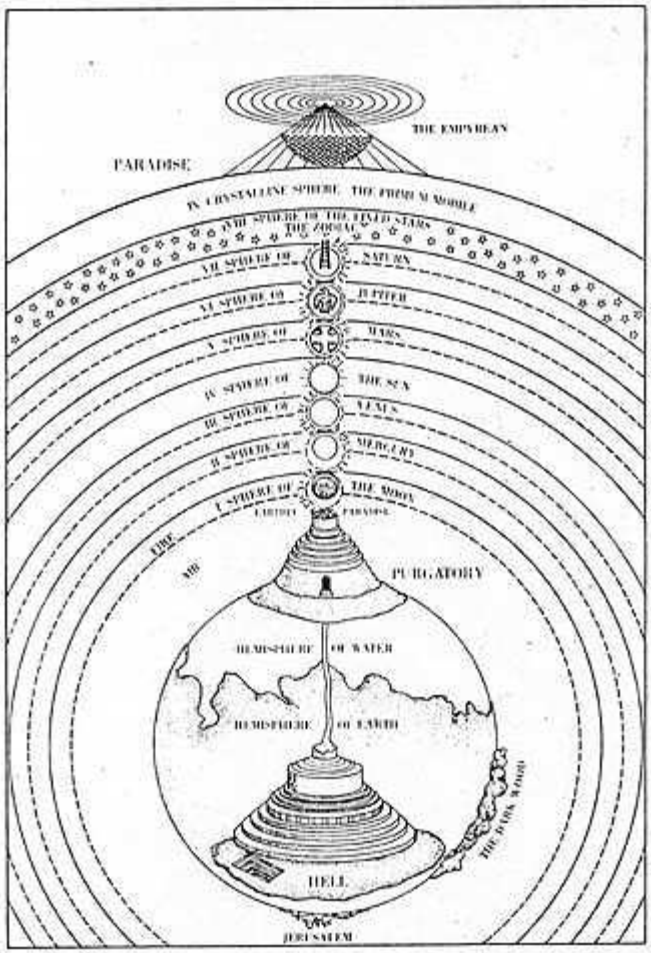
VOLUME 10 NUMBER 91

THE BIBLICAL ASTRONOMER

WINTER 2000



Subscriptions to the *Biblical Astronomer* are $12 per year ($15 overseas). Membership is $20 per year and members are allowed a 20% 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. Sorry, no credit cards accepted.

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

E-mail address: gbouw@stratos.net
http://www.biblicalastronomer.org
FAX: (440) 826-6973, please mark it *attn: Dr. Bouw*

Cover: Dante's view of the universe. An illustration from "Paradise" in *The Divine Comedy*. One of history's many small-universe models (see page 10).

THE
BIBLICAL ASTRONOMER

Volume 10, Number 91
WINTER 2000

TABLE OF CONTENTS

EDITORIAL

Happy New Year!

It's here, a brand new year, the type that comes only once in a millennium, one with three zeroes after it. Really, though, it all depends on which calendar you use. I don't know how many calendrical systems are in use around the world today. Most of the Western world uses the Gregorian calendar but some, particularly the Orthodox churches, still use the Julian calendar which, as of the date this was written, is still in the ninth year of the tenth decade of the twentieth century, that is, 1999. We also hear of the Far East's "year of the dragon" which will soon start; and then there's the Moslem calendar, and the Hebrew calendar. So when all is said and done, three zeroes at the end of a year is not all that uncommon. One may experience one or two during the course of a lifetime.

Anyhow, happy last year of the second millennium since Jesus Christ's birth. Or should this really be 2001 or, as per Bishop Ussher, was it in 1997? By the best evidence available, as well as the oldest testimony, Jesus was born in September of 2 B.C. That means that his 2000^{th} birthday was last September (1999) and the 2000^{th} anniversary of his birth was in September 1998.

Confused? Think about the year you were born. Now when did you celebrate your first birthday, the year you were born or the following year? The following year, of course. Technically this difference is the difference between ordinal and cardinal numbers. Normally we count ordinal numbers as first, second, third, fourth, and so on. Cardinal numbers denote quantity, not order. Thus when we say that a child is five years old, we mean that the child has experienced five full years of life and is in his sixth (ordinal) year. In other words, we don't say that a six-month old baby is zero years old, but we do say that he is in his first year. (Hope that helps. You know what they say, "Eschew obfuscation.")

"OK, wise guy," I hear one say; "so what does it mean?" Well, if Jesus was born in September of 2 B.C., he will turn 2001 in September of this year, A.D. 2000, and at that time we will enter the third millennium since his birth. So I wish you a happy last year of the Gregorian (and Julian) millennium. That's right, the third millennium has not yet started and won't until the first instant of January 1, A.D. 2001.

Millennium madness

If that's the case, why did the world celebrate the end of the millennium at the end of 1999, and the start of the next millennium on January 1 this year? In a word, *marketing*! It's easier to convince billions of people to celebrate and feast a year ending in 000 than one ending in 001. Truth is no friend of profits. That's why fiction outsells fact. It literally is madness. But let me tell you, if you actually, factually want to be the first to enter the next millennium, then go here. In the Bering Strait, between Siberia and Alaska, there are two small islands. The easternmost, Diomede Island, is of no particular interest, but the International Date Line passes right between them. The westernmost of the two islands is called *Mus Dezhneva*, and it belongs to Russia. That island will enter the new millennium about ten minutes before its closest competitor, the Samoan Islands. Stand on its easternmost tip.

If after that you want to be the last one out of the old millennium too, get to the westernmost tip of Attu Island in the Aleutians. You have a full 24 hours to get from the Diomede Islands to Attu. Good luck! But be sure you don't go by your watch. Coordinate the Greenwich Mean Time with the longitude of these places because the clock does not pay attention to where you are standing on earth. Also, if anyone wants to better you he can, but he will need a sturdy ship or airplane and a very accurate GPS system. Also, the two islands of Attu and Mus Dezhneva are over 1100 miles apart.

OK, enough's enough

So what has all this to do with this issue? First, as in the above millennium issue, we deal with matters of truth versus hype. The majority is not always right, especially where money is involved. To this end, we review a recent critique of issues surrounding Joshua's long day.

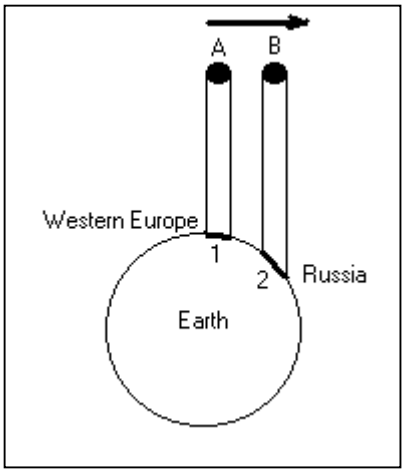
Then there's the querstion of the size of the universe. We started that debate last month with David Lifshultz's article "Spatial Measurement and Modern Science" which appeared on page 5 of issue number 90. In this issue we present interpretations of observed, measurable effects to separate myth from fact. Related to this debate we reprint a 1985 article by Jim Hanson deriving how his model for gravity differs from the standard model.

Finally, we deal with some miscellaneous issues under the "Panorama" title. These include the issue of whether or not Einstein first derived $E=mc^2$, whether or not Frank's icy comet theory is dead,

Kepler's view on the Trinity, the new gyroscope on a chip, and a new mechanism to explain the cosmic redshift.

A question about the August eclipse in Europe

A reader asked: "In the recent total solar eclipse, the shadow of the moon was said by the news media to be travelling across Russia at 2,000 miles per hour! Explain."



Simple, Russia was near the end of the eclipse's path, the eclipse occurring near sunset. At the last point where the shadow touches the earth, as well as at the first, the shadow travels at infinite speed. Consider the diagram at left. The ovals A and B represent the distance the moon travels in a given time. The curve labeled 1 is the distance the moon's shadow passed through Western Europe during that time. A while later, the moon passed through same distance B while its shadow passed a distance 2 through Russia. You'll note that 2 is about twice as long as 1, but both distances were traversed in the same amount of time. Say for simplicity that the moon travels 1000 miles per hour from left to right, and that in Western Europe it took one hour to travel distance 1, thus a thousand miles. Then later it took one hour to travel distance 2, but distance 2 is 2,000 miles long; so the shadow there moved at 2,000 miles per hour. At the very right edge of the earth in the figure, the shadow travels at "infinite speed" for a brief instant before leaving the surface of the earth. And that is how the shadow of an eclipse can travel at fantastic speeds over the surface of the earth.

