

I do not want to malign the good intentions of those with a reconstructed biblical approach. However, I consider that much valuable work has already been done in mapping lithological sequences around the globe. There is a need to keep the baby and throw out the bath water:

The baby is the *observable*, mappable, correlatable order of stratigraphic successions with their characteristic fossils, lithologies, chemical signatures, and consistent pattern and order of isotopic ratios.

The bathwater is the *interpreted* long ages and molecules-to-man evolution.

Order in the rock record has been put there by God during His sequence of creative acts recorded in the Bible. [Not just Genesis 1 but chapter 7, 2 Peter 3 etc.] In stratigraphy there are significant patterns that can be related to God's creative work in designing the earth as man's home. As with many scientific datasets there may be some anomalous values. However, not using relative patterns in radiometric dates that reflect stratigraphic order, may be considered 'throwing the baby out with the bathwater'. The stratigraphic and isotopic order in the rocks is important evidence.

Neither uniformitarianism nor naturalism

With due respect to Froede, the 2008 work by Dickens and Snelling⁵ was definitely not uniformitarian in terms of rapidity of processes, including radiometric decay. A number of tectonic events (e.g. global rifting) and lithologic types (e.g. komatiites and BIFs) described and inferred environments (global oceans in early Creation Week and early Flood) are not uniformitarian and not occurring today.

A profound episodicity (episodicity is not uniformitarian!) exists in global Precambrian rock radiometric dates.⁶ The deformation age distribution of greenstone belts (most abundant

at 2.70, 1.85, 1.05, and 0.60 Ga) is broadly similar to the age distribution of Precambrian granites and detrital zircons.³ Heating events can reset radiometric dates to lower values.^{7,8} There are regional patterns in radiometric dates that can be related to different Precambrian geological provinces.

Naturalism excludes the Bible. When God created, He brought order to the universe even in atoms and continents, for God is not the author of confusion (1 Corinthians 14:33). Thus there should be harmony between God's Word and His Creation. Despite the complexity, we should not discount the order in observable, mappable Precambrian geology and associated measurable isotopic and chemical trends. Correlating such trends and patterns with God's Word is not naturalism.

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References

1. Bayley, R.W. and James, H.L., Precambrian iron formations of the United States, *Economic Geology* **68**:934–959, 1973.
2. Dickens, H., The 'Great Unconformity' and associated geochemical evidence for Noahic Flood erosion, *J. Creation* **30**(1):8–10, 2016.
3. Bradley, D.C., Secular trends in the geologic record and the supercontinent cycle, *Earth-Science Reviews* **108**:16–33, 2011.
4. Peters, S.E. and Gaines, R.R., Formation of the 'Great Unconformity' as a trigger for the Cambrian explosion, *Nature* **48**(4):363–366, 2012.
5. Dickens, H. and Snelling, A.A., Precambrian geology and the Bible: A harmony, *J. Creation* **22**(1): 65–72, 2008.
6. O'Neill, C., Lenardic, A., and Condie, K.C., Earth's punctuated tectonic evolution: cause and effect; in: Roberts, N.M.W., van Kranendonk, M., Parman, S., Shirey, S., and Clift, P.D. (Eds), *Continent Formation Through Time*, Geological Society, London, Special Publications, p. 389, 2013.
7. Harley, S.L., Kelly, N.M., and Moller, A., Zircon behaviour and the thermal histories of mountain chains, *Elements* **3**:25–30, 2007.
8. Nyquist, D.D., Bogard, D.D., Garrison, D.H., Bansal, B.M., Wiesmann, H., and Shih, C-Y., Thermal resetting of radiometric ages. II: Modeling and applications, *Abstracts of the Lunar and Planetary Conference* **22**:987, 1991.

Pluto's moons or satellites?

I thank Dr Faulkner for his informative letter¹ commenting on Dr Hartnett's perspective,² and his concern for precision in terminology.

All the same, Dr Hartnett was hardly being unreasonable in referring to the 'moons' of Pluto instead of 'satellites'. After all, the *New Horizons* space probe that explored Pluto was launched by NASA, and the *NASA website itself* has a page called "Pluto: Moons".³ If it's okay for NASA, then surely it should be okay for Hartnett. And his first two sources referred to Pluto's "moons" in their titles, as does a paper in *Nature*.⁴

Also, the phrase "Galilean Moons of Jupiter" has been accepted parlance for centuries, even in modern astronomy journals. So it would seem that 'moon' and 'satellite' are approximate synonyms, and both acceptable. However, while there are artificial satellites, there are no artificial moons!

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References

1. Faulkner D., Even more surprises with Pluto's satellites, *J. Creation* **31**(2):52, 2017.
2. Hartnett, J.G., Pluto's moons a big surprise, *J. Creation* **30**(2):8–9, 2016.
3. solarsystem.nasa.gov/planets/pluto/moons, accessed 28 July 2017.
4. Showalter, M.R. and Hamilton, D.P., Resonant interactions and chaotic rotation of Pluto's small moons, *Nature* **522**(7554):45–49, 3 June 2015 | doi:10.1038/nature14469.