

Book Review of

***Portraits of Creation:
Biblical and Scientific Perspectives
on the World's Formation***

by Howard J. Van Till, Robert E. Snow,
John H. Stek and Davis A. Young:
William B. Eerdmans Publishing Company, 1990.

This review is by Larry D. Paarmann.

This review is offered in the hope that potential readers of the above book, and others interested in the controversy between the claims of those with naturalistic presuppositions concerning origins and what the Scriptures have to say on the subject, may, in some small way, be helped in their understanding. The conflict is often perceived as being between science, or the claims of science, and beliefs of the Christian faith. However, since all truth is God's truth, the conflict cannot truly be between truth (assuming it is truth) discovered through scientific inquiry (which presumably discovers things about God's works of creation) and God's written revelation (which is our only sure word about spiritual matters). Therefore, it is assumed that there cannot be any conflict between true science and true Christian faith. It is not even correct to say that there is a conflict between the Christian faith and the claims of science, since it is assumed that the "claims" of true science are not in conflict, and the "claims" of improperly applied science, or improperly conducted science, or improperly interpreted science is not science at all. Nevertheless, the claims of those who claim to be conducting science sometimes conflict with beliefs of the Christian faith, and it seems wise and necessary for there to be appropriate responses, especially in our modern Western society that has deviated far from its Christian foundations. Responses seem particularly necessary when those espousing troubling claims that conflict with Christian beliefs are not formally naturalistic, but rather espouse to be part of the Christian community, which is the case with the authors of the book under review here.

This review begins with opening comments concerning the perceived conflict between scientific inquiry and the Christian faith on origins, and continues with a brief summary of the book under review. It then mentions some positive contributions of the book, and then makes a number of criticisms of the book. A few comments on the relevance of Augustine to this debate and on modeling¹ precede the reviewer's conclusions.

INTRODUCTION

From the earliest days of Christianity, Christian scholars, and the Christian community in general, were of a mind that the Christian faith, and the Word of God (the Holy Scriptures) were concerned with, and spoke truth about, more than religious experience. The Christian faith, based on the Word of God, also had highly relevant things to say about history, the creation and nature of the universe, human nature, truth, etc. It therefore could be expected that other claims to truth, not directly founded on the Word of God and seemingly independent of it, would be, to some extent, suspect. Other religions, for the Christian, might be dismissed, without them even seeming to be a serious threat. Some of the philosophical insights and claims to knowledge from the Greeks and Romans, preceding the first advent of Christ, might be incorporated into Christian theology on the basis of general revelation. As the investigation of the natural world grew as an independent enterprise, the findings of scientific inquiry could readily be received as general revelation as long as those findings did not conflict with the prevailing interpretation of the Word of God. In fact, as has been argued by many, the rise of scientific investigation, at least in the West, was nurtured by Christianity. Major confrontations between the scientific community and Christianity were rare prior to the nineteenth century, with that involving Galileo being the most well known, and that confrontation was between scientific findings and a particular “church” teaching and not, actually, with the Word of God. Since the middle of the nineteenth century the tension between the scientific community, particularly the naturalistic scientific community, and Christianity has been significant, as the basic mind-set of modern scientific man has become less and less based on a Christian foundation.

In the light of the above, and believing that the Church of Jesus Christ has been negligent in not properly addressing, at least not strenuously enough, the tension between some of the beliefs of the naturalistic scientific community and Christianity, this reviewer warmly welcomes this valuable contribution by Van Till, Snow, Stek and Young. In the early centuries of this era, the development of Christian doctrine was largely driven by controversies in the Church. These major issues that confronted the early Church helped form and establish orthodox Christianity. The greatest intellects and scholars of the Church resolved these issues for the benefit of all generations since. Today, a fundamental issue confronting the Church is the authority, reliability, and interpretation of the Word of God, of which the tension between perceived science and the Christian faith, more particularly between Creation Science and evolution, is but one aspect.

Christians have tended to respond to this tension in one of four ways:

- (1) Ignore it. Or rather, to compartmentalize one’s worldview. Many Christians study their Bible in earnest, apply it to interpersonal relationships in their lives, and join with friends and family in community worship and service; but either not feeling adequate to the task of removing the seeming contradictions between some of the pronouncements of the naturalistic scientific community and the seemingly clear statements of Scripture, or choosing to ignore the seeming contradictions, they more-or-less accept both views, while approaching the world on two levels. This approach might be compared with the denial that often characterizes one dealing with a difficult personal problem. This denial is no more healthy in theology than it is in personal problems.

- (2) Confront the claims of the naturalistic scientific community. Confrontation was done in the nineteenth century against the sudden rise in the popularity of evolutionary theory. The success of such confrontations has met with mixed reviews at best. At any rate, such confrontations virtually disappeared until recent decades with the rise of modern Creation Science. The intent of such confrontations is to show that “scientific” pronouncements, especially those that have significant impact on the teachings of Scripture concerning such things as the origin of the first humans, the historicity of the universal flood of Noah’s day, etc., are factually incorrect.
- (3) Accommodate “scientific” theories into one’s interpretation of Scripture. This accommodation may range all the way from proposing a gap between verses 1 and 2 of Genesis, chapter 1, to allow for a greatly extended age for the universe, to the most liberal reading of Scripture that seemingly accommodates all criticism of Scripture, with little attempt being made to critically evaluate the criticism.
- (4) The fourth approach is sinister, subtle, and sad-to-say, significantly popular, especially among liberal theologians and pastors, but also, increasingly, among those who call themselves evangelicals. It is difficult to summarize this approach in few words, but the attempt, nonetheless, will be made. One may say that those who approach the tension between “scientific” claims and Christian faith in this manner ignore it, as in (1) above, or accommodate scientific theories, as in (3) above. But neither is correct. Their approach to the Christian faith is more akin to Hume’s gap, divorcing faith and knowledge, or Kant’s wall, separating the human mind from ultimate reality and the unknowable God.² To those who hold to this philosophy, there is no tension. Those who hold this view, either consciously or unconsciously, maintain that we do not and can not know God in any objective way, and we can not make any correct propositional statements about Him, and He can make none to us that we can correctly understand. Therefore, while the Bible supposedly can, somehow, help bring us into some sort of encounter, or experience, of God, it is not a book that makes reliable statements that we can understand in any objective sense about anything. Those who read the Bible in this way are not the least bit concerned, for example, whether Noah’s flood was universal or local, or whether there was any “Noah’s flood” at all. All such questions are basically irrelevant.

If one agrees that the four responses listed above reasonably represent the ways that Christians have tended to respond to the perceived tension between “science” and faith, then the present Creation Science / evolution debate should have the positive result of pressing Christians to examine their position on the claims of the Christian faith to truth. The book presently under review, and other books on the subject, make a positive contribution to a fuller examination of the full impact of the Christian faith, and the Scriptures, on all aspects of life.

