

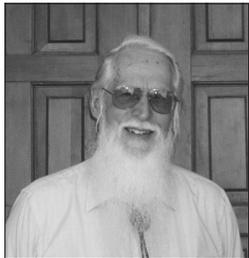


Article

Life: An Analogy Between Views of its Creation and Eternal Life

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David F. Siemens, Jr.



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Scripture declares that eternal life is God's gift, a new creation. By analogy, one may consider primordial life and human life as his gift by act of creation. The resulting view is compared with Van Till's Robust Formational Economy and Mills' sequential insertion of new genetic information. The compatibility and connection of these three views with science and theology are analyzed. They are compared with such popular views as Intelligent Design and episodic creationism.

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Life, *zoē*, which applied to animals and human beings in ancient thought, extends in scientific usage to microbes and plants. *Bios*, which commonly refers to the course of life or means of living, is basic to the broader term designating the life sciences, but does not deny the unity of life across kingdoms and phyla. *Zoē* is used in the New Testament to designate a new kind of life, eternal life. Scientific and theological views of several kinds concerning the origins and development of life may be compared and contrasted in order to evaluate various commitments current among Christians.

Eternal Life

A vital part of Christianity is the insistence that human beings may have a new kind of life. Christ stated this repeatedly: "I tell you the truth, whoever hears my word and believes him who sent me has eternal life and will not be condemned; he has crossed over from death to life" (John 5:24).¹

This new life comes to us through faith, but at incomprehensible cost.² That the Cre-

ator should humble himself to enter his creation has been a problem for philosophers. That he should suffer death on a cross is, as Tertullian noted, beyond human invention.³ The transformation of the believer is so great that in two of his letters, Paul calls it a new creation: "Therefore, if anyone is in Christ, he is a new creation; the old has gone, the new has come!" (2 Cor. 5:17).⁴

Some want to insist that the new birth or birth from above⁵ is a miracle. I view it as "natural"⁶ in this new creation, just as the birth of a child is natural in the creation described in the first chapters of Genesis. This transformation is a consequence of God doing something creative in the natural world, transforming the human beings who are descended from Adam into something different, having a different kind of life, yet retaining at the same time all of the old characteristics—at least for the present. There is the promise of transformation: "Dear friends, now we are children of God, and what we will be has not yet been made known. But we know that when he appears, we shall be like him, for we shall see him as he is" (1 John 3:2).

Human life

Now let's back up to an earlier creation, that of man and woman. What we have learned is that we possess many of the same genes as the rest of the mammals: more than 98% identity with *Pan troglodytes* (chimpanzee);

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70% with *Mus musculus* (house mouse). Indeed, many of our genes are essentially the same as those of insects and worms. Some are like those in yeast. What, then, makes us different?

We have speech, though this requires that our throats be more susceptible to choking. Other creatures can signal vocally, but cannot produce novel locutions. They also lack the conjoined time-binding and space-binding abilities we have. In other words, some can cleverly solve problems when confronted with them, but none anticipate and prepare for eventualities. But there is something even more special about human beings: they worship. Nowhere have we found any tribe that lacks some sort of religion.

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Why is there this difference between *Homo sapiens* and all other mammals? It may well be because God transformed a hominoid by creating in it a mind⁷ that is totally unanticipated elsewhere. In other words, the initiation of human life, like the initiation of eternal life, involved the direct action of God.

If one accepts this view, there is a likely parallel to the life of the new birth in the primordial pair. If we assume a baldly literal interpretation of Genesis 3, had Adam and Eve resisted temptation, at a minimum, they would not have been cut off from the tree of life. Scripture does not discuss what life and continued communion with God would have produced.

On the other hand, however one interprets the early chapters of the Bible, there is no empirical evidence for God's giving to human beings a spirit or soul or mind.⁸ As one consequence of this, secular psychology views the activities traditionally ascribed to such entities as merely products of the complex organization of matter in the human brain, as well as in the simpler nervous systems of other creatures. There is disagreement about whether these activities can be described in purely physical terms, or if one needs a different set of categories for emergent properties.⁹ This latter view has been described as non-reductive materialism.¹⁰ It has also been presented in a Christian context.¹¹

An additional difference has been noted between *Homo sapiens* and the rest of the mammals: the number of proteins produced by the set of human genes is greater than that of the others.¹² Why this should be and how it came about remains unexplained.

Life and Before Life

If we go back to another beginning, we seem to see something similar to the start of human life and of eternal life. Thus far we have not found any natural mechanism by which the nonliving can give rise to life, though various persons have speculated on possible means and others have declared the matter impossible. There is the natural synthesis of organic compounds in the terrestrial atmosphere, on the surfaces of clay and rocks, and at mid-ocean ridges with their black smokers, as well as in the nebulae from which planetary systems condense. But there seems to be a problem getting from amino acids and other compounds to self-replicating entities. I will not predict that scientists will not find the transforming event, for there are continually unexpected discoveries, like the abiotic generation of complex organic compounds and the catalytic power of RNA. Still, it appears that there may have been divine intervention to produce these effects—God may have taken the matter which had developed through physical causes and transformed it into a living creature.

The first step in this direction came with the creation of the universe. Although it is not provable, it looks to many as though the Big Bang matches "*In the beginning God created the heavens and the earth*" (Gen. 1:1) and "*By faith we understand that the universe was formed at God's command, so that what is seen was not made out of what was visible*" (Heb. 11:3). The beginning developed gradually over about 10 billion years until one small corner was ready for the introduction of life. The living things in turn, so far as we can determine scientifically, developed naturally until the vast array of plants, animals, fungi, bacteria, and viruses came into existence. God may have transformed part of the result to have a creature who could love and worship him. Then later, according to evangelical theology, he clearly transformed some of these into beings who would fellowship with him forever. At both these levels, assuming the relevance of this interpretation, what is inherent in them by God's gift developed according to their nature.

There is a peril in saying that the universe, living things, human beings, and the redeemed proceed naturally. This is liable to be understood as their having an inherent power within them so that they are independent of the deity, as the deists thought.¹³ This is not my intent. As a committed theist, I contend that all that we think of as nature and natural is Providence and providential, God's maintenance of their order according to his will.¹⁴



The four-intervention view [specifying divine intervention to create the universe, to initiate life in the universe, to alter natural life to produce human life, and finally to transform human life] is one possibility among several that are compatible with orthodox theology and what we can learn from science.

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Between the Origin of Life and Human Life

The four-intervention view just presented is one possibility among several that are compatible with orthodox theology and what we can learn from science. Howard Van Till pushes the envelope when he argues that God originally endued creation with every power needed to develop under his providential control into what we have today.¹⁵ This Robust Formational Economy is theologically and scientifically sound. The most serious problem seems to be the origin of life, claimed by many to be too complex to have been built into the Big Bang. But that is ultimately no problem for an omniscient and omnipotent Creator without later miraculous intervention. This has been much misunderstood.¹⁶ He has been accused of adopting a deistic view, which he explicitly rejects. But in his later thought, he seems not to recognize that God's actions are not restricted by the categories of our understanding. An omnipotent and omniscient deity can act without coercion, though many philosophers think such action requires strict determination of all human actions. This confusion, I believe, is what leads him to a flirtation with process theology.¹⁷

In contrast to part of the claims of a Robust Formational Economy, Gordon Mills argues that living things developed from originally created life, which was too simple to provide all of the information necessary to produce the variety found in the fossil record and today's biome. Hence, God from time to time introduced new genes into the genomes of various life forms.¹⁸ Thus we have both the persistence of the original genome of the species plus the divine endowment which produced new species, or even higher taxa. This view provides both for the continuity of some genes from bacteria and fungi in some contemporary plants and animals, along with their modification over time, as well as for novel developments over past ages. This contrasts with Van Till's view, in which essentially no new structures are introduced from outside the genome.

I do not know of any way for science to prove from the fossil record whether a specific gene is a product of natural development or came about by divine insertion of new genetic material into an earlier genome.

