

expands, the radius of its surface increases. Newton's equation then says that the value of *a* at the surface would decrease, as my book said. Again, no change of *G* is required.

Moving on to Mr Hunter's 'canopy' comments, I certainly did not mean to imply that the 'waters above the heavens' fell 20 billion light-years to earth to provide water for the Genesis Flood! The exegesis in my book⁵ suggests that the 'waters above the heavens' are not necessarily the same as the 'windows [or floodgates] of the heavens'. As for the latter, note that the order in Genesis 7:11 hints 'the windows of the heavens' may have been **secondary** to the 'fountains of the great deep'. That would leave room for Hunter's alternative 2, that water bursting forth from the 'fountains of the great deep' went into the atmosphere and enshrouded the earth with clouds, thus providing a continuous source of water for the rain falling from the clouds.

If other creationist theorists wish to find other models for the 'windows of the heavens', that is fine with me. But in all our theorizing, let us keep clear in our minds the possible distinctions between different biblical phrases, not allowing them to be inextricably bonded to human theories, such as the 'canopy' model or my cosmology.

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References

1. Humphreys, D.R., 1994. *Starlight and Time*, Master Books, Green Forest, Arkansas, U.S.A. See pp. 33-36. That section is in simplified layman's language; for scientific details one should consult the scientific part, Appendix C.
2. Humphreys, Ref. 1, p. 91 (Appendix C).
3. Humphreys, Ref. 1, p. 105, eq. (12).
4. Humphreys, D.R., 1998. New vistas of space-time rebut the critics. *CEN Tech. J.* 12(2): 195-211. See p. 210, section 12.2 and Fig.12.

5. Humphreys, Ref. 1, p. 62 (Appendix B).

Gospel in the stars

I hope that Danny Faulkner's recent article, 'Is There a Gospel in the Stars?' (*CEN Tech. J.*, 12(2):169-172) will stimulate further research in this area. His article was mainly a critique of books by Joseph Seiss¹ and E.W. Bullinger² on this topic. Among other things, Faulkner cites discrepancies between the star names and meanings given by Seiss and Bullinger and those given by standard secular sources.

A major thesis of Seiss's book is that the original constellations depicted an outline of the work of Christ, the nature of His Church, and the consummation of all things when He returns; and that this outline was known to Noah. Seiss cites as evidence the similarity of the zodiacal constellations across all the major ancient civilizations. He claims, very plausibly, that with time the original meanings became somewhat obscured. In this way, the mythologies of later civilizations, notably the Greeks, would contain both glimpses and also distortions of the constellations' original meanings.

To check Seiss's claims, it would be important to research the most ancient names and given meanings of the stars. It would also be essential to publish the detailed references for the results, which unfortunately were omitted by Seiss. He did cite general references such as writings by the Arab Albumazer over 1000 years ago, a commentary on Albumazer written by the Jewish Aben Ezra, and later writings by French and other sceptics who claimed that the gospel was simply adapted from myths and astronomical lore known to ancient cultures. I would hope that some individuals qualified in Arabic, Hebrew, and ancient Middle Eastern languages could start from these and

then follow the leads back in time as thoroughly as possible.

Meanwhile, as one way to stimulate discussion, consider the major two stars in the constellation Libra: 'Zuben al Shemali' and 'Zuben al Genubi'. In Modern Arabic, as Faulkner points out, these names are understood as the 'northern claw' and the 'southern claw', respectively. They are considered as the claws of Scorpio, the neighboring constellation, and Libra does not even exist as a separate constellation in modern Arab cultures.³ On the other hand, Seiss claims that these names mean, respectively, 'the price which covers', and 'the price deficient', representing the work of Christ as opposed to the efforts of men in redemption. Libra means a scale, or balance, and these two stars appear on the two opposing sides of the scale.

