

Worldviews, logic, and earth's age—part 1

John K. Reed and Shaun Doyle

Despite claims of contemporary Christian scholars, logic demonstrates that an old earth is inextricably intertwined with the Enlightenment worldview of naturalism. Since Christianity and naturalism are fundamentally at odds, the contrary is also true; belief in an old earth is *inconsistent* with Christianity—a point reinforced by its own logic. Any proposed rationale for integrating the old-earth paradigm with Christianity must overcome this relationship between the old-earth paradigm and the two worldviews.

Since the late 18th century, many Christian academics and theologians have embraced an old earth,¹ claiming that it is compatible with Christianity.² Even conservative Christian scholars have been swept along.³ They think deep time and Christianity are like Romeo and Juliet—lovers fated to be together. The process has become predictable; scientists advance the latest iteration of the old-earth paradigm using ‘scientific evidence’^{4–6} and theologians follow meekly, generating new interpretations of Genesis to accommodate it.^{7–9}

These theologians and academics argue that: 1) Christianity is perfectly compatible with an old earth,^{10,11} and 2) biblical creationists are a danger to the church, since they make Christians the enemies of science and rationality.^{4,12} Their actual arguments for an old earth are typically rehashed secularism, empiricism, and heavy on scientific authoritarianism.⁶

We believe that the old-earth paradigm is wrong, and that a new line of argument is warranted for the sake of Christians who feel trapped by ‘scientific evidence’. Science, the child of Christianity, is a valuable source of knowledge. But when it is distorted in the service of naturalism,^{13,14} we must undo the distortions to restore its intrinsic value. But in this specific argument, logic offers greater certainty than science. When we examine the issue using logic from the perspective of competing worldviews, the Christian case for an old earth is severely weakened by virtue of its compatibility with naturalism and its incompatibility with Christianity. If logic links the old earth to naturalism, fundamental loyalties require all Christians to abandon it.

Argument from logic

Logic demonstrates that naturalism is the home of the old-earth paradigm. This conclusion rests on: (1) the internal logic of both worldviews and (2) their incompatibility. This logic is reinforced by Christian old-earth proponents arguing for a mere *compatibility* with their worldview rather than its natural *consistency*, their inability to place science and history in a proper context, and surrender to the false idea of a presuppositional unity between science and naturalism.¹⁵

Positive internal logic: old earth fits naturalism

A positive internal logic of both worldviews links naturalism to the old-earth paradigm (figure 1). Although worldviews have many facets, three are essential for this discussion: metaphysics, epistemology, and philosophy of history (figure 2).

Our cosmos’s past rests on the nature of reality. Naturalism proposes that ultimate reality is some form of eternal matter/energy containing an inherent tendency towards evolutionary self-organization (figure 3A). There is a link between this metaphysical materialism and epistemological positivism. If reality is only matter and energy, then knowledge of it is best supplied by science (figure 3B). History is then the scientific understanding of materialistic evolution (figure 3C), requiring an absolute uniformity inherent to nature. An absolute materialism combined with an absolute uniformity implies an eternal universe.¹⁶ But the current trend of entropy can only be extrapolated back so far; therefore the cosmos is not eternal. Thus materialism and/or uniformity are not absolute.¹⁷ Even secular scientists insist on a cosmic beginning. If matter is self-evolving, estimates of the time needed for evolution run in the billions of years. The logical links between these propositions are self-evident, internally consistent, and completely contrary to Christianity.

Since naturalism’s philosophy of history requires the best possible *scientific* extrapolation back in time, uniformity is assumed,^{18,19} which includes a strict *uniformitarianism*, because a positivistic epistemology must establish an absolute chronology²⁰ using the ‘clocks’ found in the rock and fossil records. This explains the vigor of the past conflict (red herring though it was) between ‘uniformitarianism’ and ‘catastrophism’.

Uniformitarianism is also the basis for the geologic timescale, which ‘proves’ deep time. The strength of the link between deep time and naturalism is illustrated by the singular lack of effect on the timescale by the modern revival of catastrophism.²¹ The geologic timescale remains the accepted convention, with the same basic event sequence,²² although its methods of telling time have evolved.

Biostratigraphy, radiometric dating, cyclostratigraphy, and magnetostratigraphy (and others) have replaced the original geologic processes (e.g. erosion, the sedimentary record, volcanism^{23–25}) first used as ‘clocks’. Even catastrophic geologic processes do not affect deep time. The uneasy relationship between uniformitarianism and catastrophism remains muddled, because few geologists understand the *philosophical* nature of uniformity in their view of history.

Uniformitarianism further strengthens the ties between an old earth and naturalism, since the features of earth’s crust require either a short, intense, convulsive history or an extended one marked by low-energy processes operating with metronomic regularity (figure 4). Opting for the latter, deep time is a part of naturalism.