However, the sequencing of genomes of many species should eventually allow a determination. If Van Till is correct, then there will be a trail from bacterial genes to those of higher animals and plants. The greater number and variety of genes in the latter will have to be accounted for by mutation, duplication with later mutation, recombination, and such other processes as fit into scientifically describable processes. Such processes also account for the "junk" DNA that is not transcribed.¹⁹ Mills' approach accounts for all of such developments as may be found, but requires further that there be some genes which could not have arisen by these processes, although they could have been modified subsequent to their introduction. Not until many more genomes have been sequenced can there be a decision between these two views.

In contrast to the possibility of a scientific resolution between Van Till and Mills, the four-intervention view is not so easily evaluated. Granted, if Mills is correct, then there are more interventions than the four. If Van Till is correct, then the creation of life is excluded, but the introduction of human and spiritual life is probably not—unless a distinct derivable gene is found only in human beings. Theoretically, a unique concatenation of such genes might also signal that human life was not a direct spiritual gift from God, but would be less obvious, more difficult to establish.

All three of these views are compatible with intelligent design in the traditional sense, the claim that divine wisdom guided the processes which began with the origin of the universe and continue today, whether explained or unexplained. However, only Mills' view is compatible with the Intelligent Design (ID) of Behe, Dembski, Johnson, Meyer, and others, which posits that what counts as designed is only that which is unexplainable apart from what would be a miracle if God is involved.²⁰

Two More Popular Views

There is a yet more radical view, episodic or old earth creationism, which better fits the version of ID circulated among Christians. Common forms of old earth creationism accept the great age of the universe but hold that every new family or genus was miracu-

lously introduced into the world by divine action.²¹ This view provides for geologic time but gives no explanation of genetic continuity. For example, chromosomes in *Homo sapiens* and *Mus musculus* have homologous genes and “junk” in the same order.²² Indeed, I hold that what we observe makes God, on this view, seriously lacking in imagination. There is evidently more than one way to catalyze the reactions needed by living creatures. An intelligent designer would surely have adopted different means in order to demonstrate both his ingenuity and the discontinuity between separately created entities. Indeed, one of the problems in trying to determine what a gene does by knocking it out is that there are sometimes alternative pathways that take over. The old earth creationism approach also makes the Creator careless or sloppy, inserting silent duplications and other irrelevant DNA into genomes. There are creatures which function very well with less “junk.” Additionally, this view is almost always committed to a concordist interpretation of Genesis 1 and 2 that does violence to the text, to the fossil record, and to scientific cosmology.²³ But, while I dismiss it, it appears to be the second most popular view among evangelical Christians, following young earth creationism, though the latter is incompatible with science as currently practiced.

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Young earth creationism, also known as creation science, encompasses flood geology, for it is part of a pattern of literalistic interpretation of the first chapters of Genesis.²⁴ It should be obvious that the Almighty is able to produce a universe instantaneously, though on this view the question remains why he stretched the process out for 144 hours. However, any universe produced recently without deception does not look like what careful observation and theory construction finds in ours. If the universe is no more than six, or ten, or twenty thousand years old, the deity must have constructed it to mislead sincere and careful students of his handiwork. Such a lying deity is closer to Satan than one we can worship.²⁵

A Further Analysis

Since old earth creationism and young earth creationism, the more popular views, face grave exegetical and scientific problems,²⁶ we are left with three major views. Van Till’s one-shot creationism speaks to the scientific matters, with the deity the unseen Creator and Sustainer of all. It does not account for the incarnation and its consequences, leaving such matters to the theologians. The four-intervention view, specifying divine intervention to create the universe, to initiate life in the universe, to alter natural life to produce human life, and finally to transform human life, attempts to cover both scientific and theological matters, though with emphasis on the latter. One or both of the middle two interventions (the production first of life and then of human life) may be omitted to produce a view of empirical matters similar to Van Till’s. However, I hold that the human race has been endowed with a soul or spirit which cannot be detected scientifically, for this is required by careful exegesis. Finally, there is Mills’ multiple gene intervention. It may be supplemented with the immaterial gifts of God. This is the option most likely to be falsifiable on the basis of a comprehensive knowledge of the genomes of many living things. If it is not falsified, both Van Till’s Robust Formational Economy and the four-intervention interpretation become less likely.

