

## APPENDICES TO LESSON 2

### Appendix A: A Study of the Genesis Creation Account

#### *The Literary Elements Found in the Genesis Creation Account*

Genesis 1:1 (*In the beginning God created the heavens and the earth.*) and Genesis 2:1 (*And the heavens and the earth were finished*) serve as “bookends” binding together the creation account. Whereas the creation was originally *formless and empty* at its conception (1:2a), now it is full and complete (2:1 speaks of the heavens and the earth *and all that they contained*). God’s rest at the conclusion of the work of creation (2:2-3) contrasts with the Spirit’s *hovering/moving* at the outset of the creation week (1:1:2b)

Sandwiched in between the Introduction (1:1-2) and Conclusion (2:1-3), the body of the creation account features six literary elements. These elements are:

1. The Divine Command: *And God said, Let there be...*
2. The Statement of Accomplishment: *And there was... or, And God made...*
3. The Divine Defining: *And God called* (or, *named*) ...
4. The Statement of Confirmation: *...and it was so*
5. The Statement of Divine Satisfaction: *And God saw that it was good*
1. The Cessation of the Divine Work Day: *And there was evening and there was morning...*

Several observations should be made about these six literary elements. First, they do not always occur in the same order. Second, not all six of the elements appear in each day frame. Their occurrence in the six days of creation is as follows:

DAY ONE:

The Divine Command (1:3a)  
The Statement of Accomplishment (1:3b)  
The Statement of Divine Satisfaction (1:4a)  
A Subordinate Statement of Accomplishment (1:4b)  
The Divine Defining (1:5a)  
The Cessation of the Divine Work Day (1:5b)

DAY TWO:

The Divine Command (1:6)  
The Statement of Accomplishment (1:7a)  
The Statement of Confirmation (1:7b)  
The Divine Defining (1:8a)  
The Cessation of the Divine Work Day (1:8b)

DAY THREE:

The Divine Command (1:9a)  
The Statement of Confirmation (1:9b)  
The Divine Defining (1:10a)  
The Statement of Divine Satisfaction (1:10b)  
Another Divine Command (1:11a)  
The Statement of Confirmation (1:11b)  
The Statement of Accomplishment (1:12a)  
The Statement of Divine Satisfaction (1:12b)  
The Cessation of the Divine Work Day (1:13)

DAY FOUR:

The Divine Command (1:14-15a)  
The Statement of Confirmation (1:15b)  
A Parenthetical Statement of Accomplishment (1:16)  
The Statement of Accomplishment (1:17-18a)  
The Statement of Divine Satisfaction (1:18b)  
The Cessation of the Divine Work Day (1:19)

DAY FIVE:

The Divine Command (1:20)  
The Statement of Accomplishment (1:21a)  
The Statement of Divine Satisfaction (1:21b)  
A Subsequent Divine Command (1:22)  
The Cessation of the Divine Work Day (1:23)

## DAY SIX:

The Divine Command (1:24a)

The Statement of Confirmation (1:24b)

The Statement of Accomplishment (1:25a)

The Statement of Divine Satisfaction (1:25b)

A Second Divine Command (1:26)

The Statement of Accomplishment (1:27)

A Subsequent Divine Command (1:28)

A Special Word of Blessing: Displaying God's Gracious  
Provision for His Creatures (1:29-30a)

The Statement of Confirmation (1:30b)

The Statement of Divine Satisfaction (1:31a)

The Cessation of the Divine Work Day (1:31b)

### ***Focusing on Day Four***

We begin by noting the connection between Day Four and Day One. The same subject is the focus of attention on both days. Day One announces the appearance of light. Day Four deals with the instituting of the heavenly luminaries in their function as light bearers for the earth. There is also a close similarity of language: on Day One **God divided the light from the darkness** on Day Four God appointed the luminaries **to divide the light from the darkness**.