SUMMARY

The book in review is paperback, and just under 300 pages long. It is organized into eight chapters. The first chapter is titled *Where Are We? Perceived Tensions between Biblical and Scientific Cosmogonies*, and is by Davis A. Young. This chapter is an introduction to the book, and begins with a discussion of the influence of scientific inquiry on Christianity. Young refers to Psalm 24:2, Psalm 19:4, and Psalm 93:1 as examples of where scientific findings have, in the past, significantly influenced how Christians interpret Scripture. Young suggests that there are basically two metaphors for the relationship between scientific investigation and Christianity. One is the “two-books” metaphor, where one book that reveals God to us is the Holy Bible, and the other book that reveals God to us is the “book” of nature. This “two-books” metaphor is one that sees true scientific findings and the Scriptures as being, of necessity, in agreement. The other metaphor is the “warfare” metaphor, where the scientific community is viewed as being “dominated by unbelievers to the point that science [*sic*] itself must have a fundamentally anti-Christian bias” (p. 5). Young then suggests there are two reasons why Christians are concerned about scientific theories, specifically about the new scientific cosmogony. “First, there exists a latent fear in the hearts of many believers that to depart from a ‘literal’ reading of the early chapters of Genesis is to undermine the fundamental truth that God is the Creator of all things. . . . Second, many Christians believe that the current scientific cosmogony poses a threat to faith in any divine ‘intervention’ in the course of history in a ‘supernatural’ manner” (p. 7). Further, Young states that building “on the insights of presuppositionalism, many Christians have alleged that modern science has been established on foundations that are essentially hostile to Christianity and the Bible” (p. 8).

While the title of the book suggests it, this chapter makes it clear that organic evolution and the origin of humankind have been omitted from discussion in the book. Also, as the title of the chapter suggests, the author is convinced that most, if not all, tensions between Biblical and “scientific” cosmogonies are perceived, rather than actual. He suggests that the tensions exist primarily because of poor Biblical exegesis.

Chapter 2 is titled *How Did We Get Here? A Brief Sketch of the Historical Background of the Science-Theology Tension*, and is by Robert E. Snow. As the chapter title suggests, this chapter gives a brief survey of the historical development in Western civilization that has led to the current tension between naturalistic “scientific” theories and Christian theology. Snow begins with the Greek quasireligious concept of Nature: the natural universe being eternal, self-ordered, and necessary. The church fathers of the post-apostolic period were confronted with the relationship between the Biblical concept of Creation and the Greek concept of Nature. Although naturalistic science, philosophy, and theology have developed, in part, out of the “Greek practice of critical assessment of worldview assumptions” (p. 16), nevertheless “Greek worldview assumptions were slowly Christianized” (p. 16), and Western civilization attributed eternalness, autonomy, and necessity to God alone.

As the practice of scientific investigation developed and met with success, based in part, as many would argue, upon the great influence of Christianity upon Western civilization, a “growing number of thinkers” thought “that science could stand on its own feet without the traditional assumption of a Creator God” (p. 20), nor any necessary reliance upon Biblical statements, and even the consideration as to whether scientific findings meshed well or not with the Bible became

increasingly irrelevant. Some, if not many, secular scientists seem to have now returned to a Greek concept of Nature.

Chapter 3 is titled *The Discovery of Terrestrial History*, and is by Davis A. Young. This chapter is a review of the history of thought about terrestrial history. Diluvialism³ and neptunism⁴ are reviewed; it is noted how various attempts were made by geologists prior to the mid-nineteenth century to reconcile the findings of empirical geological science with the Scriptural account of creation and Noah's flood. Reasons why these two theories were historically found to be unacceptable by most geologists are given. Davis Young says (pp. 55, 56): "By 1840, the geological community had been led down several dead-end paths by biblically based theories of Earth history, particularly those that called for global floods or global oceans. From its historical experience of a succession of failures of 'biblical geology,' the professional geological community, composed of a very sizable proportion of Christians, finally realized that *in the future the science of geology would be hindered by continued adherence to the epistemic value that valid geological theories must be consistent with a literalistic reading of the creation and flood narratives in Genesis*. External coherence of geological theory with biblical data was no longer fruitful for geology as a science. Concordism⁵, whether literal or broad, no longer had any significant place in geology as a science or in the technical geological literature" (emphasis in the original, footnote is not). The chapter concludes with a brief survey of some of the geological features of the Colorado Plateau, as evidence against any attempt to reconcile geology with a literal reading of Scriptural creation or global flood accounts.

Chapter 4 is titled *The Scientific Investigation of Cosmic History*, and is by Howard J. Van Till. A review is given of how scientists know things about stars, galaxies, etc. This knowledge is based upon reasonable assumptions that make science possible, such as the assumption that the same physical laws apply in the far reaches of the universe as apply here on earth. Explanation is given as to how the size, distance, chemical make-up, etc. of stars can be determined from here on earth, and how that leads to such things as the H-R diagram (the Hertzsprung-Russell diagram of luminosity versus temperature), the life history of stars, the formation and evolution of galaxies, and the big-bang cosmology. The author cautions that a physical description of the formation and evolution of the cosmos does not at all offer an explanation as to *why* these things took place, and therefore does not compete with the Christian doctrine of creation *ex nihilo*.

Chapter 5 is titled *The Character of Contemporary Natural Science*, and is by Howard J. Van Till. This chapter is concerned with the basic scientific enterprise: What do the natural sciences investigate? What should the natural sciences investigate (what are the boundaries)? What criteria are used in judging the quality of scientific investigations? Van Till states that the *object* of natural science is the *physical universe*, whereas the *domain* of natural science concerns only certain categories of questions but not all questions. Questions concerning *meaning* are excluded. Most proper questions that can be addressed by natural science are included in the categories of physical properties, physical behavior, and formative history. Therefore natural science, says Van Till, is incapable of properly addressing questions concerning the *ultimate origin* of the universe, nor questions concerning the *governance* of the universe.

The chapter continues with an overview of procedures and operative values in scientific investigations, and includes discussion of competence, integrity, and judgment. Van Till suggests that a good theoretical model that has been derived from scientific investigations, or rather has been posed to explain scientific observations, should have cognitive relevance, predictive accuracy,

coherence, explanatory scope, unifying power, and fertility. He further suggests that a strong graduate program educating new researchers should inculcate these procedures and operative values “through imitation and through the continuous round of discussion and criticism” (p. 146).

The chapter concludes with an illustrative example of proper natural science. The example illustrates how a theoretical model to explain observations of galactic and globular star clusters was developed and evaluated.

