is willing to grant *dur* two meanings to support his thesis, but apparently cannot suppose that there might be similar latitude for how one might use 'found' based on the object described!)

Beyond this, Seely claims:

> ' … creationist paradigms do not match Psalm 24:2 or 136:6. If a global spherical Earth were envisioned in this verse, the South Pole would be the first thing to go into the water. That is where foundations always go: at the very bottom … Psalm 24:2 is not about the crust of the Earth, much less the very top portion of that crust. It is about the entire Earth' (v. 1).

All that Seely is doing here is yet again reading into equivocal language what is not there. The texts only say that the land was spread out or founded upon the waters. It does not say in what shape or what form; it does not say that the land floats; it merely said it was laid upon the waters, and that is all. It neither speaks of nor denies any accessory support.

As in his previous letter to the editor, Seely has done nothing more than restate his original argument and read into the Scriptures what simply isn't there. Those who speak of being 'stumbling blocks' need to check their own eyes for such blocks before pulling 'stumbling motes' from the eyes of others.

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A geocentrist replies to 'Geocentrism and Creation'

M. Bowden

Danny Faulkner wrote this article which was published in *TJ* **15**(2).[1] I wrote a reply, but Bouw's letter and Faulkner' reply was published in *TJ* **16**(1). I have read these articles and would like to comment on some points and then raise two crucial issues that both authors have omitted.

Let me first consider some issues very briefly.

The Bible

Faulkner spends considerable space criticizing Bouw's geocentric reading of the Bible, dealing with the precise meaning of Hebrew words, but I regret that it seemed to me very much like sniping from the bushes, rather than confronting Bouw with any major errors of exegesis.

One question I pose to all heliocentrists is; Where in the Bible does it ever say, or even imply, that the Earth is moving either through space or around the Sun? If God wanted to tell people that the Earth is moving, why did he never refer to this with any clarity. Why is it always the Sun that is portrayed as moving?

Ad hominem

Faulkner says that Bouw accuses him of *ad hominem* arguments but does not give any evidence. Let me supply that lack. In his first article Faulkner says that Bouw 'trashes' ancient Greek philosophy, 'blasts' heliocentrists, and 'takes a swipe' at Copernicus. This sounds remarkably like *ad hominem* arguments to me.

There are a number of items (VLBI, relativity, exegesis, etc.) raised in Faulkner's first article which I dealt with in my first reply. To save space I have placed it on my website (www.mbowden.info) and will, therefore, not repeat them here. There are far more important aspects that should have been dealt with by both writers. So let me raise the two major points—one not considered (A) and the other (B) only briefly mentioned in the exchanges so far.

(A) A major Biblical problem facing heliocentrists

All creationists would accept the veracity of the Genesis account. However, those who are heliocentrists (i.e. the vast majority of the readers of this journal!) have a major

problem facing them. In Genesis 1:1 we have the creation of the Earth on the first day. In Genesis 1:16 we read of the creation of the Sun, Moon and stars on the fourth day.

What happened before the fourth day? Did the Earth circle a non-existent Sun? Alternatively, was the Earth given a sudden jolt around the Sun when it was duly created on the fourth day? The slopping of the oceans over the land would have destroyed much of the newly created shore life on an Earth that God declared was 'perfect'.

If heliocentrists resort to the interpretation that the Sun was created on the first day but only shone forth on the fourth day, then they are running into even greater problems in exegesis. The Hebrew account of the Sun's creation is the same as all the other accounts of creation on other days. But for this particular creation, the Hebrew translation has to be changed for them to be able to hold to their position—i.e. the Sun was created on the first day but only 'appeared' (began to shine) on the fourth day. If they change it for this day, then they should be consistent and use this for all the other daily accounts of creation—which would make complete nonsense of Genesis 1.

It is the geocentrist's interpretation of the Bible that makes the simplest and most sensible understanding of Genesis 1. It places the Earth at the beginning of time and at the very centre of God's concern and care.

(B) The scientific arguments

Let me now turn to Faulkner's gross omissions. I have found in the reading of many articles, by both evolutionists and creationists, by far the most important aspect of their examination is not what they say, but what they have *failed* to say.

Reading through this lengthy article, it was with considerable surprise that I suddenly found I had reached the reference section, and the article had ended.

The reason for my surprise was that *Faulkner had not once referred to the four basic scientific experiments that supported geocentricity which Bouw gives in his book!*

It was as if a critic of a scientist's experiments commented on the dirtyness of the laboratory, the conflict between his staff, and that the scientist was a philanderer, from which he claims that any scientific conclusions he makes should be ignored, yet never discussed the experimental evidence itself!

It is quite unacceptable for Faulkner to plead in his reply letter that 'In such a brief article I could hardly discuss all the scientific issues raised in Bouw's 350-page book.'

Now Faulkner is a qualified astronomer writing in a journal specifically published for technical subjects, yet spends almost all his time dealing with Biblical exegesis, history and personalities, etc. and other somewhat peripheral subjects, and then complains that he cannot deal with the scientific evidence that supports geocentrism!

Faulkner's serious omission casts a deep shadow upon the whole of his article and a large question mark over his objectivity. *They are omissions which only readers of Bouw's book would be aware of.*

In view of his deliberate omission of this vital aspect, may I inform your readers of the four experiments that are hardly known by the vast majority of creationists? I give only a brief outline here.

(i) The Michelson-Morley experiment [2]

By passing light between mirrors, it was expected that the 30 km/s motion of the Earth around the Sun would be measured. Instead, they found the speed was virtually zero! This caused deep concern in the scientific establishment, for this clearly indicated the Earth was effectively stationary. The Fitzgerald-Lorentz Contraction was invented to 'explain away' this unwelcome result. Eventually, from this, Einstein produced his paradoxical (!) theory of relativity which was essentially to overcome this whole problem.

(ii) The Sagnac experiment [3]

Sagnac rotated a table carrying a light source, film and mirrors at only 2 revs/s. He detected the movement by the changing interference fringes of the light. This demonstrates an aether exists, which flatly contradicts relativity. Relativists have never adequately explained this experiment and it is hardly ever referred to by university lecturers. More recently, Kantor carried out a similar experiment with the same result. *New Scientist* (**16**:2761, 1962) reporting this said, 'If Einstein's postulate is correct there should be no interference fringes on spinning the disc … Kantor deduces that Einstein's second postulate is incorrect … if there is no alternative for the observed effects, then there is a need to reconsider some basic ideas in physics.'

I am convinced that the VLBI results will be found to be as false as the eclipse experiments,[4,5] the flying clocks experiment[6] and the precession of Mercury's perihelion.[7] I would suggest that before geocentrists are asked to explain the VLBI results, Relativists should explain the Sagnac and Kantor results. It is the aether that provides a framework against which movement can be detected. That is why Einstein was so desperate to get rid of it.

(iii) The Michelson-Gale experiment [8]

Light was passed around a large rectangle of evacuated pipes set out in a field. The 0.46 km/s speed of the rotation of the Earth (at the equator) relative to the aether was measured to within 2% of the known speed. Thus, either the Earth was rotating, or the aether was rotating around the Earth and carrying the heavens with it.

(iv) 'Airy's failure' [9]

To see a star, telescopes have to be tipped very slightly in the direction of travel of the Earth. Airy filled a telescope with water (which slowed down the speed of the light), but no change in the angle of the telescope was needed. This showed that the light was *already* coming in at an angle from the moving star to a stationary telescope, and it was *not* the telescope which was moving.

These summaries are extremely brief and I would not expect readers to fully understand their full implication.

Faulkner's article is about the only serious creationist critique of geocentricity I have read and it is by a qualified professional astronomer. Despite such credentials, I would contend that Faulkner has failed to adequately prove his point of view. Indeed, I would suggest that if this is the best case that critics can muster, then those holding to geocentrism have little to fear.

Geocentrism is not just ignored but attacked with a degree of emotion by those deeply engaged in promoting Creation. This is understandable for, having 'nailed their colours to the mast', they fear the ridicule of their peers and the 'bringing into disrepute the whole of the creation movement'. I am nevertheless convinced that it will become increasingly accepted, albeit slowly, by *ordinary* Christians who are prepared to seriously examine the whole subject. The feedback that I have received from some of those who have read my book certainly indicates this is taking place.

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Danny Faulkner replies:

Thanks to Malcolm Bowden for his letter in response to my paper on geocentrism and to my response to Gerardus Bouw's letter published earlier. Both Bowden and Bouw dismiss my critique of some of the geocentrists' Biblical arguments, but neither man has responded to what I think are very significant points.

For instance, Bouw makes a distinction over the meaning of the English word 'shall' that has no basis. Another example is the distinction that Bouw makes in the words 'establish' and 'stablish', even though the Hebrew does not support that distinction—and it's the original language that matters, not a translation. The fact that geocentrists can completely mishandle something that is so easily checked ought to cause one to question geocentrists' judgments in these sorts of matters.

Bowden asks, 'if God wanted to tell people that the Earth is moving, why did he never refer to this with any clarity?' The answer is in recognizing the leading nature of Bowden's question: apparently God never felt it necessary to tell us that the Earth orbits the Sun.

There are many things about the world that God did not reveal in the Bible, e.g. atomic theory. From a physical standpoint the Bible is neither geocentric nor heliocentric/geokinetic, though theologically and anthropologically it is geocentric. The geocentrists' hyper-literal interpretation of certain Biblical passages is made with sincerity, but misses the mark. Phenomenological usage is not a threat to the Bible, but that is an issue about which we will probably never agree.