To see if there might be other meanings for these stars in classical Arabic, I consulted the voluminous *Arabic-English Lexicon* by Lane.³ I am not an Arabic scholar, but it appears that in classical Arabic the consonants are most important, since (as in classical Hebrew) most vowels were not usually explicitly written. Evidently *zabuun* is a major word, meaning 'push'. The derivative word *zubaanaa* is applied to the claws of the scorpion, because the scorpion 'pushes' with them.³

However, *zabuun* has other meanings related to purchasing, such as a 'simpleton' or 'fool' who is 'pushed around' and is duped in a sale.³ The most ancient meaning of *zabuun* is apparently related to a Chaldean verb meaning 'to sell'.³ This meaning survives in Hebrew as *zeeben*, and is written similarly to *zaven*, meaning 'to buy'. So, 'price' is not a far-fetched meaning for this root.

Further, *shamaaliy* does mean 'northern' or 'left'. However, some words with the same consonants, such as *shamila*, refer to clothing with which one 'wraps' or 'covers'

oneself.³ Another word with these consonants means 'a state of union or composedness'.

Similarly *Januubiy* means 'southern'. However, several other words with the same consonants generally mean 'side', as in set to one side ('estranged' and 'sent far away', 'remote', 'stranger'), or the part, or portion, of a body or the whole. In particular, *jaanib* means a 'partial amount',⁴ a 'large portion of property' or a 'large sum of money'.³ In the context suggested by Seiss, these last meanings would be especially interesting. After all, man does try to offer God large sums or large gifts to redeem or to obtain ransom for his own or another's soul (see Psalm 49), but these are never enough. Man can offer only a partial amount of that required.

Faulkner also implies that Seiss and Bullinger made an error by applying the meaning 'judge' to the star Deneb, which is located in the tail of the constellation Cygnus (the Swan). It is true that *danab* does mean 'tail', and also 'an appendage', particularly in the sense of political 'adherent' ('follower' or 'henchman'). However, the primary meaning appears to be 'to commit a sin, crime, or offense', or to 'find [someone] guilty of a sin, crime, or offense'.⁴ This last meaning is virtually the same as 'to judge'.

In conclusion, I believe the above examples show that Seiss' given star meanings were, at least, not unfounded in the Arabic root words. The next question is whether he merely went looking for meanings that suited his thesis, or whether these meanings are really the most ancient ones. In the above examples, his meanings do seem to be related to the more ancient or more fundamental meanings of the root words. Again, it is still plausible that the modern meanings for these stars are just the result of time obscuring and modifying what was originally there.

To go further would require a

study of the type I outlined above, and which I sincerely hope somebody will pursue.

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3. Lane, E.W., 1955-56. *An Arabic-English Lexicon*, in 8 parts, Frederick Ungar Publishing Co., New York (reprinted from the original edition by Williams and Northgate, Edinburgh, pp. 1863-1893).
4. Wehr, H. and Milton Cowan, J., 1976. *A Dictionary of Modern Written Arabic*, 3rd Edition, Spoken Language Services Inc., Ithaca, New York.



Danny Faulkner responds:

When my article on the gospel in the stars was published in *CEN Tech J.*, 12(2): 169-172 last year, it was followed by a brief comment by Dr Carl Wieland. In this issue a letter by Dr John Doane is published that

challenges my conclusions as well. I would like to take this opportunity to respond to both of these brief rebuttals. First I would like to thank both of these gentlemen for their kind Christian attitude displayed in their words. It is always enjoyable to have a friendly disagreement over issues.

In previous discussions with others concerning the gospel in the stars, I have encountered a similar approach that Wieland has taken. That approach is to agree that I have made some very good points, but then to suggest that perhaps any issues that I did not directly address may still have some validity. I note that there is no refutation of what I have said, but instead there is an appeal to what may remain of the plausibility of the gospel in the stars argument. The entire argument for the gospel in the stars is one of plausibility, and so the standards of proof or evidence are different those in most other cases. Because there are no Bible passages directly specific to the question, and we lack any relevant early documents, there is no proof or evidence, as those terms are usually understood. I am convinced that relentless discussion of any additional issues raised will eventually erode any plausibility that the case for this argument contains.

While it is true that Psalm 147 and Isaiah 40:26 tell us that God calls the stars by their names, it does not necessarily follow that the names that we have for the stars are the same that God has. I am extremely doubtful of Wieland's statement that 'the stars appear to have had names in antiquity which so often seem to have a connection to the Gospel'. However, I would agree that a number of constellations do bear an uncanny resemblance to gospel types, such as a virgin, a ram, and a bull.