Chapter 6 is titled *A Critique of the Creation Science Movement*, and is by Robert E. Snow. This chapter is concerned with analyzing the type of science proposed by, and the general claims made by creation scientists. It is not an historical overview, nor does it catalog the claims of creation scientists, but rather deals primarily with the underlying philosophy of the movement. Snow suggests that there are perhaps two kinds of creation scientists. The first category he calls “modest” creation scientists, since they, in his view, are genuinely attempting to conduct research acceptable to the larger scientific community and yet are looking for solid evidence in favor of, for example, a young earth. The second category he calls “immodest” creation scientists, since they, in his view, are not really practicing scientific research at all, but rather are engaging in “folk science”, addressing “social, emotional, or religious problems central to the concerns of the audience, and their *adequacy* is assessed by their ‘success in offering reassurance and comfort’” (p. 188), rather than by producing real scientific results. Scientists may, in addition to practicing real science, also practice folk science. Adherents of evolutionism practice folk science as well as do immodest creation scientists. Where immodest creation scientists have attempted to appear to practice real science, according to Snow, they are found wanting and lack the necessary internal criticism, and dialogue with scientists outside the movement, to be able to gain credibility.

Chapter 7 is titled *What Says the Scripture?*, and is by John H. Stek. Just as the chapter title implies, this chapter is concerned with properly interpreting what the Scriptures say about creation. The chapter is mostly concerned with Genesis, chapter one. John Stek is concerned that modern Christians should, when interpreting Genesis, chapter one, make use of all of the findings of modern scholarship that are relevant, to obtain a proper interpretation. He is concerned that readers of Scripture should not necessarily take the most obvious meaning of Scripture as the correct one, since each reader brings a good deal of previous understanding (presuppositions) with him to the text. He argues that until very recent times, “the whole tradition of interpretation labored under the critical disadvantage of knowing little about the ancient world in which the Hebrew Scriptures were written” (p. 205).

Stek gives a presentation on the Biblical concept of creation, and discusses what the Biblical meaning of “creation” is. He discusses various Hebrew words related to creation such as *bara'*, *yasar*, *banah*, *'asah*, and *kun*. He discusses the various ways these words are used by the Biblical writers, such as created, formed, made, and established. He also discusses how these words are generally not concerned with or connected with a time frame or means, such as God’s creating a pure heart, or creating a new generation of people. He stresses how the Hebrew would attribute everything before his very eyes as the creation of God in the present tense. He also discusses God’s manner of creating, such as by providential means. In discussing creation *ex nihilo* he suggests that, while New Testament writers understood the original creation to be *ex nihilo* (such as in Hebrews 11:3), these ideas were perhaps read into the Hebrew text due to the influences of Greek thought, and are not necessarily intended by the original author.

In presenting the nature and purpose of Genesis 1:1-2:3, Stek discusses the sources and date of the creation account in Genesis, suggesting that data “assembled by historical anthropologists, especially during the past century and a half, provide extremely strong warrant for the conclusion that human origins date to a dim and distant past and that the course of human history during those long ages was such that it is inconceivable that a core tradition could have been accumulated and perpetuated through which Israel’s patriarchs could trace their history back to humankind’s first pair” (p. 223). He also discusses conceptual affinities of the Genesis creation account with ancient near east cosmologies, suggesting that “the Genesis 1 account of creation contains fundamental features indicating how extensively the author utilized the cosmological concepts of the ancient Near East dating from the third and second millennia B.C. . . . a conception of the physical world that differs radically from what is now known of the earth and the heavens” (p. 229).

He also claims that “while Genesis 1 reflects basic affinities with contemporary notions of cosmic structure, its *theology* involves a break so radical with that of the ancient myths that it is not at all surprising that many in Israel found it hard to appropriate. Here was a view of God, humanity, and world so alien to that of all other peoples, so thorough and fundamental in the reorientation it demanded, that one needed, as it were, to be born into another world to understand it” (pp. 229, 230, emphasis in the original). Stek also claims that the author of Genesis 1 “was not grappling with issues arising out of modern scientific attempts to understand the structure, forces, processes, and dimensions (temporal and spatial) of the physical universe. He was not interested in the issues involved in the modern debate over cosmic and biological evolution. His concerns were *exclusively religious*” (p. 230, emphasis in the original), and that to assume otherwise is to confuse the issue and to read into the Bible what is not there.

Stek suggests that the author of Genesis 1 “*stories* ‘events’ that are in themselves inaccessible to humans, inaccessible not only as information (since no human witness was there) but *conceptually* inaccessible. *Through the realism of his account* he makes humanly conceivable what in itself is beyond human apprehension” (p. 237, first and last emphasis added, center emphasis in the original), and therefore, in “Genesis 1:1-2:3, the author recounts the creation of heaven and earth *as if* he had stood in the very presence of the Creator as he issued his decrees, assessed his works, announced his intentions concerning the creation of humankind, pronounced his benedictions, assigned provisions for his creatures, and consecrated and blessed the seventh day. *He ‘reports’ as one who had been an eyewitness* to events in God’s executive chamber” (p. 235, emphasis added), and “the author *writes as one made privy* to the inner precincts of God’s executive actions . . . he writes *as one who has witnessed* the creation from the arena of God’s creative activity” (p. 236, emphasis added). He also claims that “the ‘days’ of Genesis 1:1-2:3 are not presented as the first seven days of the story told in Genesis 2:4ff. In terms of this account they mark ‘time’ in the arena of God’s creation activity. That was for the author a special ‘time,’ a ‘temporal’ sequence belonging uniquely to the arena of the creation acts of God as storied” (p. 237). However, Stek states that “there is no sign or hint within the narrative itself that the author thought his ‘days’ to be irregular designations — first a series of undefined periods, then a series of solar days — or that the ‘days’ he bounded with ‘evening and morning’ could possibly be understood as long eons of time. His language is plain and simple” (p. 237).

Chapter 8 is titled *Epilogue: Where Do We Go from Here?*, and is by Howard J. Van Till. The author of this chapter briefly recaps the intent of the book as offering Biblical and scientific portraits of creation, and makes some suggestions as to how discussion should proceed.

POSITIVE CONTRIBUTIONS

A few positive contributions of the book under review are described below. More could be mentioned, of course, and those that are are obviously subjectively selected.

