VOLUME 12 NUMBER 102

THE

BIBLICAL ASTRONOMER

Fall 2002

(Publications list continued from the back cover.)

The Earth: Our Home by Philip Stott. The wise men, philosophers, and scientists of the world have repeatedly changed their minds about such things as space and our position in it. This book provides and historical look at the topic of geocentricity and offers evidence for it. 32 pp. $3.50

Vital Questions by Philip Stott. Tackles just how flimsy the evidence is for such well-established ideas as the Big Bang, Relativity, and evolution. 124 pp. $13

Evidence for the Flood by Philip Stott. VHS video $20
Problems in Astronomy by Philip Stott. VHS video $20
Where in the Universe Are We? by Philip Stott. VHS video $20
Any three videos for $50

Geocentricity: the Scriptural Cosmology narrated by Dr. Bouw explains the seasons, retrograde motion and other phenomena using the Norwalt Tychonic Orrery. $15

Subscriptions to the *Biblical Astronomer* are $15 per year ($20 outside the USA). Membership is $20 per year, ($25 outside the USA) and members are allowed a 15% discount on all materials published by the Biblical Astronomer. Offerings to make possible additional publishing and research projects are gratefully accepted. Foreign orders please send either cash or cheques drawn on a United States bank. Credit cards are accepted only on the Internet through PayPal's secure payment service. The product list, including items not listed in this issue, is at http://www.geocentricity.com/geoshop/pp_pubs.htm.

Editor: Gerardus D. Bouw, Ph.D.
4527 Wetzel Avenue
Cleveland, Ohio 44109
U.S.A.

E-mail address: gbouw@bw.edu
http://www.geocentricity.com
FAX: (440) 826-3486

Cover: The Wise Men Guided by the Star by Gustav Doré, 1865.

THE
BIBLICAL ASTRONOMER

Volume 12, Number 102
FALL 2002

TABLE OF CONTENTS

Editorial 127

The Star of Bethlehem: What was It? 129
T. Unruh

The First Biblical Astronomer 133

Fourier and the Missing Neutrinos 138
G. D. Bouw, Ph.D.

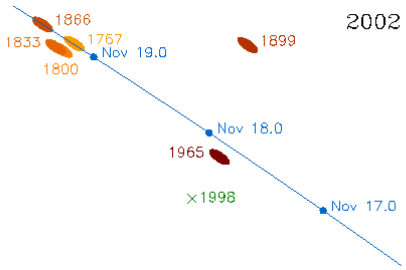
A Report of Recent Debates on Geocentricity 145

Panorama 152

EDITORIAL

Leonid Meteor Storm Update

The Leonids may again storm this year. Though a full moon will drown out most of the meteors, the sheer number of bright ones should make it worth while observing. Leonid meteor storms occur when clouds of dusty debris, shed by comet Temple-Tuttle, sweep past the earth. The clouds are actually long strands along the path the comet took during different passages through the inner solar system. Forecasters predict that two such strands will hit the earth this year, the first, of the 1767 passage, will be seen in Western Europe early in the morning on November 19. The second, from the 1866 passage, will be visible over most of the U.S.A. and southern Canada. The first cloud will strike over Europe about 4:00 U.T. (British standard time). Estimates for people away from city lights and clouds range from 500 to 1,000 meteors per hour, given the full moon. The second cloud will strike over the U.S. and Canada about six hours later, peaking at 5:30 A.M. The estimated count for that cloud is up to 2,000 meteors per hour. The counts take into consideration the fact that the moon is full, thus one may expect to actually see that many. If you want to observe them, I recommend that you start watching an hour before the aforementioned times. For comparison, the peak times and counts at Albuquerque is 300 to 2000 meteors per hour peaking about 3:30 local time. For Las Vegas, the counts are down abut 10% and the time is 2:30 A.M. local time. The rest of the world can count on some 50 or so meteors per hour.



The diagram at right shows the cross-sections of the stands. Each cross-section is labeled by the year it was created. The line shows the position of the earth relative to the group of strands for the three dates indicated.

In the past (1833, 1866, 1899, 1933, 1966), you'll note that the storms occurred every 33 years. The "1999" session has produced several storms because we appear to be favored at a time in history when the strands are clumped together in a favorable way to produce storms. This year's is the last major storm predicted for this century. Conditions around 2033 are not favorable due to both the weakness of the

meteor clouds and the presence of the moon. The forecast for 2066 is somewhat more favorable but not great. I have not seen a forecast for 2099. There is a forecast for 2006 that the 1932 cloud will sweep past us. It will be most visible for parts of Europe and Africa, will peak about 4:30 U.T., and will yield about 100 meteors per hour, about the same as a similar event in 1969. This rates as a shower, but not as a storm.

Technical Paper No. 2 is finished

The rebuttals to Danny Faulkner's anti-geocentricity article, which appeared in both the *Creation Ex Nihilo Technical Journal* (CENTJ) and on the Answers in Genesis web site last year in August have now been assembled and printed in a 44-page, 8½x11inch glue-bound booklet. The *Biblical Astronomer Technical Paper No. 2* contains the complete paper that was posted on the geocentricity.com web site, with a few minor improvements. (*Creation Ex Nihilo* printed a greatly reduced summary of that paper and allowed Faulkner twice as much space to respond.) That is followed by Faulkner's original e-mailed and unpublished response to the web posting. Rebuttals to his comments are included as footnotes. Also included are rebuttals by Malcolm Bowden, a version of which was printed in *Creation Ex Nihilo* magazine, Brian Shortridge, Dr. John Byl, and Phillip Stott. Marshall Hall, whose book *The Earth is not Moving* was critiqued in a parallel article, states his case, too. A collection of e-mail messages, both pro- and con follow, including rejection e-mail messages. The rebuttal to Dr. Don de Young's *Creation Ex Nihilo* antigeocentric article, reprinted from the *Bulletin of the Tychonian Society*, is also reprinted.

Members will be sent a copy shortly. Non-members may purchase a copy for $7.00 postpaid in North America, $12.00 postpaid elsewhere. *The Book of Bible Problems* has been reprinted and is no longer on backorder. Because of a shorter run, the price per book was $1.00 more than the previous printing and so the price will go up from $12 to $13 after the first of the year (add $5.00 to orders outside North America). *Geocentricity* is still under revision, but *The Geocentricity Primer*, a condensed version of *Geocentricity* has been made available by its editor, Gordon Bane. Copies of this 170-page paperback book, which includes 12 pages by Mr. Bane, may be purchased postpaid for $8.00 in N. America, $13.00 elsewhere.

THE STAR OF BETHLEHEM
What Was It?

J. Timothy Unruh[1]

The word astronomy comes from the Greek *astron*, "a star," and *nomos*, "a law," hence, "star law." It signifies the laws, science, and study of the stars. There are about 6,500 stars in the whole of the heavens visible to the acute human eye.

For two millennia there has endured a fascination with and account of a star that riveted the attention of a party of wise men and led them as one from Persia to an insignificant little village in the eastern Mediterranean where they worshipped a baby named Jesus. The account, as recorded in Matthew 2:1-16, is understood well enough in every detail except for one—the star. What was it? This mysterious star has captured the imagination not only of theologians, but scientists, philosophers, artists, and other creative thinkers, especially astronomers, up to the present day. Contrary to popular tradition, the wise men did not come to a manger in a stable but to a house. They arrived in Judea at least six months after Jesus was born. It was the shepherds who visited the manger, after the glory of the Lord shone around them in the fields and announced His birth while the angels sang. The *sign* for the shepherds was the "Babe wrapped in swaddling clothes, lying in a manger" (Luke 2:12), while the *sign* to the wise men, or Magi, still in the east, was the "Star" (Mat. 2:2).

A number of theories have been proposed to explain the appearance of the enigmatic star. Each year, at literally hundreds of planetariums around the country, this profound question is tackled in programs that themselves have become a Christmas tradition. Even though combining science and religion is normally taboo, during the Christmas season these shows invariably oblige public demand and attempt to give a plausible explanation for the Star of Bethlehem—scientifically. Ironically, most of the explanations offered up would hardly pass peer review in the real world of science. In spite of this, and in light of the facts of the verses in Matthew, the star was a real object in the sky, that appeared, moved, and hovered in a manner sufficient to lead the Magi to the precise location where the child Jesus dwelt. Most planetariums accommodate this image by offering a wealth of astronomical possibilities as to what type of celestial object the star might have been. Among these theories the most common are:

---

a supernova, a bright meteor or a great comet, the planet Venus, and unusual planetary conjunction or alignment, and a UFO. However, all of these attempts to explain this remarkable historic phenomenon from a purely mechanistic or naturalistic thesis have met with serious circumstantial problems. No less is the fact that such objects in the sky cannot lead in the manner required according to Matthew's account. At least astronomers cannot be accused of making no effort to solve this mystery.

Finding all of these theories wanting, some show directors will cross a further threshold by abandoning the literal for the abstract, saying that the star was not a physical object but merely some esoteric omen described by prophets of the day. Others will suggest that the star was some kind of "spiritual light," outside the realm of science, being a matter of faith held by certain adherents, and said to be as subjective and inarguable as the First Amendment. Then a few will go even further yet, and resort to astrology, saying that the star was an astrological sign. Explanations from all these perspectives abound. In the end none of these details can adequately serve Matthew's account. Dismissing the star's incredulity, explanations are offered which withhold the key facts that inherently disprove their possibility. Hence, accompanying the Biblical heresy is the schizophrenia of trying to decide whether the planetarium shows should be entertainment or real science, a predicament that aggravates the already sticky dilemma of mixing science and religion, of introducing pseudo scientific additives.