This broad characterization of these three views allows for various subsidiary additions, such as the date of the first fully human entity and the time and location of the Flood, which have been debated in this journal. All three are currently compatible, so far as I can tell, with scientific evidence and orthodox theology, though some additions may be problematic.

More on Agreement and Difference

A further look at the context of these three views plus old earth creationism notes an area of agreement with scientific theory: the cosmological development of the Big Bang. All agree that the universe began with a singularity over ten billion years ago and that the unfolding of this original state is according to physical principles rather than direct divine intervention. They further agree that the fundamental characteristics of the universe, down to the kind of star the sun is and the distance of the earth from the sun, have to fit very narrow parameters.²⁷ All of this intelligent pattern, designed so that life could inhabit one small planet, is assumed to proceed under God’s providential care without the need for miraculous manipulation. Yet how all this order could be inherent in the ylem, the minute undifferentiated clump from which the ordered universe sprang, is surely puzzling to any who raise the issue. There seems to be no contradiction in the atheistic claims that there may be an infinite number of other universes with different parameters. At least most of these would be incompatible with life. So the theanthropic nature of a



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single universe, that is, the view that God specifically endowed the creation with everything needed for intelligent life, seems problematic.

If God—in the act of original creation—could include that which would minutely order the universe, the galaxy, the solar system and the earth, surely he could include whatever was needed to originate life. This is the point of the Robust Formational Economy. Mills, old earth creationism, and the four-intervention view reject this possibility. Proponents of various views have argued that it is impossible for large molecules to form, certainly in the number and variety needed for life. Such arguments usually begin from the assumption of random concatenation of atoms or simple molecules. However, this assumption does not necessarily hold in all situations. Additionally, a low probability is not equivalent to impossibility. Any five-card hand in poker has a probability of one in 2,598,960. But this does not indicate that the player does not have the hand he holds.

Another tacit assumption is that primordial life must have been about as complex as the simplest life forms that have survived. One difficulty with this is that some organisms do not grow in culture with current techniques and so may not be detected. The determination of the minimum complexity of life forms may thus be problematical. Beyond this, what could have lived and reproduced in what is arguably the absence of any predation could hardly survive under current conditions.

Another obvious problem with the abio-synthesis of large molecules is that the heat or radiation which can provide energy for synthesis is more likely to break them down. This tacitly assumes that the newly synthesized molecules will remain exposed to these forces. However, one may imagine circumstances in which the new molecules would be shunted to places less inimical to their continued existence. Finally, that we have not envisioned conditions that could produce the simplest form of life does not prove that it could not have existed. In other words, we do not have proof that life could not have originated without miraculous intervention. On the other hand, we do not have proof that it could have originated through natural processes.

While recognizing that the strictly natural origin of life is not impossible, though difficult, the four-intervention view argues that it did not happen, based on the analogy with a kind of life that cannot be introduced naturally. But an analogy cannot be presented as proof.

Similar difficulties and options apply to the origin of human life. But here, if the traditional orthodox understanding is correct, an immaterial soul was given which produced human life. In Gen. 2:7, the breath of God made what he had shaped from dust alive.²⁸ This life was not always differentiated from the life of animals in remote antiquity.²⁹ Not until the intertestament period was the soul recognized as surviving death. This view permeates the New Testament. So I hold as most probable that this unification of an immaterial substance, a spirit or soul, with the organized physical substance of a body produced life. But I can understand that the very first life may have been a natural product, for the divine command was, "Let the land produce vegetation" (Gen. 1:11).³⁰ In marked contrast to this, human life was created in God's image and likeness (Gen. 1:27). Since, as noted earlier, humans share genes and chromosomal patterns with other creatures, it is reasonable to believe that God transformed a creature similar in appearance to us into a human being by a spiritual endowment. This is not something that would make a major difference in any physical structure. The change would be in behavior.³¹ The claim that a soul transformed a pre-human animal into a human being is strengthened by the theological claim that the life of human beings is transformed into eternal life because God acted in history. The discovery of a human-causing gene would falsify it.