Happy New Year!

SUN, STAND THOU STILL

In Joshua 10:12 of the *Holy Bible*, Joshua told the sun and moon to stand still. The next verse records that they did so. Indeed, there are so many tales of a long day and a long night around the world that one can map them on a globe and discover the time of day it happened to within fifteen minutes. But I'll not go into a long treatise here. For that the reader is referred to the chapter in the book *Geocentricity* devoted to the various accounts of a long day, long night, and long sunset.

Of all the extrabiblical evidence that abounds for the reality of the long day, the most persistent piece of "evidence" is not factual at all. That is the notion that a NASA computer discovered a missing day. The history of that story is documented in *Geocentricity*. Invariably this piece of fiction is used to lambaste all geocentrists, to tar all with the same brush. Let me state for the record that there is more disagreement among geocentrists about the geocentric nature of the cosmos than there is among evolutionists throughout all history about the mechanics of evolution.

And so it has come to my attention that another lambaste has appeared in the *Skeptic* of late.[1] Now skeptics are rather pathetic to watch because they suffer from a paradoxical condition. To be a skeptic one must question everything, but the one thing that skeptics accept without question is their skepticism. In other words, they don't doubt that their doubts will guide them to the certainty of a matter. They are the modern version of the "free thinkers" of the early part of this, the twentieth century. These men thought themselves free because they flatly rejected God, but true freedom means one can consider all sides of an issue. The diatribes of the skeptics belies their faith, since their main weapons are scorn, ridicule, and sophistry.

Tim Callahan, the author of the *Skeptic* article, starts his attack by speculating that an eyewitness would not need to add "*Is* not this written in the book of Jasher?" (Joshua 10:13). He blithely dismisses the understanding that *jasher* is a transliterated word which roughly means "righteous," even though the same word appears in 2 Sam. 1:18 where it refers to a book still being written in David's time, some 400 years after Joshua's long day. He may speculate that both accounts were written much later than either event, but Joshua 24:26 says Joshua wrote "these words," that is the words the reader has in hand. Callahan says "In hermeneutics—the discipline of biblical interpretation—one of the basic rules is that one must engage in exegesis, i.e. reading *out* what

[1] Callahan, Tim, 1999. "Sun, stand thou still: let myth be myth and science be science," *Skeptic*, **7**(3):35.

is in the text, rather than eisigesis, the error of reading things *into* the text that aren't there." Yet in disregarding Joshua 24:26 he is every wit as guilty of that error as the "fundamentalists" he lambastes.

Callahan ridicules Harry Rimmer for his admittedly faulty analysis of Joshua's long day which analysis was based on a treatise by Totten's. Callahan did enough research about Totten to discover that Totten became a British Israelite late in his life, but apparently he never found Totten's original work. Callahan ridicules Totten for his view, relating it to Hitler's evolutionary view of a super-race. But odd as the notion that the British are Israel's lost tribes may seem, is it any more bigoted than the skeptics' claim that only they qualify to be the practitioners of science? Here's the reference to Totten's analysis, if anyone wants to follow up on it, taken from *Geocentricity*: Totten, C. A. L., 1891, *Joshua's Long Day and the Dial of Ahaz, A Scientific Vindication and A Midnight Cry*, 3rd Edition, (New Haven: Our Race Publ. Co.) The book was reprinted in 1968 by Destiny Publishers of Merrimac, Mass. It seems that Callahan is no better at tracking original sources than the objects of his scorn—worse, actually, for some of them found the reference.

Totten's basis for dating the long day was that 480 years elapsed between the long day and the founding of the temple (1 Kings 6:1). Callahan continues with his "eisigesis" when he claims that "the 480 year time periods were more symbolic than factual." Now Totten may or may not be forty years in error since 1 Kings says the time is reckoned "after the children of Israel were come out of the land of Egypt," but Callahan makes the greater error. It really was 480 years as reckoned in the Bible by both this account and by a matching of the dates given in Joshua, Judges, and the Samuels.[2]

Next, Callahan questions whether or not 22 July 1434 B.C. was on a Tuesday. Now he's right to question that since it was on a Thursday in the Julian calendar. It may be on a Tuesday in the Gregorian calendar, but that's beside the point. Callahan claims that there's no way anyone can find out what day of the week that day fell on. Actually, you can. Otherwise why have a calendar? A well-defined calendar can always compute the day of the week for any year, whether the calendar existed then or not. Now if, like Callahan, you believe that the creation "story," and by implication the observance of the sabbath, came about during the Babylonian exile, then you can make up whatever you want, for there is absolutely no evidence that anything of the

[2] Bouw, Gerardus, 1997. "The 480 years from Egypt to the temple," in *The Book of Bible Problems*, (Cleveland, Ohio: Assoc. for Biblical Astronomy), pp. 97-102. See back cover of this issue.

kind happened. Indeed, our skeptic makes the statement without any more proof than Rimmer's 1434 B.C. date. By the way, on 22 July that year the moon was 28 days old, meaning it was nearly new moon, so this date does not qualify for the scene described either in the Bible or in the various accounts of the long day.

In pondering the accounts of a long day throughout the world, Callahan singles out the Hawaiian sun-catcher tale (which actually came from Peru or Chile and dates from Hezekiah's sign) and the account of the Chinese emperor Yao. He claims the 24th century B.C. for that emperor's reign, even though accounts through the eighteenth century report his reign to be in the 15th century B.C. (Again, see *Geocentricity* for particulars.)

In his section entitled "The Real Meaning of Myth," Callahan notes that among "fundamentalists" (a contentless term which has no meaning when standing alone like this), there is "an intense emotional need...for the miracles of the Bible to be true." This is all too true, but don't get carried away; there is an even greater emotional need on the part of evolutionists and skeptics for the miracles to be false. Bible believers admit they will accept the miracles whether or not there is any "scientific proof." Likewise, skeptics flatly reject miracles even if there are expert eyewitnesses and scientific proof while loudly demanding some scientific proof.

Callahan next refers to Jonah in the whale. He notes that the story that Jim Bartley, the sailor on the whaling ship who reportedly spent 36 hours in the belly of a whale and lived, is a tall tale because the "ultra-conservative" [read radical liberal (Isaiah 32:5)] *Christianity Today* [3] debunked the story. I guess he never heard that most *real* Bible believers believe that Jonah did die in the belly of the whale but was resurrected, consistent with the typology of Christ's death, burial, and resurrection (Mat. 12:39-40). The rest of the section deals with the fundamentalist skeptics' beliefs about what should be in the Bible and what shouldn't. Here Callahan strains at a gnat and swallows a camel (Mat. 23:24).

In the section thereafter, he collides with Velikovsky (an atheist to the core), and his Christian disciples Patten, Hatch, and Steinhauer. No contest there.

Before finishing up I must take issue with Callahan's use of *Yahweh* for the name of the God of the Bible. That is not his name. I've not found the name in Christian literature prior to the mid-eighteenth century when the German higher critics, fueled by the Jesuits' dedication to the destruction of the Protestant (King James) Bible, interjected

[3] July 20, 1992 issue.

that name into Christian scholastic circles. Their Yahweh was a tribal deity of the Sinai, often associated with a well. Prior to that God's name was JEHOVAH. Now the Bible critics did not make up the name. There really was a tribal deity in the Arabian desert with that name. The tribe produced one illustrious leader: a man revered and worshipped by much of the world. The man's name was Mohammed, and his tribe's god is most everywhere pronounced *allah*.

Finally, Callahan's strongest point against Joshua's long day is taken from Thomas Paine's *The Age of Reason*: "Such a circumstance could not have happened without being known all over the world: One half would have wondered why the sun did not rise, and the other why it did not set; and the tradition of it would be universal, whereas there is not a nation in the world that knows anything about it." Typical skeptical thinking: "If *I* don't understand or know of it, it can't exist." Even in Paine's day there were those who knew better. So, for those of you who think that no nation knows anything about it, here is a map showing the regions who wondered why the sun did not rise, and those who wondered why it didn't set, and one who thought the sun got caught in the grass when setting. It's mid-May, and it's 9:15 in the morning in Jerusalem, give or take 15 minutes.