Finally, uniformitarianism links deep time to naturalism by filling the gaps that mark so much of the rock record.²⁶ The physical rock record is anemic relative to the time demanded by geologists, but it is the primary physical evidence of the past, and positivism requires *physical* evidence. It is like having a book with most of the pages missing; we are hard pressed to follow the story, unless, and only unless, those pages are irrelevant or repetitive. Since relevance cannot be discerned, then repetition is required. And if a *strict* repetition is precluded by the necessity of evolution, then at least the strong similarity engendered by a progressive uniformitarian history will allow confident extrapolation across those gaps,¹⁵ and thus continued confidence in deep time.

In all of these ways, the old-earth paradigm is shown to be the logically consistent handmaiden of the worldview of naturalism. That is why advocates of naturalism continue to affirm it, in spite of the problems with eternalism, evolution, and neocatastrophism. The faith commitment of its advocates to the *philosophical* link (figure 2) trumps these issues.

Negative internal logic: old earth does not fit Christianity

Like naturalism, the Christian view of history flows from metaphysical and epistemological distinctives (figure 3). Unlike naturalism, Christianity affirms an infinite, eternal, unchanging God as ultimate reality. The cosmos is derivative, created out of nothing and subsequently sustained by unlimited divine power and wisdom. If physical reality originated with God, then the Christian epistemological emphasis on revelation marks its internal consistency.

The Bible—superior to human knowledge and ‘general revelation’

Truth comes from God, and the ultimate form of truth is His word. This means that revelation takes precedence in our understanding of reality. As Romans 3:4 (NASB) states: “let God be found true, though every man be found a liar”. Human knowledge is uncertain in two ways; first, man is finite, and second, the noetic effects of sin cloud our minds and darken

| Type of Argument | Summary of Argument |
|--|--|
| Internal logic of naturalism | Materialism + uniformity = eternal universe. But it is not eternal; materialism and/or uniformity not absolute. |
| | Materialism implies evolution; evolution implies billions of years. Deep time inherent to naturalism. |
| | Materialism + positivism = uniformitarianism; implies billions of years. Deep time inherent to naturalism. |
| | Uniformitarianism = time scale = billions of years. Deep time inherent to naturalism. |
| | Uniformitarianism = low-energy process = billions of years. Deep time inherent to naturalism. |
| | Uniformitarianism covers gaps in rock record. Implies billions of years; deep time inherent to naturalism. |
| Arguments from logic | Precedence of revelation over human knowledge means God has final word on earth’s age. |
| | Precedence of special revelation over general revelation undermines Christian old-earth case. |
| | Man’s knowledge limited by finitude and sin. Any human case for old earth therefore questionable. |
| | Purpose of God, His glory through His people, does not require or accommodate an old earth. |
| | <i>Ex nihilo</i> creation = appearance of age; implies young earth. |
| | Providence contradicts ‘chance and necessity’ and thus evolution. No evolution = no need for old earth. |
| | Providential work of God, both mediate and immediate, contradicts uniformitarianism, thus old earth. |
| | Bible is complete narrative from beginning of history to its end. Narrative set on young earth. |
| | Bible presents internal chronology from beginning which presents young earth. |
| | Revelation tells of global Flood; implies much of rock record in a year; thus young earth. |
| | Christ and Apostles refer to people and events of the young-earth framework. |
| | Claim that old earth is from textual considerations alone fails under analysis of text. |
| | Revelation teaches creation of life, higher life, and man within the space of four days. |
| Bible teaches death was result of Adam’s sin. Old-earth Christians must reject this teaching. | |
| Cosmos under decay. If old, then inherent. If inherent, it contradicts nature of God and Genesis 1:31. | |
| God’s nature and attributes are contrary to process of evolution over history. | |
| Related logical arguments | Old earth arguments assert mere <i>compatibility</i> with Bible. Young earth position asserts <i>consistency</i> with Bible. |
| | Old earth Christians allow science to speak for history. This suggests positivism, which is inherent to naturalism. |

Figure 1. Summary of the logical arguments linking the old-earth paradigm to naturalism and excluding it from Christianity.