We would suggest that what is initially introduced on Day One is further instituted and defined on Day Four. We would view vs. 16 as a parenthetical statement, not declaring that the sun, moon, and stars were initially made on Day Four, but merely informing us of their creation, which in fact occurred at an earlier date. We would maintain this for the following reasons:

- The Statement of Accomplishment that corresponds to the divine command of vs. 14-15a (**And God said, Let there appear lights in the expanse of heaven to divide the day from the night; and let them serve as signs to mark seasons, and days and years; <sup>15</sup>and let them be for lights in the expanse of heaven to give light upon the earth**) is actually found in vs. 17-18a (**And God appointed them in the firmament of heaven to give light upon the earth, <sup>18</sup>and to rule over the day and over the night, and to divide the light from the darkness.**)

- at the end of vs. 16 there is the omission of The Statement of Confirmation (**and it was so**); strongly suggesting that the creation event described in vs. 16 occurred at some earlier point of time, rather than being an event that initially occurred on Day Four. Contrast this present instance with vs. 7, 9, 11, 15, 24, clear examples of the confirmation of a new instance of creation.

The reason for the delay in reporting the creation of the heavenly bodies, not mentioning them until Day Four, is apparently for apologetic purposes. The ancients revered and even worshiped the heavenly bodies. By withholding any specific mention of them until the fourth day, Scripture is regulating them to an unmistakably subordinate position as objects created by God and in subservience to His purposes.

Next we turn to the question, How are we to understand the Hebrew verb (נָתַן) that occurs at the beginning of vs. 17? If we understand the term in a very literal sense, meaning “to set,” or “to place,” it seems that we are confronted with the question, Did God make the luminaries (vs. 16) and then subsequently position them in the firmament of heaven (vs. 17)? If so, where were they prior to their being set in the firmament?

The Hebrew verb נָתַן has a wide range of meanings: “to give,” “to provide;” “to set,” “to place;” “to appoint”. From the context of vs. 14-19, with its strong emphasis on purpose, we would suggest that the primary sense of נָתַן as it occurs here in vs. 17 is “to appoint;” or, perhaps, a very suitable translation would be “to provide.” Having previously created the luminaries, God now on Day Four appoints them to fulfill their designated purposes, thereby instituting and completing what was initially introduced on Day One. Thus He “provides” light bearers and timekeepers for the earth.

One final note concerning the Hebrew term הָיָה, “to be,” “to happen,” “to come to pass.” Since light has already been introduced on Day One, and since there is an intimate connection between Day One and Day Four, we need not, and should not, view the הָיָה of Day Four as referring to a new act

of creation; that is to say, an act of bringing into being an object or group of objects that did not exist before. Given the range of meaning of this Hebrew verb, as well as the fact that the creation account is written from the perspective of an observer standing upon the earth (see note #1 below), it seems entirely permissible to understand the **הָיָא** (**הָיָא**) in the sense of “let there come into view,” synonymous with “let there now appear” (see note #2 below). The essence of Day Four is: Let the luminaries now become visible and commence their function as light bearers and time keepers for the earth. In an amplified form, we may express it like this: Let there now be (**הָיָא** in the sense of “let there now appear,” rather than in the sense of “let there now come into existence,”) luminaries in the expanse of the heavens to differentiate between day and night and to serve as timekeepers for the earth. The way this actually comes to pass—the way this divine command is accomplished—is for these previously created luminaries to now become visible.

**NOTE #1:** ... the point of view, or frame of reference, of the Genesis creation account is established in Genesis 1:2 as “the surface of the deep...over the waters.” In other words, the events of creation are being described from the perspective of an observer on the surface of the ocean, which at that time covered the entire Earth, and below the cloud layers. (*Genesis One: A Scientific Perspective*, Hugh Ross, Reasons to Believe, Pasadena CA, Revised Edition, 1983, p.4)

**NOTE #2:** Brown, Driver, Briggs in their *Hebrew and English Lexicon of the Old Testament* (Oxford, UK: Clarendon Press, 1968) list several instances where **הָיָא** can bear the meaning “to appear.” The most pertinent of these is Genesis 9:16. In verse 13, the Lord declares, **I have set my rainbow in the cloud...** In verse 14 He goes on to say, **...when I bring a cloud over the earth, ...the bow shall be seen in the cloud...** Then in verse 16, following the NIV translation, we read: **Whenever the rainbow appears in the clouds I will see it and remember the everlasting covenant...** The Hebrew word the NIV has translated “appears,” is **הָיָא**; this is in keeping with BDB’s assertion that **הָיָא** can convey the meaning “to appear.” One

may note the parallelism between vs. 14-15 on the one hand and vs. 16 on the other:

vs. 14; ...the bow shall be seen in the cloud...

vs. 15; ...and I will remember my covenant...