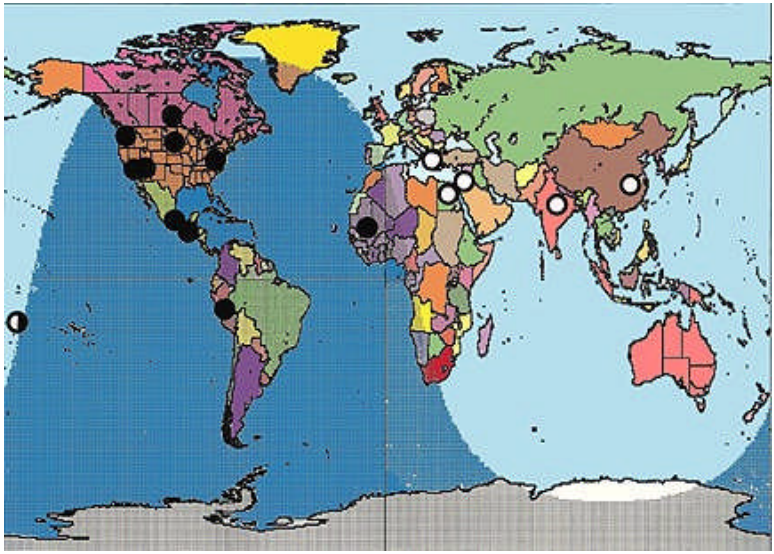


Figure 1. The half-filled circle represents the location of a long sunset story, the solid circles represent accounts of a long night, and the open circles show locations with tales of a long day.

Now who is more "scientific," those who flatly reject the evidence of the accounts of a long day, night, and sunset, or those who accept it?

SPATIAL MEASUREMENT AND MODERN SCIENCE: A REPLY

In a paper published in the previous issue of the *Biblical Astronomer*,[1] David Lifschultz argued that the techniques used to determine the distance scale of the universe are fraught with uncertainties and errors. His was the first in a series of papers that will examine this premise with an eye on the size of the universe. This journal carried that debate several years ago, but it was not resolved because the arguments kept going around in circles. Thus frustration entered from both sides.

It is doubtful from the start that the size of the universe can be accurately determined. The Bible says it can't, so don't be surprised if this series meets a similar fate as the first. Jeremiah 31:37 says "Thus saith the LORD; If heaven above can be measured**,** and the foundations of the earth searched out beneath, I will also cast off all the seed of Israel for all that they have done, saith the LORD." Some argue on the basis of this verse that the universe is infinite; but compare Pr. 25:3[2] where, if the same logic is applied, the depth of the earth should be infinite, too. All this really says is that the size of the universe cannot be accurately determined. Particularly this means that the distance scale of the universe is questionable. Of course, one can also ask which heaven is meant. There are three, after all: the atmosphere, outer space, and the third heaven, the abode of God. We assume the third to be infinite in extent, and we know that the size of the atmosphere is rather difficult to fix because of how hard it is to define a boundary on air that keeps getting thinner and thinner. If the size of the second heaven were easy to determine, we would not have this debate. So in one sense or another, Jeremiah 31:37 applies to each of the three heavens.

Starting assumptions

To follow my reasoning, one must bear in mind my basic assumptions. These are things I take for granted. I have thought each one out in detail so that I could be reasonably certain of it.

---

[1] Lifschultz, David, 1999. "Spatial Measurement and Modern Science," *Biblical Astronomer*, **9**(90):5.

[2] The heaven for height, and the earth for depth, and the heart of kings *is* unsearchable. – Proverbs 25:3.

1. The Holy Bible is the final authority.
2. Most astronomers are as honest as they can be about their work.
3. Observed phenomena are real, not faked.

Some words about each of these assumptions.

The first—that the Bible is the final authority—is the most controversial among scientists. Even Christian scientists occasionally stumble on this one. There are, however, some principles implied in this simple statement. For example, "The whole creation groaneth and travaileth in pain together until now" (Romans 8:22) means that entropy is universal, that the stars are subject to destruction as are the things of this earth. When the scripture says the heavens declare both the glory of God (Psalm 19:1) and his righteousness (Psalm 97:6), it follows that the science of the heavens must do the same. Because God has magnified his word above his name (Psalm 138:2), it follows that the Holy Bible, the word of God which contains the very words of God, is the final authority on all matters which it touches. Because Jesus Christ, is the "express image" of God (Hebrews 1:3) and the Word incarnate (John 1:1 and 1 John 5:7), and the "beginning of the creation of God" (Revelation 3:14), it follows that he is glorified by his creation. In other words, true science must be founded on the Bible.

The second assumption—that most scientists are as honest as they can be—stems from my own experience with them. Men who go into technical fields do so partly because their personal skills lack some of the dishonesty demanded from most of the business world. They find it easier to deal with factual data than with biased data, unwarranted claims, and fraud. As much as possible each claim is checked and counter-checked. (Evolutionary claims cannot be verified experimentally. Thus evolution appeals to thieves and that is why the history of evolution theory to this very day is fraught with fraud. Obviously evolution can never be scientific.) Unfortunately, there is a political aspect to science; it is a human endeavor, and so scientists are forced to defend their reputations and so their theories. Usually a subsequent generation clears the air. It's like the gunslingers of the old West; always facing a young upstart wanting to test the speed of his draw to make a name for himself. So, in science there is always some young scientist wanting to make a future for himself who will check the fundamental experiments to build on them.

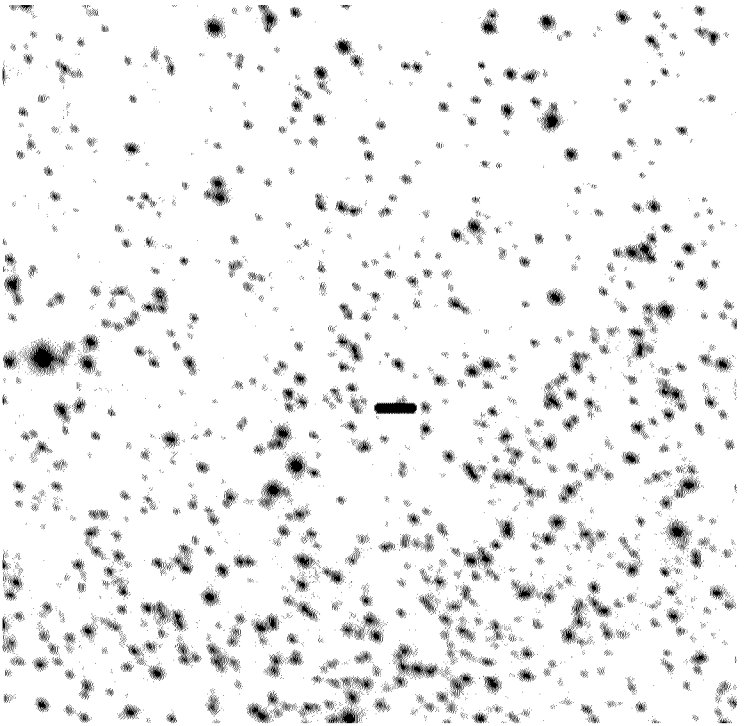
The third assumption—observed phenomena are real, not faked—follows partly from the second. Consider, for example, the detection of a supernova. Observatories around the world observe and study it. Amateur astronomers observe the same. If each one measured the diminishing of the supernova's light, how likely is it that all would fake a spike in the curve at the same point and the same time? In this assumption, I must exclude data reported by one ob-

server and left unchecked or not confirmed by another

Because there is little profit to be made from astronomy (except in the pseudo-scientific areas such as extraterrestrial and evolution where practitioners of the occult arts like Sagan and Asimov made their fortunes), it is minimally corrupted by the worship of Mammon (Mathew 6:24).

