

Precambrian geology and the Bible, no dissonance or contradiction

Harry Dickens and Andrew A. Snelling

The presentation of a controversial viewpoint ('Precambrian geology and the Bible: a harmony', *Journal of Creation* 22(1), pp. 65–71, 2008) was always going to make some 'strongly disagree'! In fact, the responses to our viewpoint from Messrs. Froede, Reed, Oard and Hunter were to be expected.

Inorganic versus organic origins

We fail to see the problem with a finite, fallible scientist changing his mind about his earlier views based on his further studies of the rock record. What is far more important is that his view of Scripture as our absolute authority has not changed. Perhaps one of the key issues needing to be resolved in the Precambrian is the status of stromatolites, whether all are inorganic constructions, or whether some are biological constructions like their living counterparts today? Similarly, we need to resolve whether the organic carbon found in the Precambrian sedimentary record does represent plant material and of what sort. Since bacteria and algae are not the same as vascular land plants referred to on Day 3 in Genesis 1, it is not entirely clear from Scripture as to when they were created. So the dogma, that all equivocal organic carbon in Precambrian sedimentary rocks automatically classifies them as having been Flood-deposited, is definitely ill-founded and thus not acceptable.

Mappable sequences

Froede, Reed and Oard seem unaware of the literal Precambrian rock record that can be walked over and observed in the field. For example, the sobering reality of the immensity of the literal Precambrian rock record would become overwhelmingly apparent to them if they would walk over the 22 miles (35 km) thickness of sedimentary strata that have accumulated in the Hamersley and Bangemall Basins overlying the North Pilbara Terrane of Western Australia.^{1,2} Included in this strata record are banded iron formations that are enormous compared to the relatively insignificant Pikes Peak Iron Formation of Arizona, and include one iron-rich band only inches thick that can be literally traced continuously for 100 miles (160 km). These realities are a far cry from the comments of Reed and Oard regarding edicts of the ICS (International Commission on Stratigraphy). Surprising as it may seem to Reed and Oard, the literal rock record in the Precambrian does contain key lithologic features.

Relative ages

The issue of time seems to be a problem for Reed, Oard and Froede. We are, however, not bothered by uniformitarian time designations or claimed radiometric ages, as we have already clearly stated. There is no clear contradiction in our previous writings on this subject as claimed by these gentlemen. To be sure, there are demonstrable problems with the radioactive dating methods, and there are anomalous 'dates', but what Froede has failed to see is that even though three different methods gave different ages for the Brahma Amphibolites in the Grand Canyon, all the radioisotope 'ages' were still Precambrian, which matches their relative level in the strata record below the Cambrian (a termed used as a label only) Tapeats Sandstone.³ This is what we meant by relative ages. Indeed, it was only because we used labels such as 'Precambrian', 'Proterozoic', 'Archean' etc. that our creationist colleagues understood which rocks we were talking about. This is no sell-out to naturalism. It is also clear that Reed and Oard misrepresent us by accusing us of an apparent timing error with respect to the North American Midcontinent Rift System, the uniformitarian date for which we did not state in our Viewpoint.

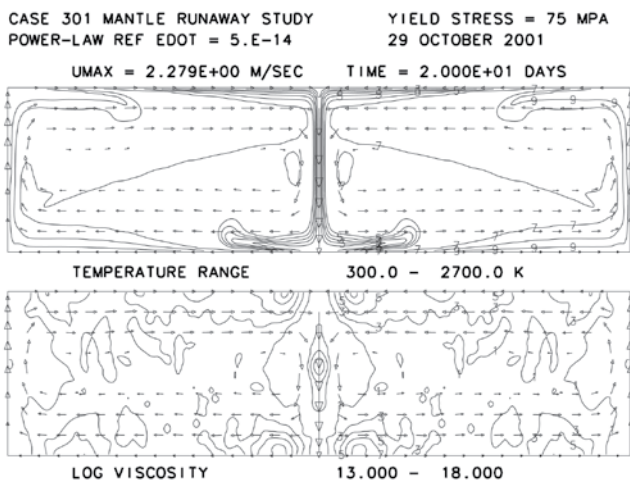
Harmonisation of the Bible and geology

The contradiction by Reed and Oard is apparent when they claim: 'It makes more sense to bring the continents up from the seas as coherent masses, rather than a succession of accreted belts and cores', followed by 'if our present geologic understanding can discern those details of divine creation.' Although the latter part of that sentence is correct, we are not in any way suggesting the present is the key to the past. We don't use our knowledge of barley growing, flour making and dough baking to explain how Jesus instantly created bread to feed thousands of people. Why should Reed and Oard then balk at the Midcontinent Rift System forming in a day or less with the processes God used in His creative activity? However, whereas Jesus created this bread instantly all at once ready to eat, when He created the earth He fashioned and prepared it to be man's home over a period of six days with a sequence of creative events. Thus we don't find it difficult to attempt a harmonization of the observable rock record and the apparent rock sequences within it with the biblical account of Earth history.