.....

vs. 16; ...And the bow shall be/shall appear in the cloud...

...and I will look upon it...

...so that I may remember the everlasting covenant...

In this context translating **נִרְאָה** “to appear” fits well with the surrounding visual words: **the bow shall be seen** (vs. 14), **I will look upon it** (vs. 16). Indeed, vs. 16a (**And the bow shall be/shall appear in the cloud**) is basically a restating of vs. 14b (**the bow shall be seen in the cloud**).

## **Appendix B: The Days of Creation**

### ***“Time Keepers” Not Established Until the Fourth Day***

Although the sun and the moon were among the earliest of God’s created entities, it is not until the fourth day that they are assigned the role of serving as “time keepers” for the earth. It is on the fourth day that God declares, **Let there appear lights in the expanse of heaven to divide the day from the night; and let them serve as signs, to mark seasons, and days and years** (Genesis 1:14). It is from this point on that the sun and moon serve the function of providing for the division and calculation of days and years (Keil & Delitzsch, p.57). As Archer comments, the emphasis on the fourth day is that of the heavenly bodies “becoming available for the purpose of regulating time and the cycles of the rotation and revolution of earth” (Archer, p.178).

This all would tend to suggest that the “days” of Genesis One do not consist of a series of six 24-hour periods, but rather a series of time periods of unspecified length throughout which

God carried out His great works of creation. Indeed, our 24-hour day is patterned after God's divine "day," His days of creation are not patterned after our 24-hour day. (By way of example, the earthly tabernacle and temple were patterned after the heavenly temple; the earthly rendition was not the original after which the heavenly had to conform. Note Hebrews 9:24)

### ***The Events of the Sixth Day***

Genesis 1:27 states that after creating all the land animals on the sixth day, God created man, both male and female. Then, in the more detailed treatment of Genesis 2, we are told that God created Adam first, and gave him the responsibility of tending the Garden of Eden for some length of time until He observed him to be lonely. He then granted him the fellowship of all the beasts and animals of earth, with opportunity to bestow names upon them all. Some undetermined period of time after that God observed that Adam was still lonely and finally fashioned a human wife for him by means of a rib removed from him during a "deep sleep." Then at last He brought Eve before Adam and presented her to him as his new life partner. Who can imagine that all of these transactions could possibly have taken place in 120 minutes of the sixth day (or even within twenty-four hours, for that matter)? And yet Genesis 1:27 states that both Adam and Eve were created at the very end of the final day of creation. Obviously the "days" of chapter 1 are intended to represent stages of unspecified length, not literal twenty-four hour days. (Archer, p.176)

Still later on the sixth day Adam and Eve received instructions from God concerning their responsibilities in managing the plants, animals, and resources of the earth, a lengthy communication one can imagine. Altogether, many weeks, months, or even years' worth of activities took place in this latter portion of the sixth day. (*Creation and Time*, p.51)

### ***Scriptural Testimony Concerning the Antiquity of the Creation***

In the prophet Habakkuk's prayer, he testifies that the Lord...

...stood, and shook the earth; he looked, and made the nations tremble; and the ancient mountains crumbled;

the everlasting hills collapsed; his ways are eternal.  
(Habakkuk 3:6)

The poetic description of the mountains and the hills as being ancient and everlasting (the Hebrew word also has the meaning “perpetual,” another way of suggesting a very lengthy period of time) would seem to testify to the antiquity of the creation.

### ***Scriptural Testimony Concerning the Vastness of the Universe***

Three Scripture passages (Genesis 22:17; Jeremiah 33:22; Hebrews 11:12) metaphorically compare the number of God’s children with the number of stars in the sky and the number of grains of sand on the seashore—a “countless” number. (The Hebrews and Greeks had no words for numbers beyond the hundreds of millions.)