On the other hand, there are many totally inappropriate comparisons made. Examples would be the anachronism of the cross as I discussed, but others that I did not, such as Delphinus, the dolphin,

representing the risen Lord. Besides the dolphin being an unclean animal, dolphins dive and rise again repeatedly, which is not the picture of Christ's death and resurrection. As for the few resemblances that remain, there are several possibilities. It could be coincidence (instead of concentrating on the ones that seem appropriate, examine all the ones that are not). It could be a satanic counterfeit.

Astrology is a religion, and Satan has always fooled people with religions that contain some element of truth. Material by the Jehovah's Witnesses cult claim that the doctrines of the trinity and a man-God were originally pagan ones. Even if their claims on these points were true, they would not detract from the truths of these doctrines as taught in the Bible. As Carl pointed out, I did not discuss anywhere near the total of the star names used by Seiss and Bullinger, but I have checked out many with what is considered the definitive work on the topic, the one by Allen. In nearly every case I found that Allen disagreed with Bullinger and Seiss. Perhaps in a future article I could discuss some of these. I, too, would like to see someone with the knowledge of the ancient languages (Hebrew and Chaldean, for instance) check out the claims of Seiss and Bullinger. Considering the rather sloppy work that I did document, I would be surprised if an objective study of this would verify their claims.

I agree that my statement that Psalm 19 refers to the beauty of the heavens is an inference. Also I see now that my statement may have been too restrictive on this point. If I could change anything in my article, I would change that statement. However, notice that the heavens declare 'God's glory,' not his plan of redemption. While the Psalm does not explicitly state just what property of the heavens declares that glory, I do think that

something akin to its beauty is what is intended. This passage is directly related to Romans 1, which declares that men are without excuse. The proscription there is that the world reveals that there is a God, and that He is very powerful. No other information about redemption is listed there.

Both Doane and Wieland suggested that it would be a good idea for someone with knowledge of the appropriate languages to further investigate the claims made for the gospel in the stars. I agree with that suggestion. Not knowing any modern or ancient Middle Eastern languages, I am obviously not qualified to do this sort of in-depth study.

Apparently Doane has some knowledge of Arabic, or at the very least has familiarity and access to useful lexicons, so I am at some disadvantage on discussing possible meanings. Doane offered possible alternate meanings of the names of 'Zuben al Shemali', Zuben al Genubi', and 'Deneb' that could support the meanings supplied by Bullinger and Seiss. However I note that while Doane is very cautious in his assertions and acknowledges alternate meanings, this was not the approach of Bullinger and Seiss. Those authors blithely asserted their meanings without caution. That is poor scholarship in my estimation. This sloppy work really becomes suspect when the truly egregious examples are examined. These would include the mishandling of Crux and the star names 'Svalican' and 'Rotanev', as discussed in my article.

I find it interesting that neither Wieland nor Doane challenged my theological comments, such as the fact that not even the demons knew of God's plan of redemption. I think that approach is the most sobering in this discussion. In the conclusion of my paper I listed several biblical problems with the gospel in the stars. As of yet no one has challenged

those. All the factual errors that we have discussed pale in comparison to these.

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Instrumentalism, mathematics and science

Stephen Ferguson's paper¹ gives the impression that mathematical objects are an impenetrable mystery, or at least something that requires many years of philosophical learning even to qualify to talk about. It's a profound mystery then that mathematicians manage to do mathematics, and that for that matter mathematics teachers manage to teach mathematics, quite oblivious to the apparent philosophical conundrums.

The same mystery applies with science. Philosophical disputes² but science and science teaching, like their mathematical cousins, carry on regardless. So what's the catch?

My paper³ provides, I would assert, the solution to the mystery. Scientific and mathematical knowledge are *instrumental*. This means that the objects of science and mathematics (e.g. atoms and numbers) are instruments for doing things to the world, not pre-existing objects (like rocks or people). In other words, atoms or numbers are the same sorts of things as spades, microscopes or maps. They are *artefacts*, not facts. They are invented (like the electric light bulb), not discovered (like the Great South Land).

Before I show how an 'instrumentalist' view solves the mystery, let me clear up some bad press for instrumentalism that appears in Ferguson's article. He writes: