A BIBLICAL CHRISTIAN FRAMEWORK FOR EARTH HISTORY RESEARCH PART I-CRITIQUE OF THE NATURALIST-UNIFORMITARIAN SYSTEM

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Abstract

An honest appraisal of historical geology must recognize that interpretations of earth history include elements other than scientific investigation. These interpretations are more properly evaluated by primary, formal tests for internal consistency between their extrascientific foundational principles (axioms) and conclusions. Failure of these formal tests automatically invalidates any system of interpretation, prior to empirical evidence. Success in passing formal tests does not guarantee success in field interpretation; it only provides the framework within which successful models of earth history may be constructed. The application of this method to the underlying naturalist-uniformitarian paradigm of modern historical geology shows it to be invalid because it fails tests of internal consistency when comparing its conclusions to its axioms in the following areas: the nature of the cosmos, of man, and of history. Thus, a valid model of geologic history cannot be generated within the naturalist-uniformitarian system.

Introduction

Modern historical geology presents an interpretation of earth history that must be replaced if the biblical Christian worldview is to be credible. There are two facets of this task: the refutation of the current dominant system, and the introduction of a theistic alternative that successfully addresses the failures of the present system. Creationists have not yet accomplished this substitution, and cannot do so effectively without demonstrating fundamental metaphysical and epistemological failures of the current system.

The current uniformitarian geologic column (Figure 1) is the framework by which the rock record of earth history is interpreted. For more information on the structure and development of the geologic column, see Froede (1995). Since its inception, it has developed into a complex, seemingly well-integrated theoretical umbrella for modern geologic interpretation. Its successful global application is a compelling argument for inherent organization in the field data, and for the column's ability to integrate and interpret those data. However, this construct has sufficiently severe philosophical deficiencies that require its rejection, rather than merely its revision (which would be the case if the deficiencies were scientific). The column is popular in spite of its flaws chiefly due to its practical insignificance in the daily business of most earth scientists, the lack of thought *about* science by scientists, and the convenience for interpretation derived from its monolithic dominance in modern geology.

The most severe deficiency in the geologic column is its inextricable linkage to the naturalist-uniformitarian system, and its resulting inability to define and defend its axioms on a metaphysical level. This is partly due to, and compounded by, the impossibility of making clear distinctions between scientific models, methodological frameworks, and metaphysical systems within naturalism-uniformitarianism (system is used throughout this paper synonymously with "worldview" as in Sire (1976, p. 17)). Each of these components should be integral, but with distinctions between them that would allow retroactive revision and potential rejection of field models apart from the system itself. Since the geologic column, uniformitarianism, and naturalism are tightly welded together by the application of a reductionist, scientistic epistemology, failure of any part causes the failure of the integral whole (Figure 2). Although the geologic column appears to be useful in