This metaphor for a vast number is significant for two reasons. First, it contradicted the popularly held notion in biblical times that the stars numbered six or seven thousand—definitely a countable number. Thus, the metaphor expresses truth that the author could not have known apart from inspiration.

Second, the great abundance of stars, which does approximate the abundance of sand grains on the earth’s beaches, translates into a statement about size, which, in turn, indicates age. Hebrew and Greek included words for numbers up to (but not including) the billions. “Countless” would indicate a number in the billions or perhaps one or two orders of magnitude greater than billions: tens of billions or hundreds of billions. Given tens of billions of stars (up to 100 billion) as a minimum number, given that stars are separated by huge distances (an average of about ten light-years within a galaxy, many more light-years between galaxies), we can easily understand that a universe with so many stars must be truly huge, and if huge, then old, since matter can travel no faster than light speed.

While God certainly has the power to construct the universe at a more rapid rate than the velocity of light, the physical evidence (via astronomers’ observations of the past) indicates that He did not do so. (*The Genesis Debate*, pp.149-150)

### ***The Figurative Use of “Day” in Hosea 6:2***

Young-earth creationists have argued for 24-hour days on the basis that יוֹם (the Hebrew word for “day”) when attached to an ordinal (second, third, fourth, etc.) always refers to a 24-hour period. This argument can be challenged.... ...the rules of Hebrew grammar do not require that יוֹם must refer to 24 hours, even when attached to an ordinal. Hosea 6:2, for example, prophesies that **after two days [God] will revive [Israel]; on the third day he will restore us.** For centuries Bible commentators have noted that the term “days” in this passage (where the ordinal is used) refers to a year, years, a thousand years, or maybe more. (*The Genesis Debate*, p.148)

### ***What about Exodus 20:8-11 and Exodus 31:12-17?***

Those who insist on understanding the days of creation as literal 24-hour days argue that the Fourth Commandment loses its cogency if the days are not taken literally. Using their reasoning, we would be compelled to conclude that the Sabbath command loses its cogency if God’s resting and refreshing Himself are not taken literally (**in six days the Lord made heaven and earth, and on the seventh day he rested, and was refreshed.** Exodus 31:17). For the Fourth Commandment to be valid on their view, we would be forced to interpret each element of God’s rest literally (the nature of the rest, the pre-supposed weariness that was the occasion of the rest, the length of time of the rest)....

Literalists must admit that the commandment is still valid because there is an *analogy* between God’s rest and man’s, even if there is not exact identity. God’s rest sets the pattern for man’s, even though His rest is that of **the Creator of the ends of the earth [who] will not grow tired or weary** (Isaiah 40:28). But if the literalists recognize that the *nature* of the rest is not identical to man’s, why not recognize the same thing with respect to the *duration* of the rest? If a non-literal interpretation of the divine refreshment does not invalidate the Fourth Commandment, neither does a non-literal interpretation of God’s seventh day. Thus, the objection from Exodus 20:8-11 completely loses its cogency, unless literalists insist on taking the divine refreshment of Exodus 31:17 literally.

Furthermore, the seventh day is actually an eternal day (as Hebrews 4:4-10 clearly teaches), and yet *as such*, it provides the pattern for man's observation of a weekly Sabbath (Exodus 20:11). The fact that God's Sabbath is an eternal rest that belongs to a transcendent realm and one that is not a part of *our* weekly cycle does not prevent it from serving as the grounds for man's recurring Sabbath rest. (*The Genesis Debate*, pp.249-250)

Clearly, the emphasis in Exodus 20 is on the pattern of work and rest, a ratio of six to one, not on the length of the creation days. The analogy of our Sabbath to God's Sabbath does not demand seven 24-hour days. Age-long creation days fit the analogy just as well,.... (*The Genesis Debate*, p.150)

### ***A Concluding Thought***

An added consideration arises from an altogether different perspective: the nature of creativity itself. Observe skilled sculptors, painters, or poets, artisans of any kind, and see that they always spend much more time on their masterpieces than they do on their ordinary tasks. Observe the painstaking yet joyful labor poured into each masterpiece of their design. Observe how often the artist stops to appreciate and evaluate the work in progress.

