of a white hole (the opposite of a black hole) in which matter and energy were spewed out. But that is not the way Genesis describes

the creation. It says the Earth was created as the first mass, after which God created light, not vice-versa. Unfortunately, CRI, AIG and their affiliates have consistently stumbled over these clear words of Genesis, but that is because they, as Faulkner himself admitted above, are afraid that it “produces an easy object of ridicule by our critics” if they interpret Genesis a little too literally.

**Faulkner:** Many of the critiques of relativity are repeated arguments that are often out of date. For instance, Bouw is critical of the much acclaimed 1919 and 1922 total solar eclipse observations that was taken as the first evidence for general relativity.<sup>44</sup> Bouw calls the 1922 observations (the better of the two sets of data) ‘an obvious sham’ because there are 44 points below and 25 points above the curve supposedly fit to the data when a good fit should have about as many points above as below the curve. However when the reference quoted by Bouw on this point is checked, one finds that the curve is not a fit to the data at all. Rather, the curve is the prediction of general relativity with the data plotted for comparison. The data fit the curve pretty well, especially near the limb (edge) of the Sun, where gravitational deflection is most pronounced. Bouw further clouds the issue by claiming that other classical theories can explain the amount of deflection, though no plots comparing the predictions of general relativity and these classical theories are presented.

**R. Sungenis:** I recommend Faulkner read my research into these eclipses in my book *Galileo Was Wrong*. The results are, to put it lightly, all over the map, not only with the 1919 and 1922 results, but with all the results. How one could use these to prove General Relativity from these scattered results is anyone’s guess. What we find, however, is that the reason the “data fit the curve pretty well, especially near the limb of the Sun,” is because not only were the data massaged by Eddington who was pushing for proof of Relativity, but since then we have found that the only bending of light is near the surface of the Sun, but General Relativity predicts there should be a gradient of bending as the light passes further from the surface of the Sun, but there is no bending further from the Sun. Only near the surface. So the bending does not prove General Relativity. It only proves that there is something else going on near the Sun that causes the light to bend only near the surface. The real problem with assuming that the bending is due to General Relativity is that it is then transposed into the theory of “gravitational lensing,” which is used by modern cosmology to measure astral distances. But gravitational lensing is an assumption. It has no proof.

**Faulkner:** An even larger problem is that Bouw and other anti-relativists continue to bring up the 1919 and 1922 data as if the experiment has never been repeated or improved upon. Similar experiments have been conducted at many eclipses since 1922 with the same results. However, all of these experiments suffer from errors of measurements that are comparable in size to the amount of deflection.

**R. Sungenis:** In other words, starlight bending near the Sun can't prove General Relativity.

**Faulkner:** The good news is that for years Very Long Baseline Interferometry (VLBI) has been used to make the same sort of measurements.<sup>45</sup> VLBI is the use of several radio telescopes separated by great distances to produce very accurate positions of point radio sources. Usually the point sources used for gravitational deflections due to the Sun are quasars. An advantage to this method is that it is not necessary to wait for a total solar eclipse. All one must do is observe during the brief time once per year that the Sun passes near a particular quasar(s) in the sky. The unprecedented positional accuracy of VLBI produces results that are in very good agreement with general relativity and not at all with classical predictions. These measurements even have allowed discrimination between variations upon general relativity.

**R. Sungenis:** VLBI doesn't prove General Relativity either. Faulkner has the same problem here he has with eclipses, that is, General Relativity predicts a gradient of bending, but there is no such gradient in the VLBI data.

**Faulkner:** A related experiment involves time delays of radio signals of interplanetary probes as they pass behind the Sun. The results of these studies also agree with the predictions of general relativity. Anti-relativists never mention these experiments.

**R. Sungenis:** If Faulkner is referring to the Shapiro delay, geocentrists have been talking about it for many years, but Faulkner and company haven't been listening. The Shapiro delay doesn't prove General Relativity. It only proves that there is a delay in the signal. General Relativity's math might be used to venture a calculation to the delay, just as General Relativity is often invoked to answer why the GPS has a 50 nanosecond delay, but that doesn't prove General Relativity. It only proves that someone can massage the math of General Relativity, as well as make certain assumptions, and then make it appear that the reason the delay occurs is because of General Relativity. In fact, we use

General Relativity's math quite often in geocentrism. Not that we believe in the theory itself, but just to show that math and theory can be applied in many cases, but that doesn't prove that the theory is correct. As even Relativist Clifford Will says: "General Relativity has passed every solar-system test with flying colors. Yet so have alternative theories" (Clifford Will, "The Confrontation Between Gravitation Theory and Experiment," *General Relativity: An Einstein Centenary Survey*, ed., Stephen W. Hawking, 1979, p. 62).