Catastrophic plate tectonics

Froede and Reed assert that those who propose the catastrophic plate tectonics model for the Flood must respond

to *their* apparent criticisms of that model. It's baffling to us how they and others can repeatedly misrepresent and misunderstand the details of the catastrophic plate tectonics model, and then expect proponents of that model to answer their criticisms of their strawman. Furthermore, they and the others have not yet offered any viable alternative. Oard has suggested vertical tectonics during the Flood, but has never presented a viable model that can explain the correlation of identical thick sequences of basalt lava flows thousands of miles apart on either side of the Atlantic Ocean! Furthermore, we have searched the original paper presenting the catastrophic plate tectonic model and nowhere do we find any reference to the supercontinent configuration at the beginning of the Flood being that of Pangaea.⁴ Clearly, Reed and Oard make claims for the catastrophic plate tectonics model that proponents of the model have not made. The same error has led to Froede's stated confusion.



Courtesy John Baumgardner

Snapshot from catastrophic plate tectonics simulation.

Age dating

Froede apparently has not read the RATE book, volume 2,⁵ for otherwise he would not assert that the 'proposal to follow the "relative age" defined by radiometric age-dating methods runs counter to recent young-earth creationist publications which clearly state otherwise'! As one of the authors of that volume, I (AAS) clearly remember writing about radiometric ages as potentially being relative, a concept graphically illustrated by Humphreys in his chapter in RATE volume 1,⁶ and confirmed by fission track data in RATE volume 2. Indeed, this concept of relative ages is the logical consequence of episodes of accelerated nuclear decay.

Validity of mappable rock units

Mr Froede's statement that our proposal is a significant step backward is indeed unfortunate. We consider Froede's statement of being 'too favourable to naturalism' unhelpful.

Yet it was Reed and Froede who wrote: 'A moment's reflection allows one to remember that logical invalidity trumps empirical data or utilitarian practicality.'⁷ We are still trying to understand what this statement actually means. The context in which it was written would seem to imply that because the uniformitarian/evolutionary interpretation of the rock record with its various labels for different relative levels within that record is deemed by them to be logically invalid, then the empirical, observable, literal rock units of that rock record are 'trumped'! In other words, Reed and Froede seem to be saying that because they deem logically invalid the various uniformitarian/evolutionary labels given to observable, mappable rock units, accepting the latter as literal is also invalid! How is it then that we can literally trace the physical extent of the Tapeats Sandstone and equivalent sandstone units right across North America, and higher up in the Grand Canyon sequence we can literally trace the observable Redwall Limestone and equivalent limestones at the same relative level right across North America? Why should this powerful evidence for the Flood (rock layers that stretch right across continents deposited by ocean waters that flowed over the continents) be rejected simply because the relative levels of these rock units in the strata record have been labelled 'Cambrian' and 'Mississippian' respectively? Whose logic is invalid?

Aim for harmony

In our paper we only state that we aim, rather than claim, to harmonize the Precambrian geological record with the biblical record, so what we proposed are some tentative ideas on how Precambrian geology might be reconciled with the biblical account of Creation and the Flood. We are therefore pleased that Froede, although disagreeing with us, encourages us to further develop our proposal, even on the basis of radiometric dates being relative (we are all agreed that they are definitely not absolute). However, what Reed, Oard and Froede refuse to accept is that the Precambrian rock record does consist of observable, mappable rock units. Indeed, it is all too easy for them to be critical of us accepting that these literal rock units are found in sequences that may be walked over in the field, but as far as we are aware they have yet to make any attempt to provide an alternative explanation for how these mappable sequences may be understood within a young-earth creationist framework.

Order in the rock record

But the earth is the Lord's, so why the fear of recognising that the order in the rock record has been put there by God during His sequence of creative acts recorded in Genesis 1? That's why we aren't surprised that in the observable sequences of mappable rock units there are significant patterns that would seem to relate to God's creative work in designing the earth as man's home. For example, komatiites (high magnesium basalts) and granite-greenstone belts are characteristic of the so-called Archaean at the base

of these rock sequences. Thus in Western Australia the Pilbara Craton consists of an Archaean granite-greenstone terrane overlain by the sedimentary and volcanic rocks of the Hamersley Basin, which are in turn overlain by the sedimentary rock layers of the Bangemall Basin. This same pattern is found in comparable rock sequences on other continents, such as in southern Africa and Canada.^{8,9}

Creation Week versus the Flood

Hunter raises the objection that raindrop imprints in sedimentary rocks in southern Africa must only be consistent with them having been deposited during the Flood. However, it should first be noted that they are only interpreted as fossilized raindrop imprints, an interpretation that is by no means certain. Second, the Scriptures only assert that there had been no rain on the earth before man was there to work the ground (Genesis 2:5–6), so this does not preclude rain having fallen before the Flood. Furthermore, in spite of Hunter's untenable view that most of these Precambrian rocks were formed during the Flood, like most others we maintain that the wholesale destruction of plants would not have occurred until the Flood because rapid burial is required, so therefore we expect that the sediments in which widespread plant fossils are found are Flood-deposited sediments. We do not see such rock units with widespread fossil plants until the so-called Palaeozoic, well above these Precambrian rock units. Nevertheless, because plants were created on Day 3, and bacteria then or maybe even earlier on Day 2 (on which subject the Scriptures are silent), where we do find kerogen representing organic carbon in Precambrian rock units, such as in the South African Witwatersrand Group, the sparseness and microscopic nature of this organic carbon can only be consistent with deposition of those sediments late in the Creation Week or in the pre-Flood era, the position we adopted in our paper.

Valid stratigraphy

We would again reject the assertion by Reed and Oard that the acceptance of the valid empirical stratigraphy of the Precambrian sequences of mappable rock units is in any way bound in chains to naturalism. Such claims are illogical when these rock sequences can be examined in detail in the field, the very raw data and valid empiricism Reed and Oard insist on! This philosophising by Reed and Oard is nothing more than trying to frighten creation geologists into thinking that acceptance of these literal sequences of observable, mappable rock units is tantamount to accepting uniformitarianism and naturalism, when it is emphatically not. Such scare tactics will only impede the development of creationist understanding of the raw data of Precambrian geology in terms of the biblical record. After all, why should we need to 'rebuild the house' when God has already built these rock sequences during His work of the Creation Week? We cannot understand how Reed, Oard and Froede

can possibly deny God the ability to successively create the granite-greenstone terrain of the Pilbara, for example, with the 22 miles (35 km) thickness of sedimentary and volcanic rocks overlying it in the Hamersley and Bangemall Basins within a day or two during the Creation Week.

Pre-Flood versus Flood

Space does not permit us to comment in detail on every point raised by our detractors. However, we would point to an inconsistency in a dangerous precedent set by Oard and Froede using flawed criteria to place the pre-Flood/Flood boundary lower in the strata record of Grand Canyon.¹⁰ Parenthetically, we note that, in describing the empirical stratigraphy of Grand Canyon, Oard and Froede also still use the uniformitarian/evolutionary labels, so who is being inconsistent or being too favourable to naturalism? However, the point we make is that if the criteria they have used to place the pre-Flood/Flood boundary down at the level of the top of the crystalline basement rocks within Grand Canyon are used in Western Australia, then they would have to set the beginning of the Flood at the boundary between the North Pilbara Terrane and the sedimentary and volcanic rock units of the Hamersley and Bangemall Basins. Unfortunately for Oard and Froede, this then creates two further problems for them. First, if they thought that they were thus assigning all Precambrian sedimentary rock units to the Flood, then they still have to account for the sedimentary rock units within the greenstone belts of the North Pilbara Terrane. Second, they have transferred 22 miles (35 km) thickness of sedimentary rocks into the beginning of the Flood, all of which have to be deposited *before* any of the animals on the pre-Flood ocean floor were swept away and buried by the Flood waters. Yet the biblical account of the Flood indicates that this catastrophe *began* in the ocean basins with the fountains of the great deep breaking up (Genesis 7:11), so marine life would have been *immediately* swept away and buried. We would insist it is far more reasonable, therefore, to assign these huge stacked thicknesses of mappable sedimentary and volcanic rock units to the creative handiwork of God during the Creation Week when on Day 3 He was creating continental crust to provide dry land.

Conclusion

We would commend to readers the tentative model presented in our Viewpoint paper as merely a start in the process of understanding the earth's Precambrian rock record within the biblical framework of Earth history. Restricted space limitations did not allow us to fully develop our tentative model in the Journal pages allocated to us, yet the outline sketch we provided is a sufficient basis for further description and development of a creationist understanding based on the raw data of the empirical stratigraphy stripped of the uniformitarian absolute timescale imposed on it. We expected detractors, but we didn't expect to be

totally misunderstood when we clearly based our model on the observable, mappable rock layer sequences we are familiar with in the field. We would therefore challenge our detractors to go and see the evidence for themselves instead of criticising us for contradictions, dissonance and being too favourable to naturalism.