Examine the creation on any scale, from a massive galaxy to the interior of an atom, from a whale to an amoeba. The splendor of each item, its beauty of form as well as of function, speaks not of instantaneous mass production but rather of patient attention to detail, of infinite care and delight. Such delight with work in progress is expressed throughout Genesis One in the oft-repeated statement, **And God saw that it was good.** (*Creation and Time*, p.142)

## **Appendix C: The Evidence against Evolution**

### ***The Testimony of the Fossil Record***

Most of us have been taught in school that the fossil record is a strong evidence for evolutionary development, allegedly

demonstrating slow, upward evolution from simple to more complex species. In actual fact, the fossil record is one of the greatest empirical evidences *against* evolution, for its findings contradict the very premises of evolutionary theory, and instead speak of sudden appearance of species and lack of intermediate, or gradual links. In other words, these fossil facts are concordant with the Genesis record of immediate creation and stability of the kinds....

Fossil evidence demonstrates historic and lasting discontinuity between the various species, which is precisely what would be predicted by the Genesis account, and runs contrary to the most central predictions of evolutionary theory. Chapter 8, "The Fossil Record," of Michael Denton's *Evolution: A Theory in Crisis* surveys the evidence. He writes:

The virtually complete absence of intermediate and ancestral forms from the fossil record is today recognized widely by many leading paleontologists as one of its most striking characteristics.... The fossils have not only failed to yield the host of transitional forms demanded by evolutionary theory, but...nearly all extinct species and groups revealed by paleontology are quite distinct and isolated as they burst into the record....

He adds:

There is no doubt that as it stands today the fossil record provides a tremendous challenge to the notion of organic evolution, because to close the very considerable gaps that at present separate the known groups would necessarily have required great numbers of transitional forms....

Considering that the total number of known fossil species is nearly one hundred thousand, the fact that the only relatively convincing morphological sequences are a handful of cases like the horse, which do not involve a great deal of change, and which in many cases, like the elephant, may not even represent phylogenetic sequences at all, serves to emphasize the

remarkable lack of any direct evidence for major evolutionary transformations in the fossil record.

Chapter 4, “The Fossil Problem,” of Phillip E. Johnson’s *Darwin on Trial*, chronicles Darwin’s awareness of the absence of fossil links between the discontinuous groups as a severe problem for his theory. He argued in the late 1850s that future discoveries would locate these “missing links” and thus vindicate his theory. The truth is, however, that “...the fossil problem for Darwinism is getting worse all the time.”

In 1979, Dr. David Raup, Dean of the Field Museum of Natural History in Chicago, which possesses one of the greatest fossil collections in the world, candidly wrote:

Well, we are now about 120 years after Darwin and the knowledge of the fossil record has been greatly expanded. We now have a quarter of a million fossil species but the situation still hasn’t changed much. The record of evolution is still surprisingly jerky, and ironically, we have even fewer examples of evolutionary transition than we had in Darwin’s time. By this I mean that some of the classic cases of Darwinian change in the fossil record, such as the evolution of the horse in North America, have had to be discarded or modified as a result of more detailed information—what appeared to be a nice simple progression when relatively few data were available now appears to be much more complex and much less gradualistic. So Darwin’s problem has not been alleviated in the last 120 years and we still have a record that does show change but one that can hardly be looked upon as the most reasonable consequence of natural selection.

Stephen J. Gould comments on the weight of the fossil findings against evolutionary theory: New species almost always appeared suddenly in the fossil record with no intermediate links to ancestors in older rocks in the same region. In the same article, he revealed that:

The extreme rarity of transitional forms in the fossil record persists as the trade secret of paleontology. The

evolutionary trees that adorn our textbooks have data only at the tips and nodes of their branches; the rest is inference, ..., not the evidence of the fossils.... Most species exhibit no directional change during their tenure on earth.... In any local area, a species does not arise gradually by the steady transformation of its ancestors; it appears all at once and “fully formed.” (*Creation and Change*, pp.99-101)

### ***The Second Law of Thermodynamics and the Evidence of Design***

The major problem for evolutionary theory is that thermodynamic law specifies continuous increase in entropy, which entails greater randomness, disorganization and decay in the whole energy matter spectrum. But evolution posits precisely the opposite: greater organization, gain of information and development of structures. This cannot be true on a cosmic scale if the laws of thermodynamics are correct, (which evolutionary scholars do not deny). Their greatest difficulty in holding to cosmic improvement has been described by Sir Arthur Eddington as “time’s arrow” (i.e., the law of entropy). That is, the arrow of time (universal decay) flies in the wrong direction for evolution to have taken place....