**Faulkner:** Bouw also discusses the perihelion advance of Mercury's orbit.<sup>46</sup> He claims that relativists tout Mercury's orbit, because that is the only orbit's precession for which relativity can account. While that may technically be true, it is very misleading in that it suggests to most readers that the predictions of general relativity do not fit the orbits of other planets. This is not true, as Bouw's own Table I shows. That table lists observed precession, the general relativity calculations, and residuals for the four innermost planets. The total precession of Mercury's orbit is actually quite a bit larger than what the table presents—the table's value is what is left after all perturbations of classical physics are removed. The >40 arc seconds per century remaining was an unsolved mystery of classical physics. Bouw implies that the relatively large O-C's (observed minus calculated) for Venus and the Earth demonstrates that relativity fails for those two planets. However, the residuals for those two planets are well within the errors of observation as given in the second column of the table. The fit is very good. In other words, if general relativity fails to account for all of the orbit precession of Venus and Earth, it is not because of any shortcomings of the theory, but because the observations are of insufficient precision to act as a discriminator.

**R. Sungenis:** This is a special pleading by Faulkner, but it is not going to work. I would invite Faulkner to read my account of General Relativity's dealing with the perihelion of Mercury in my book *Galileo Was Wrong*. The fact is, General Relativity could hardly come to the 43'' for Mercury, much less for the rest of the planets which it has never solved. The original Einstein-Grossman calculations had 18'' for Mercury, and then Einstein massaged the math to get to 43''. But once there, as Clifford Will says, "the prediction of general relativity is fixed at 43 arcseconds; it can't be fiddled with" (*Was Einstein Right?*, p. 101). So, if someone else finds it is not 43'', which has been the case several times over the last few decades, then General Relativity is disproven as a solution to perihelion. The same is true for Venus and the other planets –



either GRT's answer is precise or it is no answer at all. As Will said, there is no wiggle room for GRT.

**Faulkner:** Perihelion advance is most pronounced for strong gravity (near the Sun) and elliptical orbits. Mercury works so well because it is so close to the Sun and has a very elliptical orbit for a planet. The Earth and Venus are slightly farther from the Sun, but both have nearly circular orbits, so their perihelion advance is modest.

**R. Sungenis:** This is more special pleading. It makes no difference how far away the planet is from the Sun. All GRT needs to do is adjust for the distance and make the results proportional. What Bouw is saying is that GRT can't even do that much. That Faulkner would stoop to this kind of argumentation shows that he is desperate to support GRT in the face of anomalies that he cannot answer.

**Faulkner:** The residual for Mars is slightly greater than the error, a fact for which I have no explanation at this time. Bouw did not bother to include data on the remaining planets, because, being so far from the Sun, the predictions of general relativity would have been virtually zero, regardless of the eccentricities of those orbits. This trend of decreasing effect with distance can be seen in the third column of Bouw's table.

**R. Sungenis:** Which only proves further that GRT is not an adequate solution to the phenomenon of perihelion. The problem Einstein faced was that once he massaged his math to get 43'', he could not massage the math for the other planets, and therefore his figures for them were wildly off.

**Faulkner:** Also, relativistic advance of periastron has been studied and confirmed in certain binary stars with elliptical orbits. Of particular interest are binary pulsars, where the stars are extremely close together and hence have very strong gravity. Here, both the measurements and calculations are very large and hence offer a good laboratory not only for testing general relativity but also for suggested variants. The predictions of general relativity and the data agree well. Therefore, Bouw's claim on orbital precession is out of date, just plain wrong, or both.

**R. Sungenis:** No, I'm afraid it is Faulkner's reasoning that is "out of date or just plain wrong." Binary stars do not prove General Relativity. We deal with this issue in our book, *Galileo Was Wrong*. General Relativity can be made to fit the data if one

massages the math and makes certain assumptions, but that doesn't mean that either GRT or its solution to binary phenomena are proven facts. General Relativists have been massaging the math ever since Lorentz and Einstein invented the Lorentz transform to answer the Michelson-Morley experiment.

**Faulkner:** Much of the rest of Bouw's writing on general relativity demonstrates a similar lack of understanding of the model. For instance, his question as to how a photon detects the gravity of an object that it just left reveals that he has overlooked the role of space-time curvature in general relativity.<sup>47</sup>

**R. Sungenis:** Here is another case of *petitio principii*. Faulkner uses an unproven assumption of GRT (i.e., space-time curvature) to prove that GRT is correct. But neither Faulkner nor his associate Relativists have proven that either "space-time" or "curvature" is what is actually taking place. "Spacetime" was a product of Special Relativity's refusal to accept a motionless Earth as the absolute in space, and "curvature" was the result of having to add gravity to General Relativity, since gravity was absent from Special Relativity. In other words, one error led to the next error, and so it has been for the last one hundred years, and all because Einstein didn't want to accept the face value results of Michelson-Morley that showed the Earth isn't moving.

