

a paper:

On The Genesis Account of Creation

בְּרֵאשִׁית בְּרָא אֱלֹהִים אֶת הַשָּׁמַיִם וְאֶת הָאָרֶץ

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3/31/2006 AD, revised 5/07/2007 AD

PREFACE

The purpose of this paper is to explore the continuity between The Biblical account of creation and modern scientific understanding of biological and non-biological systems on various levels.

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ABSTRACT

What may be discerned from Natural and Special Revelation – the apparent order of the physical universe both organic and inorganic and The Holy Scriptures – on the controversies between the theories of spontaneous evolution and intelligent design? Calculations in astronomy, biology and theoretical mathematics show that our universe evolving by chance accident is so improbable as to be “handwriting on the wall” that proclaims, “Made by GOD.” What Darwin wrote of in his “Evolution of The Species” was not what may be called “macro-evolution,” but “micro-evolution:” species populations adapt over time to the pressures in their environments, but they remain within the same species.

It is written in GENESIS 1:1, “In the beginning GOD made the heavens and the earth,” and in JOHN 1:1, “In the beginning was the Word, and the Word was with GOD, and the Word was GOD.” Indeed, as men struggle to understand the nature of the universe in which we all live and the origins of life, the incredible order of all things in the natural world and the Biblical testimony of GOD as The Creator of all things demands a renewed and more open minded consideration on both sides of this great debate.

DEDICATION

That young people may know that there is indeed a GOD, and that He reveals Himself to us in The General Revelation of creation and in The Special Revelation of Holy Scripture.

EPIGRAPH

PSALM 14:1a declares in The Biblia Hebraica Stuttgartensia,
אָמַר נַבֵּל בְּלִבּוֹ אֵין אֱלֹהִים - AMAR NAVAL BELIBO ‘EYN ‘ELOHIYM -
The fool hath said in his heart, There is no GOD...! [KJV].

I. THE HEBREW TEXT OF GENESIS 1:1

GENESIS 1:1 opens The Holy Scriptures with the Divine declaration of creation, “In the beginning GOD created the heaven and the earth.”¹ The Hebrew Text from The Biblia Hebraica

Stuttgartensia reads:² בְּרֵאשִׁית בָּרָא אֱלֹהִים אֶת הַשָּׁמַיִם וְאֶת הָאָרֶץ

This may be transliterated as, BER'SHIYTH BARA' 'ELOHIYM 'ET HASHSHAMIYM VE'ET

HAARETS.³ רֵאשִׁית RE'SHIYTH means “the beginning; the first...”⁴ There was a

beginning in time during which GOD, Who alone was before the beginning, commenced His

work of creation of the universe. The verb is בָּרָא BARA', given in the 3rd person, masculine,

singular active Qal perfect.⁵ The action is completed in its doing and no longer ongoing. Bara'

conveys in the Qal the meaning of “to shape, fashion, create (always with God as subject); to

form (with GOD as the subject) heaven and earth, individual man, new conditions and

circumstances, transformations.”⁶

Note that the subject doing the creating is אֱלֹהִים 'ELOHIYM – GOD Himself, Who is

The One pre-existing before “In the beginning.”⁷ The direct objects are what is being created by

GOD, the heavens and the earth. הַשָּׁמַיִם HASHSHAMAYIM is given in a plural form,

meaning “the visible heavens, as the sky; the heavens, as the abode of the stars; the heavens, as

the visible universe; Heaven, as the abode of GOD.”⁸ Here GOD created the full realm of the

universe which, before He acted to create it, did not exist. And within this universe, GOD

created הָאָרֶץ HA'ERETS, the earth.⁹

¹ 1, KJV (King James Version English Bible), GENESIS 1:1.

² 2, BHS (Biblia Hebraica Stuttgartensia), GENESIS 1:1.

³ In this paper, I represent aleph as '.

⁴ 3, BLB (Blue Letter Bible), GENESIS 1:1, Hebrew Lexicon Concordance for רֵאשִׁית RE'SHIYTH.

⁵ 3, BLB, GENESIS 1:1, Hebrew verb root and tense for (he) created, בָּרָא BARA'.

⁶ 3, BLB, GENESIS 1:1, Lexicon Results for בָּרָא BARA', Strong's 01254.

⁷ 3, BLB, GENESIS 1:1, Hebrew root form, אֱלֹהִים 'ELOHIYM.

⁸ 3, BLB, GENESIS 1:1, Lexicon Results for הַשָּׁמַיִם SHAMAYIM, Strong's 08064.

⁹ 3, BLB, GENESIS 1:1, Hebrew root form, אָרֶץ 'ERETS.

II. DOES SCRIPTURE THEN PROCLAIM CREATIONISM OR EVOLUTIONISM?

It is here in The Beginning of Holy Scripture that many theologians today feel compelled to try to reconcile creationism with evolutionism. Peter Ochs, in "Genesis 1-2: Creation as Evolution," begins his argument for Divinely directed evolution as the mechanism used by GOD to create the order of all inorganic and organic systems in our universe. Ochs holds that we misread GENESIS 1:1 when we translate it "In the beginning....," instead of "In the beginning of..." Ochs states, "The first word of the Hebrew... [בְּרֵאשִׁית BER'SHIYT¹⁰] - is in a construct form, as if to say 'in the beginning-of.' The more typical English translation, 'In the Beginning,' creates a substantive entity called 'the Beginning' that may not be suggested by the Hebrew."¹¹

Ochs justifiably observes that creation is not static and that GOD animates all life as He wishes. From this he then states "the Genesis account is not about a one-time event, but discloses the work GOD must do every day to maintain our world. This is a repeating cycle of light, water, and earth coming together continually to reform our world."¹² But now Ochs begins to wax poetic, that he may open the door to embracing evolutionism as a mechanism of Divine creation: "A species is itself a creature: it, too, is formed in its morning, lives its day of mixed success and failure (and how long is that day?), and dies at night, only to be refashioned out of its elements the next day of its renewal. This is... the miracle of evolution, or 'palingenesis' ...that the old becomes new."¹³

Ochs then makes this jump into Darwinian evolution as the instrument of Divine creation: "To renew life is to seek to improve it; to renew life is to redeem it... Darwin understood some of this, but only some. What rabbinic tradition means by evolution is much richer and deeper and broader than Darwin meant; but it certainly does not exclude what he wrote."¹⁴ But Ochs confuses the ongoing work of The Almighty during the six days of creation - during which GOD molds the chaos of existence into the order of our universe - with the Natural Laws that GOD has set up in the universe that govern and maintain the continuation of existence, order and life in creation according to His will. And Ochs confuses both of these with the concept of Darwinian self-directing spontaneous evolution.

¹⁰ 2, BHS, GENESIS 1:1.

¹¹ 4, "Genesis 1-2: Creation as Evolution." Peter Ochs. Living Pulpit, volume 9, number 2, page 8, paragraph 1.

¹² 4, Ibid., page 10, end of last paragraph from page 9.

¹³ 4, Ibid., page 10, paragraph 3.

¹⁴ 4, Ibid., page 10, paragraph 4.

But Intelligent Design holds that the Biblical Genesis account of creation precludes Darwinian evolution. Steven Tuell, in “Genesis 2:1-3 – Between Text and Sermon,” counters Ochs’ thesis by noting the created – not evolved – symmetry of creation in GENESIS. Tuell states, “The first six days of creation have unfolded in a careful, ordered design: Day One (light) paralleled by Day Four (lights in the sky), Day Two (sky and sea) by Day Five (birds for the air, fish for the sea), and Day Three (dry land and plants) by Day Six (land animals, both wild and domestic, and human beings). Day Seven stands apart, as a day without parallel... the seventh day [is] as the day of completion: the climax of creation.”¹⁵

GOD is the First Cause, The Unmoved Mover, The One Who was, is and will be outside of the created universe. Tuell observes that “GOD empowers creation to participate in its own coming into being: the earth brings forth plant and animal life (1:11,24), and the waters bring forth ‘swarms of living creatures’ (1:20). Provision is made for the continual re-creation and renewal of GOD’s world (1:11,12,22,28).”¹⁶ What Ochs is willing to label Darwinian evolution are rather those created characteristics of the universe which allows for continuous renewal of inorganic and organic systems. Ordered existence begets new ordered existence and life begets life according to the universal laws which The Almighty has embedded within creation itself. The competing concepts of spontaneous evolution as an explanation for the physical universe and Divine creation are mutually exclusive – either one or the other is true, but not both.

III. LIVING THINGS AFTER THEIR OWN KIND

GENESIS records that The LORD created each living thing “of its own kind;” one species did not change over time to become a new species. In GENESIS 1:11-12, GOD created forth the grasses, herbs, fruits and trees, each with its own seed within it and “after its own kind.”¹⁷ In GENESIS 1:21-25, GOD created all the creatures in the seas, that flew in the skies and that moved on land – each again “after its own kind.”¹⁸

In each case, the Hebrew word מִיִּין MIYN¹⁹ is used, which denotes in living organisms “form, species, kind, sort.” Further, “Groups of living organisms belong in the same created ‘kind’ if they have descended from the same ancestral gene pool... A new species could arise when a population is isolated and inbreeding occurs. By this definition a new species is not a

¹⁵ 5, “Genesis 2:1-3 – Between Text and Sermon.” Steven S. Tuell. Interpretation, 1/2005, volume 59, number 1, page 51, paragraph 2.

¹⁶ 5, Ibid., page 51, paragraph 3.

¹⁷ 1, KJV, GENESIS 1:11-12.

¹⁸ 1, KJV, GENESIS 1:21,24,25.

¹⁹ 2, BHS, GENESIS 1:11.

new ‘kind’ but a further partitioning of an existing ‘kind.’”²⁰ In other words, Scripture clearly states that groups of species give rise to creatures within their same species, although different breeds emerge of that species under different environmental pressures. The new breeds remain however the same species.

In GENESIS it is declared that The LORD made man from the elements of the earth, but not from other creatures. And having formed the body of man as an event in creation history, The Almighty then gave man life as a subsequent creation event. Thus GENESIS 2:7 reads, “And the LORD GOD formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul.”²¹ In the same way GENESIS records the creation and not the evolution of woman from man by GOD.²² There is no gradual progression from lower organisms to higher organisms, culminating in the ultimate animal – man – recorded in Scripture, either spontaneously or by Divine guidance.

IV. INTELLIGENT DESIGN THE ONLY PLAUSABLE EXPLANATION

John Wilson, in “Science in Wonderland – Getting Some Perspective (250 Million Years’ Worth) on the Evolution Controversy,” observes: “As Christians, we rest secure in the conviction that our world and the universe in which it is the tiniest speck did not simply happen by the secular miracle of ‘spontaneous organization.’”²³ Wilson notes that, when evolution theory proponents are confronted with “the extreme improbability of all the conditions required for life as we know it evolving just so” spontaneously, their response is often to require men to show more faith to believe in their god Darwinism than does creation theory!²⁴ Thus the clear need to separate the science of impartial observation and rational conclusion from the ideology, philosophy and faith combined in Darwinian evolutionary theory.