In an attempt from a more "religious" perspective it has been suggested by some that the star was an angel, as evidenced by its apparent intelligent movement. However, even though there appears to be a close association between the stars and angels in the Bible, Matthew did not describe apparition as an angel, but a star. However intimately the two may be related, the fact that Matthew's second chapter mentions both angels and the star at the nativity would tend to further indicate that the star was not an angel but its own distinct manifestation. Luke's account seems to affirm this distinction.

If the account as revealed in Matthew's gospel is literally true, as the Bible believing Christian holds that it is, then the Star of Bethlehem seen by the wise men could not have been a natural apparition, nor an astrological or spiritual sign alone, or even an angel. The unique geometry of its movement in the sky and its ability to stand over and mark a single objective geographical point, such as the house where the Christ child dwelt, indicates that it was a literal visible supernatural sign given from on High and one that modern science or any other extra-biblical discipline will never be able to explain.

There remains yet one more avenue in our quest after the Star of Bethlehem that well deserves our attention. This one leads us to an entirely unique, but not new, understanding and conclusion consistent with the facts, and represents part of a recurrent theme that can be traced from one cover of the Bible to the other.

Our first clue is found in the Genesis record where God created the heaven and the earth. Light was present on the first day of creation, even though the sources of light in the physical heavens—the sun, moon, and stars—were not created until the fourth day. We can see that the first light was not what we would call "natural." It must have been that supernatural display of the glory of God, which many times afterward accompanied His revelatory and redemptive activity. The encounter of Moses with God is exemplary. God revealed Himself to Moses in a "burning" bush by an unearthly supernatural light that did not consume the bush. Moses was apparently so attracted to the light that he asked God to show him more of His glory. When Moses came down from the mountain his own face glowed from being in God's presence. As Moses led the people out of Egypt this same light-glory accompanied them in the wilderness and later in the Tabernacle. The ancient Hebrews called these appearances of God the *Shekinah*: the glory, radiance, presence or merely the "dwelling" of God with His people. This physical manifestation is also a reminder of the authority and superintendence of the omnipotent god over His creation. This same glory of God is mentioned many more time in the Psalms and the prophets. Subsequently, centuries passed during which the Shekinah remained absent from Israel—until the time of Christ.

Then it happened, like the missing piece of a cosmic jigsaw puzzle, a strange new light appeared in the East. Three gentile Persian astronomer-priests saw it in the sky, and they immediately recognized the overwhelming significance of this strange and wonderful aerial light. Somehow, perhaps through a vision or a dream, the Magi got the message that the King of the Jews, the Savior of mankind, was born. The intense wonderful light which accompanied God at creation; when He appeared to Moses and made his face to shine; that hovered over the Exodus and filled the Tabernacle with an exceeding illumination; and that blinded the prophets of old; now retuned after a hiatus of six centuries to herald the greatest event of all: the benevolent entry of His eternal Son into our time-bound universe as the first and only God-man in human history. Throughout the bible the Shekinah was an accompaniment that indicated the presence of the Lord and guided people as the Lord directed. It seems fitting that the Shekinah would appear to herald the birth of God the Son and bring "Glory to God in the highest, and on earth peace, good will toward men." The extraordinary glory of God is the only reveal that completely fulfills all the data presented in Mat-

thew 2:1-12. On this occasion particularly, this special light was a most appropriate manifestation of divine majesty.

An amazing Bible prophecy of a "Star out of Jacob" (Numbers 24:17) anticipated the nativity by over 1,400 years, and spoke of One who would one day hold the scepter of kingly rule over Israel. The same was announced by the Star of Bethlehem which was indeed "His Star" (Matthew 2:2). As we enter this "Holy Day" season we are reminded of what Peter long ago assured us, that in God's written word, available to all in the Holy Scriptures, "We have a more sure word of prophecy; whereunto ye do well that take heed, as unto a light that shineth in a dark place, until the day dawn, and the day star arise in your hearts" (2 Peter 1:19). Jesus said: "I am the light of the world: he that followeth me shall not walk in darkness, but shall have the light of life" (John 8:12). The prophets spoke of a time yet future, even from our contemporary prospect, that all who enter in to a personal relationship with the God of creation through the resurrected Jesus Christ have new life in the present, and will ultimately see the Shekinah glory continually. This is the identity and meaning of the Star of Bethlehem. Happy are the people to whom God has revealed Himself, to whom He was come, and unto whom He is the Lord. "Behold, a virgin shall be with child, and shall bring forth a son, and they shall call his name Emmanuel, which being interpreted is, God with us" (Matthew 1:23).

Quotable Quotes

The data were almost unbelievable.... There was only one other possible conclusion to draw—that the earth was at rest. This, of course, was preposterous.

–Bernard Jaffe, *Michelson and the Speed of Light* (Doubleday)

One-liners

Light travels faster than sound. This is why some people appear bright until you hear them speak.

The 50-50-90 rule: Anytime you have a 50-50 chance of getting something right, there's a 90% probability you'll get it wrong.

The First Biblical Astronomer

Gerardus D. Bouw

The Holy Bible teaches that this present world is evil; that there is no truth in it. So it is that today's science becomes tomorrow's superstition. Today the scientific ideas and methods of Aristotle amount to little more than a joke. Philolaus' notion that the earth orbits the sun and that the sun is nothing more than a giant mirror reflecting the light of the central lake of fire, seems little more than a dim superstition. Yet it was once promoted by the Bishop of Armaugh, the Right Reverend John Wilkins, as proof positive that the Bible cannot be trusted when it makes scientific pronouncements.[2] In the world system, exemplified by these examples, we see the "science falsely so called" of 1 Timothy 6:20. To paraphrase the Credo on the inside back cover of every issue of the *Biblical Astronomer*, science devoid of the Bible is doomed to wander aimlessly, "ever learning, and never able to come to the knowledge of the truth," (2 Tim. 3:7).

If these things be true, then all science truly so called is based on the scriptures and should agree with itself throughout history. So a scientist of any century should have the same foundational perspective of science, regardless of the state of "science" accepted by his social milieu. Such a scientist will be characterized by a wholesale rejection of the Greek or other pagan philosophies of his day wherever they run afoul of the Holy Bible.

For example, anyone who knows the least bit about the Copernican Revolution knows that the main arguments against Copernicus' heliocentrism stemmed from Aristotle (384-322 B. C.). Aristotle laid the foundation for the pagan pre-Christian science, which influenced Catholic Europe through the Dark Ages. Aristotle's theories were a mixture of brilliant insight and sheer nonsense. Although accepted as a final authority to some even today, the nonsensical part of his theories ran contrary to several fundamental tenets of both Judaism and Christianity.

The Philoponus-Simplicius debate

Aristotle's influence dominated Western thought for more than 1800 years, through the first half of the seventeenth century. Contrary to the opinion of some, Aristotle was not replaced by a "Christian phi-

[2] See Bouw, G. D., 1992. *Geocentricity*, chapters 16 and 20.

losophy" (there can be no such thing according to Col. 2:10[3]) but by Plato's philosophy. To this day, remnants of Aristotle's scientific principles may be found in modern science. These exist primarily in the disciplines of ecology, evolution, and popular heliocentrism.

The greatest critic of Aristotle lived in the seventh century and just happened to meet Aristotle's greatest defender. The critic's name was John Philoponus, a Christian who lived in Alexandria. The Aristotelian's name was Simplicius. Fortunately, in defending Aristotle, Simplicius often quoted Philoponus at length.[4]

Philoponus' Bible-centered view led to a new view of physics, a view that prefigured a new era in science. Philoponus was the first man to combine scientific cosmology (the study of the nature of the universe) with Scripture, and thus with the Judeao-Christian doctrine of creation. In doing so, Philoponus moved centuries ahead of his age, not only anticipating the findings of modern creationist cosmology, but also founding the methods of modern science. His observations were well reasoned, suggesting genuine research. Indeed, Galileo is usually credited with the discovery of the scientific method, but Galileo read Simplicius—or Philoponus—and used a similar approach to reprimand the Aristotelians of his day as Philoponus had done nearly a thousand years before him.

Three fundamental beliefs dominated Philoponus' thinking:

1. The universe is the single creation of a single God and is neither infinite nor eternal.
2. The heavens we see have the same physical properties as the earth.
3. Stars are not divine.

Though not all Christians today adhere to these three, most adhere to numbers 2 and 3. As for the first, if the universe was created, it has a beginning and so cannot be eternal. For the second we note that if the universe was created, then it is reasonable to suppose that the material of the created heaven is the same as here on earth. Also, if the stars are moving, they must be moving through a void, or else the medium they move through must move with them in daily motion. If not, the resistance of the object moving through the medium would slow the object to a stop. And for the third point, if the stars are created, they should be

[3] Col. 2:8: "Beware lest any man spoil you through philosophy and vain deceit, after the tradition of men, after the rudiments of the world, and not after Christ." A.V. only; other versions place a softening modifier in front of the word "philosophy."