#### **Faulkner: Orbital resonances?**

Misconceptions abound elsewhere. Bouw claims alleged orbital resonances between the Earth and other solar system objects as evidence for geocentrism.<sup>48</sup>

**R. Sungenis:** Faulkner is misrepresenting Bouw. Bouw does not say that orbital resonances are evidence for geocentrism, *per se*, but that they are evidence against "the alleged billions of years which evolutionists have insisted that the earth and Venus have co-orbited the sun" since "neither object has been around long enough to have achieved the observed phase-lock" (Geocentricity, p. 297). Hence, the rest of Faulkner's discussion of this issue is irrelevant.

**Faulkner:** Venus is said to display the same face toward the Earth each time that the Earth and Venus are closest. However, the reference cited for this says something quite different. The reference acknowledges that an older value for the rotation period of Venus did suggest a resonance, but that the new measurement of the period does not. The discussion of Mercury's alleged resonance is completely garbled. Bouw says that its rotation is weakly

coupled to the Sun at ‘roughly two-thirds of the length of its year’. It is coupled at a 2:3 ratio by a factor of nearly one part in 10,000, which is hardly rough agreement. Furthermore, any resonance with the Earth is illusory in that Mercury is not well placed for observations except during its brief greatest elongations near its aphelion. The aforementioned 2:3 ratio with the Sun assures that a similar side will face the Earth each time similar viewing opportunities present themselves. While conceding that the outer (Jovian) planets do not appear to exhibit such resonances, Bouw also casts doubt upon the exact rotation periods of these planets, because they are determined from motions of cloud tops in the atmospheres of these planets. However, Voyager data fixed the true rotational periods of these planets by the rotations of their magnetic fields. In each case these periods matched those determined from average cloud measurements quite well. Many of these problems could have been avoided if Bouw’s work had been peer reviewed. It appears that it was self-published without the benefit of outside review. Independent review could have caught other unfortunate lapses and poor use of terms even though they are not factual errors. These include the use of the word ‘nebulae’ to describe external galaxies,<sup>49</sup> a term that has been out of favour for decades, the misnaming and garbling of Kepler’s third law of planetary motion,<sup>50</sup> and what appears to me to be the blurring of rotation and revolution.<sup>51</sup>

**R. Sungenis:** I can only smile at Faulkner’s suggestion. Here we have Christians like Faulkner who refuse to take Genesis 1:1-2 at its word and proclaim the Earth was created first; and who refuse to acknowledge that, literally interpreted as he does the rest of Genesis, the Bible teaches the Earth doesn’t move; yet he expects Bouw to have his paper “peer-reviewed” by his associates who, as he openly admits in this essay, won’t give geocentrism the time of day because it “produces an easy object of ridicule by our critics.” The problem with Faulkner’s whole critique of Bouw, like the above paragraph, is that he concentrates on nit-picking about various historical points and scientific minutia instead of understanding the whole of Bouw’s argument. For example, earlier Faulkner tried to claim that General Relativity, like Bouw’s geocentrism, has a “preferred standard of rest.” Faulkner invoked “Mach’s principle” for this purpose and claimed it was part and parcel with General Relativity. But in straining the gnat, Faulkner failed to realize that he swallowed the camel, since if he accepts Mach’s principle as his foundation for understanding the cosmos, then he really has no argument against Bouw’s geocentric system since Bouw bases it on nothing less than Mach’s principle! In fact, if one reads Bouw’s book it’s hard to miss that Mach’s principle

permeates its pages. Yet not one time in his critique of Bouw does Faulkner mention this very important connection. In effect, by using Mach's principle to support his "preferred standard of rest," Faulkner just nullified his whole critique of geocentrism, since geocentrism uses Mach's principle as its basic foundation. If only Faulkner's paper had been peer-reviewed someone might have caught this devastating admission before it was published.

**Faulkner:** Only some of the problems with Bouw's scientific case for geocentrism have been discussed here. But they should be enough to show that Bouw's argument is poorly founded.

**R. Sungenis:** As noted, the only thing that is "poorly founded" is Faulkner's critique. Not only does Faulkner give poor arguments for the material in Bouw's book that he does cover, he has hardly scratched the surface on the amount of scientific evidence for geocentrism contained in Bouw's book. If I were a college professor, I would give an F to Faulkner's paper.