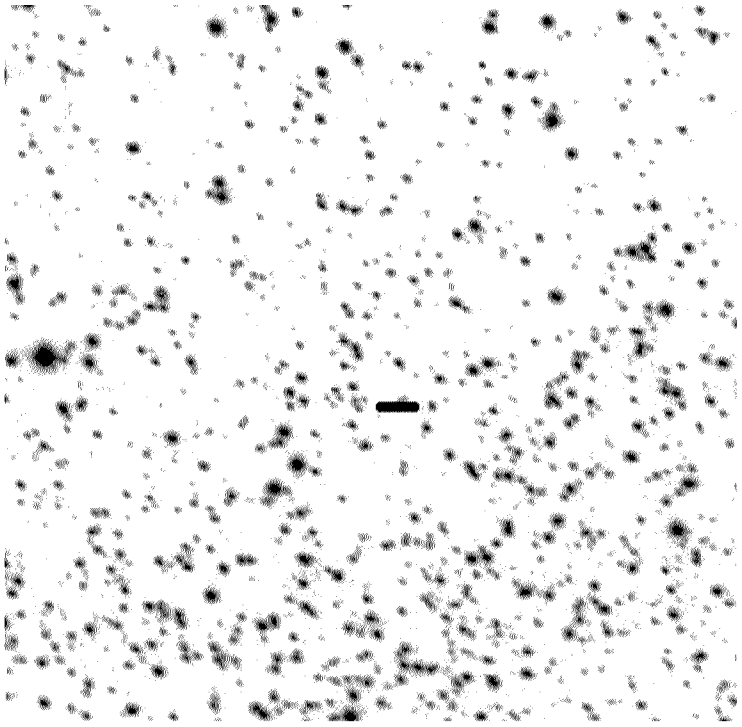
The parallax view

Consider the photos below and on the facing page. Each is a 6x enlargement of a half-inch portion of a Palomar Schmidt camera plate. Note the position of the star to the right of the dark black line; it has moved.



This shift is called a *parallax* and it repeats annually. The amount shown here is equivalent to the largest such shift observed, that of the star Alpha Centauri. You'll note that it does not need a very powerful magnifying glass to see it. Because its shift is the largest known for a star, Alpha Centauri is called our

nearest star.



What is one to make of such observations? One day the star is at the position in the left photo. After three months, it's in the position in the picture above. Six months after the first photo it is twice as far to the right as above, almost under the faint star to its upper right. After nine months its back to the position seen above, and a year after the first photo was taken it's back to the same place ready to start the whole thing over again.

To determine the parallax as accurately as possible, astronomers take from 30 to several hundred plates (glass photos) of a region of the sky. Most stars will not show movement relative to one another. Some will, but not all the same amount. If we superimpose the plates, that is, laid them atop one another, and lined up all the stars, we would see that in the course of a year the star would trace out an ellipse. If the star lies along the ecliptic (the path that the sun takes through the sky each year), then it will move back and forth in a line. If the star lies at one of the ecliptic poles (roughly the sun's north and south poles), then it

will trace a path which looks like a circle.

Heliocentric astronomers interpret this motion as due to the motion of the earth about the sun. As the earth moves, we see the nearby stars shift against the more distant background stars. This phenomenon is the most difficult of all for geocentric theory to explain. It is most difficult especially for those geocentrists who insist that the universe, like the earth, cannot be moved, but only rotates. Let us look at some explanations that are common today.

Parallax in the Denial Model

There is a geocentric faction that denies the reality of the observations, that is, which rejects my third assumption. They maintain that parallaxes are a hoax, that there is a great conspiracy among astronomers, particularly astrometric astronomers (ones who measure the stars' position, motion, parallax, and diameters). These deny my second assumption, too. However, there is no reason for astronomers to deceive the world about these things. Astronomers have been performing these duties for centuries. One would think that in all that time one would have blown the whistle if it were all fraud and deceit. Besides, any amateur with a moderately sized telescope can check these things out for himself. Do this first, and then you have grounds to argue. Having been trained and educated in astronomy, I have first-hand knowledge and can assure all that the practitioners of astrometry *really* believe in their art.

Now this matter has surfaced before, and I have responded as above. The response of those in denial is further denial: "Oh, Bouw's been brainwashed by his education." They deny my experience. If they cannot except my report, my hands-on experience, and will not beg, rent, or borrow a telescope to test the work themselves, then their blood be upon their own heads (Acts 18:6).

What have I experienced? For the entire summer of 1965, I worked with one of the early versions of a measuring engine. Although the machine was designed to measure the diameters of star images, I found that for the same plate the distances between two stars always repeated within 0.002 millimeter (0.00007 inch). The claim of the machine's manufacturer was that it was accurate to 0.01 mm, but the machine proved to be five times more accurate. To double-check the results I always rotated the plate 90 degrees and measured the stars again. Occasionally to quadruple check I'd measure the plate four times, rotating it 90 degrees counterclockwise each time. My experience verifies the claim made earlier by astronomer Peter van de Kamp: "Repeated measurements have seldom revealed systematic differences of more than 1 μ in the measured positions of the central star on the reference background; most of the systematic

differences are below 0.5 μ."[3] One micron (μ) is a millionth of a meter or 0.001 millimeters. Remember, the machine I used above was *not* the top-of-the-line and wasn't even designed for measuring distances between stars. It was designed only to record the positions of stars so that they could be identified for photometric measuring.

Please don't tell me that I'm brainwashed by my professors. There was no secret conspirator typing digits into the x-y coordinate display while I measured. That's the kind of show of ignorance that led me to place a one-year moratorium on entering debates about the size of the universe.

Parallax in Harald Heinze's model

In Harald Heinze's model, the parallax is due to the eccentricity of the sun's yearly path about the earth. Eccentricity is the flattening of an elliptical orbit. The eccentricity of the sun-earth orbit is about 0.017. That means that the widest part of the orbit is 1.7% larger than the narrowest part. The model reduces the distance to the nearest stars to 1.7% of their current values. This brings Alpha Centauri in from about 4.3 light years to about 0.07 light years or about 27 light days. The pioneer and voyager spacecraft are about a sixtieth of the way to that distance. At their current positions, Alpha Centauri should be shifted (show a parallax) of one degree, twice the apparent diameter of the full moon. One of the guide stars, Vega, should be displaced by more than a third the apparent diameter of the moon. One would think that the misalignment of the guide stars would be noted by now if Heinze's model were correct. (See Figure 1.)

Insofar as the universe is concerned, Heinze and others claim that it must be less than 6,000 light years in radius. They reason that the light from stars further away than that would not have had time to reach earth, given that the creation was 6,000 years ago.

Parallax in Walter van der Kamp's model

The late Walter van der Kamp thought the universe to be 25 light-days in radius or 50 light-days in diameter. He held to a modified Tychonic model (which we'll consider later) which has the planets and stars accompanying the sun in a yearly motion about the earth. Walter thought the yearly aberration[4]

---

[3] Van de Kamp, Peter, 1962. "Astrometry with long-focus telescopes," in W. A. Hiltner, ed., *Astronomical Techniques*, (Chicago: University of Chicago Press), p. 495.

[4] Aberration is the degree to which a telescope must be pointed in front of a star's true position to be seen. This is the same reason that an umbrella must be tilted forward to protect one from the rain

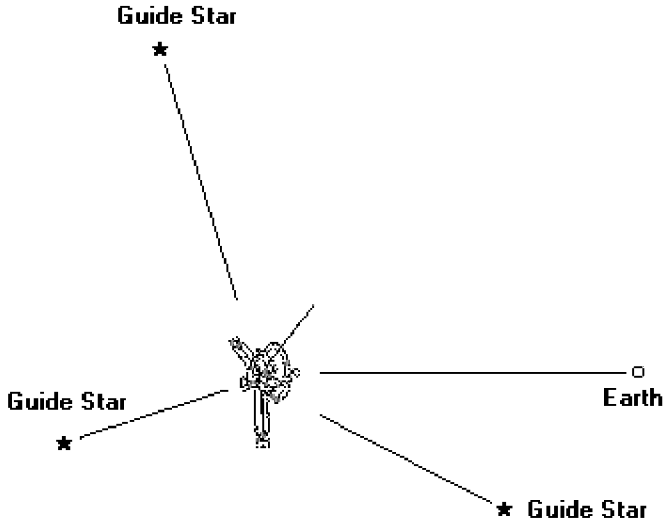


Figure 1: Pioneer 10 is shown with a possible guide star configuration that will keep its antenna pointed to the earth. If this tiny universe-on-paper were immense, the lines from Pioneer to the three stars would be parallel to lines from the earth to those stars, so that the guide star at bottom right would still be left of Pioneer.

effect was the parallax, although it is a quarter of a turn out of phase. In other words, a star moving west-to-east in its yearly journey about the earth has its parallax towards the south of its mean position, but its aberration is toward the west. Walter believed that parallax was a true parallax and that it arose because all the stars were all located in a shell no larger than 400 million miles in from the outer edge of the universe. Indeed, most would fall within the last 1,000 miles, given their parallax measurements.