T. H. Blum has dealt with this massive problem in *Time’s Arrow and Evolution*. He offers a solution in terms of “open system” thermodynamics (that is, a closed system will run down rather than develop or “evolve” unless open to an outside source of energy and/or information)....

In spite of valiant efforts to turn aside “time’s arrow” by means of open systems, *the evolutionist’s problem remains unsolved*. ...in the first place, the finite universe by definition is not “open” in the sense that infinite amounts of energy or matter may be constantly available for productive development of structures in an energy/matter realm that has decay written into every interchange of energy that occurs within it. Secondly, even though our planet is temporarily an “open” system insofar as the sun pours light into it (sometimes called “the sun-earth system”), infusion of heat energy alone is not sufficient to reverse the arrow of entropy without the presence of something else of utmost importance.

That utterly essential element that must be present in addition to energy for life itself (including any development of it) to occur is information or design....

...even information itself is insufficient to explain a successfully functioning system. Something more is required, and that is a way of recognizing information and retrieving it for the purpose of the system. "Information recognition" must be in place from the beginning for the system to function. This is inconsistent with the evolutionary scenario, which ignores both information and information retrieval.

Two illustrations of how energy minus information (or design) will not explain how order, life and development can occur within even an open system should be sufficient to refute the evolutionist's dodge of time's entropic arrow. Blum's example of the sunlight causing healthy growth (or even evolutionary development) of plants does not take into account the necessity of design; that is, "information" built into the cellular structure of the plant, which allows the process of photosynthesis to convert heat energy into the building of cells. Without this inbuilt design of photosynthesis, the heat of the sun would be destructive....

Some purposeful design (or "information" on how "successfully to proceed") must have been imparted to matter, or direct heat would have caused it to deteriorate, rather than develop....

Whether it be photosynthesis in plants, or DNA in cell replication, some kind of intelligent design has to have been built into the physical elements and their fields to enable them to make productive use of whatever sort of energy may be available (rather than being destroyed by such energy that otherwise operates in terms of inexorable entropic law).

Or to state it another way, merely adding together various natural elements in the presence of energy sources can never produce the *irreducibly complex* structures that make up our world. Chapter 9 ('Intelligent Design') of Michael Behe's *Darwin's Black Box* shows that no matter how many combinations one assumes of two or more separate cells or

systems (as in evolutionary symbiotic theory), “Because symbiosis starts with complex, already functioning systems, it cannot account for the fundamental biochemical systems....” The same is true of “other examples of irreducibly complex systems” such as “aspects of DNA replication, electron transport, ..., photosynthesis, ...and more.” Gradualism cannot begin to explain such stupendous complexity and elegance; inbuilt information (or purposive design) is required....

Although it is an unwelcome question in many quarters, enquiring minds still raise it: Who wrote the program by which these systems operate? This design or information so essential to the functioning of natural systems did not come from the heat of the sun, nor from the chemicals upon which it operates its otherwise destructive forces.... This is the question that has been universally avoided by evolutionary theory as it seeks shelter from “time’s arrow,” as well as from the implications of the irreducibly complex structures of physical reality.

...as Michael Behe states it: The result of these cumulative efforts to investigate the cell—to investigate life at the molecular level—is a loud, clear, piercing cry of “*design!*” The result is so unambiguous and so significant that it must be ranked as one of the greatest achievements in the history of science. (*Creation and Change*, pp.68-73)

