

Issues in “Intermediate” Models of Origins

Jim Gibson

Geoscience Research Institute

Discussion of issues in creation is often focused on contrasting the theory of naturalistic evolution with the biblical model of a recent, six-day creation. The differences between these two theories are profound, and the contrasts can readily be identified in such issues as whether the universe and human life were purposefully designed, the nature and extent of God’s actions in the universe, and the extent to which answers to philosophical questions can be inferred from nature and from Scripture.

Biblical creation is based on a literal-phenomenal¹ interpretation of Genesis 1–3 and other creation texts. The biblical model affirms that humans were separately created in a supernatural act of creation, some thousands of years ago, at the end of a six-day creation. They were endowed with the image of God and the possibility of eternal life. The original human pair freely chose to distrust God, bringing death and other evils into the world.

By contrast, naturalistic evolution is based on a naturalistic approach to science, without respect to biblical teachings. Naturalistic (“scientific”) evolution claims that humans developed from ape-like ancestors, through strictly natural processes, over several millions of years. Humans have no special status in nature, and there is no basis for believing in life after death. Death, disease, and suffering are simply natural by-products of the processes operating in nature and cannot be considered good or evil in any “moral” sense. The differences between the two models could hardly be more dramatic.

However, other models have been proposed that tend to blur some of the contrasts between the biblical and naturalistic theories. A number of attempts have been made to develop intermediate models in which elements of the biblical story of creation are mixed with elements of the scientific story of origins. All of these models share the biblical idea that nature is the result of divine purpose and the “scientific” idea of long ages of time. We cannot consider every

¹ Real events described in the language of appearance.

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variety of origins model, but most of them are variants of two major categories of models, often called “progressive creation” (or “multiple creations”) and “theistic evolution.” Neither of these categories is consistently defined, and each includes a range of models that differ in significant details. Thus it will be necessary to define our terms and describe some of the major variants in order to identify their implications and analyze their strengths and weaknesses.

The major objection to the biblical model is the relatively short time scale it implies, while the scientific data seem to point to a much longer time scale. The intermediate models described here were created in response to the scientific problem of long age faced by the biblical literal phenomenal model. The primary goal of this paper is to explore the major intermediate models to see how well they fare scientifically.

Defining “Creation” and “Evolution”

The terms “creation” and “evolution” are both used in a variety of meanings that tend to confuse rather than clarify the issues. For this reason, I will attempt to define the terms for the purposes of this paper.

By *creation*, I mean the concept that God acted directly, through personal agency, to bring diverse lineages of living organisms into existence. He may have created the first individuals of each lineage *ex nihilo* (Hebrews 1:3), or from non-living materials (Genesis 2:7), or in some combination. Creation in this sense does not include the proposal that God caused new forms of life to appear through secondary processes, such as by guiding the process of evolution. Nor does it include the appearance of new individuals through reproduction. In the sense used here, God (directly) created only the founders of each independent lineage. (Of course God created the entire universe *ex nihilo*, but here we are concerned primarily with the origins of living things on this planet.)

By *evolution* I mean the concept of universal common ancestry² (monophyly) regardless of the mechanism, whether naturalistic or divinely guided. Evolution is the theory that all organisms, including humans, descended from the same original ancestor. I would distinguish between “evolution” and some other terms commonly associated with it. Variation and speciation do not entail universal common ancestry, so they are not the same as evolution. Evolution is sometimes defined merely as “change over time,” but this is not an adequate definition. Every individual changes over time, yet individuals do not evolve—it is populations that evolve. “Change over time” does not necessarily imply universal common ancestry. The term “macroevolution” has no single accepted definition, and I will avoid the term in order to avoid the confusion its use brings.

² K. W. Giberson and D. A. Yerxa, *Species of Origins* (Lanham: Rowman and Littlefield, 2002), 49.

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Classifying Models of Origins

Several attempts have been made to classify intermediate models of origins.³ My classification borrows from these previous attempts, but emphasizes elements that seem to be particularly useful for evaluating the models. These are: the origin of humans, whether separately created or derived from animals; the interpretation of “days” in Genesis; and, in the case of theistic evolution, the extent of direct divine activity in the process.

The definitions of creation and evolution discussed above will be used in describing and evaluating intermediate models of origins. By *long-age creation* I mean any theory that includes the geological time scale and the idea of separately created lineages, especially the special creation of humans. Since all the major forms of long-age creation involve a series of discrete creation acts, I regard the term *multiple creations* as a synonym for long-age creation. The interpretation of the “days” in Genesis will be used to help distinguish the various models of multiple creations.

I will use the term *theistic evolution* for those theories that accept the geological time scale and universal common ancestry, including humans, in a divinely guided process. The proposed extent of divine activity in nature provides a way to help distinguish the various models of theistic evolution. Theories that do not include any divine activity are beyond the scope of this paper.

Long-age Creation Models (Including “Progressive Creation”)

Long-age creation models include any model that incorporates the two ideas of: 1) the geological time scale and 2) the separate creation of humans, and numerous other independent lineages. These models are usually associated with the idea that if there was a six-day creation or biblical flood, they were local events, rather than global. Ramm introduced the term “progressive creation” and argued for many separate creations, each followed by “horizontal” but not “vertical” radiations.⁴ However, this term is used for a wide variety of models, at least one of which includes an animal ancestry for humans. Because “progressive creation” is so vague, I prefer to use “long-age creation” or “multiple creations.”

Probably the most significant distinguishing feature of long-age creation models is the interpretation of the word “day” in Genesis 1. Certain long-age creation models hold that the creation “days” are literal, sequential days of creation, while other long-age creation models hold that the “days” are non-literal

³ Many attempts have been made. Here are a few: B. Thompson, *Creation Compromises* (Montgomery: Apologetics, 1995), [long-age creation models]; Report of the Creation Study Committee, Presbyterian Church of America [<http://www.reasons.org/resources/apologetics>]; D. L. Wilcox, “A Taxonomy of Creation,” *Journal of the American Scientific Affiliation* 38 (1986): 244–250; L. J. Gibson, “Biblical Creation: Is There a Better Model?” *Ministry* (May 2000): 5–8.

⁴ B. Ramm, *The Christian View of Science and Scripture* (1954), (Grand Rapids: Eerdmans, 1966).

and/or non-sequential. (Theistic evolution models necessarily hold that the “days” are non-literal.) I use this difference to help classify the long-age creation models discussed below.