Contribution 1: One positive contribution is the stress placed on noting the difference between accepting the scientific portrait of creation and accepting a naturalistic worldview. Although the latter may well imply the former, the former does not necessarily imply the latter. While the authors accept the scientific portrait of creation, they decidedly reject a naturalistic worldview. As noted by Van Till in chapter 5 (pp. 128, 129): “Natural science is an appropriate and powerful tool for investigating and gaining knowledge about the physical features of the object of its study, but it is wholly incapable of discovering its *meaning*. . . . to assert that natural science is competent to answer all meaningful questions about reality or that only those questions answerable by natural science are truly meaningful is . . . nonsense. Such claims are not entailed by natural science itself; rather, they are the philosophical/religious assertions of a perspective known as *scientism*.”

And in chapter 4 (pp. 120, 121) Van Till says: “Having made the claim that the scientific concept of cosmic evolution is not inherently at odds with Christian belief, we must give full recognition to the fact that there are numerous outspoken members of contemporary Western culture who do, with considerable vigor, assert that this scientific concept provides the logical warrant for their naturalist worldview. *Naturalistic evolutionism* is the product of an attempt to employ the concept of cosmic evolution *creedally*, not just *scientifically*. . . . As Christians, we have a responsibility to speak with boldness and confidence against the naturalistic evolutionism of our day. . . . The Christian community must speak in a way that exposes the fallacy of the naturalist creed. Some proponents of naturalism claim that there are logical bridges that lead from the scientific concept of cosmic evolution to the creedal position of naturalism. We must show that such bridges will collapse under the weight of careful scrutiny” (emphasis in the original).

Contribution 2: Another positive contribution is the emphasis placed on the striking contrast between the creation account of Genesis and that of other religions. This is stressed by John H. Stek in chapter 7 (pp. 229-232): “while Genesis 1 reflects basic affinities with contemporary notions of cosmic structure, its *theology* involves a break so radical with that of the ancient myths that it is not at all surprising that many in Israel found it hard to appropriate. Here was a view of God, humanity, and world so alien to that of all other peoples, so thorough and fundamental in the reorientation it demanded, that one needed, as it were, to be born into another world to understand it. . . . The author of Genesis 1 was not merely transmitting a tradition or conveying information or summarizing a common Israelite theology concerning origins on this side of a spiritual struggle long won and laid to rest. His pen served to further that struggle, to break the power of ages-old religious notions that still held many in thrall. . . . an attentive reading of the whole against the background of the several myths of the ancient Near East discloses a view of God, humanity, and world that, whatever its more or less incidental affinities with conceptions abroad in Israel’s environment, stands in striking opposition to almost all that those religions had in common.”

Contribution 3: Also, on a positive note, is the recognition in chapter 2 by Robert E. Snow (p. 19) of the important contribution of the Christian doctrine of creation to the rise of modern science: “Although the concern to elaborate a consistent ‘Christian’ view of Nature was far from being a central concern of patristic theologians, they did lay a foundation for recognizing that metaphysics, epistemology, and the search for ordered relationships in ‘created nature’ provided legitimate avenues for Christians to explore — avenues that, as we understand things today, had to be explored in order to understand more fully the meaning of Creation. . . . a substantial body of scholarship has developed which argues that the Christian doctrine of creation played an important role in the development of modern science during the seventeenth century.”

CRITICISM

Below a number of criticisms of the book under review are described. They are, of course, subjectively selected and subjectively evaluated. It is the sincere hope of the reviewer that the book under review is in no way misrepresented.

Criticism 1: The authors alienate orthodox Christians with creationist leanings. In this book, the authors take a strong, aloof, critical, and condescending attitude toward evangelical Christians who are either involved in or influenced by the modern Creation Science movement. In this reviewer’s opinion, this stance is most unfortunate for at least two reasons: (1) this is precisely the audience that could benefit the most from a book of this type, and (2) such an attitude is not conducive to dialogue. Both of these points are elaborated on below.

Criticism 2: The intended audience is difficult to determine. An educator, when selecting a textbook for a course that he is to teach, may often find the Preface most helpful. If the Preface is well-written, it will, hopefully, among other things, either explicitly or implicitly, inform the reader as to the intended audience. The present reviewer wishes that this practice was followed more generally, even by authors of books not intended for classroom use. Such information could be included in the Introduction, if no Preface is otherwise desired. As to the book under review here, it is puzzling to the reviewer who the intended audience is. It is not uncommon for authors to have failed to explicitly address the question, and it may not even be clear to themselves.

Are the authors writing primarily to those blind leaders of the blind, the leaders in the Creation Science movement? Are they writing primarily to those poor, ignorant souls who have somehow been bamboozled by the creationists? May the reader forgive such abusive language! Or are they writing primarily to more reasonable Christians, not yet having bought creationists’ arguments, but those whom the authors fear are about to fall into that most-dangerous precipice? Or are they writing primarily to their non-believing, would-be professional peers, perhaps to convince them that they are on their side, after all? Or are they writing primarily to themselves, and other friends and colleagues of like mind, to reassure themselves that their position is most reasonable and God-honoring?

Criticism 3: The authors’ stance is not conducive to dialogue with those in the Creation Science movement. One would hope that at least part of the intended audience would be evangelical

Christians who are either involved in, or influenced by, the modern Creation Science movement, but, as mentioned above, this group has been alienated. In the present controversy in the Christian church, that reveals itself on one front as to questions of origins, this reviewer would like to see some reasoned discussion among proponents of various views, and an in-depth analysis of the fundamental issues involved. One should think that all Christians who hold a high view of Scripture as God's written revelation to man ought to be able to at least communicate in reasoned, calm, non-antagonistic tones concerning a fundamental Christian doctrine and approach to the understanding of Scripture. One can appreciate the heated opposition to the Christian doctrine of creation by those who hold a naturalistic worldview, and of their cries of a return to the dark ages if any hint of creation is to return to public school teaching to balance naturalistic evolutionary theory, and of their frustration that the Christian faith lives on long after its predicted death. But among Christians who differ in their understanding of these issues, among brothers and sisters in Christ, one would hope for better. It may well be that the authors of the book under review have a good deal to offer to a better understanding of these issues, and to a more God-honoring and theologically-consistent Biblical position. But these authors, seemingly, have deliberately alienated the very ones it seems to this reviewer they should be writing to! If they are not writing to those actively involved in the Creation Science movement, or to those influenced by them, then they must be writing to someone else (unbelieving professional peers, themselves, etc.).

Criticism 4: The authors are guilty of alarmist exaggerations. In spite of the fact that *most science has little to do with theories of origins*, Davis A. Young states in chapter 1 (p. 10): "many Christians are persuaded that scientific creationism is infecting our schools and churches not only with very poor science but with inadequate biblical exegesis as well. . . . In a poll published in 1988, *Christianity Today* reported that of 401 responses from 749 readers of the magazine, 74 percent indicated that they favored the teaching of creationism alongside evolution in public schools. While this high percentage does not indicate that everyone accepts scientific creationism, it does suggest that there is an alarming ignorance of science, of what evolution is, and of the shortcomings of scientific creationism." In the present book under review, there was little indication as to just what this "ignorance of science" consists of, or just "what evolution is", nor what "the shortcomings of scientific creationism" are.

Criticism 5: The authors have a puzzling approach to evidence and reason. In the opening to chapter 6 by Robert E. Snow (p. 166), we read (perhaps by the editor, Howard J. Van Till): "the central claim of creation science is truly astounding: the entire universe, when investigated in accordance with the canons of the creationist program, shows convincing scientific evidence for its having been brought into existence recently in the fully functioning and structured form that it has today." . . . "This chapter" is "an in-depth analysis and an insightful critique of this eccentric and puzzling perspective."

This statement indeed appears "astounding" and "puzzling." First, perhaps this is some sort of Freudian slip, or a typographical error; if these despicable creationists do indeed show "convincing scientific evidence" for their position, then why doesn't the author accept their claims? If their claims are unfounded, why not point out the evidence against their claims? Are there really conflicting, equally-valid rules of evidence? In this relativistic age, some may think so! This reviewer, for one, holds that there is clear thinking, not-so-clear thinking, and worse! But not

different, equally-valid rules of evidence! This is precisely one of the often-stated frustrations of creation scientists: the difficulty of getting people, friend and foe, to look at the objective evidence.

Second, after having read a number of books, both pro and con, over the course of several years, on the creationist movement, this reviewer has never heard a creationist claim that the universe was created “in the fully functioning and structured form that it has today.” It appears that creationists hold that the present creation is a fallen and corrupted version of the original creation; that it has indeed gone through a transformation, evolution if you will, but nothing like the prevailing view of cosmic evolution.

Third, this “astounding,” “puzzling” and “eccentric” view is the view, is it not, held by much of the Church over many centuries. There is no detail given in the Scriptures as to how this all came about, but isn’t this more-or-less the position held by the Church throughout most of its history? If this last statement is true, why should the authors of the book under review find it astounding that there are some (many) who still hold such beliefs?

Criticism 6: The authors are seemingly not sufficiently cognizant of the radical nature of Christianity. For those who will not believe, isn’t the incarnation, the resurrection, the ascension, or even justification by faith, at least equally “astounding,” “puzzling” and “eccentric?” Compared to many other Christian doctrines, isn’t it true that creation is one of the easier ones to deal with? We sometimes lose sight of just how astounding Christianity is, through and through. Two thousand years ago one called Jesus from a small town in Galilee was crucified outside Jerusalem by Roman soldiers. In his death He bore my sins upon Himself as a substitutionary blood sacrifice. This sacrifice was acceptable to God, and without it I would be condemned to an eternity without God, and by my faith in this Jesus, a faith that I received from God, not of myself, a fallen son of Adam, hopelessly in ruin and sin apart from grace, I am justified and will spend eternity in the presence of God. Now that’s astounding! The thought that this same God created the whole universe, and perhaps in six literal days, seems almost trivial by comparison. In this whole controversy have we not lost sight of just how radical Christianity is; how Christian doctrine cuts across the naturalistic tendencies of human thought on all levels, not just concerning origins?

Criticism 7: The authors are apparently not committed to classical (orthodox) Biblical hermeneutics. A basic principal of Biblical interpretation is to attempt to determine the original intent of the human author. This is, many suppose, somewhat obvious, but can be well-supported if need be. One of the more well-known, thorough, and scholarly books ever written, in the judgment of many, on Biblical interpretation is *Biblical Hermeneutics* by Milton Terry. Even though written in the nineteenth century, it is still used in some seminaries today. Near the end of this long book, we read (pp. 737, 738) “that a proper commentary on the Bible, or any part of it, should clearly set forth the true meaning of the words and the train of thought intended by the sacred writer”.⁶ Similarly, Berkhof says in his *Principles of Biblical Interpretation* (p. 66): “though it be true that *the interpreter* must be perfectly free in his labors, he *should not confuse his freedom with licentiousness*. He is indeed, free from all external restrictions and authority, but he is not free from the laws inherent in the object of his interpretation. In all his expositions he is bound by that which is written, and *has no right to ascribe his thoughts to the authors*”⁷ (emphasis in the original).

In the light of the above, it is very illuminating to inquire as to what the Scriptures have to say concerning creation. Consider the following quotation from James Barr, a well-known and

highly respected Biblical scholar: “. . . so far as I know there is no professor of Hebrew or Old Testament at any world-class university who does not believe that the writer(s) of Gen. 1-11 intended to convey to their readers the ideas that (a) creation took place in a series of six days which were the same as the days of 24 hours we now experience (b) the figures contained in the Genesis genealogies provided by simple addition a chronology from the beginning of the world up to later stages in the biblical story (c) Noah’s flood was understood to be world-wide and extinguish all human and animal life except for those in the ark.”⁸ Note that Professor Barr does not necessarily believe what the Hebrew text has to say concerning creation, but he is stating what, in his opinion and what he believes to be the opinion of most Hebrew or Old Testament professors at “world-class” universities, the text plainly says. Some deeply devout, evangelical scholars may hold that the six days of creation, for example, are not to be taken as being the same as the 24 hour days we now experience, based on orthodox Biblical exegesis. But one may assume that they would not ridicule others, in their sincere attempt to be faithful to God, who do. After all, it is the obvious interpretation.

In fact, this is essentially acknowledged in the book under review. Quoting Stek (p. 237): “Surely there is no sign or hint within the narrative itself that the author thought his ‘days’ to be irregular designations — first a series of undefined periods, then a series of solar days — or that the ‘days’ he bounded with ‘evening and morning’ could possibly be understood as long eons of time. His language is plain and simple” And also (pp. 235, 236): “In Genesis 1:1-2:3, the author recounts the creation of heaven and earth *as if* he has stood in the very presence of the Creator as he issued his decrees, assessed his works, announced his intentions concerning the creation of humankind, pronounced his benedictions, assigned provisions for his creatures, and consecrated and blessed the seventh day. He ‘reports’ *as one who had been an eyewitness* to events in God’s executive chamber . . . the author *writes as one made privy* to the inner precincts of God’s executive actions” (emphasis added). However, Stek does not believe this simple, obvious interpretation to be correct. It is clear from chapter 7 that he believes the true interpretation to be other than the most obvious; he believes that the simple interpretation appears obvious to us because of our presuppositions that we bring to the text, and that this obvious interpretation is not what the original author intended. Stek thinks the author used such simple language “whereby he made imaginable the unimaginable” (p. 238). However, we may note that today, if we are to believe the pronouncements of some scientists, we have no particular difficulty in thinking about creation, since the rise of modern science has enlightened us! We even think we can describe what took place in the first few minutes after the big bang, and that we can describe the formation and evolution of the galaxies, and of just about everything else, including ourselves. But poor Moses, or whoever one cares to believe wrote the first couple of chapters of Genesis, even under the inspiration of the Holy Spirit, could not even manage to imagine the creation; so, one supposes, he made up a story. One may wonder how making up a story differs from imagining, but apparently Stek believes that the author of Genesis wanted to convey “the sovereignty and effectiveness of God’s creative word and directive rule over the creaturely realm” (p. 218), but that his “concerns were *exclusively religious*” (emphasis in original) and he therefore storied the creation account as the royal acts of the great king (pp. 230, 237). The question is: How does one convey religious truth about creation without also saying something meaningful about “creation” itself? Are religious / historical / scientific truths disjoint, having nothing to do with one another? This appears to be a highly unorthodox and dangerous approach to Scripture, even if not presently uncommon. In chapter 7, a long and

convoluted argument is made to suggest that the author of Genesis (chapters 1 and 2) did not intend what the text plainly⁹ does say.

Criticism 8: The authors are seemingly not sufficiently cognizant of the implications of their stance to Christian doctrine. To be consistent in Biblical interpretation, if one can opt against the clear interpretation of the Hebrew text in Genesis when it comes to origins, especially when this has been the interpretation of those texts by much of orthodox Christianity throughout the centuries, and is still the interpretation held by much of Christian scholarship today, then what is to prevent us from opting against the Biblical text in other places concerning other doctrines? Bear in mind we are not discussing an obscure passage of Scripture that is seldom referred to (even though we should be extremely hesitant to apply such loose hermeneutics to any Scripture), but rather this is a section of Scripture that is very frequently referred to by other Biblical writers, and is our basis for understanding original sin, the need for the work of the second Adam, etc. This approach raises serious questions about *authority* in the Church, and has serious implications reaching far beyond origins.

Criticism 9: The authors are seemingly not sufficiently critical of “scientific” pronouncements. The issues that this book attempts to discuss are a very serious concern to the Church of Jesus Christ. As indicated above, it is not at all clear whether the authors understand the implications of the stance that they advocate. Such a position, fully employed, could undermine, or at least call for the reconsideration, of virtually all Christian doctrine. Whether it be the early Church councils, or whether it be the Reformation theologians, the final authority that settled controversies was the Scriptures. To deviate from this approach of settling controversies requires the utmost in close argumentation and substantiation. The type of scientific review contained in this book does not measure up to the magnitude of the importance of the controversy. It is frankly astounding and puzzling to suppose that a cursory review of geology and astronomy should in some strange way substantiate anything.

“Science” has seemingly come to mean, in our modern society, as some objective body of truth that cannot be questioned, contributed to by people with Ph.D.s at universities and government laboratories, and grows as new discoveries are objectively made without bias or presuppositions. However, the word “science,” in *The Compact Edition of the Oxford English Dictionary*, 1971, has as its first definition, “The state or fact of knowing; knowledge or cognizance of something specified or implied . . .”, and as its second definition, “Knowledge acquired by study . . .”, and throughout there is an emphasis on “knowledge.” It is therefore begging the question to imply there is tension between “science” and Christianity. If something is truly “science” it is, by definition, knowledge, or truth. The real question, that makes scientists sometimes uncomfortable, is whether what is declared to be science is truly science. It almost seems that such thoughts have never occurred to the authors of the book under review: if it is declared to be science then science it must be, and it must be the Scriptures that need to be reinterpreted! A critical approach to “science” is sorely lacking, and there is no hint in this book that maybe it is “science” that needs some reinterpreting!

Criticism 10: The authors appear to have essentially ignored the real issue. It is well and good for the authors to restrict themselves, as they have done, to the relationship of geology and

astronomy to what the Scriptures have to say about origins. However, the real issue of the tension between naturalistic science and Christianity is not *ipso facto* modern geological or astronomical findings, but rather the origin of man and the faithfulness, reliability, and interpretation of the Holy Scriptures. If certain pronouncements and interpretations of certain men, who happen to be scientists, were not perceived by Christians as being contradictory to the clear statements of Scripture, there would perhaps be no tension between naturalistic science and Christianity. Many Christians are convinced that the origin and history of mankind as presented in the Bible is irreconcilable with a philosophical commitment to a long, slow, gradual evolution of mankind over millions of years from lower forms of life. While it is readily admitted by most that historical dates are very difficult to attach to the early chapters of Genesis, pushing those dates back hundreds of thousands, if not millions, of years is tantamount to throwing out the Biblical story altogether. And even if eons of time were somehow allowed, how do we end up with a *single pair* of rational, moral human beings as the head of the entire human race walking and talking with God in perfect purity and innocence in relatively recent times? The step from the most highly developed apes to this pair seems much more difficult to grasp than Adam being formed from the dust of the earth and Eve from his side. Ancient stars or not, ancient earth or not, hardly seems to matter (ignoring for the moment how these ideas might be reconciled with the Biblical text), unless one then should happen to suppose that very long eons of time somehow lends credence to the evolution of humankind. This is not the place to discuss human evolution, but even given eons of time contributes little to overcoming the difficulties associated with evolutionary theory, which is far from established fact, without even a universally accepted theory, let alone convincing evidence.¹⁰ Some discussion of the relevance of the topics selected by the authors of the book under review, and how they are related to the broader issues of human evolution, Biblical authority and interpretation, etc., is sorely lacking.

COMMENTS ON AUGUSTINE

In three places, the book under review quotes a particular passage from Augustine. That passage, in full, is as follows:

Usually, even a non-Christian knows something about the earth, the heavens, and the other elements of this world, about the motion and orbit of the stars and even their size and relative positions, about the predictable eclipses of the sun and moon, the cycles of the years and the seasons, about the kinds of animals, shrubs, stones, and so forth, and this knowledge he holds to as being certain from reason and experience. Now, it is a disgraceful and dangerous thing for an infidel to hear a Christian, presumably giving the meaning of Holy Scripture, talking nonsense on these topics; and we should take all means to prevent such an embarrassing situation, in which people show up vast ignorance in a Christian and laugh it to scorn. The shame is not so much that an ignorant individual is derided, but that people outside the household of faith think our sacred writers held such opinions, and, to the great loss of those for whose salvation we toil, the writers of our Scripture are criticized and rejected as unlearned men. If they find a Christian mistaken in a field which they themselves know well and hear him maintaining his foolish opinions about our books, how are they going to believe those books in matters concerning the resurrection of the dead, the hope of eternal life, and the kingdom of heaven, when they think their pages are full of

falsehoods on facts which they themselves have learnt from experience and the light of reason? Reckless and incompetent expounders of Holy Scripture bring untold trouble and sorrow on their wiser brethren when they are caught in one of their mischievous false opinions and are taken to task by those who are not bound by the authority of our sacred books. For then, to defend their utterly foolish and obviously untrue statements, they will try to call upon Holy Scripture for proof and even recite from memory many passages which they think support their position, although *they understand neither what they say nor the things about which they make assertion*¹¹ (emphasis in the Taylor translation).