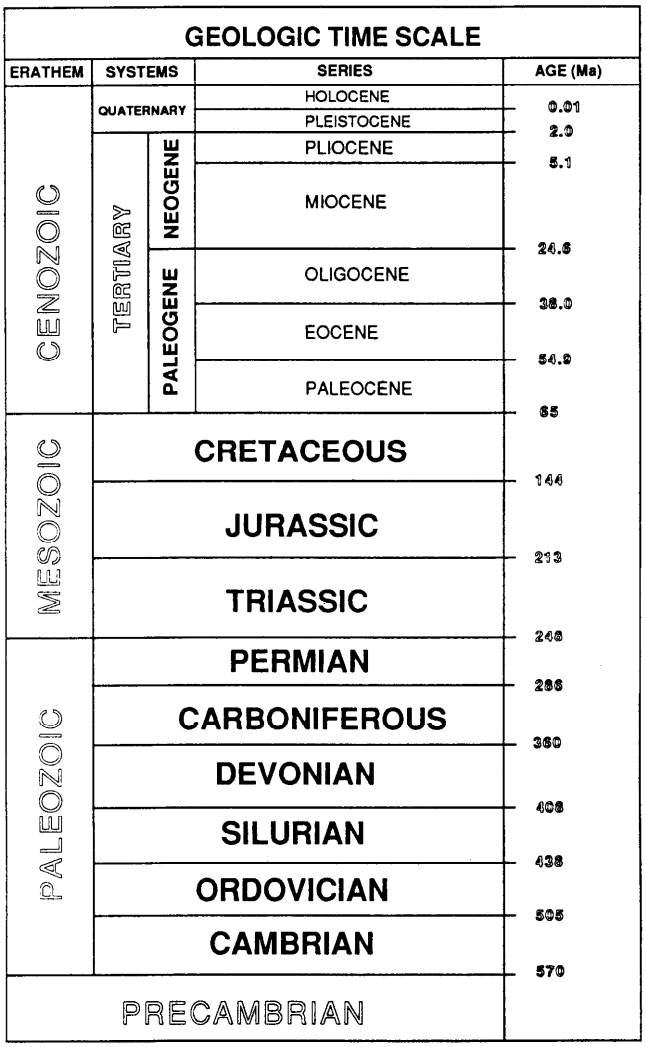

Figure 1. Simplified geologic column after Lemon (1990).

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correlating field data, if the axioms of naturalism-uniformitarianism are internally inconsistent, or contradict the analytic process or valid conclusions of the system, then by definition it is formally flawed, and field evidence is irrelevant to validity. The problem facing the geologic column, briefly stated, is "If you cannot possibly be right, why bother gathering empirical data?" The naturalist-uniformitarian system must meet both formal and empirical tests; if it fails more fundamental formal tests, then it must be modified or rejected apart from anecdotal evidence.

The same criteria for success or failure must apply to any alternative model. Any proposal by creationists must include the definition and defense of the axioms of the biblical Christian system, develop a sound methodological framework, and constrain particular models within that context. These models should then demonstrate predictive capacity in the field, and be subject to empirical revision and potential rejection within the framework. The methodological framework should allow separation between the models, the system, and the framework on a working level, allowing scientific revision within the model itself without forcing immediate, complementary revision in the supporting extrascientific system. In the early history of modern science, an explicit separation might not have been necessary, since the supporting worldview was predominantly Christian, and the concepts fundamental to understanding the limits of scientific analysis were widely shared. Significant secularization of culture during recent centuries has eliminated that monolithic context, and only the explicit statement of foundational assumptions can save any modern theistic alternative from the same formal pitfalls inherent to any uniformitarian 'model.'

Since this consensus has been lost, a preliminary foundation and method for generating models of earth history will be presented in a series of related papers. This series is not intended as a complete philosophical critique of the uniformitarian geologic column, nor is it a complete philosophical apology of any potential creationist alternative. Rather, it is an attempt to broadly outline issues that would be relevant in such works, and to provide a basic rationale for the development of a creationist correlation chart for the rock record and of creationist models of geologic earth history.

The Column is the System

The geologic column is an integral part of a naturalist worldview (reality = physical processes operating on matter in a closed system) (Sire, 1976, p. 61). The connecting link between naturalism and uniformitarianism is evolution: Evolution is the modern naturalistic explanation for the existence and character of phenomena, and is also the basis for interpreting the observed rock record into the geologic column. A circular relationship has been recognized between these facets of naturalism (Morris, 1985, p. 136). The circle is completed by the geologic column providing key "evidence" for historical evolution, an for evolution providing the "scientific" basis for naturalism. The resulting tautology has been noted, and beneath the tautology lies a more basic relationship that is destructive of the scientific method itself. This relationship is

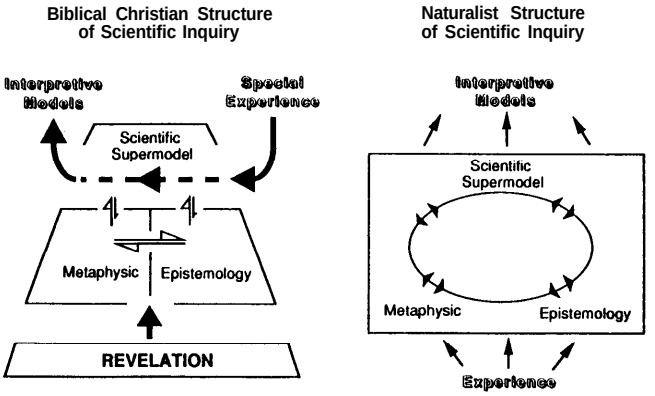

Figure 2. Comparative diagram of metaphysical-epistemological-scientific relationships for the biblical Christian and naturalist worldviews as they relate to the generation and development of geologic models. In the biblical Christian system, there is an orderly internal structure (much simplified here) that acts as a basis for regulating the flow of data and structuring interpretation. The naturalist system not having a similar internal structure allows more chaotic data flow through the system. The biblical Christian system anchors experience to absolute truth via revelation thus allowing for the distinction between special experience and experience in general (Adler, 1965); the naturalist-uniformitarian must utilize experience indiscriminately in the hope that truth can be achieved by accretion of sufficient quantities of data.