Multiple-creation Models with Literal, Sequential Creation Days

Gap theory. One of the first models of multiple creations over long ages was the “gap theory.”⁵ This theory maintains that Genesis 1 refers to a recent creation in six literal, contiguous days, but this creation was preceded by another creation that had been destroyed. Proponents of this view often claim that the phrase “the earth was without form and void” (Genesis 1:2) should read “the earth *became* without form and void,” which represents a change from its original condition (compare with Isaiah 45:18).⁶ The destruction might have been due directly to Satan’s activity when he supposedly was in control of the world⁷ or the results of a war between Satan and God.⁸

The gap theory founders on both exegetical and scientific grounds. Exegetically, the gap theory is based on the supposition that Genesis 1:2 means that the world “became” without form and void. However, the Hebrew word (*hayetha*) does not have that meaning. The text states that the earth *was* without form and void, not that it *became* without form and void.⁹

Scientifically, the gap theory predicts a gap in the fossil record, with the rubble of the old destroyed creation below the gap and the record of the new creation above the gap. But there is no such gap in the fossil record, and most scholars abandoned the gap theory long ago.

Some scholars have attempted to get around this problem by claiming that the animals and plants of the first creation closely resembled God’s work in re-creation.¹⁰ Thus, the gap would be undetectable. In this view, some fossils that appear to be humans were actually human-like animals, while others were true

⁵ A. C. Custance, *Without Form and Void: A Study of the Meaning of Genesis 1:2* (Ottawa: Doorway, 1970); also available on the web: http://www.ringsurf.com/netring?ring=Gap_Theory;action=list; W. W. Fields, *Unformed and Unfilled* (Phillipsburg: Presbyterian and Reformed, 1976), 40; discussed in I. T. Taylor, 1984. *In the Minds of Men: Darwin and the New World Order* (Toronto: TFE, 1984), 362–364; see also chapter 9 in Thompson.

⁶ E.g., H. Rimmer (1937), *Modern Science and the Genesis Record* (Grand Rapids: Eerdmans, 1962), 27–28; some Seventh-day Adventists have written favorably about this possibility, e.g., Provonsha, Pearl.

⁷ Rimmer, 28; A web site advocating this view is www.kjvbible.org/satan.html. A similar view was suggested in C. S. Lewis in *The Problem of Pain* (New York: Touchstone, 1996), 120.

⁸ G. H. Pember, *Earth’s Earliest Ages* (New York: Revell, n.d. [1876?]); Thompson, 161.

⁹ R. W. Younker, *God’s Creation: Exploring the Genesis Story* (Nampa: Pacific, 1999); Thompson, 161.

¹⁰ This idea is promoted on the website: www.kjvbible.org/satan.html, and is implicit in any theory that explains pre-Adamic natural evil as the result of Satan’s activities. The argument is not dependent on Satan’s involvement; it could be that God’s successive creations were indistinguishable morphologically.

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humans with moral accountability.¹¹ Fossils from the two creations are morphologically indistinguishable. It hardly needs to be pointed out that this idea lacks any biblical, scientific, or philosophical support, and it is perfectly understandable why the idea of an “invisible gap” has not been widely accepted.

Intermittent Creation Days (Multiple Gaps). A few scholars have attempted to preserve the idea of literal days in a long time frame by proposing that the days were intermittent rather than contiguous.¹² Thus, there were actually six literal creation days, in the sequence recorded in Genesis, but they were separated in time by millions of years. However, the sequence of events in Genesis conflicts with the fossil sequence, falsifying this proposal. To get around this problem, a major proponent of this view states that “each successive day opens a new creative period.”¹³ The “literal” days are actually only beginning points of successive “overlapping ages” of creation. The successive creation events begin on specific days, but are completed some time later (see below). This strategy effectively transforms the “intermittent” creation days into the “overlapping day-age” model.

Multiple-creation Models with Sequential but Non-literal Days

Non-literal Days. Various suggestions have been made that cut the relationship between literal days and the creation process. One is the “day-age” interpretation discussed in the next section. A similar suggestion is the “relativistic day” interpretation of Schroeder¹⁴ that proposes that “day” means a regular day to humans, but a period of time much different to God.

A third suggestion is that the Genesis “days” are “days of proclamation” or “fiat,” in which God uttered the creative words in a series of six literal days. Each fiat might have initiated the creation process, but the events were only completed some time during the millions of years of the “age.”¹⁵ The latter proposal has the obvious problem of how one can have a first literal “day” before the solar system (or even the universe) was created.¹⁶ Another problem with this interpretation is that Genesis records “and it was so” before the conclusion of

¹¹ For a similar view in the context of a variant of the day-age model, see D. Fischer, “The Days of Creation: Hours or Eons?” *Perspectives on Science and Christian Faith* 42 (1990): 15–22.

¹² E.g., R. C. Newman, 1999. “Progressive Creationism (Old-Earth Creationism),” in *Three Views on Creation and Evolution*, ed. J. P. Moreland and J. M. Reynolds (Grand Rapids: Zondervan, 1999), 105–141; D. England, *A Christian View of Origins* (Grand Rapids: Baker, 1972) [not seen].

¹³ Newman, 107; England, 110–111 [not seen].

¹⁴ G. L. Schroeder, G.L. *The Science of God* (New York: Free, 1997).

¹⁵ H. Miller, *The Testimony of the Rocks* (New York: Boston, Gould and Lincoln, 1867), 143, cited in Taylor; A. Hayward, *Creation and Evolution: The Facts and the Fallacies* (London: Triangle, 1985), 167–178. This is the effect of “overlapping day-age” models, including Newman’s “intermittent day” proposal.

¹⁶ This is also an objection to recent creation models that include the creation of the entire universe in the six days of Genesis.

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each day. This seems to indicate that each day's creative activity was completed before the beginning of the next day.

Each of these interpretations, in the form discussed here, attempts to retain the sequence of Genesis events. Hence, they are included with "day-age" models.

In contrast, some models reject both the literalness of the days of creation and the sequence of creation events. One variant of this category is the suggestion that the Genesis "days" are days of revelation, in which Moses received a series of six symbolic visions about the creation,¹⁷ but the actual sequence of creation is not revealed. Another member of this category is the proposal that the "days" of creation are overlapping ages. Each age began when God uttered a command, but the actual creation events may have been completed during any of the "ages."¹⁸ Again, the sequence of creation is unspecified.

The "literary framework interpretation"¹⁹ is the best-known model of this type within the long-age creation category. In this view, the Genesis "days" are somehow "analogues" of God's activity in heaven. Models that do not maintain the Genesis sequence are included in the "non-literal, non-sequential days" category.

Day-Age Theory. I include here any model that maintains the Genesis sequence of creation and in which the events of a creation "day" are not completed in a literal day, but may extend over long, sequential ages of indefinite length.²⁰ The following models should be included: the "overlapping day-age" theory²¹; the "intermittent-day" theory of Newman²²; and the "relativistic-day" theory of Schroeder.²³ The day-age interpretation can also be included in a model of theistic evolution. Since all sequence-based, long-age models of origins conflict with the order of the fossil sequence, the problems described here would also apply to any theistic evolution model that attempts to preserve the Genesis creation sequence.