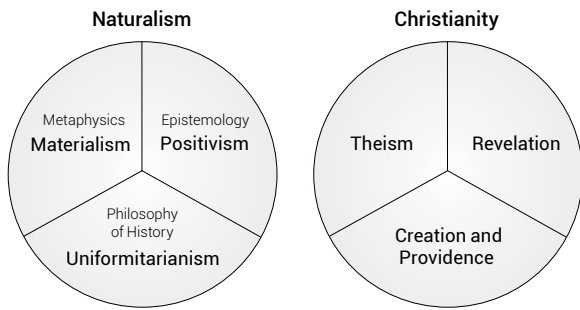


Figure 2. Comparison of the worldviews of Christianity and naturalism with respect to metaphysics, epistemology, and philosophy of history.

our hearts. Thus, our best source of true, certain knowledge about God, nature, and ourselves is God, who is not limited and is not touched by sin. But mankind has a propensity to reject His truth.²⁷ We want to pretend that our knowledge is just as good as God’s. Theologian Robert Dabney rejected this error when he stated:

“I repeat, if any part of the Bible must wait to have its real meaning imposed upon it by another, and a human science, that part is at least meaningless and worthless to our souls. It must expound itself independently; making other sciences ancillary, and not dominant over it.”²⁸

Thus, any case for an old earth based on human knowledge faces the uncertainty engendered by these limits.

Old-earth Christians agree to the primacy of revelation, but justify their adherence to secular natural history by claiming it is the outgrowth of ‘general revelation’, as understood by science. Although general revelation and natural theology are valuable within their proper boundaries, these Christians miss the point.

First, science and natural history are not necessary for general revelation. As *general* revelation, it has been open to all people everywhere at all times. On the other hand, science and natural history have only been around for a few centuries, and so clearly have not been available to *everybody* in history. Second, the object of knowledge in science and natural history is different from that of general revelation. General revelation is about *God*; science and natural history are about *nature*. Finally general revelation is inferior to special revelation. General revelation serves only to condemn, not save (Romans 1:18–23). If science and natural history were outgrowths of general revelation, they would never lead to salvific knowledge of God by themselves. Moreover, unlike general revelation, special revelation (the Bible) is *propositional*—in it God speaks directly to us in human language. General revelation is a message, though it is not mediated through syntactic language. As such, what can be revealed about God through it is limited. In the same way, the truths of science and natural history are not delivered linguistically.²⁹ Rocks, fossils, genomes, and stars do not *actually* speak—not even about God, let alone about science or natural history. Raw data is not the same thing as the message we derive from them—all sorts of biases and blindness can stymie our interpretations of the data. This is different from real general revelation. It is so clear that we are morally culpable for ignoring and suppressing it (Romans 1:18–23). But its truth value does not guarantee the truth of our theories in science or natural history. Moreover, as special revelation is *God’s* speech, it has intrinsic authority on any subject discussed therein, even if only in passing. It thus provides the sole benchmark by which to measure all other propositional communication, as well as the authoritative framework in which to interpret all non-propositional information.³⁰ Therefore, whether secular

| | A | B | C |
|--------------|---|---|---|
| | Metaphysics | Metaphysics Epistemology | Metaphysics Epistemology Philosophy of History |
| Naturalism | Nature of reality ultimate reality is matter/energy with built-in tendency towards evolution. | Nature of reality ultimate reality is matter/energy with built-in tendency towards evolution. | Nature of knowing if reality is material then knowledge must be based on science. |
| Christianity | Nature of reality ultimate reality is infinite, eternal, unchanging God. | Nature of reality ultimate reality is infinite, eternal, unchanging God. | Nature of knowing if reality is God, then knowledge must be based on revelation. |

Figure 3. The internal logic of both worldviews pushed inexorably towards a completely different view of the past. These views are driven by distinct views of metaphysics and epistemology. Though internally consistent, the views of both worldviews are decidedly contrary.

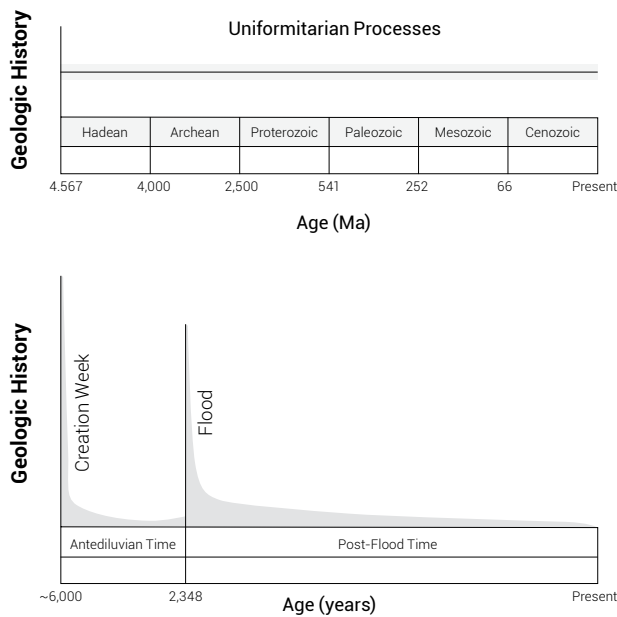


Figure 4. The nature of the past in terms of the formation of crustal features is quite different between the two worldviews. Naturalism espouses a uniformitarian view that emphasizes the regularity of process over time, within narrowly defined energy limits (shaded bar). Christianity, on the other hand, teaches that the majority of crustal features were formed during the 377 days of creation and the Flood.