[4] At least, that is how historians report it. Personally, it looks to me like Philoponus wrote a treatise with Simplicius at the foil, embodying the sum total of the arguments of the Aristotelians. Galileo read Simplicius and apparently wrote his dialogues, with Simplicio as the geocentric foil, or rather, fool.

subject to the physical laws of motion. In contrast, Aristotle taught that the universe is infinite and eternal; that the stars are made of a special celestial substance not found on earth; that a void is impossible; and, finally, that divine spirits move the stars.

During the Renaissance, most thinking men also adhered to the first of Philoponus' premises. Their reasoning was exemplified in the words of Lambert Daneau, who pointed out that an infinite creation would never be finished and so God could never have rested on the seventh day of creation.[5] Today, men like Henry Morris see no incongruity between an infinite universe and an infinite God. Although it may be argued that the creation of an infinite universe could be finished by finishing every cubic yard (or meter) simultaneously, it would require that the light rays from stars of all distances must be created and thus contain a "history" that never happened. This makes God the author of fiction. If it took an infinite time, then the creation would never be finished; if it took a finite time—as the Bible says and as implied by reference to stretching out the heavens—then that is equivalent to saying that infinity minus one is less than infinity; in other words, that infinity is just a very large, *finite* number. But that makes the universe finite and we have a tautology. Likewise, if it took no time at all to create space, then the command to create the infinite universe required a communication speed infinitely greater than infinite; again a tautology. In this way, Philoponus' first point is exonerated logically.

Philoponus' second point is also not without some controversy. There are those who argue that the physical laws that apply here on earth do not apply to the starry realm. So far, however, to consistently hold to that one must assume that the entire space program is a hoax and that the sun is near the earth, or even much further away than 93 million miles (151 million kilometers) from earth: it doesn't matter which of the two possibilities, but for the laws of physics applicable to the earth not to be the same as applicable to the stars, one or the other should be the case.

Now it can be, and is argued, that 1 Corinthians 15:41—"*There is* one glory of the sun, and another glory of the moon, and another glory of the stars: for *one* star differeth from *another* star in glory"—says that the physics of the cosmos is different than that of earth. The topic here is glory, as it is in verse 40, also. There is not compelling reason to suppose that glory means laws of physics. The sun, moon, and stars do differ in brightness, which is a more reasonable interpretation of "glory." Indeed, those who prefer the original Greek will find that the word there may also signify praise, honor, and even worship. Needless

[5] Danaeus, L. 1578. *The Wonderfvl VVoorkmanship of the World,* translated by T. Twyne, (London: Andrew Maunsell).

to say, the *Biblical Astronomer* does not advocate replacing the translation, glory, with worship here. There's way too much sun worship (on the beaches as well as in paganism and Mariolatry), moon worship (Allah, the moon god, which is why many Mohammedan countries have a crescent moon in their flags), and star worship (astrology and horoscopes) in the world already. So Philoponus' second point is well taken.

As for his third point, that the stars are not divine, well, that seems rather obvious these days. Nevertheless, there is this to say about that point: in the Scripture, the angels are symbolized by stars, just as the Lord Jesus Christ is typed by the sun in Psalm 19. We find such stellar references in Revelation 1:20 and elsewhere. In Daniel 12:3[6] we see how such a relationship between stars and angels (or messengers) may occur. It clearly shows that stars are not angels and thus are not at all divine.

When it came to Aristotle, Simplicius countered Philoponus with arguments such as: How could star stuff be like earth stuff? If space were a vacuum, stars would have infinite speed. If space were a vacuum, all the stars would fall to earth in an instant.

Philoponus countered that the speed of a body's fall is independent of its mass. He proposed that if two objects of different mass were dropped a tower, they would hit the ground at the same time. He also claimed that any object dropped in a vacuum would require finite time to fall.

To explain the movement of the stars, Philoponus claimed that God had set them in motion at the creation. That motion is a kind of rest, he argued, so that once motion, an object in a vacuum would keep going without a constant push from air. Aristotle postulated that air closing in behind a moving body kept it moving. Philoponus, on the other hand, taught that a medium such as air is observed to resists the motion of an object and so cannot propel it. Thus, if a stone is suspended on a thin string, and then the air is stirred about it, the stone barely moves. If Aristotle is right, it should increase in speed.

Philoponus taught that God created matter from nothing (*ex nihilo*). He believed the notion that once God created matter; it exists without constant intervention by God. The Scriptural view is that God upholds all things by the word of his power (Heb. 1:3), which appears to run contrary to Philoponus' view. Philoponus further believed that the world will be recreated by God some time in the future (Rev. 21:1). He believed that the sun and stars are hot, that celestial bodies are subject to change, that comets and the Milky Way were not exhaust ema-

[6] And they that be wise shall shine as the brightness of the firmament; and they that turn many to righteousness as the stars for ever and ever.

nating from the earth because the Milky Way does not dim the moon as it passes by it, and comets move whereas the Milky Way never changes. Aristotle taught that things move toward their *affines*, that is, towards object possessing similar properties. Philoponus denied this saying that when a shovel full of dirt is removed, air, not dirt, fills the hole. He taught that light rays reach the eye from a source, not emanating from the eye to the object.

In conclusion, we saw that the three tenets of Philoponus are consistent with science today, some fourteen hundred years after his debate with Aristotle's Simplicius. Many of his ideas are current today, not just in astronomy but also in mathematics. This was not because he was a mathematician but because he based his worldview on Scripture. Science founded on that rock has never been outdated or replaced. Thus Philoponus was the first biblical astronomer.

Tongue-in-cheek

A day without sunshine is like...night.

Change is inevitable, except from a vending machine.

I just got lost in thought. It was unfamiliar territory.

Honk if you love peace and quiet.

You can't have everything: where would you put it?

I started out with nothing, and I still have most of it.

A fine is a tax for doing wrong. A tax is a fine for doing well.

Nothing is foolproof to a sufficiently talented fool.

Those who live by the sword get shot by those who don't.

I wonder how much deeper the ocean would be without sponges.

Mr. FOURIER AND THE MISSING NEUTRINOS

For more than fifty years, astronomy texts have assured us that the sun is a nuclear furnace, fusing hydrogen into helium to fuel itself for billions of years. Yet, in the 1960s equipment designed to detect the neutrinos produced by that nuclear furnace failed to detect them. The "missing neutrinos," as the problem came to be known, persisted for several decades.

Neutrinos are subatomic particles with no electrical charge. They are so tiny that they can pass through roughly ten trillion (10^{13}) miles of solid lead with only a 50-50 chance of being absorbed. The current model of neutrinos states that they are massless, just as a photon, a particle of light, is massless. The popular nuclear fusion model predicts that the sun should only produce electron neutrinos, but detectors find only from one or five tenths of the expected neutrino flow, depending upon which neutrino-energy is counted. The failure to detect the expected flux of neutrinos has cast doubt on the source of power for the sun. In particular, it has cast doubt on the nuclear furnace theory.

Enter the evolutionists

As old as the missing neutrino problem is (roughly 35 years), astronomers and physicists have never once doubted that the sun is powered by a nuclear furnace. You see, the alternative is that the sun is powered by gravitational collapse, which in turn means that it cannot be billions of years old; an option most astronomers fear more than the judgment of God Almighty. Gravitational collapse throws evolution onto the trash bin of history, and that violates both the founding principle of the religion of humanism and the guiding principle of all Masonic orders. Both deny that the universe could only be thousands of years old instead of billions.

In recent years, evolutionists proposed that the neutrinos were not missing after all, but that they changed their "identities." Neutrinos come in three varieties which physicists whimsically call "flavors." These are electron neutrinos, tau neutrinos, and muon neutrinos. In order to solve the problem the Sudbury Neutrino Observatory (SNO) was built 1.2 miles (2 km) underground near Sudbury in Ontario, Canada. The first evidence that neutrinos might change identities was presented by Japanese researchers in 1998. Observing the impact of high-energy cosmic rays with the Super-Kamiokande detector, the research-

ers found that more muon neutrinos (which are produced by the impact of a high-energy cosmic ray on the atmosphere) came from "overhead" of the detector than came from other paths through the earth. The researchers concluded that the muon neutrinos that originated further away, had time to oscillate into other flavors that were more difficult for their detector to see. Furthermore, according to quantum mechanics, neutrinos could only oscillate in flavor if they have mass, a thing the standard model disallows. The Japanese reported a flux of electron neutrinos from the sun amounting to 45% of the expected value: the highest percentage of any detector. The Kamiokande detector imploded a year or so ago.

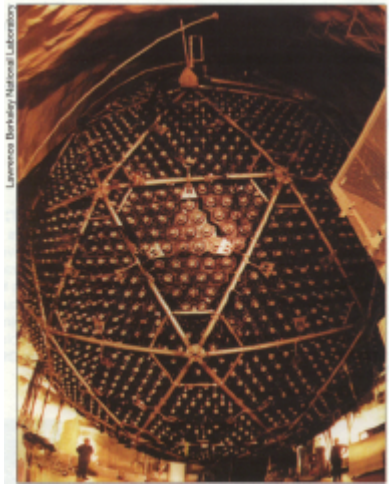


Figure 1 The SNO contains 1,000 tons of heavy water. Sensors on the interior of the studded panels detect dim flashes when neutrinos interact with the heavy water inside the sphere.