The "day-age" interpretation has very serious exegetical issues.²⁴ The exegetical problems include the biblical description of each day as literal, with an

¹⁷ P. J. Wiseman, *Clues to Creation in Genesis* (London: Marshall, Morgan and Scott, 1977); cited in Hayward, chap. 10, note 13 (see note 14).

¹⁸ H. Ross and G. L. Archer, "The Day-Age View," in *The Genesis Debate*, ed. D. G. Hagopian (Mission Viejo: Crux, 2001), 123–163.

¹⁹ L. Irons and M. G. Kline, "The Framework View," in Hagopian; M. G. Kline, "Space and Time in the Genesis Cosmogony," *Perspectives on Science and Christian Faith* 48 (1996): 2–15. The basic idea of the framework hypothesis is also compatible with theistic evolutionary models.

²⁰ Ross and Archer, 123–163.

²¹ Embraced by P. P. T. Pun, *Evolution: Nature and Scripture in Conflict?* (Grand Rapids: Zondervan, 1985), 265; also apparently by Fischer.

²² Newman, 105–141.

²³ G. L. Schroeder, *The Science of God* (New York: Free, 1997).

²⁴ G. F. Hasel, "The 'Days' of Creation in Genesis 1: Literal 'Days' or Figurative 'Periods/EPOCHS' of Time?" *Origins* 21 (1994): 5–38; Thompson, 132–147; J. A. Pipa, "From Chaos to

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evening and a morning. The phrase "and it was so" precedes the statement "and the morning and the evening were the [nth] day" and seems to indicate that the action of each day was completed before the day ended. Also, the fourth commandment specifies a literal Sabbath day as commemorating the (by inference) literal creation days. It is widely acknowledged that the natural reading of the text is that the days were literal.²⁵

Scientific issues were probably more influential than the exegetical problems in causing the demise of the day-age theory.²⁶ The sequence of creation events does not match the sequence seen in the fossil record. In Genesis 1, the creation sequence of living groups is:

- 1) land plants and fruit-bearing trees (Day 3);
- 2) water creatures and flying creatures (Day 5);
- 3) land vertebrates including mammals and humans (Day 6).

In the fossil record, the sequence of first appearances is

- 1) water creatures (Cambrian);
- 2) some land plants and land insects (Silurian);
- 3) flying insects and land vertebrates (Carboniferous);
- 4) mammals (Triassic-Cretaceous);
- 5) birds (Jurassic/Cretaceous);
- 6) fruit-bearing trees (Cretaceous);
- 7) humans. (Plio/Pleistocene)

The primary similarity is that humans appear last in both lists and that water creatures appear before flying or land creatures. Otherwise, the lists are quite different.

These problems have led to the wide-scale abandonment of the day-age interpretation by most scholars. Hugh Ross, of *Reasons to Believe*, is probably the most vocal contemporary proponent of the day-age interpretation of multiple creations. Ross argues that the sequences are actually in harmony.²⁷ Ross appeals to flying insects rather than birds to place flying creatures before land creatures. However, if flying insects are to be included, land insects should also be included, and they appear before flying insects in the fossil record.²⁸ The relative order of land plants and water creatures differs in the two sequences, as

Cosmos: A Critique of the Non-Literal Interpretations of Genesis 1:1–2:3," in *Did God Create in Six Days?* ed. J. A. Pipa and D. W. Hall (Taylors: Southern Presbyterian P, 1999), 153–198.

²⁵ E.g., R. L. Harris, "The Length of the Creative Days in Genesis 1," in Pipa and Hall, 101–111; P. P. T. Pun, "A Theology of Progressive Creationism," *Perspectives on Science and Christian Faith* 39 (1987): 9–19.

²⁶ A. Hayward, *Creation and Evolution: The Facts and the Fallacies* (London: Triangle, 1985), 166.

²⁷ This remarkable claim is made in Ross and Archer in Hagopian, 123–163. See also the web site at: <http://www.reasons.org/resources/apologetics/testablecreationsummary.shtml?main>.

²⁸ M. J. Benton, *Fossil Record*, 2.

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does the relative order of flying creatures and land creatures. These conflicts are sufficient to falsify all long-age models that incorporate the sequence of Genesis 1.

The conflict between the sequence of Genesis and the sequence of the fossil record has been known for more than a century. Thomas Huxley commented on attempts to reconcile Genesis with geology in a debate with William Gladstone. Gladstone apparently promoted the view that the days of creation were successive long ages, evolution was the method used by God to create, and the fossil sequence supported the sequence in Genesis. In a memorable passage, Huxley responded to this proposal:

This statement appears to me to be the interpretation of Genesis which Mr. Gladstone supports, reduced to its simplest expression. "Period of time" is substituted for "day"; "originated" is substituted for "created"; and "any order required" for that adopted by Mr. Gladstone. It is necessary to make this proviso, for if "day" may mean a few million years, and "creation" may mean evolution, then it is obvious that the order (1) water-population, (2) air-population, (3) land-population, may also mean (1) water-population, (2) land-population, (3) air-population; and it would be unkind to bind down the reconcilers to this detail when one has parted with so many others to oblige them.²⁹

Non-literal, Non-sequential Days. Some scholars have proposed that the creation "days" are not literal periods of time, but refer figuratively to God's activity in creating. Overlapping day-age models are included in this category if they deny that the sequence of creation events is actually the same as that recorded in Genesis. Theistic evolution models could probably also fit this description, although they are discussed in a different section of this paper.

Framework Hypothesis. One of the best-known models in this category is the literary framework hypothesis.³⁰ The literary framework interpretation treats the "days" of Genesis 1 as neither literal nor sequential, but merely as a literary device for telling the theological truth that the world is a creation. No model of creation is offered, although the special creation of a personal Adam and his subsequent Fall are considered to be true historical events.

A key concept of the framework hypothesis is the "two-register cosmology." According to this formulation, the earth forms a visible "lower register" and the heavens form an invisible "upper register." The two "registers" are related "analogically." This framework is applied to Genesis 1 to explain the "days" as periods of time that belong to the invisible "upper register," and not to the literal world in which the creation events took place. The authors insist that creation "days" refer to something real and significant in the "upper register,"

²⁹ T. H. Huxley, 1885. "The Interpreters of Genesis and the Interpreters of Nature," *Collected Essays IV* (1885), 155, 156; <http://aleph0.clarku.edu/huxley/CE4/LecEvol.html>

³⁰ Kline; Irons and Kline, see note 18; for a brief history of the idea, see Thompson, 215–218.

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although it is not clear just what that means, since they deny the sequence represented in God's "daily" activities.

The literary framework interpretation is not really a creation model, but an exegetical hypothesis. It makes no predictions about the fossil sequence and is infinitely flexible in its application. Therefore, the framework hypothesis is a non-scientific theory and must be evaluated exegetically and theologically.