To the extent that this argument is relevant, it weakens Van Till's claim that everything from creation on proceeded naturally.³² But the support for this argument is theological, not scientific. A disproof of Van Till on a scientific basis verges on an impossibility proof, itself close to impossible. In contrast, Mills' approach requiring more divine interventions looks more to scientific advances than to theological considerations. While he has not explicitly dealt with the origin of natural life, human life or spiritual life in the sources cited, his approach is open to theological modification.

Summary

Those who are impatient for a clear resolution will be frustrated. We do not have the evidence required to reject outright any of the three views. Indeed, though I consider the evidence against old earth creationism telling, one may still rationally hold the view by divorcing it from the concordant interpretation of the first chapters of Genesis. However, I see no benefit to this modification of old earth creationism over Mills' view, which has the clear advantage of fitting the genetic continuity which has been observed.

Some things may be said concerning potential decisions among the three views which have been the focus of this discussion. (1) The four-intervention view would be falsified by the discovery of a single gene or unique set of genes which both caused the complex of human characteristics and could be derived by normal genetic means from the genome of less-developed creatures. (2) Since it shares the notion of natural development of living things with Van Till's approach, the discovery of genes which cannot be accounted for by natural processes would falsify both. Such novel genes would instead support Mills' view. (3) In contrast, Mills' view would be rendered at least highly improbable if all genetic material were found to be interconnected across kingdoms and phyla. While this determination is in principle possible, a large number of species or genera across all higher taxa would need to be sequenced. Hence a scientific decision among these views is not yet possible. (4) Whatever future scientific work may show, two items within the four-intervention view will remain outside its scope: the substantial soul of human beings (though, as noted, this could become problematic) and the new nature granted by faith.³³ ★

Notes

- ¹All Scripture is from the NIV. See also John 1:4, 12f; 3:14-18, 36; 4:14, 36; 5:40; 6:27, 40, 47, 57; 10:10, 28; 11:25 f.
- ²This is the clear point of the reformers *sola fide*. Whether eternal life is mediated by Word and sacraments, as Luther insisted; is granted directly, as Zwingli and moderate Anabaptists held; or comes through an intermediate or more extreme method, will not be soon settled. These and similar differences of interpretation are the basis for contemporary denominations.
- ³Tertullian, *De Carne Christi*, chap. 5; in Alexander Roberts and James Donaldson, eds., *Ante-Nicene Christian Library* (Edinburgh: T. & T. Clark, 1870), XV, 173 f; (Grand Rapids, MI: Wm. B. Eerdmans Publishing Company, 1961), III, 325.
- ⁴See Eph. 2:4-10.
- ⁵The term in John 3:3, 7 is *anōthen*, which is translated either "new" or "from above." I think our Lord used the ambiguous term because it is both.
- ⁶This must not be confused with the kind of nature studied scientifically, for it belongs to the realm of the spiritual rather than the material. There is no connection in the special use here with either metaphysical or methodological naturalism.
- ⁷Traditional theology argues that the soul, which is the seat of mind, is something that survives death and will be reunited with a body

in the resurrection. Since the physical cannot produce an immaterial substance, the soul must be a gift from God.

