

late in the Flood. There are other indications of water deposition. The top of the Palouse Formation could have been reworked by Ice Age winds to bury Ice Age animals. So, the top of the Palouse Formation would really be loess, reworked from late Flood silt, during the Ice Age and afterwards. The wind regularly causes blowing dust in the area today.

In regard to sheet flow transforming gradually into channelized flow, I agree with Mr Hunter that elevation and topography would be among the many variables. Other variables would include tectonics and water velocity. The transformation would occur quicker at present-day high altitudes than at present-day low altitudes. In my article, I was simply averaging for the whole earth for the entire 221-day period of runoff.

Now in regard to some of Mr. Hunter's ideas on the pre-Flood/Flood boundary and Flood events, I have a different view. I don't believe anyone can be dogmatic as to when the Flood peaked.<sup>7</sup> In fact, in the last International Conference on Creationism, one paper made a good case that the Ark did not start floating until Day 40 and that the water kept rising until Day 150.<sup>8</sup>

I really don't understand the idea that the Flood was 5,172 m above present sea level between Day 40 and 150, and that the water level would drop an average of 23 m/day after Day 150. Sea level depends upon the bottom topography and other variables. Even if the topography of the earth were flat, the floodwater would be only about 3,000 m deep, much less than 5,172 m. If the upper crust of the earth were hot and the rock much expanded at Day 150, maybe the level of the ocean would be 5,172 m above the current sea level with respect to the center of the earth. But if the bottom were flat, where would the grounding of the Ark on the 'mountains of Ararat' on Day 150 fit into this idea? Furthermore, if the bottom basalt was hot, the ocean water would likely be much too hot for marine life.

I would agree that on Day 371, the water would be near the present sea level, although there would be unique

variables that could cause sea level to be either higher or lower than today.

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## WMAP 'noisy' data?

Observations of the cosmic microwave background radiation (CMB), despite the weak nature of the signal, have been used to make bold claims about the truth and details of the big bang cosmological model. Not surprisingly, the standard interpretations of these observations are a common target of attack from those who question the big bang. Hartnett<sup>1</sup> recently presented a précis of one such critique, that by Pierre-Marie Robitaille of Ohio State University,

which questioned whether data from WMAP (the Wilkinson Microwave Anisotropy Probe) can be used to make any claims about cosmology.

Care should be taken when dealing with critiques of this nature; certainly we should refrain from hasty triumphalism ('No proof for big bang'). We should of course be prepared to consider all claims on their own merit, but in this case there are signs that special caution should be exercised. First, the results are not published in a reputable journal, as Hartnett rightly pointed out. Secondly, the author (Robitaille) doesn't understand what cosmologists mean by a 'flat' model of the universe, so clearly he is no expert in cosmology.<sup>2,3</sup> Thirdly, the author has strange ideas about the multipole expansion of the CMB, thinking that the signal averaged over all directions (known as the monopole) can have an independent physical origin from the deviations from this average signal (represented by the higher multipoles, such as the dipole, quadrupole and octopole). Fourthly, the author has the extraordinary belief that the microwave background, which is 'one of the most perfect blackbody spectra ever to be measured',<sup>4</sup> originates from the oceans, which (he claims) radiate with an apparent characteristic temperature of less than 3 K.<sup>5</sup> Fifthly, he has an *a priori* assumption that this signal from the oceans (the 'Earth Microwave Background'<sup>6</sup>) should be seen to have precisely the same temperature in all directions, so that even deviations as small as one part in 100,000 are considered to originate from a different (extra-terrestrial) source (these deviations show up in the higher multipoles, but are not seen when the signal is averaged to produce the monopole). And, sixthly, it is no surprise if WMAP fails normal radiological standards—this is precisely why it has taken so much money and effort to analyse the WMAP data!

It is true that the above points do not prove that Robitaille has no valid arguments, but they should make us tread carefully. I would urge

creationists to be on the lookout for critiques of the established scientific paradigm, but we must be careful not to 'grasp at straws' by treating every critique as though it constituted definitive 'proof'.

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## Biblical chronology—our times are in his hands

In Mike Viccary's article, 'Biblical chronology—our times are in his hands' (*Journal of Creation* 21(1):62–66, 2007), he defends the accuracy of the biblical data but uses the unbiblical date of 1446 BC for the Exodus. This date is the result of the work of Edwin Thiele who's revised chronology, which is based on his understanding of Assyrian chronology, does violence to the biblical data. His work *The Mysterious Numbers of the Hebrew Kings*, is the basis for much misinformation about biblical chronology for the past 50 years. In Viccary's footnote to substantiate this

date, he cites the charts of Whitcomb who uncritically accepted Thiele's work. In the same footnote he cites the works of Ussher in Latin, which very few people have access to, and the works of Dr. Jones.

Why not cite the updated edition which is readily available? In that edition of the works of Ussher, I go to great pains to show the folly of trusting the works of Thiele. See appendices C, D and E. Likewise, Dr Jones devotes almost a third of his book on chronology to showing the errors of Thiele. I challenge anyone to use the biblical data and arrive at a date of 1446 BC for the Exodus. It is impossible to do without seriously compromising the Scriptures as Thiele did. Even Dr Les McFall, who has taken over from Thiele, could not find an error in the appendix C charts in Ussher, which in themselves thoroughly refute Thiele's chronology.

Writers on chronology should be more careful with the details. Viccary's mistake mars an otherwise good article.

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### Mike Viccary replies:

I want to thank Larry Pierce for drawing my attention to the difficulties of matching the continuous chronology of Scripture with modern dates. At some point we do have to connect the biblical dates post Creation with our calendar AD. My single aim in the article (which was a small part of an original longer piece) was to show that the Bible is sufficient, consistent and accurate, particularly with reference to the chronology in the Pentateuch. Having only recently read Appendix C of the updated edition referred to by Pierce, I note that Ussher uses the 'terminal date' of 562 BC taken from Ptolemy's king lists. There may well be good reasons for using this rather than an Assyrian connection, but the point remains we do have to locate the

perfect, accurate timeline revealed in God's word with some modern date. As I understand it, my date for creation is 45 years earlier than Ussher's. Taking Ussher's view of the king lists this would date the Exodus at 1491 BC rather than 1446 BC.

To conclude, I am grateful for being directed to a work which takes seriously the Scriptures as our sole authority. I heartily endorse this starting point. Assuming that Ussher's view of the king lists to be correct, we still have the problem of deciding how to connect the Bible's timeline to our reference points. It would seem that at least part of the difference in the timelines may result from how we connect to modern dates, and not on how we view the Scriptures. Whilst the Bible always remains true and accurate, we are still at the mercy of secular (or extra-biblical) testimony to make that link. However, it occurs to me that if the Bible has an unbroken chronology up until Daniel's prophecy of Daniel 9:24–27, we thence have an unbroken link right up to the death of Christ.

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## The problems of traditional chronology

I read David Down's book review, 'The problems of traditional chronology' in issue 21(2):44–47, 2007, concerning the recent book, *David and Solomon: In Search of the Bible's Sacred Kings and the Roots of the Western Tradition*, by Finkelstein and Silberman. The quotations David provides from the book on page 45 illustrate what many secular archaeologists think about Old Testament history: the Old Testament is largely a collection of oral legends and myths before the 8th century BC, the stories recorded centuries after the