In June of 2001, the SNO reported evidence that the solar neutrinos may be oscillating, too. At the time, researchers announced that the electron neutrinos coming from the sun's direction were about 35% of the expected value to come from the sun. Over the course of the past year, the SNO was modified to simultaneously count electron neutrino detections, which the theory predicts are produced by the sun, and simultaneously to count the total number of all neutrino detections. In April, the research team reported at a joint meeting of the American Physical Society and the American Astronomical Society in Albuquerque, New Mexico, that the total number of neutrinos coming from the sun's direction matches what theory predicts should be produced by the sun's nuclear furnace. Thus one of their members, John F. Wilkerson of the University of Washington in Seattle, says, "We now really know that the standard model is wrong." With the counts, the researchers conclude, there is no "reasonable doubt" that solar neutrinos change flavors and that neutrinos have mass.

If neutrinos have mass, then they cannot travel as fast as the speed of light. This leads to an interesting possibility. If an event such as a supernova explosion were to be observed and timed in both visible light and neutrino pulse, then if the mass of the neutrino were known, the time delay would give the distance to the event.

Enter the creationists

Creationists, including the *Biblical Astronomer*, have used the missing neutrinos as evidence that gravitational collapse is still, in part if not entirely, responsible for powering the sun. The observations by Eddy a couple of decades ago showed the sun to be shrinking. Eddy's observations, based on solar eclipse reports over the last thousand years or so, have never been refuted, just ignored. The sun is observed to bounce like a cube of jello and pulsate (get larger and smaller) with several different periods, which do not upset the evolutionists, but the historical reports, well, they "must" be wrong. So, not only do the missing neutrinos supply evidence for a young sun, but the historical record also provides evidence for a shrinking sun, a phenomenon which, though not required for a recently-created sun, is consistent with what is expected if the sun is still powered by gravitational collapse.

Does the new evidence for oscillating neutrinos mean that the Creationists were all wrong? No, not at all. This incident serves as a seminal example of how an episteme[7] can dictate a particular outcome. The humanist in this case keeps looking for an evidence or theory to account for facts that do not conform to his pre-conceived notion of reality, his epistemology, which in his case is that there is no God but man.

Enter monsieur Fourier

In the first half of the nineteenth century, a French mathematician and physicist, Baron Jean Baptiste Joseph Fourier (1768-1830) formulated a method for analyzing periodic functions. He showed that any function, whether periodic or not, could be fitted to arbitrary accuracy as the sum of a series of periodic (cyclical) functions. According to the philosophical implications of Fourier's work (involving Fourier series and Fourier transforms), one can always come up with enough cyclical (read circular if you like) arguments to explain any phenomenon. In this case, the cyclical argument is that neutrinos change periodically identities as they travel through space. In other words, just because the theory has been made to fit the observations more accurately, it does not necessarily follow that the new theory is correct.

We can illustrate Fourier's principle in a Christian context. Among Christians are various "flavors" of creationists. There are those

[7] Epistemology, according to the *American Heritage Dictionary*, is the branch of philosophy that studies the nature of knowledge, its presuppositions and foundations, and its extent and validity. [Greek *epist çm ç*, knowledge (from *epistasthai*, to understand: *epi-*, epi- + *histanai*, stç-, to place, determine) + -logy.]

who think that the universe was created billions of years ago and that God intervenes from time to time to direct its evolution. Typically, these day-age advocates hold that the days of creation are long ages. Next, there are those creationists who hold that God created the universe billions of years ago but that God recreated the earth less than ten thousand years ago. They advocate the gap theory in one form or another, positing a gap between Genesis 1:1 and 1:2. Then there are those who take the days of creation literally, the Special Creationists such as your editor.

Each group claims superiority to the others based not on scientific evidence, for the evidence is the same for all of them, but on their foundational assumptions, their *epistemes*. The first assume that God wrote two great books, the Bible and the book of nature, and that if any contradiction arises between the two books, then science dictates the interpretation in the book of nature, and the Bible in the spiritual realm. This, because the Bible is "not a textbook on science." As Galileo phrased it, "The scriptures teach men how to go to heaven, not how the heaven goes." These first, then, will conform the interpretation of Scripture to the fashion of "modern" science.

The gap theorists take a higher view of Scripture, but they postulate that billions of years happened between the creation of the heaven and the earth in Gen. 1:1 and the earth "becoming" formless and void after a war between two groups of angels in Gen. 1:2. These accept the Greek and Babylonian tales of a war between the gods and giants as a primal memory of that reformation of the earth. Thus, they can accept the conclusions of the modern anti-God episteme of science and the "Word of God," too. Ironically, the day-agers are the most anti-science of the three groups, rightly rejecting science falsely so called, but also rejection true science. In so doing, they fall victim to pagan mythologies because they end up rejecting reason, even in the face of Isaiah 1:18.

Finally, the special creationists insist that the days of Genesis chapter one are literal 24-hour days. They would rather redefine science to conform to the scriptures which they hold, by mouth if not in heart, as the final authority. In each of the three cases, the evidence is the same but the interpretation of the evidence is defined by the advocate's view of Scripture and a reasonable faith therein.

The contrast between geocentrists and heliocentrists serves another example of how an episteme determines what scientific model is or is not acceptable. Both models can account for all the observations and both models give the same equations with which to launch satellites and to predict orbital behaviors. The only real difference is in the definition of force each model assumes. In the heliocentrists' case, force is defined as:

$$F = m\,a$$

where m is an object's mass, and a is acceleration. This is Newton's definition. In the geocentric case, force is defined as:

$$F = m\,a + \textit{centrifugal force} + \textit{Coriolis force} + \textit{Euler force}.$$

Each of these terms is defined by that mass or presence of the universe called *inertia*. To the heliocentrist, the centrifugal, Coriolis, and Euler forces are all *fictional forces*; they are not real even though their results are real enough. By contrast, to the geocentrists, they are real, gravitational forces.

Because the observed phenomena are the same, and the equations derived by each model account for the observed effects, the difference between heliocentrism and geocentricity are due to a particular point of view. The heliocentrist claims that the orbital motion and rotation of the earth are proven simply because he assumes that the universe is all there is and that there is no heaven greater than it or beyond it. Many heliocentrists believe that the universe is infinite, equivalent to God in size and power. If either assumption, an infinite universe or no heaven beyond the universe is correct, then heliocentrism is indeed proven. But if there is a third heaven beyond the universe, then only someone in the third heaven is in a position to determine the true state of affairs about the motions of the earth relative to the third heaven. Since God is in that third heaven, the question of the motions of the earth becomes a theological question. So we again arrive at the conclusion that whether one is geocentric or heliocentric depends on one's view of the Bible. If one believes God wrote what he meant to write and writes what he means, the person will be geocentric. If one believes God compromised absolute truth for convenience's sake, one will be an heliocentrist.

A third example of the disparity of epistemologies exists between advocates of a small universe and advocates of a large universe. The observational facts are the same. Parallax, aberration, proper motion of stars, Doppler shifts, stellar orbits, are all observed. The colors (temperatures) of stars are observed. There is a school of thought (epistemé) among small cosmos advocates that these evidences are due to a great conspiracy on the part of scientists world-wide. I find that hard to believe since I have observed these phenomena myself. The predictable response is that I've been brainwashed by my training in astrophysics. Others will pick and choose whatever scientific evidence supports the small universe and dismiss what does not to human error.

These generally look to plasma physics to yield a small universe. Unlike the geocentric case above, however, these have yet to come up with a mathematical model that explains their position.[8] A few admit that science is a rather futile endeavor when separated from Scripture and allow that there is a science truly so called, as suggested by 1 Timothy 6:20, and allow that a small universe can be modeled. Jim Hanson has done so, but his model is independent of the size of the universe, for it works for either a large or a small universe. (Hence my earlier statement that no small-universe mathematical model exists.)

Scripturally, small-universe advocates generally do so on the basis of the word "great" in Genesis 1:16. This is an honorable episteme since it puts the words of God foremost, but the inference that the universe is small is not necessarily correct. David was a *great* man, but he was not the largest man that ever lived. Both Goliath and Saul were greater than David in size. David was great because he was a man after God's own heart (1 Samuel 13:14), even though he was not the brightest or wisest man that ever lived.

By incorporating enough cyclical arguments, one may eventually derive a small universe model for any sized universe one wants, at least, so says Fourier.

For a final example of the futility of science without a foundation in Scripture, consider the flat earth arguments. It is entirely possible to devise a geometry by which all space is mapped on a flat earth model and in which geometry it is impossible to tell the difference between the spherical earth accepted today and the flat earth. So here, as in each case mentioned above, left to their own devices scientists can produce any type of model they like.

The need for a Scriptural foundation for science

In each of the four examples above, science without a Biblical foundation is an exercise in futility. Even with a scriptural foundation, science as a strictly human endeavor is vain. True science is founded on Scripture, and by Scripture I mean the 66 books and their words that survive today only in the so-called King James Bible. Without such a statement, there is no foundation for any truth, let alone scientific truth. The reader may agree or disagree with my position, but the point is that such a statement is necessary. And I don't make it lightly. I base it on 27 years of study and experience. I have never yet found any error or contradiction in that Holy Bible (its actual title). Though many have suggested errors, upon close examination they were found wanting.

[8] Specifically, none have ever sent me the equation of state for a small plasma star consistent with a universe orders of magnitude smaller than currently believed.

Furthermore, no one has ever made a similar confession for any other version in any language, even in the so-called originals. Outside of the above statement, to which many English-speaking and foreign-speaking Christians attest, I have yet to come upon any similar claim made about any other Bible that one could buy or handle anywhere in the world. Some make the claim that such a copy exists in heaven, based on Psalm 119:89, but though settled there, it does no good here in earth unless a copy exists here, too. By this criterion can all epistemologies be judged and can science truly so called be recognized.