Exegetically, the framework interpretation has very serious problems.³¹ The narrative style of the text, the words used to describe the events, and the rest of Scripture, including the fourth commandment, all combine to indicate the author's intention to describe literal, consecutive days. All New Testament writers appear to accept the Genesis story as literal.³²

The literary framework interpretation has the ability to explain away any exegetical inconvenience by referring it to the invisible "upper register," where it need not concern us. Any text that challenges our own opinions can be safely removed from the "real world" in which we live and relegated to the invisible "upper register," where its meaning can be as vague as we like.

The framework interpretation suffers from the implication of a distinct separation of God's activities in the "upper register" from the world of the "lower register." God is continuously acting throughout the entire universe and is not confined to an "upper register."³³ It also faces serious theological problems with its implications for the character of a God who intentionally created a world of violence, death, and suffering.³⁴

"Serial Creation" Model. The idea of "progressive creation" was championed by Bernard Ramm.³⁵ I use the term "serial creation" because subsequent discussion has blurred the meaning of the term "progressive creation." According to this model, the fossil record shows two kinds of "creative" processes: creation by fiat; and diversification by ordinary processes, guided by the Holy Spirit. Instances of fiat creation can be identified by the sudden appearance of new types of organisms in the fossil record. The number of creation episodes is not specified and can be adjusted to whatever the fossil record indicates. Between creation events, numerous varieties of pre-existing types were "evolved," producing more nearly continuous fossil sequences. The major idea of the model can be summarized in the phrase that evolution can proceed "horizontally [variations] but not vertically [new types of organisms]."

³¹ For a brief history of the idea, see Thompson 215–218; for a critique, see Joseph Pipa, "From Chaos to Cosmos: A critique of the Framework Hypothesis," in J.A. Pipa and D.W. Hall, 153–198.

³² R. M. Davidson, "In the Beginning: How to Interpret Genesis 1," *Dialogue* 6/3 (1994): 9–12 (note 14).

³³ Ross and Archer, 274.

³⁴ A criticism repeated, ironically, by a theistic evolutionist: K. R. Miller, 1999. *Finding Darwin's God: A Scientist's Search for Common Ground Between God and Evolution* (1999), (New York: Perennial, 2002), 128.

³⁵ See Ramm.

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The “serial creation” model attempts to explain the fossil sequence by appealing to a Creator whenever a gap is found in the fossil record and appealing to “natural” processes the rest of the time. The model makes no predictions; hence philosophical and theological considerations must dominate any evaluation of the model. Philosophically, the model is unsatisfying because it is entirely conjectural and ad hoc. One may choose to believe it, but there is no particular reason to do so. Theologically, the model requires a long history of repeated destructive catastrophes. Biblically, the model is based on inconsistent exegesis, accepting some parts of the biblical story of creation as real, while denying other parts of the story. Scientifically, it resembles the theory that God supernaturally arranged the fossil sequence during the Flood. For these reasons, and others, the theory of “serial creation” has never gained widespread acceptance.

Problems Specific to Long-age Creation Models

All long-age creation models suffer from numerous problems. Many of these problems are shared with theistic evolution and will be discussed later. A few problems unique to long-age creation are noted below.

First, all versions of long-age creation are essentially conjectural. They all lack direct support, either scientific or biblical. There is nothing in the Bible or in science to suggest that God created our world in a series of discrete, supernatural acts over long ages of time. Any observation in the fossil sequence can be “solved” with the statement that “God did it.” While this makes the theory difficult to falsify, it also makes it difficult to defend. There seems no particular reason to accept the theory of long-age creation in any of its forms.

Second, all forms of long-age creation that preserve the sequence of events outlined in Genesis are in conflict with the sequence of the fossil record. Thus, the intermittent day theory and day-age theory are both scientifically untenable. Attempts to modify these theories to match the fossil sequence, such as the proposal that the “day” are “overlapping,” convert them into a different category of models: those that invoke non-sequential, non-literal days of creation. Models in this category, such as the framework interpretation, do not explain anything in nature; they merely attempt to explain away the creation text of Genesis and offer no substance of their own.

Third, there is a troubling inconsistency in interpreting Genesis 1 in a long-age context.

[O]ld earth special creationism, by its choice to accept the scientifically derived timetable for cosmic history, is in the exceedingly awkward position of attempting to interpret some of the Genesis narrative’s pictorial elements (interpreted as episodes of special creation)

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as historical particulars but treating the narrative's seven-day timetable as being figurative.³⁶

Thomas Huxley, not known for his "political correctness," stated the problem rather sarcastically:

If we are to listen to many expositors of no mean authority, we must believe that what seems so clearly defined in Genesis—as if very great pains had been taken that there should be no possibility of mistake—is not the meaning of the text at all. The account is divided into periods that we may make just as long or as short as convenience requires. . . . A person who is not a Hebrew scholar can only stand aside and admire the marvelous flexibility of a language which admits of such diverse interpretations.³⁷

Fourth, a multiple creation model is also a multiple destruction model. The fossil record is a record of death and extinction, including numerous mass extinctions in which large numbers of species disappear from the record simultaneously. The extinction of a single species requires the death of every individual of that species. It is not difficult to understand how this can happen if the species is confined to a small region. It is much more difficult to explain the extinction of an entire order or class of organisms, especially if the group has a global distribution. Such extinctions require catastrophic events of global magnitude. What kind of god would repeatedly create and destroy on a global scale?³⁸

Numerous other problems are shared with theistic evolution and will be discussed later in this paper. They include the problem of the origin of humans, the effects of the Fall, the problem of multiple mass destructions, and the problem of death before sin.

Summary

Several models of long-age creation have been proposed. They share two characteristics: acceptance of the long geological time scale and the separate creation of humans and other lineages. When the models are considered in detail, it is apparent that none of them is free of scientific problems. The gap model predicts a gap in the fossil record which is non-existent. The intermittent creation day model and the day-age model conflict with the fossil sequence. The literary framework interpretation merely explains every observation in the fossil column with the words "God did it" (or, perhaps, "the devil did it.") Neither the "days" nor the sequence have any literal or even symbolic meaning. Problems in interpretation are not solved, but merely pushed off into some ethereal "upper register." Overlapping day-age models seem logically problematic due to the

³⁶ H. J. Van Till, 1999. "The Fully Gifted Creation," 161–218 in Moreland and Reynolds, 211.

³⁷ T. H. Huxley, "The Three Hypotheses Respecting the History of Nature," *Collected Essays IV* (1877); downloaded from the web at <http://aleph0.clarku.edu/huxley/CE4/LecEvol.html>

³⁸ K. Miller.

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attempt to blend the sequence of Genesis days with a denial of the sequence of events of those same days.