one that does not allow separation between the extrascientific parent system and derivative scientific models (see Figure 2). Thus, these models are not truly open to revision and rejection by empirical investigation. Since the naturalist system adopts a reductionist epistemology of scientism, in which science displaces theology and philosophy as the valid path to true knowledge (Schlossberg, 1983, p. 142), there is no possibility of any neutral appraisal of a distinct hypothetical scientific model; error in the geologic model would force revision of the entire system. Denial of extrascientific aspects of the model eliminates the possibility of theological/philosophical criticism of those aspects of the system. Thus, adherents of the naturalist system have limited the potential for scientific progress in earth history studies. This complex relationship between various facets of naturalism is sufficient to demonstrate the extrascientific nature of its component parts. And yet, it is the carefully arranged facade of scientific objectivity that is one of the greatest apologetic assets of the naturalist system.

In geology, the application of this system is monolithic. All current geologic interpretation is predicated on applying the geologic column, and research is always performed in reference to it. A cursory reading of contemporary geologic literature will quickly demonstrate the ubiquitous nature of the column, and will also demonstrate a lack of retroactive criticism of the 'model' in data analysis, even where observations are difficult to integrate into the conventional model. One sure mark of the extrascientific nature of the current model is the paucity of any research directed at revision of the model itself.

Within the uniformitarian camp, and also in the debate between evolutionists and creationists, the fundamental nature of the geologic column is seldom seriously questioned. Theists, especially nonscientists, have often avoided the issue by downplaying the importance of the geologic column. This is done by de-

emphasizing the issue of time, using a temporally "condensed" version of the geologic column, or simply ignoring it as a relevant issue.

The lack of systematic geologic interpretation in creationist literature renders most analyses of the column tentative and inconclusive. However, the lack of field investigation need not restrict a critical analysis of the uniformitarian geologic column, since it is not merely an empirical model, but instead a comprehensive definition of earth history fundamental to a larger, naturalistic-uniformitarian framework.

The function of the geologic column and its associated timescale demonstrates their extrascientific nature. The column is a frame of reference that integrates phenomena into an orderly historical progression of natural events and processes that are not otherwise easily integrated. These include cosmic and planetary evolution, organic evolution, tectonogenesis, sedimentation, climatic change, etc. (e.g., Haq and Van Eysinga, 1987). Each of these natural processes is integrated into an orderly historical framework in a manner that assigns intangible, orderly historical significance to tangible physical features which have no intrinsic historical significance apart from the interpretation. During the interpretive process, a philosophic view of history (with all of its inherent 'religious' significance) has suddenly been applied comprehensively to field data via a scientific shortcut. For example, a single bone found in outcrop is an entire organism, is an entire species, is part of an evolutionary chain in time, and (through space) is part of a paleoecosystem. The smooth an ordinary manner by which this is accomplished masks the remarkable act that the empirical aspect of this process has become progressively minimal and the final product is largely an artifact of the model itself, which has covertly incorporated weighty extrascientific baggage. Thus, an evaluation of the geologic column must first include a critique of the naturalist-uniformitarian system, by reference to its fundamental extrascientific features, a critique that must be performed prior to any scientific evaluation.

Admittedly, a thorough critique of naturalism is a large task, complicated by frequently hidden extrascientific dimensions which render it largely immune to contradiction *in toto* by observation alone. Many such critiques have been performed over the centuries, but the context of this contribution is modern historical geology. Although historically, almost all science and technology were done using empirical approaches to nature, the philosophic impetus towards naturalistic and historical system building in the nineteenth century led to the popularity of ‘modern’ methods. These methods had in common a scope well outside the limits of natural science, but a cloak of scientific veracity and neutrality that exploited that period’s optimism. The following critique will attempt to pull away that cloak and address the geologic column as an integral part of the naturalist system.