Fourier noted that no matter what one chooses to believe, one could always come up with enough cyclical arguments to defend one's faith. Thus man justifies lying, stealing, and murder to his own satisfaction. He learns to live with his conscience, searing it if necessary. Invariably God gets the blame for a man's own failings. "God, why did you make me this way?" is a classic defense. Maybe that's why God took the blame for all the sin of man on himself in the person of the Lord Jesus Christ, the innocent, unblemished Lamb of God. Thus those who still insist on blaming God are without excuse. And by the resurrection of Christ from the dead, God testifies that the forgiveness of sin thus offered is without repentance on his part. To put it in the modern American vernacular, "It's a done deal!"

Sola scriptura!

A REPORT OF RECENT DEBATES ON GEOCENTRICITY

For more than two decades now geocentric creationist engineer Richard Elmendorf has had a standing offer to part with his money for any proof for either evolution or heliocentrism (or acentrism as some of our critics insist). There have been many would-be takers, but as yet no proof. This article is a compilation of a brief skirmish on the Bad Astronomer web site. The combatants in the first debate are "Jim," a "keep God out of science" advocate, and Martin Selbrede, who is well known to long-time readers of the *Biblical Astronomer* and *The Bulletin of the Tychonian Society* before that.

Jim Posted on October 18, 2001 at 10:07. In reply to: Never too late: $10,000 reward to prove the Earth's in motion! Posted by Mifletz on October 18, 2001 at 05:18.

For an explanation on modern geocentric cosmology read R. G. Elmendorf's "Labour of the Sun" in *The Biblical Astronomer* number 92, Spring 2000. Elmendorf (of Elmendorf Engineering Corp, Bairdford, Pennsylvania) is offering $10,000 reward for proof-positive (not hearsay, popular opinion, "expert" testimony, majority vote, personal conviction, organisational ruling, conventional usage, superficial analogy, appeal to "simplicity", or other indirect means of persuasion!) that the Earth moves.

It's Elmendorf, Inc., a steel fabrication facility. Mr. Elmendorf is a mechanical engineer... which doesn't make him much of an astronomical specialist.

A colleague, John W. Patterson (Department of Material Science and Engineering, Iowa State University), was prompted to address engineers and creationism in this fashion:

> We can understand to some extent why engineers–who are comparatively ignorant of biological processes, genetics, etc. and who are infatuated with arguments from design–might fall vulnerable to the theological arguments from design.[9]

Ah, damned with faint praise! Richard G. Elmendorf of Bairdford, Pennsylvania, a registered P.E. and a CRS member, has a standing offer of $5,000 to anyone who can prove (to his satisfaction, of course)

[9] For maximum effect, please reread the credentials of the author of this statement. —*Ed.*

that evolution does not contradict thermodynamics. Significantly, perhaps, Richard is also something of a geocentrist, and as part of his "betting ministry" he offers $1,000 [sic] to anyone who can prove (to him) that the earth is moving, either in rotation or translation! Hmm, looks like he's upped the ante, but hasn't changed the rules.

The so called "scientific creationism" or "creation science" movement is best characterized as a loosely connected group of fundamentalist ministries dedicated to (A) promoting their notion of Biblical inerrancy, and (B) undermining all knowledge and understanding which conflicts with their views on scriptural inerrancy. The arguments which "creation scientists" use to counter the well-established facts and theories of science are not all the scientific arguments they are purported to be. Instead, they are thinly disguised apologetics and polemics directed at many areas of science. Established findings refute tenets which creationists hold to be inerrant. The public utterances of the top creation scientists – together with their published works, which appear in professedly authoritative "creation science" books and journals – provide unequivocal, documentable evidence that many of these authors are grossly incompetent, not only in the areas of science on which the expound without proper credentials, but also in their own professed areas of scientific and technical expertise.

It is the responsibility of knowledgeable scientists, of professional educators, and of their organizations, to expose the extent to which scientific incompetence and intellectual dishonesty prevail in the "creation science" movement. Only then can school officials be held fully responsible for allowing the forced teaching of creationism as science.

Martin Posted October 18, 2001 at 12:08. In reply to Jim's post (above).

This sure sounds like sour grapes from someone unable or unwilling to collect the $10,000. (Why not psychoanalyze the critic? — what's sauce for the goose is sauce for the gander.) Too bad the critic didn't also have the intellectual honesty to say, "Oh, and by the way, for some inexplicable reason, creationists wipe the floor up with us evolutionists whenever they engage in public debates, particularly on university campuses, which is why we've stopped debating them. We don't want to dignify these creationists by losing to them in public debates any more, so we're retreating to our refereed journals to take potshots at them and then exert careful control over what replies, if any, we'll publish — but please don't call us cowards, we're scientists!"

This all reminds me of the outrageously shabby treatment Oliver Heaviside received from the world's mathematical community when

he, an electrical engineer, intuited the principles of transformational calculus (now regarded as a hallmark achievement of late 19th-century mathematics). Rampant credentialism never did anything except protect the status quo (precisely the very thing Kuhn & Popper believe ought to be challenged). If someone actually HAS the requisite credentials, he's marginalized by labels like "renegade," "dissident," or "rebel" (think Sir Fred Hoyle). If you reread the criticism carefully, you'll realize it's pure rhetoric that simply repackages desired conclusions in pop-psychology guise while playing selectively fast and loose with actual hard evidence. This is no way to become $10,000 richer at Elmendorf's expense. What would happen if the award were a million dollars? One shudders to imagine all those scientists, standing on dignified principle, who will refuse to stoop down to exhibit proof of the earth's motion, who will protect Copernicus by refusing to submit the current paradigm to critical examination, who will jeer at the uncollected fortune sitting in the bank. Maybe $10,000 isn't worth the time and effort to prove what one already assumes to be true, but everybody has his price.

About a month earlier, Martin Selbrede countered another opponent with these technical words:

More Martin

Stahl should think his challenge over more carefully. How does he know that the equatorial electron has more kinetic energy than the polar one, especially since the two electrons are at rest with respect to each other? (Note the omission of a kinematic analysis with respect to the rest-frame of the equatorial electron.) The angular velocity of that equatorial electron must be measured with respect to something else, but that something else surely cannot be the photon! The photon always travels at c with respect to either electron, so the photon "sees" no intrinsic difference in the two electrons, polar and equatorial. Neither the polar nor equatorial electron exert magnetic forces on one another, proving they're at rest with respect to one another. GR defines the inertial frame of reference as the one tied to the "fixed" stars (cf. Gron & Eriksen's "Translational Inertial Dragging" in *General Relativity and Gravitation*, Vol. 21, No. 2, 1989, pgs. 105-124). G&E point out that "in the limit of a spherical shell with a radius equal to its Schwarzchild radius, the interior inertial frames are dragged around rigidly with the same angular velocity as that of the shell. In this case of 'perfect dragging' the motion of the inertial frames is completely determined by the

shell." This means that unless Stahl adopts a glass sphere that is NOT SYNCHED to the geocentrists' rotating universe, geocentrists can appeal to the inertial frame in which BOTH electrons reside at rest with respect to one another to answer his challenge. Of course, if Stahl sets up another scenario with a desynchronized glass sphere, geocentrists aren't obligated to defend his artificial, noninertial construct. Such a desynchronized glass sphere would exhibit, of all things, an equatorial bulge and polar flattening, complicating the full solution of the stress-energy tensor for both electrons. (Funny how relativists always end up attacking geocentricity by tacitly adopting absolute frames of reference hidden under the rhetoric—which seems to justify the geocentrist claim that geocentricity can not be consistently attacked from within a relativistic framework.)

In any event, Stahl's attempt to divorce Mach from Einstein is not convincing (even though physicists have yet to arrive at a consensus on the relationship between the two paradigms, which we readily grant—see the recent symposium, *From Newton's Bucket to Mach's Principle*). When Stahl combines the 1900 Planck equation with the 1905 Einstein equation to tell us what the frequency of the photon must be in order to induce pair production, he must realize that the only real variable at issue is precisely that: the photon's frequency. Are we to believe that the equator-bound photon will blue-shift while in flight? Since when does Stahl's admittedly artificial glass sphere experiment demand that result? (It doesn't – there's no translational motion between photon source and destination) Frankly, then, it looks like Stahl's challenge has misfired at multiple levels, although the smug pretense to having easily subdued geocentricity winds like a thread throughout his analysis. I hope Stahl hasn't uncorked the champagne yet, because there's no reason for him to take so premature a victory lap.

Does the sun orbit the earth?

The following is a question asked of Martin Selbrede by Amnon Goldberg:

Dear Martin,

What's the most straightforward answer to the question that for the sun which is 10^9 times more massive, to orbit the earth is a violation of the laws of physics?

Dear Amnon,

There are two defenses against the “barycentric argument,” and both answers actually use the barycentric argument (“things revolve around the heaviest object”) against itself, showing that the critic has either (1) improperly applied the barycentric argument or (2) has left an important object out of the analysis.

The first way is Sir Fred Hoyle’s solution, which he mentions at the tail end of his book on Copernicus. Hoyle points out that the Earth does NOT revolve around the Sun, but rather, the Earth and Sun both revolve around the CENTER OF MASS of the Earth-Sun system, which is quite a few miles from the sun’s central axis. Then Hoyle points out that one must factor in all objects, starting with the nearest stars, to recalculate the true center-of-mass. Hoyle concludes that once one has properly applied the barycentric argument to all other entities in the universe (what I call “widening the view angle of one’s telescope to avoid self-serving tunnel vision”), the center-of-mass can easily be at the Earth’s location, making it impossible to disprove the geocentric hypothesis. In any event, Hoyle says the barycentric argument is only properly applied when every object in the universe has been factored into the center-of-mass calculation, and THAT calculation has never been properly done. He does believe that consistent application of the barycentric argument, layer by layer, places the center-of-mass farther away from the Sun and closer to the Earth, insofar as his written argument is concerned. He concludes that the barycentric argument can easily and fully support pure geocentricity.

The second way is to invoke the ultradense firmament model, telling the opponent, “We’re fine with considering the heaviest object in the system when calculating orbits. Let’s include the firmament, which is vastly heavier than the entire universe, into the calculation. If the firmament exists (and the Planck Density as a current, rather than initial state, density value inexorably points this way), how dare you ignore the most massive object in the universe when you claim to use the argument that items revolve around the heaviest object in the system! It’s impossible to ignore anything that is more massive than the firmament—in other words, you couldn’t have chosen a more self-serving defense against geocentricity.

Geocentrists DO believe in the barycentric argument—in fact, we’re the only ones who take it seriously, since we DO incorporate the contribution from the heaviest object in the system.

These can be elaborated further, but this should give you a start. Both approaches are straight forward (like you said), and both actually

use the barycentric argument, putting the burden of proof on our critics who THINK they're using the barycentric argument correctly.

Anyone well-trained in relativity would also regard the barycentric argument as inapplicable, because if it were true (as used by anti-geocentrists), then Einstein's relativity dies along with geocentricity. Not too many are willing to throw out the Einsteinian baby with the geocentric bathwater. This is an ironic instance in which geocentricity keeps its friends close, and its enemies (Einstein) even closer.

Warmest regards,
Martin

Force is the issue

The following email is from "Rip Rockett" about geosynchronous satellites and NASA's equations used to launch rockets into space. The indented comments are your editor's.

At 11:26 AM 6/24/02 -0400, Rip wrote:
Hi, and thanks for answering my query. However, I'm still a bit confused. I am aware of the differences between revolution and rotation, but I still do not understand how we get the day/night variation. It is the sun that moves, correct?

Correct.

If the sun moves around the earth this would account for night and day, right?

Right.

Or am I wrong? And, if that were the case, the sun would have to move around the earth pretty darn quick to accomplish this variation, right? Or am I incorrect?

Incorrect. You're assuming that the sun moves independent of the universe. That is, you're assuming that the sun revolves around the earth instead of the entire universe rotating carrying the sun with it about the earth once a day.

Also, how do all of these people put satellites in orbit using calculations to permit them to be geosynchronous if the earth is static? It would be evident to those is NASA that the earth does not move, right?

What makes you assume that? The equations NASA uses to compute orbits are identical to the ones derived for a geocentric universe.

NASA uses a definition of force that says F=ma, that is, force equals the mass times acceleration. When they do so, they find they have to add three terms, each of which is called a "fictitious force" (their word, not mine). Since they are "fictitious forces," they are called "effects." These are the Coriolis effect, the centrifugal effect and the Euler effect.

When deriving the force equation geocentrically, we get the following equation for force:

F = ma + Coriolis term + centrifugal term + Euler term.

Though these four terms are identical to what NASA uses, the latter three terms are no longer "fictitious," but they are now real, gravitational forces. The difference is that NASA assumes that the forces from the surrounding starry universe can be ignored. The geocentric model says that they cannot be ignored. As a result, all four terms end up being contributions due to the gravitational forces of the stars and atoms making up the universe.

As for the geostationary satellites, well, they're held up by the third term, the centrifugal force. Remember, it is exactly the same as NASA uses. The geocentric model says the gravitational pull of the stars holds it up. NASA says it's held up by a fictitious force. If you were to ask a NASA orbit computing expert why a stationary satellite doesn't fall to earth, he'll tell you it's due to "inertia," and if you ask him for the cause of inertia, he'll tell you it's due to the stars of the universe. So just remember the next time you make a sharp turn with your car, or spin on skates and pull your arms in, it's all fiction (inertial) according to NASA, but it's all gravity according to geocentricity.

The papers listed at www.geocentricity.com/papers.htm all verify the above claims for the geocentric model, namely, that the two models are identical and indistinguishable. If you really want to see the gory details, get a copy of the paper by Barbour and Bertotti. It's the best of them all.

And that is an overview of the kinds of questions and themes that recur on the geocentric front these days. Most correspondence is now done via email and the Internet. See the inside front cover for emails and web addresses.

PANORAMA

Mars-meteorite fossils today

Almost six years ago, the news media was abuzz about an Antarctic meteorite that supposedly fell to earth in from Mars. Researchers claimed that it offered evidence of past Martian biology. The *Biblical Astronomer* has occasionally reported on major developments, both pro and con, on the meteorite.[10] The latest news is that the rock has now fallen from grace, at least, that's the assertion from two scientists who say the rock's strongest link to life has broken down.

In December 1984, ALH 84001—called the "Mars rock"—was picked up in Antarctica by a National Science Foundation-sponsored meteorite-hunting expedition. Imagined to be tossed into space by an asteroid or comet that hit Mars "billions of years" ago, the rock allegedly eventually found its way to earth. It is claimed to have crashed into Antarctica some 13,000 years ago. In August 1996, a team led by NASA Johnson Space Center experts declared that they had uncovered evidence inside ALH 84001 for Martian biological activity. Ultrasmall and segmented, rod-shaped structures were read by the team as the fossil leftovers of Martian microbial life.

One controversial question swirling around the Martian meteorite is whether tiny crystals of an iron oxide found in ALH 84001, called magnetite, offer compelling evidence for past Mars life. The magnetite crystals are similar in size, shape and composition to the magnetites used by terrestrial bacteria which produce the crystals to use as compasses.

In the May 14, 2002 issue of the *Proceedings of the National Academy of Sciences*, David Barber of the University of Greenwich, London and Ed Scott of the University of Hawaii argue against the biogenic formation of the magnetite on Mars. Their work shows that the planes of oxygen atoms in the magnetite crystals are aligned with those in the surrounding carbonate crystal. This proves, the authors contend, that the magnetite crystals had to have formed on earth and then were deposited in the carbonate. They must have formed exactly where they are observed today in the carbonate. This observation is counter to what the NASA team contends.

Barber and Scott also discovered oriented crystals of magnesium oxide in the Martian carbonate. From that they conclude that the iron and magnesium oxides both formed when the carbonate was hot and

---

[10] 1996. *Biblical Astronomer*, **6**(78):30. 1998, *ibid.*, **8**(85):24. 2000, *ibid*., **10**(92):10. 2001, *ibid*., **11**(96):62.

had partly decomposed to form carbon dioxide gas. Since the meteorite was supposedly heated by an impact on Mars four billion years ago, an impact that melted and vaporized many minerals in the rock, Barber and Scott infer that the iron and magnesium oxides formed then. Martian organisms cannot be responsible for the size and shape of any magnetite crystal in ALH 84001.

Other questions raised include: if Mars and the moon were both bombarded by asteroids four billion years ago, why should we find an ancient meteorite from Mars but no equally ancient lunar meteorites or returned samples from the Moon of comparable size? After all, one would expect many more lunar rocks than Martian. Also, can the magnetite crystals in ALH 84001 tell us the strength of the magnetic field on Mars four billion years ago?

"ALH 84001 certainly shows how difficult it may be to assess future samples returned from Mars. That has been quite a surprise! After six years of intense laboratory study of many tens of grams of rock, we think we know how the magnetite grains in ALH formed. We have yet to agree on how the carbonate formed, and we have yet to find any convincing evidence for life," Scott said. He further noted that by returning samples from Mars, those specimens are less likely to have been severely damaged by shock, like ALH 84001. However, it is possible that scientists will face many of the same difficulties when samples are brought back to earth, he said.

Radar pushes limits of asteroid impact prediction[11]

It is an undeniable fact of history that for the last two centuries the episteme (working model or motivating principle) of modern science is to kick God out of the cosmos and out of the minds of men. However, since God is "the way, the truth, and the life" (John 14:16), science's goal will accomplish the opposite. Now evolution and heliocentrism are obvious departures from the truth, but others, like the runaway greenhouse myth[12] and nuclear winter, are not so obvious. That science has lost the way is clear from its conclusion that science can never *prove* anything. The geocentric case is one such, for in the final analysis, the only possible proof is to compare what goes on inside the universe with the status outside the universe. This makes the proof theological, not—by the new definition of science—scientific. Thus the modern emphasis on continuous education implies that the truth cannot be known and that man must ever strive to learn the truth (2 Tim. 3:7).

---

[11] The report is based on Heil, M. J., 2002. "Radar pushes limits of asteroid impact," NASA Press Release, April 4. Article in *Science* Apr. 5.
[12] Bouw, G. D., "The Morning Stars," *Biblical Astronomer*, **11**(97):69.

We thus see the denial of the truth. But this also means that the way of science today is death, and with that way comes fear. Man fears things that ought not to be feared, such as nuclear winter, a worldwide flood (Gen. 9:11), and the destruction of all the earth by collision with an asteroid.