**Faulkner: Conclusion:** I have examined the claims of leading modern geocentrists and have found that their insistence that the Bible teaches geocentrism is not well founded. It would be helpful if someone with formal theological training could further explore and refute this claim.

**R. Sungenis:** So Faulkner admits here that he doesn't have the formal training to argue against the fact that the Bible teaches geocentrism, yet he is insistent in his opening remarks that "The Scriptural passages quoted do not address cosmology." Likewise, with no theological training he doesn't know the Hebrew grammar, yet he is insistent on such grammatical minutia as the Niphal stem of 1 Chronicles 16:31 to claim that the passive allows for the Earth to move but that the Bible would not have made such allowance if it was active (the Qal stem), which is a completely fallacious argument.

**Faulkner:** Geocentric arguments are predicated upon a rejection of modern relativity theory, based on ignorance of what it teaches.

**R. Sungenis:** No, we know exactly what it teaches. We also know it and Special Relativity were invented to answer the Michelson-Morley experiment that showed the Earth wasn't moving. We know that GRT and SRT contradict themselves, and one system is propped up when the other system fails. The irony of the whole thing is, as I noted above when Faulkner invoked Mach's principle to support GRT, is that GRT allows for a geocentric universe! So

even if we were to use GRT as a proven science, Faulkner wouldn't have a leg to stand on in denying a geocentric interpretation to the biblical and scientific data, yet he and his colleagues insist that to interpret the Bible geocentrically is not proper because it "produces an easy object of ridicule by our critics." In other words, Faulkner doesn't want to follow the dictates of his General Relativity theory to its logical conclusion (e.g., supporting geocentrism) because he wants to be held in high esteem by his peers. This alone should tell us of the underlying motive in Faulkner's whole approach to the subject, and he should recuse himself from the debate.

**Faulkner:** Humphreys suggests that 'creationists who oppose relativity have mistakenly identified the "baggage" with the theory itself' and would like 'all creationists to see relativity as a somewhat odd and well-intentioned friend'.<sup>43</sup> A detailed contribution on general relativity by a creationist with expertise in the field would be most welcome.

**R. Sungenis:** Well, one such "contribution" was done by General Relativist Michael Martin Nieto of Los Alamos National Laboratory, and who was answered by geocentrist Martin Selbrede in 1994. I can see why no other General Relativist would want to argue the heliocentrist position after the way Selbrede silenced Nieto by using Nieto's own General Relativity theory. If Humphrey's would like to show us how General Relativity does not support geocentrism, he is welcome to take another shot at it, considering Nieto's dismal failure. But first I suggest that Humphreys take a good look in the exegetical mirror and tell us how he justifies setting aside the clear language of Genesis 1:1-2 that the Earth was created first before his "white hole" interpretation of the Light came about.

**Faulkner:** Geocentrists improperly handle other scientific and historical information as well. While it is true that four hundred years ago most embraced the heliocentric theory a century before there was direct evidence for the theory, that does not mean that there was evidence against the theory. Acceptance of heliocentrism came about because of application of Occam's razor. The Sun-centred system was far simpler than the primary geocentric model, the Ptolemaic system. Note that William of Ockham was a Christian, and both Copernicus and Galileo believed that a simpler model glorified God who is 'simple' (theologically, this means not composed of parts).

**R. Sungenis:** If we use Occam's razor, then Copernicus would lose. Copernicus' model was more complicated than Ptolemy's. He ended up with more epicycles than Ptolemy's model (48 v. 40), and even then he couldn't get it to work correctly. I would suggest that Faulkner read up on the history rather than repeating the same old canards. As for the present systems, the modern heliocentric system is more complicated than the geocentric. The heliocentric system depends on an Earth that must rotate precisely at 23 hours 56 minutes and 4 seconds each day, and go around the sun at 365.25 days per year, without fail, year by year. How does it manage to do so, considering that we recently found that Venus' rotation has decreased by 6.5 minutes compared to our last measurement ten years ago? Conversely, the geocentric system is quite simple. The earth is fixed in the center of the universe, and the universe is rotating around it. The sheer size of the universe will create enough inertia that nothing will stop it from rotating on a sidereal basis. It will rotate for billions of years like that without slowing down sufficiently that we could even detect it. And as we noted earlier, Faulkner's own General Relativity theory allows the universe to rotate around a fixed Earth. No, the real problem is not simplicity. The real problem is that Faulkner and his colleagues are embarrassed with geocentrism and believe that it "produces an easy object of ridicule by our critics."

**Faulkner:** The geocentrists' claim that the proper and logical alternative of the Tychonian model should have been accepted is not founded by the facts of history—the Tychonian theory was never a serious contender. Subsequent experiments, such as aberration of starlight and trigonometric parallax are better explained in the heliocentric model rather than any geocentric theory.