- ⁸"Spirit" (*pneuma*) and "soul" (*psychē*) are the biblical terms. "Mind" is the philosophical term since the time of Descartes.
- ⁹This is argued by Walter R. Thorson, "Legitimacy and Scope of 'Naturalism' in Science: Part II: Scope for New Scientific Paradigms," *Perspectives on Science and Christian Faith* 54 (March 2002): 12-21.
- ¹⁰Non-reductive materialism is the combination of naturalism for everything physical, including the human body and soul or mind, while positing a spiritual deity. Mental phenomena, though they may require different categories of explanation, are construed as produced by cerebral activity.
- ¹¹The most comprehensive treatment is Warren S. Brown, Nancey Murphy and H. Newton Maloney, eds., *Whatever Happened to the Soul: Scientific and Theological Portraits of Human Nature* (Minneapolis: Fortress Press, 1998). Objections have been raised by Robert A. Larmer, "Christian Anthropology: Saving the Soul?" *Philosophia Christi*, ser. 2, 2 (2000): 211-26; William Hasker, "Reply to My Friendly Critics," *ibid.*, 200; Robert K. Garcia, "Minds sans Miracles," *ibid.*, 239; David F. Siemens, Jr., "Thoughts on Non-Reductive Materialism: A New Heresy?" *Philosophia Christi* 4 (2002): 519-23.
- ¹²Francis S. Collins, "Faith and the Human Genome," *Perspectives on Science and Christian Faith* 55 (September 2003): 146.
- ¹³This view, without a deity, obviously characterizes philosophical materialists. It seems also to be a tendency, if not a necessity, for those accepting creation science.
- ¹⁴I have no doubt that the view presented to this point has been discussed previously, but I do not recall encountering a source.
- ¹⁵Howard J. Van Till, "4. Partnership: Science and Christian Theology as Partners in Theorizing," [and his responses to the other views] in Richard F. Carlson, ed., *Science and Christianity: Four Views* (Downers Grove, IL: InterVarsity Press, 2000), 195-234.
- ¹⁶Note his clear statement on the possibility of miracles on page 233 of "Is the Creation a 'Right Stuff' Universe?" *Perspectives on Science and Christian Faith* 54 (December 2002): 232-9. But making the introduction of life miraculous does not fit his Robust Formational Economy.
- ¹⁷While Van Till has not adopted David Ray Griffin's process theology, he said he had taken Griffin's criticism of him in *Reenchantment Without Supernaturalism: A Process Philosophy of Religion* (Ithaca, NY: Cornell University Press, 2001) seriously. Howard Van Till, "Do We Live in a Right Stuff Universe? The Roots of Design Vs. Naturalism Debate," Lecture, Grand Canyon University (November 21, 2002). In the abridgment published in *Bulletin of Canyon Institute for Advanced Study* II, no. 2 (Spring 2003), see p. 6.
- ¹⁸Gordon C. Mills, "A Theory of Theistic Evolution as an Alternative to Naturalistic Theory," *Perspectives on Science and Christian Faith* 47 (June 1995): 112-22; —, "Possible Role of Protein Molecules in a Theory of Theistic Evolution," *Perspectives on Science and Christian Faith* 50 (June 1998): 136-9; and —, "The Origin of Antibody Diversity," *Perspectives on Science and Christian Faith* 51 (December 1999): 254-6.
- ¹⁹I use the traditional term, "junk," even though some of these untranscribed sequences are now known to be functional.
- ²⁰The notion of "irreducible complexity" (Michael J. Behe, *Darwin's Black Box: The Biochemical Challenge to Evolution* [New York: The Free Press, 1996], 39 f; 110-3 *passim*; William A Dembski, *Intelligent Design: The Bridge Between Science & Theology* [Downers Grove, IL: InterVarsity Press, 1999], 14 f, 17, 99, *passim*) is fundamental to ID. That the designer is usually unspecified in ID (Dembski, *Intelligent Design*, p. 109) and may be no more than a representative of a more advanced civilization makes one wonder about the theistic bona fides of this view.
- ²¹See, for example, Hugh Ross, *The Genesis Question: Scientific Advances and the Accuracy of Genesis* (Colorado Springs: Navpress, 1998), esp. pp. 39-43, 49, 52.
- ²²Collins, "Faith and the Human Genome," Annual Meeting of the American Scientific Affiliation, August 4, 2002, responding to a question about the evidence for evolution.

²³Paul H. Seely, "The First Four Days of Genesis in Concordist Theory and in Biblical Context," *Perspectives in Science and Christian Faith* 49 (June 1997): 85-95.

²⁴Those holding young earth creationism views may extend Ussher's dates, but often present the age of the universe in terms of the biblical chronology. See, e.g., Henry Morris, ed., *Scientific Creationism*, 2d ed. (El Cajon, CA: Master Books, 1985), 227. Indeed, Morris produced a proof from population statistics that humans cannot have been reproducing for much longer than the time back to the Flood, about 4,300 years ago. See "World Population and Bible Chronology," *Creation Research Society Quarterly* 3, no. 3 (1966): 7-10. It is cited in William W. Boardman, Jr., Robert F. Koontz and Henry M. Morris, *Science and Creation* (San Diego: Creation Science Research Center, 1973), 154, 179. His formula provides a world population of about 45 during Abraham's lifetime. But he calculates it as "at least 300 million people" in Henry M. Morris, *The Genesis Record: A Scientific and Devotional Commentary on the Book of Beginnings* (San Diego: Creation-Life Publishers, 1976), 284. A similar flexibility with data is found on pages 642 f.

²⁵Flood geology is an integral part of young earth creationism. Glenn R. Morton presents the history of one part of this view, canopy theory, at <http://home.entouch.net/dmd/canopy.htm>. The waters for the Flood have also been posited to come from "the great deep" (Gen. 1:7; 7:11; cf. 8:2), with the primordial surface dropping into subterranean caverns. This totally neglects the subterranean temperature. Another view has ocean water driven over the land by massive tsunamis caused by multiple comet and asteroid impacts over a brief period. Morton's home page has connections to many of the young earth creationism claims.

²⁶There is another view which is essentially identical with young earth creationism in its interpretation of the first few chapters

of Genesis, but without the connection to flood geology. The gap theory holds that most fossils and geological strata belong to a primordial creation which was destroyed. Genesis 1:3 ff records its reconstruction a few thousand years ago. Widely accepted at one time, gap theory is no longer often encountered.

²⁷See, for example, Hugh Ross, *The Creator and the Cosmos: How the Greatest Scientific Discoveries of the Century Reveal God* (Colorado Springs, CO: NavPress, 1993), 111-25, 129-35.

²⁸In Gen. 2:19, all the beasts and birds were also formed from dust, the same term (*aphar*) used in verse 7 for man. All living things are endowed with *ruach* (breath, spirit, wind). See Gen. 6:17; 7:15, 22. *Ruach* gave life in Ezek. 37:5-10.

²⁹See Eccles. 3:19.

³⁰Whether fish and birds (Gen. 1:21) involve a different level of divine involvement than terrestrial creatures (1:24 f) and plants may be argued on the basis of the specific language used. Claims and counterclaims cannot be resolved here.

³¹See <http://home.entouch.net/dmd/mankind.htm> and <http://home.entouch.net/dmd/anth.htm>. Morton notes that the crania will show changes over Broca's area, for example, with speech. He also documents evidence for religion in remote antiquity.

³²This must not be pressed too strongly, though it fits his published statements, for Van Till is a theist. One may surmise that he does not explicitly refer to God's activity, except in the original creation, to avoid confusion with some variety of old earth creationism. For that matter, theistic scientists very seldom refer to divine providence in their work, though committed to Col. 1:16 f.

³³My thanks to editor Roman Miller and the anonymous referees whose comments helped me sharpen and clarify this study.

Books Received and Available for Review

Contact the book review editor if you would like to review one of these books. Please choose alternate selections. Richard Ruble, Book Review Editor, *Perspectives on Science and Christian Faith*, 212 Western Hills Drive, Siloam Springs, AR 72761. ruble@tcainet.net

Jason Bivins, *The Fracture of Good Order: Christian Antiliberalism and the Challenge to American Politics*, Univ. of NC Press, 220 pages, 2003

John Collins, *Science and Faith: Friends or Foes?* Crossway, 433 pages, 2003

George A. Erickson, *Time Traveling With Science and the Saints*, Prometheus Books, 177 pages, 2003

Wayne Grady, *The Bone Museum: Travels in the Lost Worlds of Dinosaurs and Birds*, Four Walls Eight Windows Publishers, 291 pages, 2003

Susan Haack, *Defending Science Within Reason*, Prometheus Books, 410 pages, 2003

Philip Hefner, *Technology and Human Becoming*, Fortress Press, 97 pages, 2003

D. J. Lococo, *Towards a Theology of Science*, Novalis, 80 pages, 2002

Dorothy McDougall, *The Cosmos as the Primary Sacrament: The Horizon for an Ecological Sacramental Theology*, Peter Lang, 190 pages, 2003

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