natural history could be twisted and made to fit the category of ‘general revelation’ or not, it must still bow before the Bible.³¹

The Bible affirms a young earth

The Christian philosophy of history sees the record of the past in the Bible. Genesis starts with “In the beginning . . .” and the story ends in Revelation. There is no reason to look outside the Bible for an outline of the past. Creation–Fall–Flood–Rebellion–Israel–Christ–Church–Apocalypse: a comprehensive history of this universe exists, the fabric of which is rent by any intrusion of evolutionary uniformitarianism. This narrative also contradicts naturalism because it is a record of God’s action in history. Neither does it allow for *any* prehistory (whether 14 microseconds or 14 billion years) since the first event testified to is the absolute beginning. It contradicts all the axioms of the old-earth paradigm. If old-earth Christians wish to argue for an old earth, they must do so in the face of the contrary record of Scripture.

In addition, this narrative contains embedded chronological information that confirms a young earth. Although many contemporary Christian scholars reject biblical chronology,^{5,11,12} a sufficiently accurate chronology invalidates *any* old-earth scenario.³² Even if gaps exist in some chronologies, the contextual narrative precludes long periods of lost time.³³ This has driven several recent Christian scholars back to Genesis 1:1–3, seeking a modification of the traditional gap theory. However, this ignores, for example, Exodus 20:11 and

31:17, which clearly state that *everything* was created in six ordinary 24-hour days, thereby placing the absolute beginning at the beginning of the first of those days.³⁴

Other events link Christianity and a young earth. Genesis teaches a global Flood³⁵ that inundated the planet for more than a year.³⁶ If true, its hydraulic and tectonic work would have been responsible for much of the rock and fossil records that supposedly provide primary evidence for an old earth. If they were emplaced so quickly, then a young earth follows.

The events and people of the first chapters of Genesis are affirmed by Christ and His Apostles in the New Testament.^{37,38} Adam, Eve, and Noah are spoken of as real people, and the events of their lives are given in detail, leaving no doubt that Christ and his Apostles took the early part of Genesis as literal history, affirming a young earth. Since they are described as the cornerstone and foundation of the church (Ephesians 2:20), it seems presumptuous for any Christian to contradict their teaching.

Some defenders of the old-earth paradigm claim that their reinterpretations of biblical history are driven purely by textual considerations. Ross, for example, claims that the biblical narrative is consistent with the timespan and event sequence of secular deep time.³⁹ However, this approach is becoming less common as biblical creationists’ work has shown the many contradictions between deep time and a historical reading of the particulars (esp. Genesis 1–11).⁴⁰ No satisfactory textual theory has emerged;⁴¹ all have severe problems and most end up twisting biblical texts to fit whatever secular fad is in vogue. Honest old-earth exegetes acknowledge that the best reading of the actual text is the traditional one advocated by biblical creationists.⁴²

A wrinkle on this position is the claim that the Bible is silent with regard to natural history,^{10,43} and therefore, it is acceptable to default to secular natural history. They think that the texts relevant to natural history (i.e. Genesis 1–11) speak in hyperbolic ways to localized conditions and/or are archetypal legends that follow Ancient Near Eastern conventions of abstract theological dialogue.⁴⁴ However, this view strips the texts of their meaning. In addition to ignoring the many indications of narrative, Genesis 5 and 11 would no longer provide a chronological link between Adam and Abraham which the dates in the genealogies clearly imply. The logic of the Flood narrative is also destroyed if it is a local event (e.g. why build an ark for 100 years *and take birds on board* if people and animals could avoid the Flood by *leaving Mesopotamia*?⁴⁵). Furthermore, this view divorces Genesis 2–4 from Genesis 5:1–3 and Genesis 1 from Genesis 2 and 5. Genesis 1–11 is a coherent and well-structured narrative intended to be read as factual history.⁴⁶

Moreover, they are arbitrarily selective in their adoption of secular natural history. If the Bible is *silent* on natural history, then *any* account of natural history is acceptable. Why assume secular scientists have it right? Without testimony (implicit in the idea of a prehistory), the physical evidence is open to

interpretation by whatever philosophy seems feasible *and there is no independent way to verify those conclusions*.⁴⁷ In short, the physical evidence can't 'speak for itself' because it can't speak at all!