The above passage is quoted, in part, in the book under review on pages 17-18, again on page 25, and again, in an extensive footnote, on page 149. Other than some brief comments on page 18, no analysis is presented as to the meaning of Augustine in this quotation. Certainly, it is advisable not to talk “nonsense on these topics . . . ,” and as much as we are capable of doing so, we should attempt not to be ignorant. It is also advisable not to be reckless and incompetent expounders of Holy Scripture. But it is very difficult to be more specific without a thorough investigation of what motivated Augustine to state these words. The title of Augustine’s work is *The Literal Meaning of Genesis*, and it is clear from the work that Augustine’s intent was to expound the meaning of the opening chapters of Genesis, as intended by the original author. While Augustine recognizes the value of figurative and allegorical interpretations, his emphasis, here, is on the literal, or original meaning, of the sacred writer. As we know, figurative and allegorical interpretations were common in Augustine’s day, while literal interpretations were perhaps not as common. One may speculate that Augustine was speaking against unlearned Christians of his day, without knowledge of the rudimentary science that then existed, but nevertheless confidently expounding a figurative or allegorical interpretation of the opening chapters of Genesis as though that was the original author’s intent. This is mere speculation, but clearly, the intent of Augustine’s words are *not* obvious. One may say, with a certain degree of confidence, that Augustine was *not* recommending *uncritical* acceptance of the pronouncements of highly learned men, whether their education, degrees, reputation, recognition, etc., was in science, philosophy, religion, or whatever. Many of the highly educated men of Augustine’s day were opposed to Christianity. And many others were professing Christians, but were heretics. Many of Augustine’s writings were in opposition to the teachings and writings of other highly learned men.

It was common among the Greeks, as well as others, of Augustine’s day, to believe in an eternal universe, as well as in macro-biological evolution spontaneously occurring. At that time there was no scientific basis for macro-biological evolution (Darwin’s work supposedly supplied a scientific basis), so that belief in evolution was a philosophical / religious position. Augustine’s work, *The Literal Meaning of Genesis*, was obviously in opposition to an eternal universe, and held, firmly, to the orthodox position that God created the entire universe, and everything in it, out of nothing. Augustine, also, implicitly, rejected spontaneous macro-evolution. In book 4, chapter 12, of *The Literal Meaning of Genesis*,¹¹ Augustine considers the seventh-day rest of God, and notes that “God ‘rests’ in the sense of not creating any new nature.” “He did not create henceforward any new kinds of creatures, and that even until now and beyond He works by governing the kinds that He then made.” This quotation does not explicitly reject the concept of macro-evolution, but does, in the light of the rest of the work, confirm Augustine’s commitment to God’s creating every kind of creature during creation week. In an earlier work on the opening chapters of Genesis, Augustine

states: “God the Father Almighty made and established all of creation . . . he has made and created all the things that there are insofar as they are. Thus all of creation, whether intellectual or corporeal — or, as we can put it more briefly in the words of the divine Scriptures, whether invisible or visible — has been made by God, not out of the nature of God, but out of nothing.”¹²

Therefore, while these quotations are interesting and informative as to Augustine’s orthodox position on creation out of nothing, they do not seem to lend any support to modern views of cosmology and evolution. However, they also do not lend any support to the belief in literal 24-hour days of creation week. In spite of the very interesting quotation above from Professor Barr, Augustine did not believe in literal 24-hour days for creation week.¹³ His reason for not believing in literal 24-hour days was not in order to allow for an extremely old universe, but rather it was based on philosophical / theological considerations which he believed required an instantaneous creation — an idea that would contribute nothing to an old universe, nor to evolution.

COMMENTS ON MODELING

Modeling is relevant to this debate, especially concerning terrestrial and cosmic history that greatly precedes recorded human history, in that models are used to “predict” events and structures far into the past. The time window of known data about the universe, including everything reasonably known from measurements, observations, reliable writings, archeology, etc., from the past, is of short time duration. And within that time window, of course, only a very small amount of all the data that could be known is actually known. Therefore, when scientifically thinking about the universe on a very broad scale, it becomes necessary to use a model. In order to project future states of the universe, or perhaps of equal difficulty, to project distant past states of the universe, some model of the universe must be used.

An important observation about models is that they are *always* a simplification of reality. A model airplane may be used in wind tunnel tests to draw conclusions about and suggest necessary changes to the airframe of a proposed aircraft before the actual aircraft is constructed. But, of course, the model airplane is a simplification of the actual aircraft. One may compute the ballistic trajectory of a gun round making use of simple physics, but the model used in the computation probably makes the simplifying assumptions of constant gravity (constant relative to altitude and geographic location), constant (or average) wind resistance, etc. Or, in the field of electrical engineering, basic circuit analysis, studied by all electrical engineering students, ignores the effects of electromagnetic wave propagation time, electromagnetic interaction among components, and makes the assumption of ideal, abstract, circuit elements that real, physical elements only approximate. With these simplifications circuit analysis becomes a reasonable endeavor, but otherwise it would not be, at least for beginning engineers.

One thing noticed, then, by those who use such models, is that, since they are a simplification of reality, they have limitations. A model airplane in a wind tunnel will tell us little about the performance of the individual airframe components, such as rivets and frame supports, in the actual aircraft. The model used for gun rounds will need some added sophistication before the ballistic trajectory of an ICBM is attempted. And basic circuit analysis theory breaks down when the frequencies become too high.

Perhaps a more simple example, and one that is more universally familiar, would be that of a circle. A circle with radius r has a circumference of $2\pi r$ and an area of πr^2 . However, there are no physical objects that are precisely a circle! A circle is an abstract concept, that any physical object we may call a “circle” can only approximate.¹⁴ That is, there is no physical object that has precisely a circumference of $2\pi r$ and also has precisely an area of πr^2 . A circle is a simplified, or idealized model of certain objects in physical reality.

Any model can be pressed too far, and conclusions inappropriately drawn from it be wide of the mark of reality. Models used for prediction (forecasting) are notoriously inaccurate when forecasting significantly into the future, especially when a model that has been simplified as much as possible remains complex and the inputs not fully known, such as in stock market prediction and weather forecasting. Both of these examples use elaborate models, but are still greatly simplified compared to reality.