Ground Rules for the Interpretation of Earth History

The first step in such a critique is the recognition that historical analysis is a much larger and more complex question than is commonly presented in geologic interpretations. Key issues to be addressed prior to developing any model are: (1) the severely limited potential for human neutrality in historical analysis; (2) the proper domains and relationships of the various areas of human knowledge; and (3) the criteria for establishing a critical framework within which comeeting models can be evaluated. In each issue, the biblical Christian system demonstrates a superior basis for performing historical analysis compared to the naturalist-uniformitarian system. Although success or failure of a scientific model cannot conclusively demonstrate success or failure of the parent system and framework, an inverse relationship is true: the failure of a parent at a fundamental level invalidates derivative scientific models.

Any person desiring to perform historical analysis must accept the impossibility of their neutrality. This step is difficult for those trained in the sciences, because the scientific method is designed to maximize objectivity, and methodological objectivity (within a constrained set of limits) is often incorrectly presumed to depend on both the observed situation and the observer, and thus guarantee metaphysical neutrality as well as methodological objectivity. The objectivity built into the scientific method is limited for two important reasons: (1) the scientific method has limited application, and (2) science as a discipline requires supporting assumptions external to the scientific method, and is therefore open to the bias associated with religious or philosophical commitments. Objectivity frequently decreases with increasing bias, and is more difficult in projects such as the interpretation of earth history, where empirical data are sparse, and ideological stakes are large. The ability to recognize subjectivity, and develop methods or identifying and limiting it must be expected in any successful interpretation of earth history. Denial of bias is diagnostic of a flawed system, and any model of earth history from such a system should be partially evaluated in terms of the subjective values and ideological commitments of its proponents. Although unlimited neutrality is impossible, it is also unnecessary to test consistency between baseline assumptions and a model’s conclusions. This leads to a valid formal method of criticism acceptable to any who utilize logical modes of thought.

If a system meets tests of internal consistency, derivative models may be tested by the application of scientific methods of investigation using external, empirical evidence. However, investigations of earth history also include information that cannot be tested by scientific methods. The use of empirical data is not uniquely a function of science, but is also true of other disciplines including history, philosophy, and theology. Scientific investigation is distinguished from philosophical and historical investigation by the distinction between what Adler (1965) terms “special experience” and "common experience." Special experience results from the use of controlled, repeatable techniques; while common experience refers to uncontrolled, everyday events observable by any person. The combination of special and common experience in the investigation of earth history is inevitable, and an emphasis on the integration of disparate methods for the purpose of discovering truth is superior to the naturalist insistence on science alone, on science as defined by positivism, and on the subsequent implication that method is more important than truth.

Religion and the Recognition of Historical Subjectivity

The impossibility of neutral historical analysis is rooted in the deep religious significance of history in the western tradition. Christianity, Islam, and Judaism (and most of their derivative cults) all share a foundation in historical events. The most effective attacks on religious belief in modern times have not been directed at the theological interpretation of certain historical events, but at the factuality of the events themselves. Therefore, the affirmation *or* denial of a given historical event crucial to Christianity must by definition involve religious value. The Genesis account is important to Christian faith; therefore its affirmation or denial has religious significance. In this light, the debate over earth history reveals a religious aspect that debunks the myth of scientific neutrality. Theists commonly recognize and accept the potential subjectivity inherent in the interplay between faith and knowledge. Extensive discussion regarding the relationship between faith and knowledge throughout the history of Christianity is testimony to the development of mechanisms for recognizing and limiting human bias within that system. In this regard, theism is superior to naturalism, because naturalism presumes an objective scientific basis for a 'neutral' system. Its proponents are therefore blind to their own biases, and have developed no comparable mechanisms for accommodating them.

Bias on the part of the naturalist is twofold: Negatively in refuting the historical foundation of opposing theistic religions, and positively by advocating historic events not demonstrable by scientific observation. Evolution is the historical basis for naturalism and although evolutionary events are less specific and personal than biblical events, they represent no less of a religious historical foundation than the Genesis account. Claims that only the Christian position is burdened with religious commitments (the naturalist camp being immune to such difficulties because of their agnostic and scientistic commitments) are spurious; it has become increasingly clear that a commitment to atheism is just as religious a commitment as theism (Morey, 1986) and that claiming scientific objectivity for conclusions derived far outside the limits of science is invalid.

Formal Tests for Historical Analysis

The points of difference between the two systems, theistic and naturalistic, are important, and commonly are the focus of discussion and debate. However, a different perspective that results in the exploration of their common commitments allows a more fundamental critique of naturalism and its model of earth history. For example, both camps share a deep commitment to the significance of history in their "religious" framework. This shared commitment is based upon a biblical perspective on the nature of history (Cullmann, 1964, p. 23). Thus, the naturalist has appropriated a Christian pattern of thought devoid of any non-theistic basis for doing so. This pattern is repeated in other comparisons between the two systems. An examination of common ground between the two systems will highlight tremendous internal conflicts within the naturalist uniformitarian system usually obscured by a cloak of scientific objectivity (and implied neutrality), and will demonstrate the failure by formal tests of the naturalist-uniformitarian system: The same evaluation will support the biblical Christian position, both by eliminating a powerful opponent and by highlighting how the biblical Christian system passes tests failed by naturalism.

Formal tests invalidate the naturalist-uniformitarian system, and simultaneously define a framework for a biblical-Christian alternative. These tests are based on comparison of underlying axioms of these systems with their respective methodologies or conclusions. A key to these tests is the primary role reserved for science in the naturalist system, a role that will be shown to be the source of many of its internal contradictions, since justifying the existence and application of the scientific method is a distinctively Christian task,* and cannot be done by naturalism. Therefore, it will be shown that the biblical Christian framework passes formal tests of internal consistency, but the naturalist-uniformitarian system does not because it must appropriate axioms of biblical Christianity to support conclusions which are in turn offered as a refutation of biblical Christianity.

The formal tests for consistency will be performed in regard to a view of nature, man, and history. It will be shown that the naturalist-uniformitarian system utilizes uniquely biblical assumptions in each of these areas without acknowledgment or justification of how these assumptions can be developed in a non-theistic system.

The "Nature" of Nature

The shift in cosmological perspective that led to the development of modern science is rooted in the development of Christian theology during the late Medieval and Reformation periods. This development was crucial to modern science, and centered on the dominantly Christian interpretation of the cosmos in its relationship to a free, transcendent creator, in contrast to previous cosmological views in which nature subsumed all reality (Glover, 1984). This development allowed a clear break with the cosmological views of nature dominated at that time by, Aristotelian natural philosophy. During Medieval times the contrast between the biblical and Aristotelian frameworks was developed through the Scholastic enterprise, which rigorously evaluated the compatibility of the two systerns. The failure to effectively integrate the two systerns is termed, ". . . the most fruitful, creative failure in the entire history of the human mind." (Glover, 1984, p. 34). The ultimate success of Scholasticism was its development of a new understanding of the cosmos from the rejection of key tenets of Aristotle in favor of biblical revelation.

> No Christian could ultimately escape the implications of the fact that Aristotle's cosmos knew no Jehovah. Christianity taught him to see it as a

*There is a theoretical possibility that this task could also be performed by other theistic religious (i.e.. Judaism and Islam) that share the Christian commitment to a transcendent creator, however a brief review of the history of science demonstrates that modern science arose under the influence of distinctively Christian intellectual trends that flowered following the Protestant Reformation and the Renaissance.

> divine artifact rather than as a self-contained organism. The universe was subject to God's laws; its regularities and harmonics were . . . a result of providential design. The ultimate mystery resided in God rather than in Nature. . . . The only sort of explanation science could give must be in terms of descriptions of processes, mechanisms, interconnections of parts. Greek animism was dead. . . . The universe of classical physics, in which the only realities were matter and motion, could begin to take shape. (A. R. Hall, The Scientific Revolution, 1500-1800, second edition, as quoted in Glover, (1984, p. 83)

Glover discusses two profound implications of this view. The first is that creation was a free act of God, and not governed by any internal deterministic forces. Therefore, our knowledge of the creation could not be derived from rational principles alone, but only from critical reflection upon observation and revelation. The primacy of empirical observation over rational contemplation, and thus the western empirical tradition, is based firmly on the biblical doctrine of creation. There is no corresponding rationale for an empirical tradition in naturalism. The second implication was the transfer of the source of final cause (purpose) from nature (Aristotelian) to God, and the corresponding restriction of scientific inquiry.*

Any discussion of final cause is a philosophical minefield for the naturalist-uniformitarian system. Its proponents are faced with a profound trilemma: either final cause does not exist, final cause originates outside of nature or final cause originates within nature. If final cause originates outside of nature, then the Christian understanding of the cosmos is essentially correct, and consistency would force a reevaluation of basic naturalist commitments, and the correlative uniformitarian history. If final cause originates within nature, then the emancipation from Aristotelian principles is invalid, and science must be redefined along Aristotelian lines. If final cause does not exist, then nature is irrational, and a pursuit of a scientific understanding of nature is also irrational. Faced with the impossibility of an Aristotelian reincarnation of science, the strength of the religious commitment against Christian theism in the naturalist camp is demonstrated by the increasing popularity of modern irrational mysticism, even among members of the "scientific" community. (See Schlossberg, 1983, pp. 158-176.)

Modern science was born out of a unique understanding of nature as a mechanistic artifact of an intelligent, designing, purposeful, and volitional God (Glover, 1984). The naturalist system denies God, and consequently, this special God-nature relationship. Any concept of nature as ultimate reality reinstates the same cosmological framework that required elimination to enable the birth of modern science. And yet modern naturalism rests on the method of modern western science. In this foundational axiom, the naturalist-uniformitarian system is shown to be internally inconsistent in two important areas. Its proponents cannot demonstrate the basis for a clear distinction between mechanism as a methodology and mechanism as a metaphysic (Glover, 1984) within their system. Also, unless they justify the removal of final cause from nature without eliminating final cause *per se*, they cannot justify their faith in the scientific method of investigation, which is their primary line of defense against competing theistic worldviews. Christian axioms are appropriate to support conclusions that contradict those axioms. Conversely the biblical-Christian framework is shown to be internally consistent, and a superior system for conducting scientific studies in historical analysis.

The Position of Man

The success of modern science thus relies in part on a special biblical understanding of God's relationship to the cosmos. However, that relationship only provides for the intrinsic comprehensibility of nature. Science is a human endeavor and requires beings who can take advantage of the special "openness" of nature. This factor was supplied historically by a special biblical understanding of God's relationship to man. Science is not possible if man is merely a part of the system, and has no transcendent relationship with nature. Man's transcendent relationship to nature is necessary for any potential ability to objectively comprehend nature, and man's relationship to God (who can by definition understand nature) provides a positive basis to exercise that potential. The naturalist's rejection of God disallows a basis for man's transcending nature and for man's ability to comprehend nature. And yet, it is precisely those characteristics that allow man to develop the science which supposedly demonstrates the validity of naturalism.

The naturalist view has an inherent sympathy with the historical thesis that the self-understanding that led to the birth of modern science was primarily a rebirth of classical Greek anthropology. Although this view is common, Renaissance humanism was not primarily a rediscovery of the classical Greek view of man, but rather a uniquely Christian interpretation of man's place in the world (Glover, 1984, p. 51). The primary difference between the classical view of man and the Renaissance view of man reflects the influence of a Christian perspective. Greek man existed in a fixed position in an unchanging cosmos. History was cyclical (Plato is an exception at this point), and of little importance, since man had no impact on the future. If men exceeded their place in nature, they were brought down by fate or the gods. In contrast, the Christian view of man developed in the Renaissance grew from the biblical insight that man was created in the image of God. Since God transcended nature, man did also. Nature was "dead"* and man's

*Aristotle identified understanding with causal explanation. He employed a fourfold outline for explanation which has since been commonly known as Aristotle's 'four causes.' These include the **material** *(lit.* "the out of which"), **formal** *(lit.* "the what it was to be of a thing"), the **efficient** *(lit.* "the origin of motion"), and the **final** *(lit.* "the on account of which") causes. Each of these causes was inherent in nature. By contrast, modern science reduces scientific explanation to the material cause (i.e., atomic structure) and selected parts of efficient cause (i.e., motion). Final cause (also known as 'teleology') is denied, and therefore considered irrelevant to scientific investigation. Aristotle's description of the four causes can be found in *Physics* II-3, 194b 16 - 195a 2 (McKeon, 1941).

*Nature was dead in the sense that the divine was separated from nature, and mechanistic predictability was possible. There were no longer any sacred spirits in trees, rocks, and streams to alter mechanistic regularity, or to prevent human investigation of that regularity. Historically, this concept became popularized by the analogy of machinery. Whether or not this analogy is complete in all of its aspects remains unanswered.

creative purpose in God's creation dealt not with nature operating on man, but with man operating on nature. Nowhere in the Greek mode of thought was there room for the creation mandate (Genesis 1:28) to subdue and rule the earth. In the biblical mode, man's existence centered not on his relationship with nature, but with God.

A robust biblical Christian view of man as a special creation in God's image developed during the Renaissance (Glover, 1984). The development of science was accelerated by this unique anthropology, which justified man's transcendence to nature, and provided positive impetus in its emphasis on man's special worth as an image-bearer of God. This high view of man relative to nature provided motivation for man's intellectual conquest of nature by science (Glover, 1984). Science became tied to the creation mandate. Although proponents of the naturalist-uniformitarian system seek to preserve a special place for man in relationship to nature, they have lost the basis for doing so. Attempting to find a basis for man's transcendence in his being the "pinnacle of evolution" is a fraud, because man, the "pinnacle of evolution" remains within nature, and cannot transcend it in the same special sense of man, the "image-bearer." Once again, the naturalist system fails a formal test of consistency. Man assumes the ability to comprehend and control nature, but there is no possible justification for that relationship apart from Christian theology. Naturalism again applies biblical Christian axioms without justification, and utilizes them in its assault on biblical Christian conclusions.

The Understanding of History

Western man is unique in his reflexive understanding of his own existence in the context of history, derived ultimately from the Christian understanding of history as free from internal, mechanistic deterministic forces (Glover, 1984). History and nature are free from these forces because purpose originates in God, rather than in nature or some historical process; and nature's very existence is dependent in an ongoing sense on God. Since man exists in God's image, he transcends nature, and is not captive to its forces. This is expressed both in the concept of man's freedom (within biblical limits) and a resulting sense of purpose in history. This sense of purpose was not in history itself, but rather in a relationship with God which was driven by events unfolding in history. The historical mission of the people of God in both Old and New Testaments shaped the consciousness of western man. This mission-oriented sense of transcendent self-importance was commonly viewed in a Christian context up through the Enlightenment (Glover, 1984).

One expression of the biblical understanding of the relationship between God, man, and history is in the primitive Christian (i.e., early Church) concept of linear, progressive time (Cullmann, 1964, p. 32). Time, as a part of God's creation, has a definite beginning, and an equally definite end. History proceeds in a linear manner from the beginning to the end, guided by and reflecting the direct intervention of God in time. This understanding of time is quite different from that of most of the Greek cosmological framework. History was of little importance and time was cyclical. Salvation (i.e., deliverance from the physical plane and all its limitations) involved moving outside of the enslavement to the unending cycles of time to the timeless "beyond," and was therefore spatially oriented, in contrast to the Christian concept of salvation within time at a particular point on a line progressing towards blessedness in the endless time of eternity future (Cullmann, 1964, p. 52). Modern naturalism, which shares metaphysical commonality with majority naturalistic Greek views, has nevertheless appropriated the biblical view of progressive, linear time. This allows the incorporation of history into nature (Schlossberg, 1983 p. 141), but the self-imposed epistemological limits of naturalism preclude a metaphysical justification for any concept of time; and ontologically, the structure of naturalism itself does not positively support linear time. Note that evolution presupposes linear time rather than justifying it. Thus, the rejection of God and his purposeful providence in favor of chance removes the metaphysical rationale for linear time and progressive history. Even this most basic characteristic of evolution (and therefore geologic history) requires a biblical foundation.

Because geologists think in terms of the naturalist-uniformitarian system, the metaphysical contribution to a concept of time is largely ignored or misunderstood, as seen in this quote from a practicing geologist (emphasis added):

> Opposed to this theory (Huttonian cycles) was Thompson's [Lord Kelvin's mechanical model of the earth as a physical body obeying the newly enunciated laws of thermodynamics, with a strongly directional, but relatively short history, and a rapidly approaching cold death . . . Geologists could not accept Thompson's short time span, but were nevertheless forced to consider the implications of unidirectional history **imposed by the physicist.** (McLaren, 1978, p. 2) [emphasis added].

Attributing unidirectional time to the scientific discoveries of Lord Kelvin reveals a reductionist epistemology, rather than demonstrating any observational basis or unidirectional time. In addition to obvious contradictions when comparing the results of progress along 'time's arrow' between evolution and entropy, consider the following:

1) The concept of unidirectional time is biblical, preceded Kelvin by several millennia, and was certainly a part of his cultural metaphysical frame of reference.
2) Any system of reference for time apart from observations themselves is by definition metaphysical, rather than physical (since man's observational timeframe is insignificant on the apparent scale of the universe). Furthermore, no contemporary scientific observations could have evidenced unidirectional time as described by Kelvin.

No axiom can be proven by observation. For example, the concept of causality (a key principle of scientific inquiry cannot be derived empirically (Hume, 1777 in Steinberg ,1977, pp. 50-53). Neither can a reference framework of time be proven by observation.

Thus, the quote above illustrates how science in the naturalist system must (improperly) subsume philosophy and theology when attempting to explain its preconditions. As to any hopes that scientific progress will provide empirical evidence to justify the naturalist's framework of linear time, not only does Hume's objection remain unanswered within the context of naturalism but quantum physics has raised further questions and has answered few of the existing ones.

The most significant trend in the peculiar western understanding of history was its survival in the face of rejection of its requisite God-man relationship (Glover, 1984). Ironically, the historical self-concept has remained, and has continued to define secular western consciousness. Even after abandoning the God of history, western man has retained his sense of transcendent self-importance. This is a significant difference between modern western and pre-Christian pagans, who accepted the historical determinism of impersonal cosmic forces and condemned man's overzealous meddling in nature as "hybris" (Glover, 1984, p. 117). The same sense of transcendent self-importance that drove early Uniformitarians to conclude that they could conquer nature with their science can be derived only from the biblical doctrine of creation. Therefore, uniformitarianism as a system is internally contradictory until its proponents can derive an atheistic view of man relative to history that can justify his creative freedom from nature and history (expressed in the scientific enterprise), and a linear, progressive view of history. Conversely, the biblical-Christian system is consistent. Man's historical significance and historical perspective are legitimately derived from an appreciation that history is another facet of God's creation.

Conclusion

In summary, the naturalist-uniformitarian system fails the formal comparison of its conclusions and methods with its axioms. Ironically, axioms that are crucial to its very existence are shown to be theological conclusions derived from the Biblical doctrine of creation, and derivative God-man-nature relationships. Naturalists have not, and probably logically cannot provide a non-theistic formulation that would justify those axioms foundational to modern science. Simultaneously, it has been demonstrated that the biblical Christian framework passes these same formal tests. That comparison alone is sufficient to demonstrate that the naturalist system is false and that the biblical Christian system provides a valid framework for earth history analysis. The question remains of how to proceed with the task of historical analysis in a biblical Christian framework. In developing guidelines for that task that will support geologic models in succeeding parts of this contribution, additional formal flaws will be uncovered in the naturalist alternative. Future emphasis will be not on the already-demonstrated failure of naturalist-uniformitarian system, but rather on the development of a method for earth history analysis, and resulting geologic models of earth history within the biblical Christian system.*

References

Adler, Mortimer. 1965. The conditions of philosophy. Atheneum Press. New York.

Cullmann, Oscar. 1964. Christ and time: The primitive Christian conception of time and history (third edition, translated by Floyd V. Filson). The Westminster Press. Philadelphia.

Froede, C.R, Jr. 1995. A Proposal for a Creationist Geological Timescale. *Creation Research Society Quarterly* 32:90-94.

Glover, Willis. 1984. Biblical origins of modern secular culture. Mercer University Press. Macon.

Haq, Bilal U. and Frans W. B. Van Eysinga, 1987. Geological time table. Elsevier. Amsterdam.

Hume, David. 1777. An enquiry concerning human understanding. Eric Steinberg, Editor. 1977. Hackett Publishing Company. Indianapolis.

Lemon, Roy R. 1990. Principles of stratigraphy. Merrill Publishing Company. Columbus, Ohio.

McKeon, Richard, ed. 1941. The basic works of Aristotle. Random House Publishers. New York.

McLaren, D. J. 1978. Dating and correlation, a review, in Cohee, G. V., Glaessner. M. F., and Hedburg. H., (Editors). Contributions to the geologic time scale. *American Association of Petroleum Geologists Studies in Geology* 6:1-8.

Morey, Robert. 1986. The new atheism and the erosion of freedom. Bethany House Publishers. Minneapolis.

Morris, Henry (Editor). 1985. Scientific creationism (General Edition). Master Books. El Cajon.

Schlossberg, Herbert. 1983. Idols for destruction. Thomas Nelson Publishers. Nashville.

Sire, James. 1976. The universe next door. Intervarsity Press. Downers Grove, Illinois.

***Editor's Note: There have been many articles from a philosophical viewpoint on the origins controversy that have appeared in the Quarterly. It has been recognized by many creationists that a two-pronged approach is necessary in challenging naturalism; empirical data-gathering) studies as well as philosophical discussions. For a treatise on philosophy see Ancil, R. E. 1985. On the importance of philosophy in the origins debate. *CRSQ* 22:114-123.**