As with Heinze's model, the Viking and Pioneer space probes have gone out far enough that we could test the model. The guide stars should be "out of position" by at least 1% now, meaning that the guide-star-to-probe-to-earth angle, which presumably is fixed on the satellite, should be out of alignment by 1%. Of course, is anyone looking for that?

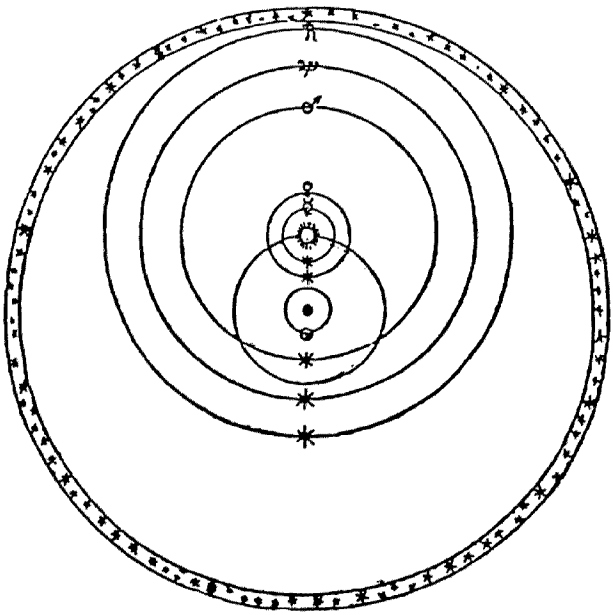
Parallax in Hanson's Model

Jim Hanson's model is derived from La Sage's untramundane corpuscular

---

while walking. As one slows or stops, one must raise the umbrella to keep dry.

model.[5] In that model, the universe is filled with a sea of small particles, all moving at very high speed. The model is primarily designed to explain gravitation and is intriguingly successful, but the model does not at all address the size of the universe. Still, the evidence for parallax is addressed in the model from a strictly geocentric sense.



Hanson's Model is a true Tychonic model (see figure above). It has the earth at rest at the very center of the universe, and has the sun carrying the planets with it in a yearly path about the earth. The stars, too, are centered on the earth. In a model like this, there could be no parallax unless it involves the earth's diameter.

In Hanson's Model, parallax is caused by vortexes and flow in the sea of corpuscules. Aberration, too, is attributed to drag, namely, the sun drags the light of stars with it in its annual motion about the earth. The difficulty with the explanation is that it does not readily explain why parallaxes repeat consistently.

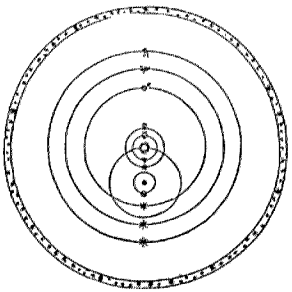
---

[5] A translation by M. Marling of Le Sage's work was published in serial form starting with issue number 40 of the *Bulletin of the Tychonian Society*, p. 15. On page 21 of the same issue is a technical note by James Hanson explaining the differences between Newtonian and Le Sagean gravity. That article is reprinted in this issue starting on page 29.

Hanson's response is that the measurements are so uncertain as to be meaningless. Thus, repeated derivations of the same parallax values for certain stars are dismissed as due to bias on the part of the experimenters. Since he has not worked with the measuring engines, it again falls on him to prove his case.

The modified Tychonic Model

The Modified Tychonic model has one difference from the Tychonic Model: the stars are centered on the sun, not on the earth. The figure at left is an example of a modified Tychonic Model. Indeed, it is exactly the model which Walter van der Kamp championed, complete with the thin shell of stars. The version of the modified Tychonic model under consideration places the stars much further out, distributed over billions of light years. In effect, this model is indistinguishable from the current astronomical model found in the textbooks.



All the stars trace out the same circle, drawn through the sun in the figure, in the same time. Therefore, the base line for the parallax is the same, namely the diameter of the circle centered on the earth and including the sun. The difference is that instead of the sun at the center of the of the orbit, with the earth at the ends of the circumference six months apart, now the earth is at the center and the sun is at the ends six months apart. I advocate this model.

The great lights

David Lifschultz interprets the "great lights" mentioned in the Bible (Gen. 1:16) to mean "largest." I've always understood it to mean great in purpose, with the sun as a type of the Messiah, Jesus, and the moon as a type of his church or witnesses. Either meaning is geocentric. Consider the moon, which is also said to be a "great light." Having sent space probes to the planets, we know that those and many of their moons are larger than our moon. So the interpretation that "great" means "big" is suspect. Geocentrists of the seventeenth through nineteenth centuries took the "great is large" approach to extremes. Many found themselves forced to claim that the sun was less than 1,000 miles above the earth, the moon even less, and the stars not much more. By this they preserved the appearances and yet kept the sun and moon larger than the planets, too.

Likewise, we have "great" men, but that doesn't mean that they are big in size. Great times don't last longer than others. Great ideas may be small and

simple. So I conclude that the great lights are great in purpose, great for signs, great for seasons, and great in typology, but not necessarily great in size. Jesus, the Sun of Psalm 9 and Malachi 2, was not the largest man that ever lived. He was so typical that he could pass unnoticed through a crowd seeking to kill him (Luke 4:30). The leaders of his day needed Judas to identify the Christ. Likewise, throughout its history, the Church has consisted of no more than 2% of the population of the world.

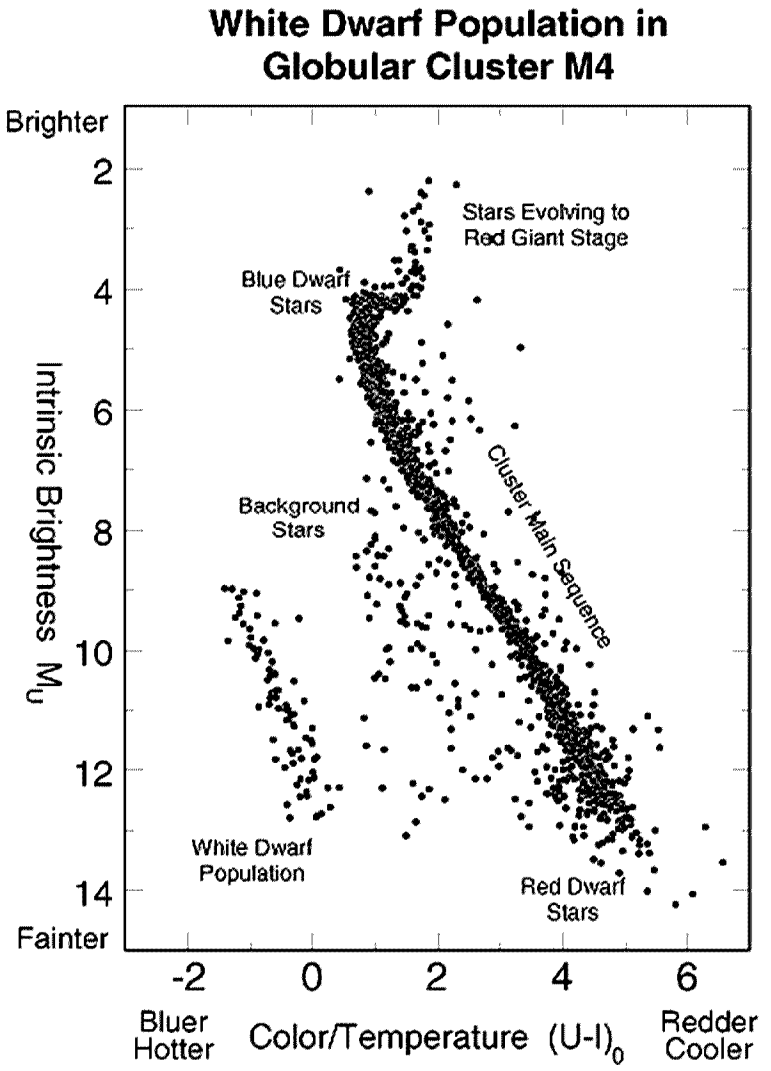
Hertsprung-Russel diagram

In looking at the Hertsprung-Russel diagram (see next page) we pass from the first stage of cosmic distance determination to a less direct method. Though I would prefer to deal with one method at a time, I will make some comments about it now.