Therefore, models of the evolution of the universe, that can supposedly inform us as to what happened in the first few moments of the creation of the universe, are viewed with a jaundiced eye by many. To those incredulous minds, such predictions seem arrogant to an extreme, uttered by, presumably, those committed to a non-Christian view of the universe, who, nonetheless, want ultimate answers, and will just make them up if need be. The idea that some things are beyond our reach, unless revealed to us by God, seems to be simply unacceptable to many. Not that we shouldn't constantly strive to understand the physical universe, but rather, that we should indeed understand our incredible ignorance first. Progress is not made by wild stabs in the dark, no matter how much of a good guesser we may think we are. Those of us fortunate enough to labor in a discipline where there is a constant interaction between theoretical ideas and the correctives of physical reality, know all-too-well to make small steps forward and to withhold judgment even on the small steps until they are confirmed by multiple and repeatable experiments.

Another aspect of many models is that they are dependent upon inputs or excitations. That is, often a complete “model” would also need knowledge of the excitation of the model. Many signals (time varying quantities) can be modeled as the output of a system described by a differential equation, excited by an impulse (a theoretical very narrow pulse). However, even if an observer of the signal knows the model in detail (knows all the parameters of the differential equation), if he only begins observing the signal sometime after it has started and did not observe it from the beginning, he has no way of knowing whether the signal started with an impulse in the distant past, or much more recently without an impulse, but with appropriate initial conditions. The observed signal would be identical in either case. Therefore, even if a detailed, accurate model of the universe were somehow to be obtained,¹⁵ for the sake of argument, this would still *not* allow us to reconstruct the history of the universe, unless we knew its precise beginning. That is, the model, no matter how accurate, tells us nothing at all about when the universe began.

CONCLUSIONS

The book under review makes a positive contribution to the debate over origins, particularly in pointing out the differences between accepting, in the main, the scientific portrait of creation, and accepting a naturalistic world view. And in giving an overview of references to creation in the

Scriptures and noting the sharp contrast between Genesis, chapters 1 and 2, and creation narratives of other religions.

However, the authors, in the opinion of this reviewer, are surprisingly non-critical of the pronouncements of the naturalistic scientific community. It used to be thought that scientific investigation was a totally objective enterprise, but it has become increasingly clear in the literature, in recent decades, that this position is no longer tenable. Scientific research, and the interpretation of findings, is a very human enterprise, much driven by aspirations, ambition, and presuppositions. This most certainly is true where origins are concerned, where one's philosophy of life can hardly be excluded. This does not mean that truth will forever elude us, but it does mean that we ignore such considerations to our own ruin. The book under review makes little mention of such considerations.

Another major difficulty with the book under review is that while on one hand expression is given to determining the intent of the original author of Genesis (a good, orthodox concern with Biblical interpretation), they then proceed to reject the clear, obvious meaning of the text, and then do precisely what they assume naive, simple-minded, scientifically unsophisticated Christians do — read into the text what isn't there, or perhaps more accurately, read *out* of the text what is there.

It may be suggested that the conflict between naturalistic and Biblical portraits of creation, at least for the Christian, is but one manifestation of a more fundamental problem in the Church: How do we approach the Scriptures? Whether it be the role of women in the church, an appropriate attitude towards practicing homosexuals, or the perceived conflict between science and Genesis: Are the Scriptures alone sufficient to resolve these problems?¹⁶ Obviously a lot that we know, and a lot that has gone into the construction of modern society, has come to us from elsewhere than the Scriptures *per se*. But when we are dealing with the philosophical, moral and ethical foundations for everything else, the Bible alone must be our textbook. Surely it is not astounding, bewildering, or amazing that many Christians hold to the plain, obvious reading of Genesis, chapters 1 and 2, especially when this interpretation has been held by much of the Christian church for many centuries. Maybe some new insights are needed, maybe a better understanding can be achieved, but only by searching, prayerful, scholarship of the highest order, knowing that the issues are deep, involving a good deal of philosophy, theology, Biblical interpretation, and psychology, as well as scientific facts and one's attitude towards the claims of modern science.

ENDNOTES

¹Modeling is discussed, since the “portrait” of creation as presented by some scientists may be considered a “model” of what actually happened, since it is inherently a simplified view.

²See, for example, Ronald H. Nash, *The Word of God and the Mind of Man: The Crisis of Revealed Truth in Contemporary Theology*, Zondervan, 1982.

³Diluvialism, as defined by Davis (p. 35), is the theory of earth history that stresses “the importance of a global cataclysmic flood in shaping topographical features, in forming strata, and in accounting for fossils.”

⁴Neptunism, as defined by Davis (p. 46), is the theory of earth history that “attributed fossils and strata to progressive diminution of a world ocean.”

⁵Concordism, as defined by Davis (p. 27), “refers to efforts to harmonize the findings of geology, astronomy, and biology with the early chapters of Genesis. The fundamental principle of concordism is that the early chapters of Genesis provide a skeletal outline of historical events that, in principle, can be discovered independently through historical reconstruction by scientific methods.”

⁶Milton S. Terry, *Biblical Hermeneutics*, 2nd ed., Academie Books, no date given.

⁷Louis Berkhof, *Principles of Biblical Interpretation*, Baker Book House, 1950.

⁸Personal letter to David Watson, dated April 23, 1984.

⁹Plain to many theologians throughout the centuries, and apparently, as discussed above, still the plain, obvious interpretation among Biblical scholars today.

¹⁰See, for example, Wendel R. Bird, *The Origin of Species Revisited: The Theories of Evolution and of Abrupt Appearance*, Volumes I and II, Philosophical Library, 1989.

¹¹Augustine, *The Literal Meaning of Genesis*, two vols., Ancient Christian Writers, Nos. 41, 42, translated by John Hammond Taylor, New York: Newman Press, 1982 (1:42-43).

¹²Augustine, “On the Literal Interpretation of Genesis: An Unfinished Book,” in *The Fathers of the Church*, Vol. 84: Saint Augustine on Genesis, *Two Books on Genesis Against the Manichees*, and *On the Literal Interpretation of Genesis: An Unfinished Book*, translated by Roland J. Teske, Washington, D.C.: The Catholic University of America Press, 1991 (145-146).

¹³See, for example, *The City of God*, or, especially, *The Literal Meaning of Genesis*.

¹⁴To be more technically accurate, no physical object can rightly be called a circle for another reason, and that is that a circle only has two dimensions. A sphere would be a more technically accurate example, but the choice of a circle is slightly more simple.

¹⁵If it were a model without error, it would no longer be a model at all, but the universe itself, since all models have error due to the simplified nature of a model.

¹⁶See, for example, Noel Weeks, *The Sufficiency of Scripture*, Banner of Truth, 1988.