This latter fear, of a collision with a massive asteroid that will destroy all life on earth, has spawned a new interest in orbital computations. Based on that, NASA astronomers have identified a potential close encounter with earth more than eight centuries in the future by an asteroid two-thirds of a mile (one kilometer) wide.

What will most likely be a miss, even without preventive measures, according to Jon Giorgini of JPL, will come on March 16, 2880. At that time the odds for a collision are set at most one in 300, though the actual odds are even more remote, based on what is known about the asteroid's orbit so far. Still, that makes this space rock, named 1950 DA, a greater hazard than any other known asteroid. "We're showing that searches with optical telescopes and follow-up observations with radar telescopes can provide us centuries of advance notice about potential close encounters of asteroids with earth. That's plenty of time to consider the options—35 generations, in fact." Thus Giorgini.

"This report is a success story for our efforts to identify potential troublemakers," said JPL's Dr. Don Yeomans, manager of the NASA Near Earth Object Program. Using radar observations, asteroid detection and orbit computations are pushing predictions 5 to 10 times further into the future than can be done optically. Previous predictions about other asteroids' earth-impact potential came from a few nights' optical observations of newly found asteroids. After a few more observations narrowed uncertainties about the asteroids' orbits, astronomers soon downgraded the threat. The current orbit of 1950 DA has been mapped with great accuracy using precise radar data and a 51-year span of optical data.

Uncertainty about how close it will come to Earth in 2880 stems from gaps in knowing physical details of the asteroid that could subtly alter its course over the centuries. Particularly, its size, shape and mass, and how it spins, reflects light and radiates heat into space. The way the asteroid radiates energy absorbed from the Sun back into space has the biggest effect. Called the Poynting-Roberson effect, it is one of the best evidences that the solar system is merely thousands, not billions of years old. The effect acts like a vacuum sweeper, sweeping the dust and debris into the sun. Yet there is still plenty of dust in the inner solar system. If it were old, there shouldn't be nearly as much. The P-R effect works by releasing heat in one direction more than any other, so

it nudges the dust, or asteroid in this case, in the opposite direction. Though the effect is tiny, over the centuries it acts like a weak rocket and could make the difference between a hit and a miss. Other effects taken into consideration include the push of sunshine, the tugs of 7,000 other asteroids and nearby stars, and close approaches to both earth and Mars.

Asteroid 1950 DA was discovered from Lick Observatory, Mount Hamilton, Calif., in 1950. It faded from view for five decades then was found from Lowell Observatory in Arizona in 2000. Astronomers used large dish antennas of NASA's Deep Space Network site at Goldstone, Calif., and the Arecibo Observatory in Puerto Rico to examine the asteroid with radar when it passed at a distance 21 times farther away than the moon in March 2001. Once an asteroid is discovered, radar is the best way to find its exact orbit.

Stars still can't agree on the age of the universe

By assuming that all things continue as they were from the beginning of creation (2 Peter 3:4), astronomers for the first time have gotten two cosmic age determinations to agree.

Supposedly, globular clusters (spheres packed with hundreds of thousands of stars) are among the oldest things in the universe. Globulars tend to surround galaxies, and about 150 are known to belong to the Milky Way's halo. Because of their low metal abundance and lack of significant amounts of dust, these clusters are thought to be old and pristine.

For years, the oldest stars in the Milky Way were measured to be older than the universe itself, 12 billion years versus 10 billion years. In 1997, the Hubble telescope was used to age the universe to 13 to 14 billion years. But even so, other age-dating techniques have failed to agree with that age and with each other.

The new technique is claimed to be an independent way of checking on the age of the globular cluster and thus to set a lower bound on the age of the universe. The Hubble telescope was used to hunt for elusive, "ancient" stars hidden inside a globular cluster, M4, some 7,000 light-years away in the constellation of Scorpio. The target stars are hot, dense white dwarfs made up of carbon ash left behind to cool when the star's nuclear furnace turned off. The star cools at a predictable rate and thus provides a clock to measure the age since its furnace turned off. It is assumed that the stars themselves burned for a known, or at least a negligibly short length of time. Unfortunately, just how long is based on theory, not observation, and is one of those discordant methods mentioned earlier.

As white dwarfs cool, they grow fainter, and this required Hubble to photograph the globular cluster for a total of eight days spread over a 67-day period. This allowed the faint dwarfs to become visible, until at last the coolest, presumed oldest, dwarfs to be detected. These stars are so faint (30th magnitude), that they are less than one-billionth the apparent brightness of the faintest stars that can be seen by the naked eye.

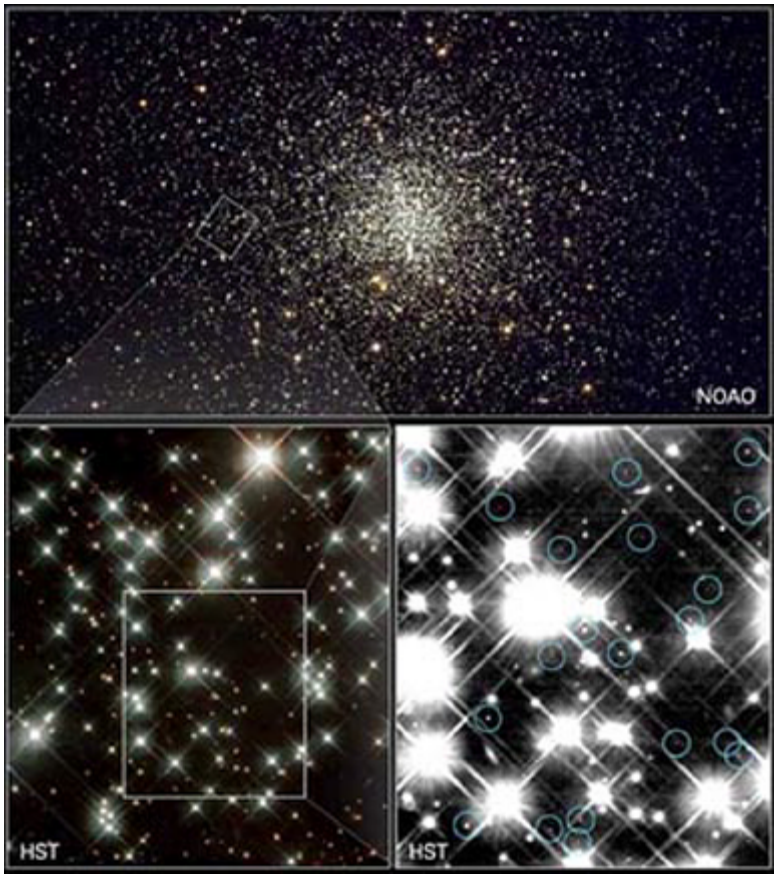


Figure 1: Messier 4 is shown from an earth-based telescope at top and then the region boxed at left is presented in the two bottom frames of which the right one is the 8-day exposure with the 30th magnitude stars circled.

Even at that, the raw data did not fit the time scale. In the late 1990s, astronomers using Hubble and ground-based observatories discovered the universe was not expanding at a constant rate, but acceler-

ating due to an unknown repulsive force termed “dark energy.” (The effect was postulated from a geocentric foundation back in 1986.) When dark energy is factored into the universe’s expansion history, astronomers arrive at an age for the universe of 13-14 billion years. This age is now independently verified by the ages of the “clockwork” white dwarfs measured by Hubble. In other words, the dark energy or missing mass or firmament’s presence is required to make the new method agree with the old ones.

A 1% error sets particle physics topsy-turvy

Last fall a surprising discrepancy was discovered in the standard model of the way subatomic particle interact with one another and in the way that the particles are influenced by the known fundamental forces. Its prediction was off by 1% from observation.

Based on high-energy tests of theoretical predictions, the standard model has been fairly stable for the last thirty years, but in a precise test of the behaviors of neutrinos, performed at the Department of Energy’s TeVatron accelerator at Fermilab outside Chicago, a problem arose. Neutrinos fall into a branch of subatomic particles called leptons. Electrically neutral, they are influenced only by what is known as the “weak nuclear force,” a force that operates only within an atomic nucleus. Neutrinos are distantly related to electrons, but the “strong nuclear force,” that binds quarks (the subatomic particles that make up protons) is so strong that physicists have yet to see one quark separate from other quarks. In contrast, neutrinos stream through matter as if it were transparent.

Although it is generally accepted that neutrinos have mass, theory does not know why they have the mass they have. And nothing is known of their size (although it could be inferred from their mass), or their structure. Neutrinos are the lightest of all known particles. Part of the difficulty is that the smaller the particle’s mass, the higher the levels of energy needed to separate them. That means big equipment, such as the TeVatron accelerator at Fermilab.

For the neutrino experiment, researchers aimed a beam of protons with an energy comparable to a gas heated to a billion-trillion (10^{21}) degrees centigrade through a detector. The detector is a 120-foot-long, 700-ton target composed of alternating layers of detector and steel. The researchers first calculated the expected ratios of high-energy collisions between neutrinos and other particles.

When the results were compared with the calculated values, the predicted value of the standard model was off by 1%. Though it may not seem like much, it does mean that the odds of the standard model of

a neutrino being correct is one chance in 400. No matter how many times the team recomputed the model, the result was always the same. Furthermore, comparable experiments using the accelerator at CERN in Switzerland and other work at Fermilab are offering some support for the earlier Fermilab result. The results indicate that something is going on with neutrinos that has previously gone unnoticed.