Like Bouw, Bowden accuses me of making *ad hominem* attacks. I suspect that neither gentleman really understands what an *ad hominem* attack is. An *ad hominem* attack (from Latin, meaning 'to the person') is an attempt to discredit by bringing up personal information about a person that has no bearing upon the argument. Thus it certainly applies to Bouw's insinuations that Kepler was a murderer, which as I've indicated are so baseless that they would be thrown out of any Western law court by the greenest defence lawyer/attorney.

I used the colorful terms 'trashes', 'blasts', and 'takes a swipe' to describe attacks upon several groups and individuals with whom Bouw obviously disagrees. I could have used very clinical words such as 'critiques' in all those instances, but besides the repetition, the writing would have lacked style. It is a great stretch to conclude that my use of those terms was a personal attack upon Bouw—certainly nothing even remotely approaching his accusations against founding geokineticists. I am very amused that earlier in his letter Bowden accused me of 'sniping from the bushes', which is very similar terminology to Bowden's examples of my alleged *ad hominem* attacks.

In answer to Bowden's question concerning the Earth's motion before the creation of the Sun, I do not know. Was

the Earth orbiting a non-existent Sun? Possibly, though that raises the question of what force would have compelled the Earth to move before the creation of the Sun on the Fourth Day. Could the Earth have been put into motion upon the creation of the Sun as Bowden suggests? That is a possibility as well.

Bowden's criticism of the sudden jolt that the Earth would have received causing all sorts of calamity upon the Earth is baseless. What Bowden has overlooked is that *all* of creation is miraculous. The sudden appearance of matter and energy when the Sun was created is a gross 'violation' of how the world now works (or as C.S. Lewis said more accurately, miracles are *additions* to natural law[1]). It is lame to ignore this fact all the while holding heliocentrists' feet to the fire over the sudden appearance of motion and momentum.

Furthermore, I have been under the impression that geocentrists assume that Newtonian gravity operates in their model. If this is true, then the sudden appearance of the Sun on the fourth day would have had similar effects as in the heliocentric model. For the record, I do agree with Bowden that the Sun was created on the fourth day and that those who posit the Sun's creation on the first day suffer from many problems with the handling of Genesis one.[2]

Also, if anything, the geokinetic model provides a more plausible *mechanism* to answer to the boring old anti-creationist canard 'How could the days be literal before the Sun was created?' This is often raised as if it is news to creationists—despite having been addressed by great theologians such as Basil, Augustine and Calvin centuries ago. But many modern geokinetic creationists have pointed out that the day-night cycle could have been produced if the light created on Day 1 was *directional*, and the Earth was *rotating* from the beginning.[2]

Bowden once again raises the four experiments that geocentrists consistently cite as evidence against the heliocentric theory and/or modern relativity theory. The Fitzgerald-Lorentz contraction was an attempt to explain the result of the Michelson-Morely experiment while salvaging the classical ether. In his special theory of relativity Einstein took the result of the Michelson–Morely experiment at face value and assumed the invariance of the speed of light as a postulate.

Geocentrists must realize that special relativity and geocentricity are only two of many possible explanations for the Michelson-Morely experiment. Why did special relativity come to be so widely accepted? The predictions of special relativity, such as mass increase and time dilation, have been observed in countless experiments. Newtonian mechanics does not anticipate these results, though anti-relativists have managed to modify Newtonian mechanics with backward engineering to mimic these results.

The other three experiments are more obscure, but not totally unknown. For instance, Jenkins and White[3] give a good, if brief, discussion of Airy's 'failure', showing that this is not the destruction of relativity/heliocentric theories that geocentrists would have us believe. The Sagnac and Michelson-Gale experiments are less known, though I did find a mention of the latter.[4] That source indicated no problem with modern relativity theory, making a distinction between translational and rotational motion of the Earth. I suspect that since both the Sagnac and Michelson–Gale experiments involve rotational motion, and hence centripetal acceleration, the special theory of relativity does not apply, since that theory only addresses *inertial* frames of reference. Accelerated frames must be analyzed with *general* relativity. Let me once again repeat my desire for someone who has more expertise in general relativity than I do to write a paper addressing these.

Let me return to the theme of my first paragraph, the matter of trust in the judgment and pronouncements of geocentrists on certain matters. Neither Bowden nor Bouw have responded to my very damning accusation that Bouw misrepresented the eclipse data (mistaking a theoretical curve for a fit to data). However, this did not deter Bowden from repeating the charge that the eclipse data were false and expressing doubt over the validity of the VLBI data. I urge Bowden to examine the VLBI data. Those results are orders of magnitude more precise than the optical eclipse data and give very satisfactory agreement with theory. This is just one example of errors that I discussed in my paper. To be quite blunt, I have found that while geocentrists argue their case with passion, they often do not know what they are talking about.

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Ed.—The subject of geocentricity is now closed. We have received other letters on the same lines as these published here, but we selected the ones by Dr Bouw & Mr Bowden as representative of leading proponents.