The Hertsprung-Russel diagram plots the luminosity of a star against its surface temperature or color. Issues of luminosity and color determination I defer until later. The H-R diagram is based on clusters of stars, the members of which are presumed to be the same distance from earth. We have parallaxes for two major clusters, the Hyades and the Pleiades. We also have a set of "local" stars with large parallaxes. These three groups exhibit similar relationships of magnitude versus color, temperature, or spectral type.

The assumption is made that lower main sequence stars of the sun's spectral type or redder can be lined up when adjusted for distance. Evolutionarily speaking the more luminous stars are *younger* than the fainter stars. That's why the sequences are always aligned along the bottom right of the H-R diagram.

When astronomers talk about the "evolution" of stars, by the way, they generally mean the aging process of a star. How quickly a star ages depends on the speed of light. Therefore, if the speed of light were very much higher than now during the creation week, these stars would have aged millions to billions of years in a matter of days, weeks, or months. There is no way known that we could tell the difference today except in the wavelength of the arriving photons, assuming energy is conserved (first law of thermodynamics). If the speed of light was higher in the past, photons emitted in the past would have a longer wavelength, that is, would be red-shifted.



To be continued.

PANORAMA

Frank's water comets: not dead yet[1]

Our thought, expressed in SF#125, that the icy-comet controversy might be winding down was premature. P. Huyghe, co-author with L. Frank of *The Big Splash*, responded to SF#125 with three recent articles. Two reply to major criticisms of the icy-comet theory; the third gives geological and geophysical reasons why there *must* have been icy comets or some other substantial influx of water and carbon to the earth's surface down the geological eons.

No instrumental artifacts. The basis for the 1985 claim of L. Frank et al that small, icy comets continually bombard the earth's upper atmosphere came from photos taken far above the earth from the Dynamics Explorer 1. Large, transient "holes" appeared in the atmosphere. These were attributed to vapor clouds created by small, icy comets. (SF#44/275) Critics claimed that these "holes" were no more than instrumental errors. L. A. Frank and J. B. Sigwarth have investigated this possibility and have rejected it.[2]

Navy radar search used incorrect cross sections. A more recent attack on the icy comets came from S. Knowles et al. (SF#125) They claim that their search of the sky with the Naval Space Command Radar would surely have detected the icy comets if they exist. Frank and Sigwarth respond that Knowles et al used radar cross sections that are significantly different from those typical of icy comets. It is likely that the Navy radar would not have been able to detect the comets.[3] Knowles et al replied that the cross sections were O.K. and their conclusion stands!

Too much water and carbon. Strong, indirect evidence for the steady influx of icy comets comes from the geologists. They find that on and near the surface of the earth there is much more water and carbon than can be ascribed to the weathering of the earth's rocks. For example, the

---

[1] Quoted from 1999. "Icy Comets, Oceans, Life," *Science Frontiers*, no. 126, pg. 4, Nov.-Dec.

[2] Frank, J. A., and J. B. Sigwarth, 1999. "Atmospheric Holes: Instrumental and Geophysical Effects," *Journal of Geophysical Research*, **104**:115. Cr. P. Huyghe.

[3] Frank, L. A., and J. B. Sigwarth, 1999. "Comment on 'A Search for Small Comets with the Naval Space Command Radar' by S. Knowles et al." *Journal of Geophysical Research*, **104**:22, 605, no. A10. Cr. P. Huyghe.)

amount of carbon tied up in rocks (carbonates, etc.) is 600 times that now found in the combined atmosphere, hydrosphere, and biosphere. Where did all this extra carbon come from? The same question can be asked about the earth's water inventory.

Geologists have long assumed that the *excess* water and carbon came from the outgassing of volcanoes. But recent quantitative estimates tell us that the volcanic sources are grossly inadequate. So are all other possible terrestrial sources. Therefore, some scientists, such as D. Deming, University of Oklahoma, have been looking spaceward. Deming ventures that extraterrestrial sources of water and carbon may be four or five orders of magnitude greater than suspected.

Obviously, a steady bombardment of icy comets might fulfill Deming's requirements. Down the long eons of geological time, they could have filled the oceans and showered all that excess carbon onto the planet's surface.

Deming ups the stakes in the icy-comet controversy when he links these fluffy snowballs to the well-known vagaries of life on earth.

> The extraterrestrial influx rate may also act as the pacemaker of terrestrial evolution, at times leading to mass extinctions through climatic shifts induced by changes in accretion rates with concomitant disruptions of the carbon and nitrogen cycles. Life on earth may be balanced precariously between cosmic processes which deliver an intermittent stream of life-sustaining volatiles from the outer solar system or beyond, and biological and tectonic processes which remove these same volatiles from the atmosphere by sequestering water and carbon in the crust and mantle.[4]

Comment. Need we mention the book Living Comets, by F. Hoyle and C. Wickramasinghe? Why stop at water and carbon?

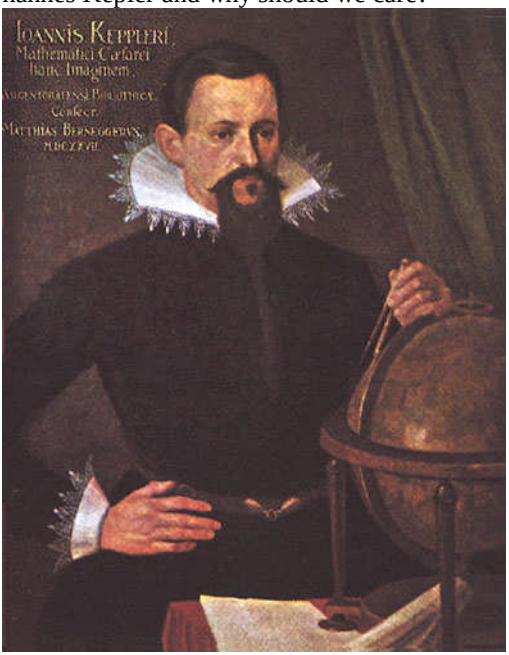
The Biblical Astronomer notes: Of course, we do not agree with the evolutionary speculations voiced above. We have reproduced the entire quote without comment to give the reader insight into the kinds of problems that never make it into the evolutionists' texts used by public schools and undergraduate colleges and universities. One side will eventually out-shout, out-spend, or out-live the other, and then the matter will be presented in the text books as established fact. For example, when the iridium boundary was used to speculate that a comet or aster-

[4] Deming, David, 1999. "On the Possible Influence of Extraterrestrial Volatiles on Earth's Climate and the Origin of the Oceans," *Palaeo,* **146**:33. Cr. P. Huyghe.

oid hit the earth and wiped out all the dinosaurs "sixty-five million years ago," the proposal was met with a flurry of objection against the flimsiness of the evidence. Nevertheless, today the impact hypothesis is an established "fact," even though most of the original objections still stand. So let me remind the reader that when the comets were first suspected, it was reported that they are insufficient in quantity to account for the amount of water in the oceans, even over the mythological "evolutionary time."

Kepler on the Trinity

This note came from Marshall Hall who has done a tremendous amount of research into Kepler's background. But first, who was Johannes Kepler and why should we care?



Kepler, the stately figure at left, was hired by Tycho Brahe, a sixteenth century geocentrist and reputedly the best naked-eye observer known to history, to reduce Brahe's measurements of the positions of the planets. It was Brahe's intent to discredit once and for all the Copernican notion that the earth orbits the sun. Brahe died under curious circumstances, but before he died he made Kepler promise to present Brahe's observations in Tycho Brahe's own model of the geocentric universe. Brahe's model has the sun carrying the planets about the earth with it.

Now Kepler was a fair mathematician, but he was also a mystic. His mother was tried for witchcraft, and he successfully defended her against the charge, but his mother's mother wasn't as fortunate. He was denied a position in the Lutheran church because of his dabbling in the *curious arts*, that is, the occult. Copernicus believed that the sun is

God, so it should come as no surprise that some of his followers should follow him in that insanity. In particular, Marshall Hall reports that "At one point, Kepler held that the sun was God the Father, and that the light emanating from the sun was the Logos or Christ. Thus Copernicanism held great religious significance for him." This goes right along with the ancient astrological mosaic floors found in the mid-East which picture the sun, in the person of Apollo, at the center of the zodiac.

$E=mc^2$ and Albert Einstein[5]

The mathematical equation that ushered in the atomic age was discovered by an unknown Italian dilettante two years before Albert Einstein used it in developing the theory of relativity, it was claimed yesterday.

Olinto De Pretto, an industrialist from Vicenza, published the equation $E=mc^2$ in a scientific magazine, *Atte*, in 1903, said Umberto Bartocci, a mathematical historian. Einstein allegedly used De Pretto's insight in a major paper published in 1905, but De Pretto was never acclaimed, said Professor Bartocci of the University of Perugia. De Pretto had stumbled on the equation, but not the theory of relativity, while speculating about ether in the life of the universe, said Prof. Bartocci. It was republished in 1904 by Veneto's Royal Science Institute, but the equation's significance was not understood.

A Swiss Italian named Michele Besso alerted Einstein to the research and in 1905 Einstein published his own work, said Prof. Bartocci. It took years for his breakthrough to be grasped. When the penny finally dropped, De Pretto's contribution was overlooked while Einstein went on to become the century's most famous scientist. De Pretto died in 1921.

"De Pretto did not discover relativity but there is no doubt that he was the first to use the equation. That is hugely significant. I also believe, though it's impossible to prove, that Einstein used De Pretto's research," said Prof Bartocci, who has written a book on the subject.

Einstein's theory held that time and motion are relative to the observer if the speed of light is constant and if all natural laws are the same. A footnote established the equivalence of mass and energy, according to which the energy (E) of a quantity of matter (m) is equal to the product of the mass and the square of the velocity of light (c). Now known as: $E=mc^2$.

---

[5] Carroll, Rory, 1999. "Einstein's $E=Mc^2$ 'was Italian's idea'," at http://www.guardianunlimited.co.uk/Archive/Article/0,4273,3928978,00.html. Quoted here in part. I have no reference to Bartocci's book.

High performance gyroscope on a chip announced

In a press release dated August 13, 1999, NASA announced a long-life gyroscope (over 15 years) measuring smaller than a shirt button and weighing less than a gram (0.03 oz.). The new chip is 30 times more accurate than current gyroscopes using solid-state technology, able to detect a rotation rate less than a thirtieth of the speed of the minute hand on a watch. The chip can be used in space as well as on earth. "The heart of the instrument is a cloverleaf design that is tied down and vibrates at a very high speed," according to JPL's Dr. Tony Tang, lead engineer in the chip's development. "We look for changes in the vibration of a light piece of micro-machined silicon that has no moving parts."

Tired light: coming out of retirement?

The following was forwarded bye email from Amnon Goldberg. It is a post from Hal Fox, editor of the *Journal of New Energy*, to Bad Astronomy, located at http://www.badastronomy.com. To get to the post directly, append "/wwwboard/messages/2240.html."

> It is reported that Hubble was asked what could possibly be the cause for the red shift. Hubble is reported to have answered, in jest, that the universe could be expanding.
>
> The red shift is much more simply explained by the experimental evidence that photons can lose energy when moving through a field of ionized particles.[6] When reviewing the book I noted that Anastasovski's experimental evidence would expain the red shift. Prof. Anastasovski was excited with the suggestion and immediately wrote [an article].[7]
>
> Professor Anastasovski showed that the energy lost by the photons (when red-shifting) accounts for the microwave background radiation that is found in space. Thus the two main pillars of the Expanding Universe and the Big Bang were delightfully demolished.

---

[6] See Anastasovski, Petar K., 1995. *Quantum Mass Theory Compatible with Quantum Field Theory*, (Nova Science Publishers Inc., 6080 Jericho Turnpike, Suite 207, Commack, NY 11725. Price is $87.

[7] Anatasovski, P., H. Fox, & K. Shoulders, 1996. "A New Approach to the Cosmic Redshift and to the Cosmic Microwave Sources," *Jrnl. New Energy*, **1**(2):79-87.

> There is no evidence for the Big Bang that is not more easily explained by less far-fetched hypotheses. For many years, every astronomical observation that peers deeper into the vast expanses of the universe comes up with more and more similar galaxies. It is difficult to understand why any rational scientist would persist in defending an idea as difficult to understand as the Big Bang when the alternative explanation is so simple. There is no demand in science to explain the infinite when we don't even understand the nature of such simple new ideas as the superluminal torsion field fluctuations (which travel at more than a billion times faster than the speed of light). Let's learn more about the universe in which we know by measurements made by use of this new Russian-dominated torsion-field fluctuations to study more about today's heavens. And to learn about it at much faster than the speed of light. (All sic –*Ed.*)

One of the early suggestions for the cosmic redshift was that it was due to a loss of energy as light passed through space. In effect, space absorbed some of the energy as light passed through it. In the last forty years the theory has been dormant but is now given new life by this observation. As I recall, this is similar to the explanation suggested the Wolf of the University of Rochester about a decade ago. The problem with his explanation was that it required some artificial embellishments to effect the redshift on the scale observed.

Torsion-field fluctuations theory was once a highly classified Russian discipline. The fluctuations are effects of the firmament, a sea of supermassive particles which pervade the entire universe and which are the standard of rest for all matter in the universe. But this article and explanation will probably be ignored by main-stream scientists whose reputations are staked on such nonsensical notions as "the big bang was not an expansion in space but an expansion of space itself," etc.

Time runs backward

For many years physicists have speculated about the "arrow of time," a phrase which refers to the direction in which time flows. From our perspective time flows forward, from the past to the future. But can time run backwards?

For a long time one group of scientists thought that time might run backward for antimatter, that antimatter was matter flowing backwards in time, but such seems now disproved. Others have speculated

that if the big bang were to slow down and the universe would reverse its expansion and collapse, that during the collapse time would run backwards. It was Thomas Gold of Cornell University in Ithaca, New York, who argued in the sixties that the direction in which time flows depends on the expansion of the universe. As time passes, the universe must increase in size and vice-versa.

Now in the December 27, 1999 issue of *Physical Review Letters*, Lawrence S. Schulman of Clarkson University in Potsdam, New York, reports on his research into time reversal. He found that celestial bodies flowing backwards in time would have originated far into the future and would have experienced the cosmic turn-around. Astronomers would see these as very old objects that may be detectable by spectroscopic observations. He expects that they would be so old that they would now be very faint and hard to detect, perhaps constituting the missing mass or dark matter of the universe.[8]

Equations describing the behavior of nuclear particles and propagation of electromagnetic radiation such as light look the same for time flows in either direction. A year ago, however, it was discovered that certain rare interactions of particles called *kaons* could distinguish between forward and backward time flow.

Schulman's theory would be invalidated if it can be shown that time streams interfere paradoxically such as placing effects before causes. Also, recent evidence suggests, the universe's expansion is accelerating which makes collapse more unlikely.

Sheer nonsense? Maybe. The Bible refers to time as a thing processed or a processing. There are intriguing hints in Ecclesiastes that the present is a surface and that both the present and future are under the surface. Regardless of all the speculation and research, the truth will be much stranger than anything heretofore considered by man. Cause and effect can be violated or reversed without paradox such as the advanced potential model of gravity proposed by Gerber a hundred years ago,[9] and in the equation of a radio wave transmitted from an

[8] If we count the number of stars we see in the Milky Way and compare their total mass to what is derived from Newtonian orbital considerations we find that the orbitally-derived mass is three to ten times what is counted. For clusters of galaxies, the dynamic mass may be hundreds of times larger than the luminosity-derived mass. The larger the scale, the more mass appears to be missing. Actually, the geocentric model and quantum mechanics anticipate this.

[9] Gerber, Paul, 1898. *Zeitschrift für Mathematik und Physik*, **43**:92-104. The original paper is in German but an English translation appears under the title "The Propagation of Gravity in Space and Time," in G. Bouw, ed., 1993. *The Geocentric Papers*, (Cleveland: Assoc. for Biblical Astronomy), pp. 61-69.

antenna where the equation requires that the wave come in from infinity before it can be sent out into the air.

Seahenge

In August 1998 a warden, walking along an stretch of eastern English seashore spotted the stump of an oak tree surrounded by 55 posts. The circle was 21 feet in diameter. The central post may have blown over in a storm, since it bears no axe marks. It does show evidence that people hauled it into position with honeysuckle ropes. The outer posts do show evidence of having been cut by axes.

Apparently the circle was buried in peat which had been washed away by the sea. The timber circle was called Seahenge, after the famous Stonehenge. David Miles, chief archaeologist of English Heritage, reported that the builders "were farmers who cleared much of Britain's forest land, and now we've dated one of their religious temples."

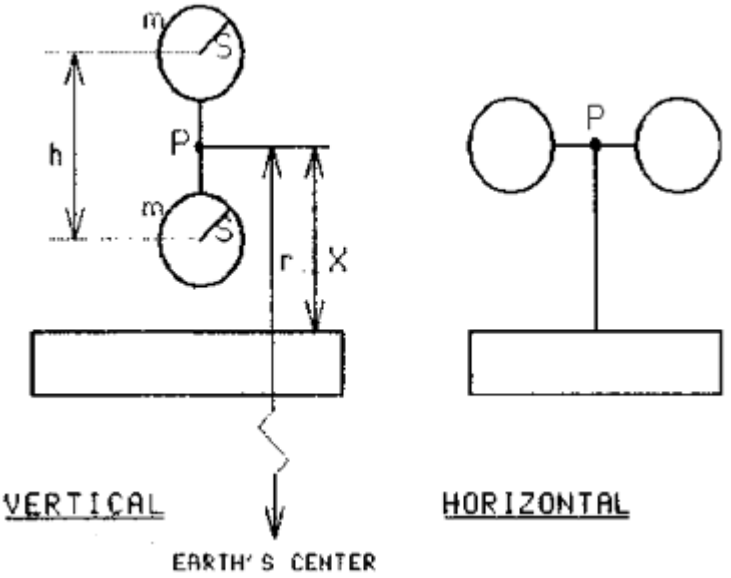
The first try at dating the trees was to match it with tree ring data. This proved unsuccessful, even when compared to ice core data. Radiocarbon tests of the central oak yielded dates between 2200 B.C. and 2000 B.C. A subsequent analysis based on only the widest tree rings "refined" the age to "a few months in 2050 B.C. and yielded 2049 B.C. for the posts. Correcting for the carbon date's failure to incorporate decay of the earth's magnetic field yields a date of 1545 B.C.

Comparison of Newtonian[1] And Le Sagean Gravity

by

James Hanson

Walter van der Kamp asked me if I would investigate the difference between the gravitational attraction, in the following experiment, between the Newtonian action-at-a-distance and Le Sage's gravific fluid model. I shall not recount Le Sage's theory here for it was covered starting with issue number 40 of the *Bulletin of the Tychonian Society*. The suggested experiment is shown in the figure below.



Two spheres of mass m and radius s are rigidly connected so that the center-to-center distance is *h*. Furthermore, the center point *P* is rigidly connected to the earth at a distance *x* above the earth. It is desired to compute the

[1] This article is reprinted from *The Bulletin of the Tychonian Society*, no. 40, pp. 21-24, September, 1985.

difference between the forces at point *P* for the vertical and horizontal orientations for both the Newtonian and Le Sagean cases, where

$$d = F_V - F_H$$

and then, finally, to compute the difference between the Newtonian and Le Sagean models,

$$D = d_N - d_L$$

The Newtonian case may be written immediately,

$$d_N = \frac{C_N}{(r + h/2)^2} + \frac{C_N}{(r - h/2)^2} - \frac{2C_N}{r^2}$$

$$= \tfrac{1}{2}C_N r^{-2}(3[h/r]^2 + \tfrac{5}{4}[h/r]^4 + \tfrac{7}{16}[h/r]^6 + \tfrac{9}{64}[h/r]^8 + \ldots)$$

where *M* is the mass of the earth and where the series expansion is obtained by combining over a common denominator and then applying polynomial division. The constant factor *GmM* has been denoted by C_N.

The Le Sagean case is quite complicated. I have derived the attraction for this case but have not yet published the same. Hence I shall simply state the result where C_L is a constant which enters much as does C_N in the Newtonian case. It is truly not constant, but is a Machian parameter which depends on the geometry and motion of the entire universe. It varies slightly over great distances and in an experiment it can be taken to be truly constant. Let *B(x,y,z)* represent the following power series:

$$B(x,y,z) = x^{-2}(1 + x^{-2}(y^2 + z^2)/6 + x^{-4}(3y^4 + 10y^2z^2 + 3z^4)/40 + \ldots)$$

then:

$$d_L / d_N = B(r + h/2, S, r - x) + B(r - h/2, S, r - x) - 2B(r, s, r - x)$$

The first two terms of this sum represent the force in the vertical orientation and the third term the force in the horizontal orientation.

Expanding out the terms of order r^{-2} gives:

$$d_L = \frac{C_L}{(r + h/2)^2} + \frac{C_L}{(r - h/2)^2} - \frac{2C_L}{r^2} + C_L A$$

where A represents the additional terms over those present in the Newtonian form (see the expression for d_N above),

$$\begin{aligned} A &= (1/6)(s^2 + [r-x]^2)([r+h/2]^{-4} + [r-h/2]^4 - 2r^{-4}) \\ &= (1/6)(s^2 + [r-x]^2)(20[h/2]^2 r^{-6} + 69[h/2]^4 r^{-8} + \ \ldots\ ) \\ &\approx (5/6)s^2 r^{-6},\ s = h \end{aligned}$$

where, once again, polynomial division has been used and where h has been set equal to s in order to maximize A. Note that the Le Sagean case depends slightly on x and s whereas the Newtonian case is independent of x and S. Finally, we compute:

$$\begin{aligned} D = d_N - d_L &= (C_N - C_L)\left(\frac{1}{(r + h/2)^2} + \frac{1}{(r - h/2)^2} - \frac{2}{r^2}\right) - C_L A \\ &= 3/2(C_N - C_L)h^2 r^{-4} + (5/8[C_N - C_L]h^4 - 5/6 C_L s^2)r^{-6} \end{aligned}$$

where the first two terms in the expansion for dN have been used. This difference is only a mathematical one, for either one or neither of the theories is correct. However, whichever theory one *elects* to use, the values of C_N and C_L would be numerically identical unless the experiment were conducted over a long time interval and in different places, in which case C_L would change. Hence setting $C_L = C_N$ and denoting the density of the spheres by w gives:

$$D = (10\pi/9)GMws^5 r^{-6} = -(5/4)r^{-2} d_N,\ s = h$$

Being very optimistic, Set $w = 10^{-3}$ gm cm and s = 100 cm, and note that G=6.67x10^{-8} dyne-cm^{-2}-gM^{-2}, M=5.97x10^{27} gm and r =6.38x10^{-8} cm. Hence D= -2x10^{-21} dyne, an imperceptible difference.

I do not believe that such static experiments have much potential for discerning between these two models for gravity. However, dynamic experiments may; such as with pendulums, artificial satellites, and planets, in which the effect is integrated over time and in which large or rapidly rotating bodies may participate. For example, I have used Le Sage's theory to obtain the

claimed planetary perihelion precessions. This effect is extremely small, amounting to only a few seconds of arc per century.

Like Einsteinian dynamics, Le Sagean dynamics depends on the translatory and rotational motions of the pertinent bodies and, to a lesser extent, on the distribution of matter throughout the universe. I have developed expressions for the static case, as were used herein, however, I have not, as yet, developed suitable expressions for the moving case in three dimensions. The effects of rotation seem to be of the order of those in relativity. And, since in our experiment we seek to compare theory with observation by examining a difference of a difference *D*, it may well be that if the spherical masses are rotating very rapidly that *D* may be increased sufficiently so as to be in the measurable range.

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 $20 per year. Members receive a 20% 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. All prices are postpaid. Orders outside North America please add $3.

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. In Europe, Geocentricity may be purchased for £12.50 (postpaid in the U.K., postage by quotation otherwise) from Brian V. Lamb, Quarryside, Castletown, Caithness, Scotland KW14 8SS. $15

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 attack the author, but they never address the **real** issue, the occult influence in the modern versions. A real eye-opener. 600^{+} pages. $15

Is Geocentricity a Dangerous Error? A Biblical and Scientific Debate. Audio debate between Martin Selbrede and Dr. Don De Young, former editor of the *Creation Research Society Quarterly*. $6

Geocentricity: An audiotape interview with Prof. Jim Hanson. $6

Geocentricity Videotape. Martin Selbrede gives a first rate presentation of geocentricity. Good quality tape. (American VHS only.) $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. (American VHS.) $20

Thinking Psych-economically Interviews. Dr. Arthur Sharron interviews Dr. Bouw on the scientific inerrancy of scripture and the decline of Biblical authority. (Two programs, American VHS.) $20