**R. Sungenis:** No, that is completely false. In fact, Special Relativity still cannot explain stellar aberration without falling all over itself. Conversely, the neo-Tychonic system that makes the star field rotate around the Earth on a 1AU pivot point is the simplest mechanical answer to both stellar parallax and stellar aberration ever devised. The problem is that Faulkner failed to address these two important issues in his critique.

**Faulkner:** While the intentions of the geocentrists are good, they offer a very easy target of criticism for our critics. We should establish some distance between the mainstream creation movement and the geocentrists.

**R. Sungenis:** Need I say more about Faulkner's motivations? He fails to recognize that his own reliance on Mach's principle makes him a certified geocentrist, yet his failure to see himself in the mirror has created a fear of being ridiculed by his critics. Faulkner would rather shroud himself in the veneer of academic status by touting General Relativity rather than admitting that the very General Relativity he advocates defends geocentrism better than any other secular theory today.

**Faulkner: Appendix: Geocentric and Heliocentric models:** To better understand geocentrism and heliocentrism, we should compare the models. In reality, there are three theories, two geocentric and one heliocentric. The heliocentric model is easiest to explain and understand. This is the model described and/or diagrammed in almost every astronomy book: the planets orbit the Sun in nearly circular orbits. Nicolaus Copernicus (1473–1543), a Polish astronomer and mathematician (and a Canon in the Roman Church), is generally credited with the establishment of the heliocentric theory, though he did not originate the idea. Copernicus' great achievement was authoring a book, *De Revolutionibus Orbium Celestium* (*On the Revolutions of the Celestial Spheres*) published about the time of his death. In his book Copernicus put forth arguments for the heliocentric theory, but also worked out the relative sizes of the orbits and the correct orbital periods of the planets for the first time. Later, Johannes Kepler (1571–1630) refined the Copernican system by positing that the planets' orbits are actually *ellipses* with the Sun at one focus of each ellipse. This is the first of Kepler's three laws. His other two laws establish the rates at which planets move in their orbits (at all times in any planet's orbit, the planet-Sun vector sweeps out the same area per unit time) and a relationship between the periods and sizes of the planets' orbits (the cube of the radius (strictly the semi-major axis) is proportional to the square of the period). Kepler's three laws were empirically deduced using two decades of careful observations of planetary positions made by Tycho Brahe (1546–1601). Decades after Kepler, Isaac Newton (1643–1727), using his newly discovered calculus and mechanics, was able to deduce Kepler's three laws of planetary motion theoretically. This was taken as a great triumph of Newtonian mechanics and verification of Kepler's work. The most famous geocentric theory is credited to Claudius Ptolemy, an Alexandrian Greek of the second century ad, though it is unclear exactly how much of the model was original to him. Ptolemy wrote a lengthy book originally called 'H Maqhmatikh SuntaxiV (*Hè mathèmatikè syntaxis* = The Mathematical Collection). This became known as 'O MegaV AstronomoV (*Ho Megas Astronomos* = the great

astronomer). 9th century Arabs used the Greek superlative *megisth* (*megistè*) meaning ‘greatest’, then prefixed the Arabic definite article *al*, so the book is now best known to us as the *Almagest*. This is a compilation of all ancient Greek astronomy, and is the primary source of information on the subject. Also in the *Almagest* is a complete treatment of the Ptolemaic cosmology. As seen from the Earth, the five planets visible to the naked eye slowly move through the stars, generally in a west-to-east direction. This motion is called direct, or prograde. However, from time to time the planets reverse direction and move east to west in what is called indirect or retrograde motion. This seemingly erratic behavior is easily explained in the heliocentric theory. Figure 2 (right) is a diagram of the orbits of the Earth and a superior planet (those with orbits larger than those of the Earth), such as Mars. As both planets orbit the Sun, Mars usually exhibits direct motion. However, whenever the Earth passes between Mars and the Sun, Mars undergoes retrograde motion. Mercury and Venus are inferior planets, those with orbits smaller than the Earth’s. Inferior planets undergo retrograde motion when they pass between the Earth and the Sun. The ancient Greeks needed to explain planetary motion in a geocentric way, which would not have been difficult to do, but they also had a couple of artificially imposed constraints that greatly complicated the problem. They believed that objects in the heaven were perfect, and as such, followed perfect motion. To the ancient Greeks, the most perfect motion was uniform motion on circles. The Ptolemaic model explains planetary motion with these constraints, but it is not simple, as shown in Figure 3 (left). A planet moves uniformly on a circle called an *epicycle*, and the epicycle in turn moves uniformly on a circle called the *deferent*. For the time being we will assume that the deferent is centred on the Earth. By adjusting the sizes of the epicycle and the deferent, and the speeds with which the planet moves on the epicycle and the epicycle moves on the deferent, the planet will occasionally exhibit retrograde motion. Retrograde motion occurs whenever the planet passes close by the Earth between the Earth and the centre of the epicycle. At all other times the two motions will combine to produce direct motion. While this relatively simple model will explain prograde and retrograde motion qualitatively, it fails on detail, so additional complications were added to improve the fit to reality. For instance, the Earth is not exactly at the centre of the deferent, but is a little off-centre. This actually is an attempt to approximate Kepler’s first law, i.e. that planets move in elliptical orbits about the sun, which is at one of the ellipse’s two foci. This is because the elliptical orbits of the planets deviate so little from a circle that off-centre circles can approximate them. Furthermore, the epicycle does not move at a uniform rate with respect to the



centre of the deferent or the Earth. Instead, the epicycle moves at a constant rate with respect to a point called the *equant*. The equant is collinear with the centre of the deferent and the Earth and is at the same distance from the centre that the Earth is, but on the other side of the centre. This refinement is an attempt to model Kepler's second law of planetary motion (see diagram, right). While the epicycle is moving at a uniform rate with respect to the equant, it does not move at a uniform rate with respect to the centre of the deferent or even with respect to the Earth. Therefore the introduction of this concept is a desperate attempt to salvage uniform circular motion, all the while violating the spirit of that assumption. Still other refinements were required. The planets do not follow orbits in the same plane of the Earth's orbit (the ecliptic). This causes the planets to alternately dip above and below the ecliptic. Ptolemy's model explains this by epicycles that are in a plane perpendicular to the plane of the other epicycles. While the Sun and moon do not experience retrograde motion, they do have inhomogeneities in their motions that required additional small epicycles to explain their motion around the Earth. For nearly 1,500 years the Ptolemaic model was used, making it one of the most successful scientific theories of all time. Throughout the Middle Ages, small discrepancies between the predictions of the Ptolemaic model and reality were fixed by the addition of more epicycles. By the Renaissance, the Ptolemaic model had become very unwieldy, which led many people, such as Copernicus, to conclude that the model may not be correct. It is not clear if Ptolemy actually intended the theory to be taken as a statement of reality. It could be that he meant it merely as a method of calculating planetary positions. If so, this would have been a very modern view of what a theory is. Whether Ptolemy intended this or not is immaterial, because during the Middle Ages the Ptolemaic model was elevated to the status of truth, and even the Church had sublimated certain Biblical passages to fit this perceived truth. Tycho realized the problems with the Ptolemaic model, but he could not bring himself to fully reject geocentrism. Therefore, Tycho proposed his compromise geocentric theory, as shown in Figure 5 (left). In the Tychonian system the Sun orbits the Earth once per year, and the other planets orbit the Sun. In the modern Tychonian system, Keplerian and Newtonian principles are maintained, as in the heliocentric theory. Mathematically, the essential difference between the heliocentric and Tychonian models is a co-ordinate change from the Sun to the Earth. Apparently no one has believed the Ptolemaic model for a long time. Therefore, all modern geocentrists support the Tychonian model.

**R. Sungenis:** Let me interject here that the reason Ptolemy's model became more inaccurate as the centuries went on was not because his system had any more flaws in it than Copernicus' system. It was because any system, whether it is Ptolemy's, Copernicus', Kepler's, Tycho's or Einstein's will have difficulty due to the perturbations of the planets. This is the whole reason that Mercury's perihelion became an issue. It is just one more perturbation of the planets that must be taken into account. Faulkner's historical account doesn't add anything to solving these problems, and thus his favoring of the heliocentric model has no merit.

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**R. Sungenis:** Interestingly enough, below, Dr. Gerald Aardsma's handling the issue of geocentrism is much better than Faulkner's. He is much fairer and more honest about both the history and the scientific issues. At least Aardsma recognizes that the Michelson-Morley experiment allowed geocentrism as one possible solution, and that according to modern science, there is no real difference between a heliocentric and geocentric system. Aardsma also admits that the Genesis account says that the Earth was created first and was considered special. Aardsma's big mistake comes when he claims the Bible does not teach the Earth is motionless.

<http://www.icr.org/article/geocentricity-creation>

Geocentricity and Creation

**by Gerald A. Aardsma, Ph.D.**

**1. What is geocentricity?** Geocentricity is a conceptual model of the form of the universe which makes three basic assertions about the nature of the earth and its relationship to the rest of the universe. These are: a) the earth is the center of the universe; b) the earth is fixed (i.e., immobile) in space, and c) the earth is unique and special compared to all other heavenly bodies.

**2. What is the History of geocentricity?** The teaching of geocentricity can be traced in western thought at least back to Aristotle (384-322 B.C.). Aristotle argued, for example, that the reason why all bodies fall to the ground is because they seek their natural place at the center of the universe which coincides with the center of the earth. A geocentric model of the universe seems first to have been formalized by Ptolemy, the famous Greek astronomer who lived in Alexandria around A.D. 130. Ptolemy's model envisioned each planet moving in a small circle, the center of which moved along a large circular orbit about the earth. This model was generally accepted until Copernicus published his heliocentric model in 1543. The heliocentric view pictures the sun as motionless at the center of the solar system with all the planets, including the earth, in motion around it. Copernicus' heliocentric model, because it used circles to describe the orbits of the planets about the sun instead of ellipses, was as clumsy and inaccurate as Ptolemy's geocentric model. However, it was conceptually simpler. It quickly gained acceptance, though not without considerable controversy. The conflict between these two views came to a head in the well-known trial of Galileo by the Inquisition in 1632.

Starting from a heliocentric viewpoint, Kepler (1571-1630) was able to formulate laws of planetary motion which accurately described the orbits of the planets for the first time. Newton (1643-1727) was then able to explain why Kepler's laws worked based upon his famous law of gravity. This tremendous progress in understanding resulted in almost universal acceptance of heliocentricity and rejection of geocentricity.

**3. What does modern science say about geocentricity?** Many attempts were made to prove that heliocentricity was true and geocentricity was false, right up until the early 1900's. All such attempts were unsuccessful. The most well-known of these is the Michelson-Morley experiment which was designed to measure the change in the speed of light, due to the assumed motion of the earth through space, when measured in different directions on the earth's surface. The failure of this experiment to detect any significant change played an important role in the acceptance of Einstein's theory of special relativity. The theory of special relativity holds as a basic assumption that the speed of light will always be the same everywhere in the universe irrespective of the relative motion of the source of the light and the observer. The ability of special relativity to successfully explain many non-intuitive physical phenomena which are manifested by atomic particles when moving at speeds greater than about one-tenth the speed of light seems to corroborate this assumption.

**R. Sungenis:** It doesn't corroborate them since the same physical phenomenon manifested by atomic particles will appear in an aether environment as opposed to a vacuum environment.

**Aardsma:** Thus, the failure of the Michelson-Morley experiment (and all other experiments of similar intent) to detect any motion of the earth through space is understood by modern science in terms of relativity rather than geocentricity. Einstein's theory of *general* relativity adds further to the debate. It asserts that it is impossible for a human observer to determine whether any material body is in a state of absolute rest (i.e., immobile in space). It claims that only motion of two material bodies relative to one another can be physically detected. According to this theory the geocentric and heliocentric viewpoints are equally valid representations of reality, and it makes no sense whatsoever scientifically to speak of one as being true and the other false. This shift in emphasis from an either-or argument to a synthesis and acceptance of both viewpoints is summed up by the well-known astronomer, Fred Hoyle, as follows: The relation of the two pictures [geocentricity and heliocentricity] is reduced to a mere coordinate transformation

and it is the main tenet of the Einstein theory that any two ways of looking at the world which are related to each other by a coordinate transformation are entirely equivalent from a physical point of view.... Today we cannot say that the Copernican theory is 'right' and the Ptolemaic theory 'wrong' in any meaningful physical sense.<sup>[1]</sup> Relativity is the theory which is accepted as the correct one by the great majority of scientists at present. However, many science teachers and textbooks are not aware of this, and it is not uncommon to find heliocentricity taught as the progressive and "obviously true" theory even today.

**4. What does the Bible teach about geocentricity?** To learn what the Bible teaches regarding geocentricity, it is necessary to consider separately the three basic assertions of uniqueness, centrality, and fixity mentioned above since the composite "theory of geocentricity" is nowhere mentioned in the Bible. The assertion that the earth is unique and special (item "c" above) is clearly and unequivocally taught in the first chapter of Genesis. The plain sense of the creation account is that all other heavenly bodies were not even brought into existence until the fourth day of creation. Thus, God had already created the earth, separated the waters above and below the atmosphere, formed the earth into continents and oceans, and brought forth vegetation upon the earth before He paused to create the solar system, the Milky Way, and all of the other material bodies in the universe. It is very clear that the creation of the earth was distinct from that of any other heavenly body. The Biblical doctrine of the uniqueness of the earth is strongly supported by modern space exploration. In particular, every effort by scientists to demonstrate that life does or possibly could exist on other planets in our solar system has so far failed. Such efforts have only served to underscore how different the earth is in this regard from all other heavenly bodies which we have been able to study. While the earth teems with life, elsewhere space appears to be only barren and incredibly hostile to life. The earth gives every indication that it was specially designed for life, and it is unique in this regard. In contrast to the bountiful evidence in the Bible which teaches that the earth is special, nowhere is it taught that the earth is the center of the universe (item "a" above). In fact, the Bible provides no explicit teaching on any questions relating to the form of the universe. We are not told, for example, whether the universe is finite or infinite, and no explicit statement can be found to help us know whether space is flat or curved. This is the type of information we would need to deduce whether the earth is at the center of the universe or if it even makes sense to say that the universe has a center. On matters relating to the physical form of the universe, the Bible is mute.

**R. Sungenis:** But the Bible does, indeed, say that the Earth doesn't move, in many places. We then use our reason to understand that if the Earth doesn't move, then it must be the center of the universe, since only the center doesn't move and we see the universe rotating around the Earth every day.

**Aardsma:** This leaves the more controversial assertion (item "b" above) that the earth is motionless in space to be discussed. In fact, the Bible contains no explicit teaching on this matter either. Nowhere does the Bible set about to deal explicitly with the question of whether the earth is moving through space or not. To be sure, one can fashion implicit arguments for an immobile earth from the Bible, but in no instance do the Bible verses used to accomplish this goal rest in a context of an overall discussion of the physical form of the universe.

**R. Sungenis:** Aardsma fallaciously assumes there has to be some kind of intellectual discussion taking place in the context of the Bible in order for us to conclude that the Bible is dealing with the topic. Not so. Intellectual discussion of whether a position is true or false is only for beings who don't know the answer to the question, not God who already knows what He has built it. Similarly, the Bible doesn't have any intellectual discussion of the how's and why's of the Trinity. It just states that there is a Father, Son and Holy Spirit, without ever explaining how these three entities could be one God. A fact is a fact is a fact, as the saying goes.

**Aardsma:** Evidently, while the physical form of the universe is an interesting scientific issue, it is not of very great importance Biblically. The lack of explicit Biblical teaching on this whole matter makes it impossible to call any conceptual model of the form of the universe "the Biblical view."

**R. Sungenis:** Contrary to Aardsma's belief, there are over two dozen explicit passages in the Bible that state the Earth either doesn't move or that the sun, stars and moon revolve around it. (See my book, *Galileo Was Wrong: The Church Was Right*). It was the only "biblical" view taught for 1600 years until Galileo tried to say it wasn't the biblical view. He was resoundly condemned by the Church for doing so, and the Church has never officially rescinded that judgment.

**Aardsma: 5. What is the role of geocentricity in creationism?**  
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 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. Geocentricity and creationism are really separate matters. Because of the contrast in the way the Bible deals with these two issues, I believe that attempts to link geocentricity and creationism are ill-founded.

**R. Sungenis:** How could they be ill-founded if Aardsma himself admits above that "The assertion that the earth is unique and special (item "c" above) is clearly and unequivocally taught in the first chapter of Genesis. The plain sense of the creation account is that all other heavenly bodies were not even brought into existence until the fourth day of creation. Thus, God had already created the earth, separated the waters above and below the atmosphere, formed the earth into continents and oceans, and brought forth vegetation upon the earth before He paused to create the solar system, the Milky Way, and all of the other material bodies in the universe. It is very clear that the creation of the earth was distinct from that of any other heavenly body"? I rest my case.

**Aardsma: 6. What can we learn of general importance from the geocentricity-helio-centricity relativity debate?** Perhaps the most important lesson to be learned from the history of geocentricity is in connection with the question, "What role should scientific discovery play in the interpretation of the Bible?" It is surely ironic to see the incident of Galileo's trial before the Inquisition paraded as a supposedly unarguable illustration of the "mistake" recent-creationists make when they insist on a literal, supernatural, six-day creation and fail to yield to modern scientific views of how the universe came to be. "After all," we hear, "the theologians said that Galileo's heliocentric viewpoint was heresy, but now everybody knows that the theologians were wrong and Galileo was right." In actual fact, as we have seen above, the current scientific consensus is that "Today we cannot say that the Copernican theory [which Galileo held] is 'right' and the Ptolemaic theory [which the theologians held] 'wrong' in any meaningful physical sense."[\[1\]](#) The generally overlooked lesson here is that scientific theories do not provide a very secure basis from which to interpret Scripture. In the course of the last five hundred years the weight of scientific consensus has rested in turn with each of three different theories about the form of the universe: first geocentricity, then heliocentricity, and now relativity. This is the



way it is with scientific theories—they come and go. But the Word of God endures forever. Let us be immovable in upholding what the Bible clearly teaches.

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