The creation and providence framework of orthodox Christianity (figure 2) is a far stronger positive fit with a young-age historical framework. Why were people, the focus of creation and providence, not present for almost all the past? Moreover, the *popular* old-earth framework is clearly derived from naturalism.^{15,48} Since naturalism is both antagonistic to Christianity and self-refuting,^{49,50} it makes no sense to marry its history with the Bible *even if the Bible were silent on natural history*. Finally, not only do the old-earth advocates *always* side with secularists on these points, but many join in deriding biblical creationists, a stance not honouring to God or consistent with Christian ethics.

Creation and providence support a young earth. In addition to the direct teachings of revelation, the theological tradition derived from revelation also supports a young earth. One link between Christianity and a young earth is found in God's purpose in creation—His glory.⁵¹ Since He determined to be glorified through the redemption of a particular people into an eternal kingdom,⁵² then Christ, not evolution, is the focus of history. Thus, there is no *need* for an old earth because God's stated purpose is readily achieved without prehistory. There was no long evolutionary progression prior to mankind—God created man in His image at "the beginning of creation" (Mark 10:6). There is no *need* for an old earth, and the narrative of revelation precludes it as a *reasonable* position.

Moreover, an old earth is problematic for the notion of creation as a revelation of God's omnipotence. The simplest solution for demonstrating omnipotence would be instantaneous creation of a fully functional cosmos. Indeed, some influential Church Fathers (e.g. Origen and Augustine) asserted this, and reinterpreted Genesis 1 accordingly.⁵³ However, they were still young-earth creationists; an instantaneous creation merely shortens the biblical chronology by a week. However, the traditional view has both a strong exegetical case against instantaneous creation⁵⁴ and a solid theological purpose for a Creation Week as the paradigmatic example of, and historical precedent for, the Israelite work week (Exodus 20:11, Exodus 31:17) instituted *for the Israelites' benefit* (Mark 2:27). God worked six days and 'rested' on the seventh to set a precedent for human activity. Like instantaneous creation, the traditional view implies a mature creation, which would exhibit an appearance of age. Trees would soar from mature soil horizons, watered by streams 'eroded' into the land surface. Therefore, the traditional view balances God's omnipotence with his other purposes in creation. Old-earth Christians have no case against the instantaneous creation view. Scripture does not support them, either by direct exegesis or by a theological basis for deep time. Worse, deep time detracts from God's omnipotence by minimizing his work relative to 'natural' processes. Even *secularists* accept a 'beginning' at the big

bang. Creation over deep time is a demonstration of divine *weakness*.

The old-earth paradigm also clashes with the doctrine of Providence. God did not simply create the cosmos; He upholds its continued existence in an intimate, ongoing fashion—sparrows, trees, hairs on your head, etc. Providence contradicts the 'necessity and chance' of materialistic evolution. By extension, it contradicts an old earth, and it demands Christians abandon arguments for an old earth based on *secular* theories, which assume a materialistic, self-maintaining cosmos.

Providence also contradicts the mindless progression of uniformitarianism. Uniformity requires an underlying continuity of cause and effect that must either reside in nature or in God. Naturalism chooses the former; Christianity, the latter. But the physical discontinuity of the beginning of the universe demonstrates that this continuity *must* exist in God or not at all. This is reinforced by the Bible's teaching that God is continuously and intimately involved in all aspects of earth history. The idea that God set 'natural laws' in motion and then occasionally intervenes 'miraculously' is false. God acts in the world all the time. His regular mediate providence appears to us as natural laws, but is in fact the manifestation of God.⁵⁵ He also reserves the right to work directly, or 'immediately', manifested as miracles and answered prayers. Everything about the ongoing existence of the contingent creation is 'supernatural'. This refutation of uniformitarianism by providence also links a young earth to Christianity.

God's goodness and sin's depravity support a young earth

The doctrine of sin affirms that physical mortality was the result of Adam's sin and God's subsequent judgment. Old-earth Christians must reject this doctrine or modify it beyond recognition; otherwise, they cannot explain the fossil record of death and extinction long before 'Adam' ever appeared on the scene. Another facet of God's judgment was the subjugation of man's environment to a bondage of decay. Once again, this is congruent with a young earth. Otherwise, the record of that bondage, evident in the fossil and rock records, would have been inherent to the original creation. This of course contradicts both the nature of God and his pronouncement in Genesis 1:31, as well as the testimony in Romans 8 as to its cause being the Fall.

Likewise, the nature and attributes of God are at odds with an old earth. Any process of evolution, as described by secular natural historians, could have nothing to do with the God of the Bible. Any being that is infinite, eternal, and unchanging in his being, wisdom, power, holiness, justice, goodness, and truth could not countenance 'creation' by means of evolutionary processes. That inherent evil and waste only makes sense in terms of the Fall and the judgment of the Flood.

Christianity—only consistent with a young earth

In all these things, Christianity demonstrates consistency between its worldview and a young earth. In the same way, it demonstrates the absence of the same with an old earth. Thus, logic demands that the old-earth paradigm be assigned to its proper home in the worldview of naturalism and the young-earth paradigm be firmly wedded to Christianity. The implications present us with a necessary and formidable battle to retake natural history. But they also provide the church with a clarity it has lacked for more than two centuries. Theologians who ignore the force of this logic muddy the divide between the two worldviews and confuse the church.

Two related logical points

In addition to the internal logic of both worldviews, there are two related points. The first deals with the evidential strength of the relative positions and the second with a presuppositional blind spot of many old-earth proponents.

An important difference in evidential strength exists between the positions of young-earth and old-earth Christians. It is the distinction between *compatibility* and *consistency* with special revelation. By that, we mean the distinction between the *possible* and the *necessary*. *Compatible* evidence is that which *might* fit the proposition; there is no obvious contradiction, but neither is there a necessary positive connection. Evidence that is *consistent*, on the other hand, goes beyond compatibility to present a strong positive congruence.

Most old-earth proponents paint themselves into the weaker position by arguing on the basis of a compatibility with the Bible and Christianity. For example, they propose that different words or phrases in the Bible *can* have varying meanings; the correct one is defined by ‘general revelation’. This has been a staple since the 19th century.⁵⁶ Their only positive theological argument is indirect and non-unique. It emphasizes Christianity’s intellectual tradition and its links with science in the light of general revelation, but these fall far short of the arguments by young-earth proponents. Furthermore, these points are affirmed by biblical creationists, but with an acknowledgment of the superiority of special revelation. Finally, these positions are typically window dressing for a capitulation to secular ‘science’.

Moreover, many Christian old-earth proponents exhibit an unacknowledged link with naturalism. That is the unquestioning acceptance of the fuzzy positivism that permeates modern academic thought. It manifests itself primarily in an inability to adequately distinguish history from science.⁵⁷ The ‘historical sciences’ have become such a part of our culture that few people address the assumption that unique, unobserved past events are the fodder of science, much less the far different confidence levels between the two. Reed⁵⁸ incorporated the distinctions of Adler⁵⁹ to distinguish forensic natural history from science and classify it as a ‘mixed question’. Old-earth Christians

typically manifest a fetish for historical science, and seem oblivious to the underlying epistemological conflicts with their own worldview. In the same way many unnecessarily adopt the related position of ‘methodological naturalism’.⁶⁰ Both seem to manifest secular positivism.

Conclusion

Belief in an old earth is a tenet of the worldview of naturalism. It fits the logic of that worldview in every possible manner, and is congenial to its underlying uniformitarian and evolutionary philosophy of history. On the contrary, it is the proverbial square peg in the Christian worldview, and attempts to hammer it into place tear and fray the fabric of orthodoxy. Logic requires that Christians give up their vain attempts at reconciliation with the tenets of secular natural history.

References

1. By ‘old earth’ we mean the comprehensive natural prehistory that includes the 13.75 billion-year cosmos and the 4.6 billion-year-old earth affirmed by secular cosmologists, geologists, and evolutionists, and accepted by many Christian scholars as the manifestation of God’s creative actions in Genesis.
2. See Sarfati, J., *Refuting Compromise*, 2nd edn, Creation Book Publishers, Powder Springs, GA, 2011.
3. These include Norm Geisler, Tim Keller, Bruce Waltke, John Piper, Meredith Kline, Derek Kidner, James Dobson, and many others, all following in the traditions of Thomas Chalmers, George Stanley Faber, E.J. Young, B.B. Warfield, Charles Hodge and Francis Schaeffer.
4. Young, D. and Stearley, R., *The Bible, Rocks, and Time*, InterVarsity Press, Downers Grove, IL, 2008.
5. Lennox, J., *Seven Days that Divide the World*, Zondervan, Grand Rapids, MI, 2011.
6. Campbell, D., Campbell, L.D., Cates, C., Davidson, G., Long, K., Mercer, R.F., Ratajeski, K. and Young, D.A., Ad Extra: PCA Geologists on the Antiquity of the Earth, *Modern Reformation* 19(3), May/June 2010.
7. See ref. 3. See also Grigg, R., Pre-Adamic man: were there human beings on earth before Adam? *Creation* 24(4):42–45, 2002, creation.com/pre-adamic-man.
8. Keller, T., *The Reason for God: Belief in an age of Skepticism*, Dutton, New York, 2008.
9. Mortensen, T., Systematic theology texts and the age of the earth, *ARJ* 2:175–200, 2009.
10. Walton, J.H., *The Lost World of Genesis One*, Intervarsity Press, Downers Grove, IL, 2009.
11. Collins, C.J., *Science and Faith: Friends or Foes?* Crossway Books, Wheaton, IL, 2003.
12. Snoke, D., *A Biblical Case for an Old Earth*, Baker Books, Grand Rapids, MI, 2006.
13. Stark, R., *For the Glory of God*, Princeton University Press, Princeton, NJ, 2003.
14. Mangalwadi, V., *The Book That Made your World*, Thomas Nelson, Nashville, TN, pp. 229–252, 2011.
15. Reed, J.K., *Natural History in the Christian Worldview*, Creation Research Society Books, Chino Valley, AZ, 2001.
16. Rudwick M.J.S., *Bursting the Limits of Time: The Reconstruction of Geohistory in the Age of Revolution*, University of Chicago Press, Chicago, IL, p. 153, 2005 argued that deep time was a reasonable compromise between Aristotelian eternalism and a biblical young earth. Reed, J.K., Modern geohistory: an assault on Christianity, not an innovative compromise, *CRSQ* 46(3):201–216, 2010 showed that his argument was invalid.
17. Reed, J.K. and Williams, E.L., Battlegrounds of natural history, part II: actualism, *CRSQ* 49(2):135–152, 2012 discuss the nature of continuity of cause and effect with regard to uniformity and actualism.
18. Reed, J.K., Demythologizing uniformitarian history, *CRSQ* 35(3):157–165, 1998.

19. Reed, J.K., Untangling uniformitarianism, level I: a quest for clarity, *ARJ* 3:37–59, 2010.
20. Reed, J.K., Toppling the timescale part III: madness in the methods, *CRSQ* 45(1):6–17, 2008.
21. Froede, Jr., C., The K/T impact hypothesis and secular neocatastrophism—why is this important to Flood geology? *J. Creation* 25(3):13–14, 2011.
22. Reed, J.K., Toppling the timescale part II: unearthing the cornerstone, *CRSQ* 44(4):257–263, 2008.
23. Reed, J.K., Three early arguments for deep time—part 1: time needed to erode valleys, *J. Creation* 25(2):83–91, 2011.
24. Reed, J.K., Three early arguments for deep time—part 2: volcanism, *J. Creation* 26(1):61–70, 2012.
25. Reed, J.K. and Oard M.J., Three early arguments for deep time—part 3: the ‘geognostic pile’, *J. Creation* 26(2):100–109, 2012.
26. Ager, D.V., *The Nature of the Stratigraphical Record*, John Wiley and Sons, New York, 1973; Ager, D.V., *The New Catastrophism*, Cambridge University Press, Cambridge, UK, 1993.
27. Described in detail in Romans 1 and Psalm 51.
28. Dabney, R.L., *Systematic Theology, second edition*, Presbyterian Publishing Co. of St. Louis, St. Louis, MO, p. 256, 1878 (reprinted 1996).
29. Psalm 19:1–4 may be thought to imply otherwise. However, Kulikovsky points out that Psalm 19:1–4 says that “even though the creation does not speak or communicate in audible human language, it nevertheless testifies to God’s existence and His power and glory, and that this testimony is universal [emphasis added].” See Kulikovsky, A.S., *Creation, Fall, Restoration*, Christian Focus Publications Ltd, Fearn, Scotland, pp. 23–24, 2009.
30. This does not mean Scripture provides information on every subject imaginable. It does not, for example, provide any information on the biology of dinoflagellates or on the existence of black holes. Scripture is true without being exhaustive. For more information, see Kulikovsky, A.S., Scripture and general revelation, *J. Creation (TJ)* 19(2):23–28, 2005.
31. Both the Bible and the theological tradition of the church affirm the superiority of special revelation over general revelation. C.f., *The Westminster Confession of Faith* I–X.
32. Jones, F.N., *Chronology of the Old Testament*, Master Books, Green Forest, AR, 2005.
33. Williams, P., Some remarks preliminary to a biblical chronology, *J. Creation (CENTJ)* 12(1):98–106, 1998.
34. C.f. Batten, D., ‘Soft’ gap sophistry, *Creation* 26 (3):44–47, June 2004; creation.com/soft-gap-sophistry.
35. Whitcomb, J.C. and H.M. Morris, *The Genesis Flood*, Presbyterian and Reformed Publishing Company, Phillipsburg, NJ, 1961.
36. Barrick, W.D., Noah’s Flood and its geological implications; in: Mortenson, T. and Ury, T.H. (Eds.), *Coming to Grips with Genesis*, Master Books, Green Forest, AR, pp. 266–267, 2008.
37. Cosner, L., The use of Genesis in the New Testament, *Creation* 33(2):16–19, April 2011; creation.com/genesis-new-testament.
38. Wieland, C., Jesus and the age of the Earth, *Creation* 34(2):51–54, April 2012; creation.com/jesus-age-earth.
39. Hugh Ross, *passim*.
40. For example, what came first: the sun or the earth? Flowers or fish? Birds or theropods? The young-earth and old-earth frameworks give contradictory answers to these historical questions. See Mortenson, T. and Ury, T.H. (Eds.), *Coming to Grips with Genesis*, Master Books, Green Forest, AR, 2008 or Kulikovsky, A.S., *Creation, Fall, Restoration*, Christian Focus Publications Ltd, Fearn, Scotland.
41. The gap, day-age, and framework theories have all been discredited by careful scholarship.
42. E.g. E.J. Young, Davis Young and Norman Geisler.