Long-age creation models were proposed with the intention of resolving the scientific problems faced by the biblical literal, phenomenological model. However, all long-age creation models have serious scientific problems. The fossil sequence falsifies most of the clearly stated models of long-age creation. The historical setting of Adam and the effects of the Fall are problems for all long-age creation models. Scientific problems can be minimized only at the cost of trivializing important issues and denying the teaching of Scripture.

It seems pointless to reject the obvious meaning of Genesis on scientific grounds in order to accept another model with serious scientific problems. Seventh-day Adventists cannot improve their position by adopting any model of long-age creation.

Ellen White was aware of the day-age theory and firmly rejected it:

But the infidel supposition, that the events of the first week required seven vast, indefinite periods for their accomplishment, strikes directly at the foundation of the Sabbath of the fourth commandment. It makes indefinite and obscure that which God has made very plain. It is the worst kind of infidelity; for with many who profess to believe the record of creation, it is infidelity in disguise. It charges God with commanding men to observe the week of seven literal days in commemoration of seven indefinite periods, which is unlike his dealings with mortals, and is an impeachment of his wisdom.³⁹

This point seems to apply to any of the theories in which the Genesis days are not interpreted as literal days of creation.

Theistic Evolution Models

Theistic evolution models include any models that are based on 1) universal common ancestry of all organisms, including humans, and 2) the common descent of all organisms as the result of a divinely guided process over long ages of geological time. Several other terms are sometimes used for models of this type: “evolutionary creation”⁴⁰; “fully-gifted creation”⁴¹; “providential evolution”⁴²; and continuous creation.⁴³

³⁹ E. G. White, 1 SP 86:2; 3 SG 91:1.

⁴⁰ G. B. McGrath, “Soteriology: Adam and the Fall,” *Perspectives on Science and Christian Faith* 49 (1997): 252–263; McGrath comes close to using the term “progressive creation” for his version of theistic evolution.

⁴¹ Van Till, in Moreland and Reynolds, 161–218.

⁴² G. P. Elder, *Chronic Vigour: Darwin, Anglicans, Catholics and the Development of a Doctrine of Providential Evolution* (Lanham: UP of America, 1996).

⁴³ Discussed in T. Peters, “On Creating the Cosmos,” in *Physics, Philosophy and Theology*, ed. R. J. Russell, W. R. Stoeger, and G. W. Coyne (Vatican Observatory-Vatican City State) (Notre Dame: Notre Dame P, 1988), 273–296.

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Theistic evolution models differ among themselves primarily in how they propose divine guidance is accomplished.⁴⁴ The number of minor variants of theistic evolution is too large to consider each one separately, but they can be grouped into categories. I will use three categories. One category includes views holding that God created nature to be autonomous, so that continuing divine influence on nature is unnecessary. The second category is that God is continuously interacting with nature in the regularities we recognize as natural law, yet He is somehow influencing the outcome for His own purposes. The third category is the view that God is constantly tinkering with nature, much as a mechanic would tinker in his shop.

Theistic Evolution Through Autonomous "Natural Law"

One form of theistic evolution holds that nature is autonomous. This seems to be the view of Van Till, who calls it the "fully gifted creation." According to Van Till, God did not "withhold" anything from the creation that would be needed for it to maintain "functional integrity."

In this view, God does not personally control any natural event. Instead, God intentionally designed the laws of nature so that evolution is the natural result. God established the laws of nature at the time of the Big Bang, and no further divine action is needed.⁴⁵ God intended that consciousness would evolve, but He did not need to "coerce material into assuming forms that it was insufficiently equipped to actualize with its God-given capabilities."⁴⁶

The emphasis here is on the sufficiency of natural law. God is not a participant in the evolutionary process, but merely an observer. This view would be ordinary deism except for one thing. Van Till does allow God to occasionally intervene in the lives of believers,⁴⁷ but apparently not in the flow of nature. So the model is quasi-deistic, although Van Till dislikes that term.

The autonomous model of theistic evolution has some very serious difficulties. In the Bible, nature is not autonomous, but totally and continuously dependent on God for continued existence. There is no biblical support for the idea of a God who does not interact with His creation, and much biblical evidence against this idea.

Scientifically, this model has serious problems. There are too many apparent gaps in the "natural economy." Some of the most glaring examples include: the cause of the Big Bang; the origin of life⁴⁸; the origin of gender and sexual reproduction; the origins of the metazoan phyla and classes in the "Cambrian

⁴⁴ Gilbersen and Yerxa, 172.

⁴⁵ A. Peacocke, "Biology and a Theology of Evolution," *Zygon* 34 (1999): 695–712.

⁴⁶ Van Till, 187 (see note 38; note the highly prejudicial language).

⁴⁷ *Ibid.*

⁴⁸ W. L. Bradley, "Response to Howard J. Van Till," in Moreland and Reynolds, 219–225.

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Explosion”⁴⁹ and other major groups; the origins of multicellularity, cellular differentiation, and embryonic development; the rapid radiation (assuming the long age view) of “crown groups” of mammals and birds around the Cretaceous-Tertiary boundary⁵⁰; and the origin of consciousness, language and morality in humans. No known natural law can explain the origin of any of these phenomena. The fact that they may operate in harmony with natural law says nothing about their respective origins.

Second, there seems to be too much evidence of intelligent design in nature. For example, the structure of the human brain appears to be designed for far more mental capacity than required for survival under the “law” of natural selection.

Theistic Evolution Driven by “Divine Influence”

Most versions of theistic evolution postulate that God continuously interacts with nature. Nature is not autonomous, but is totally dependent on God’s continuous sustaining activity. God’s activity is observed in the “laws of nature.” But God is not merely sustaining nature; He is somehow influencing its directionality.⁵¹ As God sustains nature, He somehow acts providentially to bring about His will in ways that are generally undetectable to us. This raises the issue of how God can influence nature to accomplish His will without violating the regularity of the natural laws He chose as His method of sustaining the universe.

Some have proposed that God acts through chaotic systems that are unpredictable to us, although it is possible that God can predict the outcome.⁵² However, chaotic systems, while unpredictable to us, are driven by deterministic mathematical equations.⁵³ Another possibility is that quantum uncertainty may provide an opening for God to act in undetectable ways.⁵⁴ However, quantum events, although uncertain individually, act statistically in predictable, law-like ways⁵⁵ that tend toward determinism rather than an opening for divine action.

⁴⁹ Many scholars have discussed this point. It was raised specifically in response to Van Till’s view in J. J. Davis, “Response to Howard J. Van Till,” in Moreland and Reynolds, 226–230.

⁵⁰ E.g., W. R. Stoeger, 1997. “Describing God’s Action in the World in Light of Scientific Knowledge of Reality,” in *Chaos and Complexity: Scientific Perspectives on Divine Action*, 2nd ed., ed. R. J. Russell, N. Murphy, and A. R. Peacocke (Vatican City State: Vatican Observatory, 1997), 239–261.