References

1. Goode, A.D.T., Proterozoic geology of Western Australia; in: Hunter, D.R. (Ed.), *Precambrian of the Southern Hemisphere*, Elsevier, pp. 105–203, 1981.
2. Trendall, A.F., The Hamersley Basin; in: Trendall, A.F. and Morris, R.C. (Eds.), *Iron-Formation: Facts and Problems*, Elsevier, pp. 69–129, 1983.
3. Snelling, A.A., The significance of highly discordant radioisotope dates for Precambrian amphibolites in Grand Canyon, USA; in: Snelling, A.A. (Ed.), *Proceedings of the Sixth International Conference on Creationism*, Creation Science Fellowship, Pittsburgh, PA, and Institute for Creation Research, Dallas, TX, pp. 407–424, 2008.
4. Austin, S.A., Baumgardner, J.R., Humphreys, D.R., Snelling, A.A., Vardiman, L. and Wise, K.P., Catastrophic plate tectonics: A global Flood model of earth history; in: Walsh, R.E. (Ed.), *Proceedings of the Third International Conference on Creationism*, Creation Science Fellowship, Pittsburgh, PA, pp. 609–621, 1994.
5. Vardiman, L., Snelling, A.A. and Chaffin, E.F. (Eds.), *Radioisotopes and the Age of the Earth: Results of a Young-Earth Creationist Research Initiative*, Institute for Creation Research, El Cajon, CA, and Creation Research Society, Chino Valley, AZ, 2005.
6. Vardiman, L., Snelling, A.A. and Chaffin, E.F. (Eds.), *Radioisotopes and the Age of the Earth: A Young-Earth Creationist Initiative*, Institute for Creation Research, El Cajon, CA, and Creation Research Society, St Joseph, MO, 2000.
7. Reed, J.K., Klevberg, P. and Froede Jr, C.R., Interpreting the rock record without the uniformitarian geologic column; in: Reed, J.K. and Oard, M.J. (Eds.), *The Geologic Column: Perspectives within Diluvial Geology*, Creation Research Society, Chino Valley, AZ, pp. 123–143, 2006; p. 139.
8. Hunter, D.R. (Ed.), *Precambrian of the Southern Hemisphere*, Elsevier, 1981.
9. Eriksson, P.G., Altermann, W., Nelson, D.R., Mueller, W.U. and Catuneanu, O. (Eds.), *The Precambrian Earth: Tempos and Events*, Elsevier, 2004.
10. Oard, M.J. and Froede, C.R. Jr., Where is the pre-Flood/Flood boundary? *Creation Research Society Quarterly* 45:24–39, 2008.

Carl Froede Jr has been active in creation geology since 1988. He has a Bachelor of Science in geology from the University of South Alabama and his geological career has encompassed a wide range of activities. These include oil and gas exploration, public health related soil analysis, groundwater aquifer containment, underground waste management and groundwater modelling. At present he is employed as a professional geologist with the US Government Environmental Protection Agency dealing with geological aspects of waste disposal.

John Reed earned a Ph.D. in geology and worked for over 20 years in industry and academia. He is on the board of the Creation Research Society and is the geology editor for the *Creation Research Society Quarterly*. Dr Reed has written or edited five books and numerous articles, and is committed to the approach outlined in this paper.

Michael Oard has an M.S. in atmospheric science from the University of Washington and is now retired after working as a meteorologist with the US National Weather Service in Montana for 30 years. He is the author of the monographs *An Ice Age Caused by the Genesis Flood*, *Ancient Ice Ages or Gigantic Submarine Landslides?* and *Frozen in Time*. He serves on the board of the Creation Research Society.

Harry Dickens (pseudonym) is working as a geologist for a government department in Australia. He has university qualifications in geology and geophysics, and has worked in both mineral and petroleum exploration. For a number of years, he has been interested in harmonising the geological and biblical records.

Andrew A. Snelling is the Director of Research at Answers in Genesis in Northern Kentucky, near Cincinnati, but resides in Brisbane, Australia. He has a B.Sc. with first class honours in geology from the University of NSW, and a Ph.D. in geology from the University of Sydney. He worked for many years in mineral exploration and field research. For 24 years he has been involved in full-time research, writing and speaking on understanding the world's geology within the Creation and Flood framework of the Bible.

M.J. Hunter has a Fellowship Diploma in geology from the Royal Melbourne Institute of Technology and has worked in the mineral exploration industry for 27 years. He is currently based in Charters Towers, Central Queensland, Australia, where he is employed as a laboratory assistant.