A sun-like star and a planet like Jupiter[13]

After 15 years of observation and a lot of patience, the world's premier planet-hunting team has finally found a planetary system that reminds them of our own home solar system. Dr. Geoffrey Marcy, astronomy professor at the University of California, Berkeley, and astronomer Dr. Paul Butler of the Carnegie Institution of Washington, Washington, D.C., announced on 13 June the discovery of a Jupiter-like planet orbiting a Sun-like star at nearly the same distance as the Jovian system orbits our Sun.

"All other extrasolar planets discovered up to now orbit closer to the parent star, and most of them have had elongated, eccentric orbits. This new planet orbits as far from its star as our own Jupiter orbits the Sun," said Marcy. The star, 55 Cancri in the constellation Cancer, was already known to have one planet, announced by Butler and Marcy in 1996. That planet is a gas giant slightly smaller than the mass of Jupiter and whips around the star in 14.6 days at a distance only one-tenth that from earth to the Sun. The newfound planet orbits at 5.5 a.u.,[14] comparable to Jupiter's distance from our Sun of 5.2 a.u. (about 512 million miles). Its slightly elongated orbit takes it around the star in about 13 years, comparable to Jupiter's orbital period of 11.86 years. It is 3.5 to 5 times the mass of Jupiter.

55 Cancri is 41 light years from earth. Further data are needed to determine whether yet another planet is orbiting it, because the two known planets do not explain all the observed Doppler wobbling. One possible explanation is a Saturn-mass planet orbiting about 0.24 a.u. from the star.

Astronomers discover 11 more moons of Jupiter

The discovery of 11 small moons orbiting Jupiter leapfrogs the number of that planet's moons to 39, nine more than the record of the

[13] Savage, D., J. Platt, & R. Sanders, 2002. "Newfound planetary system has a 'hometown' look," NASA Press Release 02-111, June 13.
[14] A.u. stands for "astronomical unit," the distance from earth to sun, which is about 93 million miles or 151 million kilometers.

previous champ, Saturn. The newly discovered satellites are each about one to two miles (two to four kilometers) in diameter, and were probably passing rocks captured by Jupiter's gravity from the asteroid field.

The new moons were discovered by Sheppard, Jewitt and Kleyna of Cambridge University, England. They used the Canada-France-Hawaii 3.6-meter (142-inch) telescope with one of the largest digital imaging cameras[15] in the world to obtain sensitive images of a wide area around Jupiter. The digital images were processed and searched using computers. Candidate satellites were monitored in the succeeding months at the University of Hawaii's 2.2-meter (88-inch) telescope to confirm their orbits and to reject asteroids masquerading as satellites.

The satellites' orbits are irregular – highly elongated and tilted. All 11 objects orbit in the direction opposite to the rotation of the planet, which argues for capture and against an evolutionary formation. The problem with the capture theory is that no efficient contemporary capture mechanisms is known, in other words, there are too many small captured satellites to be explained statistically, even over evolution's fabulous ages. So it is posited that the irregular satellites were acquired when Jupiter was young, when it is supposed that there was still gas and dust around to slow the asteroids. If true, which is not likely, this leaves the origin of asteroids a complete mystery.

Of the 39 known Jovian satellites, 31 are irregulars (moving the wrong way in their orbits. The eight regular satellites include four large moons discovered by Galileo Galilei and four smaller moons on circular orbits closer to Jupiter. For comparison, Saturn is known to have 30 moons of which 13 are irregular. Earth's moon, too, is irregular. For most planets in the solar system, moons captured from inside a planet's orbit should follow irregular paths while those captured from orbits outside the planet's should follow regular orbits. And then there is Uranus, whose polar axis and satellite orbits are inclined almost 90 degrees to the plane of the solar system (ecliptic). Though evolutionists hate it, special creation still fits most of the data.

More on DI Hercules and relativity[16]

Relativity's success in explaining the perihelion precession of Mercury has long been held as proof of relativity, even though at the

[15] The "film" of a digital camera is a "chip," called a "charge coupled device," or CCD for short. The chip is a square consisting of a great many little cells, each of which emits an electron when hit by light. The reference to the "largest digital camera" simply means the largest such chip.

[16] Odenwald, Sten. "Does the star DI Herculis prove that general relativity is breaking down?" http://image.gsfc.nasa.gov/poetry/ask/a11558.html.

time relativity arose, that precession could be explained by other means. When applied to other systems, the term "perihelion precession" is given the technically accurate term of *apsidal motion*. A couple of examples that run contrary to relativity were given in a recent issue of the *Biblical Astronomer*[17] to show that the failure of relativity to fully explain the apsidal motion of the other planets (besides Mercury) extends to other stellar system, too. One of the examples given involved DI Hercules. The following is a statement by Dr. Sten Odenwald of Raytheon STX on the status of that star's problematic relationship with relativity.

> Since the early 1980's astronomers have puzzled over the fact that the apsidal motion of this binary star system is about 1/3 the theoretical prediction expected from a combination of general relativity and classical tidal-rotational effects. But in a paper published in the *Astrophysical Journal* (Ap.J volume 375, p. 314) physicists Khaliullin, Khodykin and Zakharov from the Moscow University have shown that the discrepancy in the apsidal motion could be explained in full by the action of a third body in the system. The third star would be in an orbit with a maximum distance of 0.02" from the binary and have a luminosity equal to 3 percent of the Sun's. Many compact binary and triple star systems are known to astronomers, and in this case it would be hard to observe this 12th magnitude companion star in glare of the 8th magnitude DI Herculis binary.
>
> This is a much more plausible explanation than having to throw out all of general relativity! Still, it would be very helpful if this new star could be detected using something like speckle interferometry. Unfortunately, speckle interferometry requires bright stars and at 8th and 12th magnitude, we will have to wait a long time before a definitive test can be made.

[17] Panorama, 2002. "Relativity and rotating orbits," B.A. **12**(100):78-79.

CREDO

The Biblical Astronomer was founded in 1971 as the Tychonian Society. It is based on the premise that the only absolutely trustworthy information about the origin and purpose of all that exists and happens is given by God, our Creator and Redeemer, in his infallible, preserved word, the Holy Bible commonly called the King James Bible. All scientific endeavor which does not accept this revelation from on high without any reservations, literary, philosophical or whatever, we reject as already condemned in its unfounded first assumptions.

We believe that the creation was completed in six twenty-four hour days and that the world is not older than about six thousand years. We maintain that the Bible teaches us of an earth that neither rotates daily nor revolves yearly about the sun; that it is at rest with respect to the throne of him who called it into existence; and that hence it is absolutely at rest in the universe.

We affirm that no man is righteous and so all are in need of salvation, which is the free gift of God, given by the grace of God, and not to be obtained through any merit or works of our own. We affirm that salvation is available only through faith in the shed blood and finished work of our risen LORD and saviour, Jesus Christ.

Lastly, the reason why we deem a return to a geocentric astronomy a first apologetic necessity is that its rejection at the beginning of our Modern Age constitutes one very important, if not the most important, cause of the historical development of Bible criticism, now resulting in an increasingly anti-Christian world in which atheistic existentialism preaches a life that is really meaningless.

If you agree with the above, please consider becoming a member. Membership dues are $25 per year. Members receive a 15% discount on all items offered for sale by the *Biblical Astronomer*.

To the law and to the testimony: if they speak not according to this word, it is because there is no light in them.

– Isaiah 8:20

TITLES AVAILABLE FROM THE B.A.

Orders can be honored only if accompanied by payment in United States currency either by cheque drawn on a U.S. bank or cash. US orders add 15% postage. Orders outside North America please add $5 per item (sorry, the US Postal Service quadrupled postage this year). **Videotape prices are for VHS. For PAL or SECAM add $10.**

BOOKS AND TAPES

The Book of Bible Problems. The most difficult "contradictions" in the Bible are answered without compromise. "A classic," writes Gail Riplinger. 266 pages, indexed. $12

Geocentricity. The best, most comprehensive book on the topic of geocentricity. 400 pages, 45 figures, scripture and general indexes. **Geocentricity is only available** for £12.50 (postpaid in the U.K., postage by quotation otherwise) from Brian V. Lamb, Quarryside, Castletown, Caithness, Scotland KW14 8SS. **Sold-out in the USA**

The Geocentric Papers, A compendium of papers, most of which appeared in the *Bulletin of the Tychonian Society*. A technical supplement to *Geocentricity*, including articles on geocentricity, creationism, and the Bible itself. (120 pages, 8.5x11 gluebound.) $15

New-Age Bible Versions, by Gail Riplinger. The critics love to attack the author, but they never, ever address the **real** issue, *viz*. the occult influence in the modern versions. A real eye-opener. 600^{+} pages. $15

Geocentricity Videotape. Martin Selbrede gives a first rate presentation of geocentricity. Good quality tape. $20

A Creationist Scenario for the Creation. Dr. Bouw presents a scientific approach to the creation act demonstrating that it is possible to derive a biblical scientific model of creation. $20

Thinking Psych-Economically Interviews. Economist Dr. Arthur Sharron interviews Dr. Bouw on the scientific inerrancy of scripture and the decline of Biblical authority. $20

(Continued on the inside front cover.)

For a complete list of items available, visit
http://www.geocentricity.com