⁵¹ Numerous “radiations” have been identified in the fossil record. For a discussion of the problem, see L. J. Gibson, Rates of Evolution, Unpublished manuscript, Geoscience Research Institute.

⁵² E.g., J. Polkinghorne, *Science and Providence: God’s Interaction with the World* (London: SPCK, 1989).

⁵³ T. F. Tracy, “Particular Providence and the God of the Gaps,” in Russell, Murphy, and Peacocke, 289–324; A. Peacocke, “God’s Interaction with the World: The Implications of Deterministic ‘Chaos’ and of Interconnected and Interdependent Complexity,” in Russell, Murphy, and Peacocke, 263–287.

⁵⁴ Pollack; Russell.

⁵⁵ Polkinghorne, 26–28; J. Polkinghorne, 1988. “The Quantum World,” in Russell, Stoeger, and Coyne, 333–342.

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This model, or one much like it, is widely held among scientists, and is the primary object of criticism by the intelligent design group. If natural law is sufficient to explain evolution without God's intervention, why insist that there is actually an invisible, undetectable God somehow acting to influence events?⁵⁶

Some versions of theistic evolution are open to the possibility of occasional direct divine "intervention," as in miracles.⁵⁷ Miracles are uncommon, special acts of God. Miracles for the benefit of believers are often accepted by theistic evolutionists,⁵⁸ but usually not in nature.⁵⁹ Some, however, would permit miracles in the course of nature. God might intervene in nature, for example to help evolutionary processes over difficult obstacles,⁶⁰ such as the gaps mentioned previously.

Theistic Evolution Through Constant Divine "Tinkering"

A third model of theistic evolution proposes that God is continuously and directly experimenting with nature. In its most rigid form, this model is highly deterministic, with every atomic movement individually directed by God. Alternatively, natural law might limit what God can do, but He can still constantly tinker to see what can be done through genetic experimentation, etc.

This model has not been widely promoted or accepted, perhaps because it implies that God is directly causing every event in the universe. Most of us believe we have free wills, which would not be the case if God were directing every event at the atomic level. Furthermore, most people conceive of a good God and exclude the possibility that He is directly causing every cancerous tumor, every genetic defect, and every murder.

Problems with Theistic Evolution Models

All forms of theistic evolution have numerous problems. First, a direct reading of the fossil record, even with the assumption of the long age geological time scale, does not suggest a single evolutionary tree with all organisms descending from a common ancestor. The "evolutionary tree" reflected in the fossil record is full of morphological gaps.⁶¹ These are especially glaring at the level of phyla and classes. The morphological pattern in the fossil record is summarized in the phrase "disparity precedes diversity."⁶² Descent with modification would produce the opposite pattern.

⁵⁶ Davis, 228.

⁵⁷ M. A. Jeeves and R. J. Berry, *Science, Life, and Christian Belief* (Grand Rapids: Baker, 1998); R. J. Berry, "What to Believe About Miracles," *Nature* 322 (1986): 321–322.

⁵⁸ Miller, 239; Polkinghorne, *Science and Providence*, 45–58.

⁵⁹ Miller, 218; Peacocke, 695–712.

⁶⁰ Mentioned briefly in Jeeves and Berry, 79; and advocated more explicitly in G. C. Mills, "A Theory of Theistic Evolution as an Alternative to the Naturalistic Theory," *Perspectives on Science and Christian Faith* 47 (1995): 112–122.

⁶¹ A. Hoffman, *Arguments on Evolution* (New York: Oxford UP, 1989), 8.

⁶² S. J. Gould, *Wonderful Life* (New York: W.W. Norton, 1989), 49.

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Second, the fossil record exhibits too much evidence of evil for the evolutionary process to appear guided by a beneficent creator. There are too many extinctions and too much evidence of suffering and disease. The problem is not solved by the various suggestions that have been offered⁶³: e.g., that we may be wrong in judging such things as evil⁶⁴; or that God's participation in suffering somehow makes it easier to take⁶⁵; or that God had to work with nature as it is⁶⁶; or that suffering is the price God had to pay in order to produce what He wanted.⁶⁷

Third, the deleterious effects of most observed mutations seem difficult to reconcile with the notion that God is guiding them. The origin of cancer and birth defects from mutations are related problems.⁶⁸

Fourth, the origin of morally accountable humans is a difficult problem for all forms of theistic evolution. How can a continuous, gradual process account for a discontinuity in the origin of spiritual humans? In other words, how would one justify the position that a particular individual was morally accountable but his parents were not? A variety of conjectures have been brought forward, but none of them seems satisfactory. One proposal is that the humans gradually became morally conscious and gradually fell.⁶⁹ Another suggestion is that Adam was not the first genuine human, but a person in whom God chose to create His "image."⁷⁰ Another idea is that hominids became human when they gained a religious sense.⁷¹ All these views imply that some human-like fossils are not truly "human." By the same reasoning, one may ask whether all living races of humans are truly "human."⁷² Both biblical and scientific data indicate that all humans are truly members of the same species in every respect.

Fifth, the possibility of human freedom seems difficult to harmonize with the view that the human mind arose through purely natural processes in which all chemical reactions were and are driven by natural law. Natural law does not seem capable of producing a brain with freedom of choice. Quantum uncertainty

⁶³ Summarized in R. Wennberg, "Animal Suffering and the Problem of Evil," *Christian Scholar's Review* 21 (1991): 120–140.

⁶⁴ R. J. Berry, "This Cursed Earth: Is 'the Fall' Credible?" *Science and Christian Belief* 11 (1999): 29–49, 42. Berry claims that "evil" in the pre-Adamic world is just an error in our interpretation, not the actual state of nature.

⁶⁵ Polkinghorne, *Science and Providence*, 59–68.

⁶⁶ Miller, 218.

⁶⁷ Peacocke, 695–712.

⁶⁸ Famously noted by Weinberg.

⁶⁹ A. J. Day, "Adam, Anthropology and the Genesis Record—Taking Genesis Seriously in the Light of Contemporary Science," *Science and Christian Belief* 19 (1998): 115–143.

⁷⁰ A. Held and P. Rust, "Genesis Reconsidered," *Perspectives on Science and Christian Faith* 51 (1999): 231–243.

⁷¹ R. A. Clouser, "Genesis on the Origin of the Human Race," *Perspectives on Science and Christian Faith* 43 (1991): 2–13.

⁷² Jeeves and Berry affirm that not all humans are genetically related to Adam, although they do not claim this makes them non-human.

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has been suggested as a solution to this problem, but quantum processes do not really provide a suitable mechanism for freedom of choice.⁷³ Individual events are unpredictable, which is not a good basis for free choice. Collective events are statistically deterministic, again not a good basis for free choice. Most humans believe they actually have freedom of choice, and they hold other humans accountable for their behavior. This would not be logical if natural law and/or God were directing every atom and every chemical reaction, rather than some reactions being subject to human will.