43. An excellent example of this can be found in a symposium held by Bryan College in 2011 called “Reading Genesis 1–2: an Evangelical Conversation”. Of the five speakers (Richard Averbeck, Todd Beall, C. John Collins, Tremper Longman III, and John Walton), three (Collins, Longman and Walton) were clear in their rejection of the young-earth historical framework and emphasized that they rejected it purely for textual reasons. Interestingly, all three disagreed with each other almost as much as they disagreed with the young-earth creationist speaker, Todd Beall. See www.bryan.edu/institute_podcast.html for podcasts of all the sessions of the symposium discussions.
44. For an evaluation of such attempts from a hermeneutical perspective, see Weeks, N., Problems in the interpretation of Genesis 1–11: Part 1, *Creation* 2(3):27–32, 1979; Weeks, N., Problems in the interpretation of Genesis 1–11: Part 2, *Creation* 2(4):22–26, 1979.
45. Some may respond: “Well, that’s what God told Noah to do, so he should just obey.” This pious-sounding appeal to God’s mysterious sovereignty is invalid in this context. God told Noah why he wanted him to build such a huge structure, and the reason was singular and extremely practical—survival. As such, the ‘local flood’ scenario makes God a deceiver of Noah: God told Noah to build a barge half the size of the *Titanic* to survive while He knew Noah didn’t need it to survive.
46. Beall, T.S., Contemporary hermeneutical approaches to Genesis 1–11; in: Mortenson, T. and Ury, T.H. (Eds.), *Coming to Grips with Genesis*, Master Books, Green Forest, AR, pp. 131–162, 2009.
47. Reed, J.K., Cuvier’s analogy and its consequences: forensics vs testimony as historical evidence, *J. Creation* 22(3):115–120, 2008.
48. Glover, W., *Biblical Origins of Modern Secular Culture*, Mercer University Press, Macon, GA, 1984.
49. Lisle, J., *The Ultimate Proof of Creation*, Master Books, Green Forest, AR, 2009.
50. Kumar, S. and Sarfati, J., *Christianity for Skeptics*, Creation Book Publishers, Atlanta, GA, 2012.
51. Edwards, J., 1754. *A Dissertation Concerning the End for Which God Created the World*; www.jonathanedwards.com/theology.htm.
52. E.g. Johnson, D.E., *Triumph of the Lamb: A Commentary on Revelation*, P&R Publishing, Phillipsburg, NJ, 2001.
53. Zuiddam, B., Augustine: young earth creationist, creation.com/augustine-young-earth-creationist, 8 October 2009.
54. E.g. Calvin, J., *Calvin’s Commentaries, vol. 1, Genesis*, Baker Books, Grand Rapids, MI, p. 78, 2009.
55. As Paul told the Athenians in Acts 17, “he is not far from each one of us.”
56. Sarfati, ref. 2 notes this cause and effect relationship *vis a vis* the gap theory, the day-age theory, and the framework hypothesis.
57. Reed, J.K., Natural history or natural science? *CRSQ* 40(1):41–44, 2003.
58. E.g. Reed, J.K., Kleberg, P. and Froede Jr, C.R., Towards an empirical stratigraphy; in: Reed, J.K. and Oard, M.J. (Eds.), *The Geologic Column: Perspectives within Diluvial Geology*, Creation Research Society Books, Chino Valley, AZ, 2006.
59. Adler, M.J., *The Conditions of Philosophy*, Atheneum Press, New York, 1965.
60. Reed, J.K. and Williams, E.L., Battlegrounds of natural history, part I: naturalism, *CRSQ* 48(2):147–167, 2012. There are exceptions; e.g. Alvin Plantinga.

John K. Reed earned B.S., M.S., and Ph.D. degrees in geology. He worked for several decades as a professional geologist in industry and academia. In 1998, John became the geology editor of the *Creation Research Society Quarterly*, and was subsequently elected to the CRS Board of Directors. He has written and edited numerous books and articles about *Creation* and natural history.

Shaun Doyle obtained a Bachelor of Environmental Science (1st class hon.) and a Graduate Diploma in Natural Resource Studies from the University of Queensland, Brisbane, Australia. He currently works fulltime as an editor, reviewer, and writer for CMI in New Zealand.