One such currently popular counter explanation offered today by evolutionism is “string theory,” which proposes that “our universe is but one of an unimaginable number of universes, say... [10 raised to the 500th power], in which case the features of any one universe (ours, for instance) are unremarkable.”²⁵ Ironically, as Wilson observes, “The theory has not met with...

²⁰ 3, BLB, Hebrew Lexicon for GENESIS 1:11,12,21,24,25, מִיֵּן MIYN, Strong’s 04327.

²¹ 1, KJV, GENESIS 2:7.

²² 1, KJV, GENESIS 2:21-22.

²³ 6, “Science in Wonderland – Getting Some Perspective (250 Million Years’ Worth) on the Evolution Controversy.” John Wilson. Christianity Today, 4/2006, volume 50, number 4, page 76, paragraph 1, Nobody Expects The Permian Extinction.

²⁴ 6, Ibid., page 76, paragraph 3, The Universe on a String.

²⁵ 6, Ibid., page 76, paragraph 3, The Universe on a String.

universal approbation, not least because it can't be empirically tested.”²⁶ While unable to prove their contentions of evolution theory, the Darwin camp remains equally unable to disprove creation theory, which causes great anxiety for them. Wilson quotes one such leading scientist as commenting on the validity of Intelligent Design theory the following: “Without any explanation of nature's fine-tunings we will be hard pressed to answer the ID (Intelligent Design) critics. One might argue that a hope that a mathematically unique solution will emerge is as faith-based as ID.”²⁷

Christoph von Schonborn, in “The Designs of Science,” clarifies the evolutionist theory of neo-Darwinism: “the idea that the mainspring of evolution is natural selection acting on random genetic variation.” Darwinian scientists make as it were “the theological claim that evolution is an ‘unguided, unplanned process.’”²⁸ Von Schonborn observes that one can readily compile large collections of such Darwinian scientists, itself an oxymoron, “in which they make such ‘theological’ assertions, in bold and unqualified ways... that evolution by means of random variation and natural selection is an unguided, unplanned process.”²⁹ And so the religion of Darwinian evolution proclaims, as one scientist put it, that “the world is organized strictly in accordance with deterministic principles or chance. There are no purposive principles whatsoever in nature. There are no gods and no designing forces rationally detectable.”³⁰

Von Schonborn identifies the central sacrament of faith within the religion of Darwinism: the randomness of randomness. In “thermodynamics, quantum theory and other natural sciences... randomness captures our inability to predict or know the precise behavior of the parts of a system... But in all such cases, the ‘random’ behavior of parts is embedded in and constrained by a deeply mathematical and precise conceptual structure of the whole that makes the overall behavior of the system orderly and intelligible.”³¹ In contrast, “the randomness of neo-Darwinian biology is nothing like that. It is simply random. The variation through genetic mutation is random. And natural selection is also random. The properties of the ever-changing environment that drive evolution through natural selection are also not correlated to anything, according to the Darwinists. Yet out of all that unconstrained, unintelligible mess emerges... the

²⁶ 6, , “Science in Wonderland – Getting Some Perspective (250 Million Years’ Worth) on the Evolution Controversy.” John Wilson. Christianity Today, 4/2006, volume 50, number 4, page 76, paragraph 4, The Universe on a String.

²⁷ 6, Ibid., page 76, paragraph 5, The Universe on a String.

²⁸ 7, “The Designs of Science.” Christoph Cardinal von Schonborn. First Things, 1/2006, number 159, page 35, paragraph 5.

²⁹ 7, Ibid., page 31, paragraph 6.

³⁰ 7, Ibid., page 31, paragraph 7.

³¹ 7, Ibid., page 36, paragraph 4.

precisely ordered and extraordinarily intelligible world of living organisms.”³²

V. TWO DIFFERENT WARS? CREATIONISM AND INTELLIGENT DESIGN

Stephen Barr, in “The Miracle of Evolution,” holds that there are 2 distinct conflicts about the formation of our universe that often become confused: 1) Battle number 1 involves “...nearly the entire scientific community against creationists, who believe that they are upholding the veracity of Scripture by denying that evolution happened at all;”³³ 2) Battle number 2 pits the explanation for presumed evolution in neo-Darwinism versus Intelligent Design theory, which holds “that natural mechanisms are insufficient to account for all the complexity seen in the biological world... therefore argu[ing] that the existence of an intelligent designer can be scientifically demonstrated” in the presence of apparent intelligent design.³⁴

Many scientists refuse to admit that there is much we do not understand about the universe, disallowing any questioning of evolutionary theory. Such men and their allies are conducting a war against the religious views of the formation of the universe, of which Barr identifies 3 distinct attacks: Firstly is the attack by “scientism” which uses “the neo-Darwinian account of evolution as a metaphysical weapon... [which claims that] all objectively meaningful questions [about existence] can be reduced to scientific ones, and only natural explanations are rational.”³⁵

Secondly is the attack on seeing design in nature, which claims that “Darwinian evolution has explained how complex biological structures arise from unconscious physical processes.” Thus this assault seeks to disprove the need for or existence of a Divine Creator, claiming “that the universe and life are without ultimate purpose.”³⁶

Thirdly is the “attack on the religious conception of man,” which assaults all morality based on religion and Natural Law with the claim that there is “no ‘ontological discontinuity’ ... between man and the lower animals. ...[human beings] are simply the products of an evolutionary process.” Thus, the claim is made that man and society are rightly governed only by “‘evolutionary ethics’ and sociobiology.”³⁷

How should these attacks on faith and the view of a Divine Creator Who brought forth

³² 7, “The Designs of Science.” Christoph Cardinal von Schonborn. First Things, 1/2006, number 159, page 36, paragraph 5.

³³ 8, “The Miracle of Evolution.” Stephen M. Barr. First Things, 2/2006, volume 160, number 160, page 30, paragraph 1.

³⁴ 8, Ibid., page 30, paragraph 2.

³⁵ 8, Ibid., page 30, paragraph 5.

³⁶ 8, Ibid., page 30, paragraph 6 to page 31.

³⁷ 8, Ibid., page 31, paragraph 1.

our universe and its incredible order? These attacks combine both science and philosophy, and thus the answer lies in clearly separating “the actual hypotheses of legitimate science from the philosophical errors often mistakenly thought to follow from them.”³⁸ In the case of neo-Darwinism, we must cleave away what is subjective philosophy and keep only what is objective science.

VI. DAYS OF CREATION – A YOUNG EARTH AND AN OLD UNIVERSE

Douglas Bozung, in “An Evaluation of the Biosphere Model of Genesis 1,” offers an analysis of Gorman Gray’s “The Age of The Universe” in which the ‘undefined age’ or biosphere model’ of creation is presented. This theory holds that the days of creation in GENESIS are 24 hour days, but that gaps of undefined periods or perhaps billions of years exist between GENESIS 1:2 and 1:3. In Gray’s model, certain ‘foundational imperatives’ are required, which Bozung evaluates by comparing Gray’s translations and interpretation of key words and phrases with those of other Bible commentators.³⁹ While Bozung observes that this model has some serious Hebrew grammatical, syntactical and hermeneutical problems, Gray’s model of a young earth in its present form and an old universe allows the creation days of GENESIS 1 to be interpreted as 24 hour periods, while allowing for long time periods for the existence of creation in general.

Firstly, Gray holds that GENESIS 1:1’s reference to “‘the heavens and the earth’... must be understood as the creation of the entire universe in a completed form.”⁴⁰ So in GENESIS 1:2, the earth has already been created as part of “the heavens and the earth.” Thus we read, “And the earth was without form, and void; and darkness was upon the face of the deep...”⁴¹ It was during this epoch, which Gray offers may have been a great time period before the beginning of 24-hour creation days, that “the Spirit of God moved upon the face of the waters.”⁴² In analyzing this theory, Bozung observes that “...grammatical and contextual evidence strongly suggests taking verse 1 as a statement of GOD’s first act of creation in support of Gray’s first imperative.” Bozung notes however that, although “most commentators regard the combination of ‘the heavens and the earth’... [as] expressing the totality of the universe, ...they disagree on whether the phrase denotes an organized and completed universe or one that is unorganized and

³⁸ 8, “The Miracle of Evolution.” Stephen M. Barr. First Things, 2/2006, volume 160, number 160, page 31, paragraph 2.

³⁹ 9, “An Evaluation of the Biosphere Model of Genesis 1.” Douglas C. Bozung. Bibliotheca Sacra, 11-12/2005, volume 162, number 648, page 406, paragraph 1.

⁴⁰ 9, Ibid., page 407, paragraph 2.

⁴¹ 1, KJV, GENESIS 1:2a.

⁴² 1, KJV, GENESIS 1:2b.

incomplete.”⁴³

Secondly, Gray separates the events of GENESIS 1:1-2 from those described in GENESIS 1:3-5, asserting that GENESIS 1:1-2 precedes the first day of creation. And so we read, “And God said, Let there be light: and there was light. And God saw the light, that it was good: and God divided the light from the darkness. And God called the light Day, and the darkness he called Night. And the evening and the morning were the first day.”⁴⁴ Bozung states that “Gray notes that the record of each ‘day’ of GENESIS 1 begins with the words ‘The GOD said.’ ...[Gray proposes that] there can be no ‘day one’ until light penetrates the planetary shroud described in verse 2... That is, for some undefined length of time (perhaps billions of years) the earth existed in total darkness until GOD’s command for light to shine on the surface of the earth began the cycle of days.”⁴⁵ And so even after the end of day one of creation, Gray offers that an additional great time period may well have elapsed until creation day four.

Thirdly, because the GENESIS account is centered on the habitat of man, “the darkness referred to in verse 2 pertains to what existed ‘over the surface of the deep’ [on earth] and is not necessarily what characterized the entire universe. In this way the prior existence of the celestial bodies does not contradict GOD’s command for light to appear, because the appearance of this light refers to what occurred on the surface of the earth.” Because Gray holds that GOD created the celestial bodies before day one, he can assert of GENESIS 1:16 that “GOD did not ‘create’ the sun, moon and stars on the fourth day, but rather ‘brought them forth’ or ‘made them appear’ for the first time to an earthbound observer” on day four.⁴⁶ And so we read, “And GOD said, Let there be lights in the firmament of the heaven to divide the day from the night; and let them be for signs, and for seasons, and for days, and years: And let them be for lights in the firmament of the heaven to give light upon the earth: and it was so. And GOD made two great lights; the greater light to rule the day, and the lesser light to rule the night: He made the stars also.”⁴⁷

⁴³ 9, “An Evaluation of the Biosphere Model of Genesis 1.” Douglas C. Bozung. *Bibliotheca Sacra*, 11-12/2005, volume 162, number 648, page 410, paragraph 2.

⁴⁴ 1, KJV, GENESIS 1:3-5.

⁴⁵ 9, “An Evaluation of the Biosphere Model of Genesis 1.” Douglas C. Bozung. *Bibliotheca Sacra*, 11-12/2005, volume 162, number 648, page 413, paragraph 1.

⁴⁶ 9, *Ibid.*, page 415, paragraph 2.

⁴⁷ 1, KJV, GENESIS 1:14-16.

Bozung however questions Gray's translation of the Hebrew verb עָשָׂה 'ASAH⁴⁸ used in GENESIS 1:16, given in the 3rd person, masculine, singular, active Qal imperfect.⁴⁹ In the Qal, this can mean "to do; to work; to act with effect; to make; to put in order; to ordain; to bring about."⁵⁰ Gray puts much emphasis on the use of this verb in creation day four, as opposed the creation of the heavens and the earth in GENESIS 1:1, in which we have noted the use of the verb בָּרָא BARA'⁵¹, again meaning "to form or create (always with God as subject); to form (with GOD as the subject) heaven and earth, individual man."⁵² Bozung notes that, although this verb "is translated 'bring forth' in the King James version about ten times, ...the sense in these verses is of the creative production of something that was not there before" and not as a revealing of what is present but hidden.⁵³ Bozung further states that "Gray's assertion that day one provided merely a semi-translucence for an observer on the earth is just that – an assertion. There is nothing explicit in the text to support his view of a partial removal of the darkness [over the earth] on day⁵⁴ one and subsequent complete removal of darkness [from the earth] on day four."

VII. SPONTANEOUS EVOLUTION MATHEMATICALLY IMPOSSIBLE

If the universe were infinite and the amount of matter was accordingly infinite, then the random organization into the multitude of complex inorganic and organic systems we observe in our universe called for by Darwinian evolution is perhaps theoretically possible. This is the classic question – given enough monkeys before enough typewriters and enough time, could they randomly write a Shakespeare work? But "Einstein's General Relativity requires a finite spherical universe." Further, "Current Big Bang Cosmology defines 'Universe' as both i) All that exists (both Space and Matter); ii) Finite and Spherical."⁵⁵ This suggests that, within our finite universe, there is a limited amount of matter and that there is thus a limited number of

⁴⁸ 2, BHS, GENESIS 1:16.

⁴⁹ 3, BLB, GENESIS 1:16, Hebrew verb root and tense for עָשָׂה 'ASHA.

⁵⁰ 3, BLB, GENESIS 1:16, Lexicon Results for 'ASHA, Strong's 06213.

⁵¹ 2, BHS, GENESIS 1:1.

⁵² 3, BLB, GENESIS 1:1, Lexicon Results for בָּרָא BARA', Strong's 01254.

⁵³ 9, "An Evaluation of the Biosphere Model of Genesis 1." Douglas C. Bozung. Bibliotheca Sacra, 11-12/2005, volume 162, number 648, page 417, paragraph 1.

⁵⁴ 9, Ibid., page 419, paragraph 2.

⁵⁵ 10, "Introduction to Albert Einstein's Cosmology..." SpaceandMotion.com. 1997-2006.

<http://www.spaceandmotion.com/cosmology-albert-einstein-universe-astrophysics.htm>, Introduction to Albert Einstein's Cosmology...

possible random interactions between that limited pool of matter. So the question of spontaneous Darwinian evolution as the mechanism that formed all that we see and are in our universe becomes one of limited mathematical probabilities. And those numbers for such theories do not look promising. They are in fact downright impossible!

Charles White, in “God by the Numbers – Coincidence and Random Mutation Are Not the Most Likely Explanations for Some Things,” gives a brief overview of 3 number calculations that show it is virtually mathematically impossible for our life sustaining universe to have developed by chance: 1) from astrophysics, the number “ $1/10^{10^{123}}$ ” – 1 over 10 to the 10th power to the 123rd power; 2) from biology, the number “ 10^{301} ” – 10 to the 301st power; 3) from theoretical mathematics, the number “ $e^{\pi \times i}$ ” – e to the power of π multiplied by i.⁵⁶ These numbers show mathematically that spontaneous evolution could not have produced a universe capable of supporting life: there is not enough matter and chance in the universe; there is not enough time in the universe; it could not have produced the universal mathematical elegance of the universe. The only reasonable conclusion is that the design apparent in the universe presupposes a Designer.

A. The First Calculation

First, a number from astrophysics that suggests spontaneous evolution could never have produced the conditions of our universe necessary for life - the number $1/10^{10^{123}}$. This number is read as 1 in 10 to the 10th power to the 123rd power – a ridiculously small number. There are at least 29 numbers representing forces and distribution of matter in the universe that governs the number, form, distribution and size of planets, hydrogen and chemical bonds, all of which must be absolutely exact for life to have formed spontaneously. This is what this chance number represents - the odds of which are so small as to be essentially impossible.

White examines just 4 of these 29 identified factors: a) the force of gravity: “the weakest, with a relative strength of 1; b) the weak nuclear force: “...[which] holds the neutron together [within the nucleus of the atom] ...which is 10 to the 11th power stronger than gravity, but only works at subatomic distances;” c) the force of electromagnetism: “...[which] is 1,000 times stronger than the weak nuclear force...; d) the strong nuclear force: “which keeps protons together in the nucleus of an atom, [and] is 100 times stronger yet.” All of these forces governing matter must be absolutely exact, for if they differed in even the slightest from their

⁵⁶ 11, “God by the Numbers – Coincidence and Random Mutation Are Not the Most Likely Explanations for Some Things.” Charles Edward White. Christianity Today, 3/2006, volume 50, number 3, page 44, paragraph 2.

present strengths and behaviors, “the life-sustaining universe we know would be impossible.”⁵⁷ The precise and improbable nature of these 29 numbers of astrophysics strongly “suggest the presence of an Intelligent Designer.”⁵⁸

B. The Second Calculation

Second, the number from biology also strongly suggests the presence of intelligent design in the universe as a necessity to account for life. Darwin proposed that all life developed by chance via mutations from a single celled organism. White observes “But to get from a one-celled organism to a human being with at least a trillion cells, there would have to be many changes.” Genetic mutations in organisms generally are not beneficial, and are not passed on to the next generation. Yet evolutionary theory requires that such changes occur, that they were “...produced at random... [and that they] occur in the right order.” Thus this simple mathematical model: “...even if we limit the number of necessary mutations to 1,000 and argue that half of these mutations are beneficial, the odds against getting 1,000 beneficial mutations in the proper order... is about [1 chance in] 10^{301} ,” i.e. one chance in 10 to the 301st power.⁵⁹

Expressed another way, to spontaneously progress completely by chance from a single celled organism to the trillions of cells in the human body – all coming to place at the right time and in the right order – would require in the mathematical model above 10 to the 301st power number of mutations in the proper sequence. White summarizes for us why there is neither enough time or enough matter in the physical universe to produce even this minimally idealized number of genetic mutations. “Even if every particle in the universe mutated at the fastest possible rate, and had done so since the [supposed] Big Bang [from the beginning of time], there still would not be enough mutations.”⁶⁰

Why? Because the amount of elementary matter in the universe is limited to about 10 to the 80th power of particles. And they could not mutate faster than what is called Plank time, which is “the smallest unit of time and can be approximated as the time it would take two photons [of light] traveling at 186,000 miles per second [the speed of light] to pass each other,” which is 1 over 10 to the 42nd power seconds. So, “even if every particle in the universe... [10 to the 80th power] had been mutating at the fastest possible rate... [10 to the 42nd power] since the

⁵⁷ 11, “God by the Numbers – Coincidence and Random Mutation Are Not the Most Likely Explanations for Some Things.” Charles Edward White. Christianity Today, 3/2006, volume 50, number 3, page 45, paragraph 2 to page 46, Fine Tuning The Universe.

⁵⁸ 11, Ibid., page 46, paragraph 6.

⁵⁹ 11, Ibid., page 46, paragraph 2 under Not Enough Time.

⁶⁰ 11, Ibid., page 46, paragraph 3 under Not Enough Time.

Big Bang about 15 billion years ago... [10 to the 17th power seconds ago],” this would only produce 10 to the 139th power of mutations. But our simplified model requires 10 to the 301st power mutations. This leaves our simple model short of 10 to the 162nd power mutations.⁶¹

So White concludes here, “For Darwin’s theory to have a chance of being right, the universe would have to be... [10 to the 162nd power] times older than it is. Because the universe is so young, Darwin’s argument fails,” and the argument for an Intelligent Designer as Creator of our universe becomes all the more forceful.⁶² There is neither enough time or enough matter in the universe to account for the existence of life has having evolved by chance.

C. The Third Calculation

The third number is the most difficult to understand, being derived from theoretical mathematics: $e^{\uparrow \pi \times i} - e$ to the power of π times i , which equals negative one. This is a number derived from combining two irrational numbers and one imaginary number which, when placed in the formula $e^{\uparrow \pi \times i} + 1 = 0$, produce a profound symmetry in the math of the universe.⁶³

White summarizes that “these five constants symbolize the four major branches of classical mathematics: arithmetic, represented by 1 and 0; algebra, by i ; geometry by π ; and analysis by e , the base natural log...”⁶⁴

‘ e ’ is used to express what are called logarithms of integers, and is a calculated constant “close to 2.71828.”⁶⁵ ‘ e ’ is a constant that governs the calculation of compounding interest in banking.⁶⁶ ‘ e ’ also “turns up at the origin of calculus, where it is the function equal to its own derivative...” ‘ e ’ is used to express numbers that approach theoretical infinity. ‘ e ’ can “never be written exactly in decimal form.” Thus it is called an “irrational” number.⁶⁷

‘ π ’ is also an irrational number, as it too can not be expressed in exact decimal form. ‘ π ’ is “the ratio of the circumference of a circle to its diameter.” This irrational number is fundamental to geometry and governs the mathematics of waves – not just of theoretical mathematics, but of the behavior and movement of matter and energy in the physical universe! So we find ‘ π ’ also “in waves of air, water, electricity and light...”⁶⁸

⁶¹ 11, “God by the Numbers – Coincidence and Random Mutation Are Not the Most Likely Explanations for Some Things.” Charles Edward White. Christianity Today, 3/2006, volume 50, number 3, page 46, paragraph 4 under Not Enough Time.

⁶² 11, Ibid., page 47, paragraph 1.

⁶³ 11, Ibid., page 47, paragraph 1, Connecting The Constants.

⁶⁴ 11, Ibid., page 47, paragraph 2, Connecting The Constants.

⁶⁵ 11, Ibid., page 47, paragraph 3, Connecting The Constants.

⁶⁶ 11, Ibid., page 47, paragraph 4, Connecting The Constants.

⁶⁷ 11, Ibid., page 47, paragraph 5, Connecting The Constants.

⁶⁸ 11, Ibid., page 47, paragraph 6, Connecting The Constants.

‘i’ is a number that represents something that does not exist – the square root of negative one, which itself exists only in theoretical mathematics. This number was invented to help solve the mathematical equation of “ $x^2 + 1 = 0$.” If x^2 equals -1, then x = the square root of negative one. Thus, ‘i’ is called “an imaginary number.” Yet this imaginary number is “useful in science and engineering.”⁶⁹

The improbability of spontaneous evolution and existence of the universe by mere chance is here seen in the formula we observed as $e^{\pi} \times i + 1 = 0$. If we take the imaginary number ‘e’ and raise it to the power of ‘ π ’ multiplied by ‘i,’ then add the integer 1, the sum is zero. White says of this mathematical phenomenon, “The idea that these two irrational numbers should combine with an imaginary one to yield so utilitarian a result is breathtaking... That these three strange numbers with such diverse origins should work together to produce a result so basic to mathematics argues that there is a profound elegance or beauty built into the system.”⁷⁰

VIII. WHAT DO THESE CALCULATIONS MEAN THEOLOGICALLY?

Taken together, these 3 calculations of the improbability of our universe evolving by chance accident is as handwriting on the wall that proclaims, “Made by GOD.” Indeed, White concludes his article with the observation that these “numbers from astronomy, biology, and theoretical mathematics point to a rational mind behind the universe.”⁷¹ What Darwin observed and documented in his famous work, “Evolution of The Species” was not ‘macro-evolution,’ but ‘micro-evolution.’ Micro-evolution “is the occurrence of small-scale changes in... a population, over a few generations, also known as change at or below the species level.”⁷²

Micro-evolution occurs in nature constantly, in that a given population of a species – isolated under environmental pressures of various sorts – leads to a certain type of ‘phenotype’ or breed of that species that is most able to survive under those conditions. (A phenotype of an organism is “either its total physical appearance and constitution or a specific manifestation of a trait...” which is determined by a gene or genes.⁷³) Those breeds that can not compete for survival in that population do not survive. This is what is rightly termed ‘natural selection.’ But the surviving breed of population is still the same species with the same ‘genotype’ or gene pool as preceding parent populations. (The genotype is “the specific genetic makeup...of an

⁶⁹ 11, “God by the Numbers – Coincidence and Random Mutation Are Not the Most Likely Explanations for Some Things.” Charles Edward White. Christianity Today, 3/2006, volume 50, number 3, page 47, paragraph 7, Connecting The Constants.

⁷⁰ 11, Ibid., page 47, paragraph 8, Connecting The Constants.

⁷¹ 11, Ibid., page 47, paragraph 8, Connecting The Constants.

⁷² 12, Wikipedia Encyclopedia [online], entry for ‘micro-evolution.’

⁷³ 12, Ibid., entry for ‘phenotype.’

individual, in the form of DNA. Together with the environmental variation that influences the individual, it codes for the phenotype of that individual.”⁷⁴

Macro-evolution is presumably “evolution that occurs above the level of species, over long periods of time, that leads to speciation” or the emergence of new species.⁷⁵ And while science has been able to document very well the common occurrence of micro-evolution, it has never been able to document any evidence of macro-evolution. Thus the great gaps in the geological fossil records between species and the complete absence of any intermediary “missing link” species, most particularly for man. The fact of micro-evolution does not prove the hypothesis of macro-evolution.

IX. APPARENT DESIGNED ORDER IN NON-ORGANIC SYSTEMS

Barr observes that, in pure science, “order at one level is explained as a consequence of greater order at a deeper level.”⁷⁶ Barr gives 4 examples of non-organic systems in nature that reveal order based on apparent design: Firstly crystals: “Molecules in a sufficiently cooled liquid form themselves into precise arrays called crystals.”⁷⁷ Secondly, our solar system: “The solar system exhibits a high degree of regularity ...the planets all orbit the sun in very nearly the same plane and in the same direction.”⁷⁸ Thirdly, the nature of gravity: “If the force of gravity did not depend on distance as the inverse square, but as some other power, then planets would not be able to orbit stars at all.” Fourthly, atomic physics: “If the laws of nuclear physics did not have certain precisely tuned features, stars like the Sun would not burn in the slow and steady way they do.”⁷⁹

Can such apparent order in nature arise spontaneously from chaos by mere chance? Barr answers this question with this conclusion: “A careful analysis of all such examples from physics reveals that the orderly structures found in things (such as the solar system or crystals) are manifestations of a more profound and impressive orderliness at the level of fundamental laws.”⁸⁰ Although physics attempts to provide evolutionary explanations “for the formation of the stars, planets and solar systems based on impersonal laws and blind chance..., nonetheless human reason can discern both Providence and purposeful design in their formation. For if there

⁷⁴ 12, Wikipedia Encyclopedia [online], entry for ‘genotype.’

⁷⁵ 12, Ibid., entry for ‘macro-evolution.’

⁷⁶ 8, “The Miracle of Evolution.” Stephen M. Barr. First Things, 2/2006, volume 160, number 160, page 31, paragraph 7.

⁷⁷ 8, Ibid., page 31, paragraph 4.

⁷⁸ 8, Ibid., page 31, paragraph 5.

⁷⁹ 8, Ibid., page 32, paragraph 1.

⁸⁰ 8, Ibid., page 31, paragraph 6.

is to be life in the universe, it certainly helps that there exist planets as a habitat for it and stars like the Sun to provide energy for it, and that the planets can orbit the stars in a stable way. And all of these things depend on numerous features of the laws of physics being just as they are.”⁸¹

X. APPARENT DESIGN ORDER IN ORGANIC SYSTEMS

Living biological structures are far more complicated than unanimated non-biological structures and do not give themselves so easily to being governed by discernable mathematical formulas. To support life, organic systems require exact complexity, exact interdependency of parts and irreducible complexity. Changing any of these exact requirements in an organic system in the smallest way usually renders them dysfunctional and even nonfunctional, causing them to become incompatible with life. And yet, as Barr observes, neo-Darwinism "proposes a natural mechanism for producing [all such] complex organic structure. The claim is that this mechanism works even if the genetic mutations that [presumably] fuel it are statistically random. While the kinds of structures are different in physics and biology, the concept of ‘randomness’ is the same in both.”⁸²

Here then is the issue between evolution theory versus creation theory: On the one hand, are the various forms of Darwinian evolutionary theory "... sufficient to explain all instances of biological complexity? Many scientists are supremely confident that it is - which is strange, given that so little is known about the steps by which some complex [organic] structures [presumably] evolved."⁸³ On the other hand, Intelligent Design creation theory argues ""that there are certain biological structures that can arise neither in a single big step, which would be prohibitively improbable, nor by a series of little steps, since these structures are irreducibly complex." ⁸⁴

This because all parts of the organic system must be in exactly the right place at the right time and in the right order for the organic system to function. Failure of any one small component out of place typically causes the entire organic system to become dysfunctional or even incompatible with life. That all such components should come together spontaneously and by completely random chance in organic systems seems empirically even more unlikely than in non-organic systems. If – as we have seen - such spontaneous evolution is mathematically impossible in non-living systems, how much less likely is it that spontaneous evolution is

⁸¹ 8, "The Miracle of Evolution." Stephen M. Barr. First Things, 2/2006, volume 160, number 160, page 31, paragraph 8 to page 32.

⁸² 8, Ibid., page 32, paragraph 2.

⁸³ 8, Ibid., page 32, paragraph 4.

⁸⁴ 8, Ibid., page 32, paragraph 5.

responsible for the formation of living systems?

XI. IN CONCLUSION

We may thus conclude that the General Revelation of The Creator in nature, which by the incredible order and structure of all systems and biological entities on all levels that man may observe in the universe, testify to The One Who Is The Creator – GOD Himself. This is why Saint Paul warns in ROMANS 1:19-20, “Because that which may be known of GOD is manifest in them; for GOD hath shewed it unto them. For the invisible things of Him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead; so that they are without excuse.”⁸⁵

It has been shown that there has not been enough time, matter and chance for Darwinian-like spontaneous evolutionary mechanisms to have produced the wide and complex order and complexity we observe in inorganic and organic systems in our universe. Though certainly not complete in its understanding, Intelligent Design creation theory then provides the only viable alternative. It is for this reason that Scripture declares in PSALM 14:1 begin, “The fool hath said in his heart, There is no GOD.”⁸⁶ Thus White concludes with the observation that “The Apostle John prepared the way for this conclusion when he used the word for logic, reason, and rationality – Logos [in the Greek] - to describe CHRIST at the beginning of his Gospel.”⁸⁷

Thus does Saint John begin in JOHN 1:1, “In the beginning was the Word, and the Word was with God, and the Word was God.”⁸⁸ In the Greek, this reads: Ἐν ἀρχῇ ἦν ὁ λόγος, καὶ ὁ λόγος ἦν πρὸς τὸν θεόν, καὶ θεὸς ἦν ὁ λόγος.

⁸⁹ We may transliterate this as, “En arche ain O Logos, kia O Logos en pros Ton Theon, kai Theos en O Logos.” ὁ λόγος, The Logos, was first used by a Greek philosopher circa 600 BC “to designate the Divine reason or plan which coordinates a changing universe.” In JOHN 1, The Logos refers to “The essential Word of GOD, JESUS CHRIST, the personal wisdom and power in union with GOD, His Minister in creation and government of the universe, the cause of

⁸⁵ 1, KJV, ROMANS 1:1-2.

⁸⁶ 1, KJV, PSALM 14:1.

⁸⁷ 11, “God by the Numbers – Coincidence and Random Mutation Are Not the Most Likely Explanations for Some Things.” Charles Edward White. Christianity Today, 3/2006, volume 50, number 3, page 47, paragraph 11, Connecting The Constants.

⁸⁸ 1, KJV, JOHN 1:1.

⁸⁹ 13, Greek New Testament, JOHN 1:1.

all the world's life both physical and ethical, which for the procurement of man's salvation put on human nature in The Person of JESUS the Messiah, The Second Person in The Godhead...”⁹⁰

The universe in all its order, in both inorganic and organic systems, on every level, testifies of The One Who created all things, for “without Him was not any thing made that was made.”⁹¹ Therefore we may with all certainty concur with the Psalmist in PSALM 14:1a when

he declares this readily apparent truth: אָמַר נַבְלִי בְּלִבּוֹ אֵין אֱלֹהִים - AMAR

NAVAL BELIBO ‘EYN ‘ELOHIYM⁹² For, as it is written, “The fool hath said in his heart, There is no GOD!”⁹³ In the Name of GOD The Father, and The Son, and The Holy Ghost. AMEN!

⁹⁰ 3, BLB, JOHN 1:1, Greek Lexicon Results for ὁ λόγος Logos, Strong's 3056.

⁹¹ 1, KJV, JOHN 1:3b.

⁹² 2, BHS, PSALM 14:1a.

⁹³ 1, KJV, PSALM 14:1.

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