Sixth, the "Fall" of Adam is difficult to explain in the context of theistic evolution. In evolution, humans are on an upward trajectory⁷⁴ rather than the downward trajectory described in the Bible. This implication of theistic evolution introduces theological problems by undermining the biblical teaching of Calvary and the atonement.

Seventh, theistic evolution tends toward pantheism, although not all advocates accept pantheism.⁷⁵ The proposal that God is somehow acting "within" the creation, continuously influencing its directionality, tends to blur the distinction between Creator and creation in the minds of some theistic evolutionists.

Theistic evolution raises many other, serious biblical and theological problems. These are too numerous to discuss here, but some of them have been discussed elsewhere.⁷⁶

General Problems with All Intermediate Models

Certain problems are inherent in all intermediate models of origins, whether long-age creation or theistic evolution. The origin of humans in the image of God and the relationship of natural evil to the Fall of Adam are perhaps the most interesting of these.

The Problem of Adam and the Origin of Humans. All intermediate models of origins have a serious practical problem with the origin of humans. When one accepts the long geological time scale, one by implication accepts that there was a series of increasingly human-like fossils, stretching back more than a million years. Where do Adam and Eve fit into this scenario?

Theistic evolutionists often deny there was an actual individual Adam, claiming that Adam was a generic representation of the evolutionary advance

⁷³ Polkinghorne, "Quantum World," 340.

⁷⁴ Peacocke, 701.

⁷⁵ E.g., Peacocke does; Polkinghorne does not).

⁷⁶ E.g., F. Van Dyke, "Theological Problems of Theistic Evolution," *Perspectives on Science and Christian Faith* 38 (1986): 11–18; L. J. Gibson, "Theistic Evolution: Is It for Adventists?" *Ministry* (January 1992), 22–25; A. M. Rodriguez, "Theistic Evolution and the Adventist Faith: An Analysis," unpublished paper presented at the East-Central Africa Division Faith and Science Conference, Nairobi, Kenya, 5–6 May 2004.

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from primate to human.⁷⁷ Another view is that Adam was a divinely selected individual in whom God implanted a soul.⁷⁸ Some theistic evolutionists accept the reality of Adam as a Neolithic farmer with emergent self-consciousness rather than a soul.⁷⁹ This Adam was not the ancestor of all humans, but the “federal representative” of the race. The image of God was first placed in Adam and later perhaps given to the remainder of the species.

Long-age creationists have responded in a variety of ways. Some have proposed that Adam was created less than ten thousand years ago⁸⁰ or as much as 60,000 years ago⁸¹ in a world already containing other human-like lineages. Another proposal is that Adam was the first anatomically modern human,⁸² created perhaps one hundred fifty thousand years ago. In either case, there were already human-like but non-spiritual organisms in existence before the creation of Adam. These purported groups are the “pre-Adamites.” Yet another proposal is that language is a defining capability of humans, and paleoanthropological evidence indicates the existence of language at least 400,000 years ago, and perhaps as far back as two million years.⁸³

What, then, is the origin of the “pre-Adamites?” Were they simply animals created by God with human bodies and animal natures? Were they human-like animals produced by Satan’s experiments? Did they leave any living descendants? Multiple creation theories would propose answers to these questions different from theistic evolution theories, but both would share the problem of locating Adam in history.

According to anthropologists, American aborigines reached the New World before 10,000 years ago, and Australian aborigines reached Australia by 40,000 years ago. Europe has been continuously populated for some 35,000 years. The out-of-Africa hypothesis of human origins proposes that humans and their ancestors have lived in Africa for several million years. Placing the creation of Adam less than 10,000 years ago raises the question of how his sin could affect the rest of mankind, since many groups of humans would not be genetically related to him.⁸⁴ It also seems to imply that the atoning sacrifice of the “second

⁷⁷ Day, 115–143; Jeeves and Berry, chapters 7, 8.

⁷⁸ Adam defined by receiving a soul is the most common explanation for the origin of humans in theistic evolution theories.

⁷⁹ Jeeves and Berry, chapters 7, 8.

⁸⁰ D. Fischer, “In Search of the Historical Adam: Part 1,” *Perspectives on Science and Christian Faith* 45 (1993): 241–251; D. Fischer, “In Search of the Historical Adam: Part 2,” *Perspectives on Science and Christian Faith* 46 (1994): 47–57.

⁸¹ Ross; Ross and Archer, 141.

⁸² D. L. Wilcox, “Adam, Where Are You? Changing Paradigms in Paleoanthropology,” *Perspectives on Science and Christian Faith* 48 (1996): 88–96.

⁸³ G. R. Morton, “Dating Adam,” *Perspectives on Science and Christian Faith* 51 (1999): 87–97.

⁸⁴ R. Russman, Correspondence, *Perspectives on Science and Christian Belief* 12 (2000): 165–166.

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Adam" does not benefit most races of humans, since they are not descendants of the first Adam. On the other hand, extending the time for Adam's creation back several millions of years to include all "hominids" means that the image of God is present in the australopithecines, or at least in the erectines.⁸⁵ This is as difficult to accept on scientific grounds as on scriptural grounds.

The Problem of the Effects of Adam's "Fall" on Nature

The Fall of Adam into sin is identified in the Bible as a major turning point in human experience, with serious effects on nature as well as on the human condition. Integrating the Fall into a long-age chronology poses significant challenges.

Those interpretations of the Fall that propose a significant change in nature when Adam sinned run into scientific trouble with the fossil record, since evidence of disease, predation, and mass extinction are found throughout the fossil record.

On the other hand, those interpretations that attribute no physical changes in nature at the Fall run into theological trouble with the relationship of moral and natural evil.⁸⁶ Attributing natural evil to God's intentions does not fit with the biblical revelation of God's character and seems contrary to the biblical promises of redemption and restoration. This problem is discussed further in the next section.

Theistic evolutionists often reject the story of Adam's Fall, interpreting it as symbolic of the undeniable fact that we are estranged from God and in a less than ideal world.⁸⁷ Some claim there was no fall, but "we appear to be rising beasts rather than fallen angels"⁸⁸ Such views conflict with the most fundamental teachings of Scripture.

Berry offers a contrasting position, that there was a real Fall, which was a failure in responsibility by Adam and Eve.⁸⁹ The result of the Fall was the negative ecological effects resulting from the abuse of nature by humans. However, if ecological problems are a moral evil, who was responsible for them before Adam sinned?

The Problem of Death and Suffering Before Sin

The problem of death and suffering is related to the problem of the effects of the Fall, but can be discussed separately. All long-age models entail the idea

⁸⁵ Morton, 87–97.

⁸⁶ R. Isaac, "Chronology of the Fall" *Perspectives on Science and Christian Faith* 48 (1996): 34–42; see also, R. C. W. Roennfeldt, "Some Theological Implications of Three Christian Origins Models," unpublished paper presented at the South Pacific Division Faith and Science Conference, Avondale College, 11–14 July 2003.

⁸⁷ The fall as a symbol of estrangement.

⁸⁸ Peacocke, 701.

⁸⁹ Berry, "This Cursed Earth."

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of death and suffering before, and thus independent of, the sin of Adam. The fossil record thus becomes a record of God's activity, not a record of the results of Adam's sin. Repeated episodes of mass extinctions in the fossil record do not seem to reflect the behavior of a caring Creator. What kind of God would permit, or cause, such mass destruction for no apparent reason?

It is commonly claimed that the "death" that resulted from Adam's sin was only a "spiritual" death⁹⁰; physical death was already in force. This conclusion has been severely criticized. Death resulting from Adam's Fall must have been physical, since it involved returning to dust, and was facilitated by preventing access to the "tree of life."⁹¹ Furthermore, restoration involves resurrection of the body. Indeed, physical death is the sign of spiritual death.⁹²

The claim that God depended on death and suffering in order to create living organisms is neither intellectually satisfying nor consistent with Scripture.⁹³ Some scholars have even suggested that God was inexperienced as a Creator and had to learn by practice.⁹⁴

The existence of disease and suffering is another aspect of natural evil that has not received as much attention as the problem of death before sin. Yet there is good evidence that animals suffer now, and that they suffered from disease, injury, and perhaps even emotional trauma in the past.⁹⁵ Suffering is not necessary for evolution, and it is difficult to see how it can be justified theologically. A common response is simply to give up trying to justify suffering and speculate that somehow it is part of "God's good creation."⁹⁶ This leaves the problem unresolved and is a major theological challenge to all long-age models of origins.

Some have attempted to clear God of responsibility for evil by removing Him from direct control over nature. Kenneth Miller is an example of this thinking when he criticizes the theological implications of God directing nature:

Intelligent design [Miller's term for multiple creations] does a terrible disservice to God by casting Him as a magician who periodically creates and creates and then creates again throughout the geologic ages.

⁹⁰ E.g., Berry, "This Cursed Earth"; Ross, 61–64; C. Menninga, "Disease and Dying in the Fossil Record: Implication for Christian Theology," *Perspectives on Science and Christian Faith* 51 (1999): 226–230.

⁹¹ P. G. Nelson, Correspondence, *Perspectives on Science and Christian Belief* 12 (2000): 166–167.

⁹² P. Duce, Comment on "This Cursed Earth," *Perspectives on Science and Christian Belief* 11 (1999): 159–167.

⁹³ R. Wennberg, "Animal Suffering and the Problem of Evil," *Christian Scholar's Review* 21 (1991): 120–140; A. Peacocke, *God and the New Biology* (San Francisco: Harper and Row, 1986), 55; see also notes 52–56 in this paper.

⁹⁴ J. O. Morse, "The Great Experimenter?" *Perspectives on Science and Christian Faith* 49 (1997): 108–110.

⁹⁵ J. Stambaugh, "Creation, Suffering and the Problem of Evil," *CEN Technical Journal* 10 (1996): 391–404; Berry, "This Cursed Earth"; Menninga; Wennberg.

⁹⁶ Menninga; Berry, "This Cursed Earth."

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Those who believe that the sole purpose of the Creator was the production of the human species must answer a simple question—not because I have asked it, but because it is demanded by natural history itself. Why did this magician, in order to produce the contemporary world, find it necessary to create and destroy creatures, habitats, and ecosystems millions of times over?⁹⁷

Ironically, Miller's criticism strikes his own preferred view, theistic evolution, just as strongly. God is equally responsible whether He directly causes every evil event, or whether He simply established the laws that cause them to happen and then withdrew.⁹⁸ We do not exonerate a terrorist whose bomb explodes after he leaves the scene, but hold him just as accountable as the one who throws a grenade directly into a crowd.

A superficially more attractive but entirely conjectural answer to the problem of death before sin is the claim that pre-Adamic death and suffering are the result of Satan's rebellion.⁹⁹ This has a certain appeal, but it seems to be a strange way for a God of love to entertain Himself for billions of years. This idea also runs into serious difficulties with the problem of the lack of distinction in the fossil record between the supposed works of Satan and those of God. It is quite unsatisfactory to state that within what appears to be a single species, some individuals were actually the product of Satan's work while others were actually the product of God's work.¹⁰⁰ This becomes an especially onerous idea when applied to the human species. Most, but not necessarily all, theistic evolutionists seem to reject the existence of Satan. Thus, this explanation is primarily limited to advocates of long-age creation, who generally do believe in the existence of a personal devil.

Summary and Conclusion

We started this investigation with the question of how alternative models fare scientifically. The answer is—not very well. All of the models described here suffer from serious scientific problems or are entirely ad hoc and conjectural. It may be that there really is no way to find harmony between the biblical view of origins and current scientific thinking:

The various via media positions are attempting to reconcile viewpoints that are, in their simplest form, contradictory. . . .

These two perspectives [science and religion] can have, at best, some kind of uneasy truce. They can never be reconciled.¹⁰¹

⁹⁷ Miller, 128.

⁹⁸ C. Southgate, "God and Evolutionary Evil: Theodicy in the Light of Darwinism," *Zygon* 37 (2002): 803–824.

⁹⁹ A. Held and P. Rust, "Genesis Reconsidered," *Perspectives on Science and Christian Faith* 51 (1999): 231–243; see also references in note 5. Discussed in Wennberg and in Thompson.

¹⁰⁰ Satan's work is indistinguishable.

¹⁰¹ Giberson and Yerxa, 196.

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Biblical creation also suffers from serious scientific problems, but this does not distinguish it from the other models and seems a poor reason to prefer one of them. One may adopt an attitude of agnosticism, but this hardly seems appropriate for a Christian.

Only one family of models enjoys biblical support—the literal-phenomenal interpretation of Genesis. This is the model on which the biblical story of redemption is based and the model on which Seventh-day Adventist theology is based. Although many questions about the biblical model remain unanswered, abandoning it in favor of one of the intermediate models is like jumping out of the frying pan and into the fire.

Jim Gibson is the Director of the Geoscience Research Institute, in Loma Linda, California. He has been a member of the institute since 1984. His main interests are the present and past distributions of terrestrial vertebrates and their taxonomic relationships. After completing his B.A. and M.A. degrees at Pacific Union College, he taught academy science and mathematics in California and West Africa. Further graduate work led to the PhD from Loma Linda University in 1984, when he joined the Geoscience Research Institute. He succeeded Dr. Ariel Roth as Director of the Institute in 1994. He has participated in Creation Seminars throughout the world. He has written numerous articles on creation theory, especially issues relating to biological evolution. jgibson@univ.llu.edu