### ***The Irreducible Complexity of Living Systems***

The *irreducibly complex* structure of functional biological systems such as cells...cries out for an absolute beginning by an “intelligent Designer.” Biochemical Professor Michael Behe has written an entire book to demonstrate this crucial point, which he believes is scientifically sufficient to make macroevolution impossible and to require something like absolute creation, (which he terms “intelligent design”). He states that “At the tiniest levels of biology—the chemical life of the cell—we have discovered a complex world that radically changes the grounds on which Darwinian debates must be contested.” “In summary, “ he adds, “as biochemists have begun to examine apparently simple structures like cilia and flagella, they have discovered staggering complexity, with dozens or even hundreds of precisely tailored parts.... As the

number of required parts increases, the difficulty of gradually putting the system together skyrockets, and the likelihood of indirect scenarios plummets. Darwin looks more and more forlorn. New research on the roles of the auxiliary proteins cannot simplify the irreducibly complex system. The intransigence of the problem cannot be alleviated; it will only get worse. Darwinian theory has given no explanation for the cilium or flagellum. The overwhelming complexity...push us to think it may never give an explanation.”

The incredibly complex structure of living systems not only rules out gradual evolution by mutation and natural selection, it also requires absolute creation; that is, being made “full grown” or fully functioning. Behe shows why. “The conclusion of intelligent design for physically interacting systems rests on the observation of highly specified, irreducible complexity—the ordering of separate, well-fitted components to achieve a function that is beyond any of the components themselves.” Hence, it is clear that “...if something was not put together gradually, then it must have been put together quickly or even suddenly.”

Behe raises the question, which only sudden creation, rather than gradual evolution, can answer. “When is it reasonable to conclude, in the absence of first-hand knowledge or eyewitness accounts, that something has been designed? For discrete physical systems –if there is not a gradual route to their production—design is evident when a number of separate, interacting components are ordered in such a way as to accomplish a function beyond the individual components. The greater the specificity of the interacting components required to produce the function, the greater is our confidence in the conclusion of design.” (*Creation and Change*, pp.63-64)

### ***The Miracle of Life***

Scientists continue to debate the issue of how life originated. More and more questions and problems arise on the naturalistic side while evidence accumulates on the supernaturalistic....

All non-theistic origin of life scenarios require kerogen tars and carbonaceous molecules to self-assemble in some kind of primordial soup or mineral substrate into living organisms.

However, when living organisms die, they decay into the same kerogen tars and carbonaceous molecules. By carefully measuring the ratio of carbon-13 to carbon-12 in such tars and carbonaceous material, physical chemists can ascertain whether these substances are pre-biotic [prior to life] or post-biotic [after death] in nature. Their conclusion: it is all post-biotic. Thus, a pre-biotic primordial soup or mineral substrate never existed upon earth....

The simplest chemical step for the origin of life, the gathering of amino acids that are *all* left-handed and nucleotide sugars that are *all* right-handed (a phenomenon known as “homochirality”), cannot be achieved under inorganic conditions.

The various nucleotides essential for building RNA and DNA molecules require radically different environmental conditions for their assembly. Cytosine and uracil need near boiling water temperatures, while adenine and guanine need freezing water temperatures. Thus, it seems highly unlikely that under natural conditions all four building blocks would come together in adequate concentrations at the same site.

At the time of life’s origin, Earth’s surface was relatively hot, probably between 80 and 90 degrees Celsius (176-194 degrees Fahrenheit), with little temperature variation. That is, Earth’s surface was without any cold spots. At these warm temperatures RNA nucleotide sequences decouple. Moreover, new experimental results demonstrate that all of the RNA nucleotides themselves degrade at warm temperatures. They can last only from 19 days to 12 years. The most optimistic naturalist hypotheses demand that they hold together for millions of years. Even at water’s freezing point, cytosine decomposes in less than 17,000 years. Outside the cell there is no environment providing sufficient stability and protection for RNA molecules and their nucleotide bases. This means RNA molecules cannot survive without cells, while cells cannot survive without RNA. Both must be constructed simultaneously.

Life transported from some distant “exotic” location in the cosmos to Earth would arrive dead, in fact, so broken down that none of life’s building blocks (DNA, RNA, or proteins)

would survive. Stellar radiation pressure strong enough to move microbes across long reaches of interstellar space would kill the microbes in a matter of days. If the microbes were embedded in sizeable dust grains, their chemical properties might be protected from the effects of most interstellar radiation, but only supergiant stars generate enough radiation pressure to move such dust grains, and life is impossible anywhere in the vicinity of a supergiant star....

The energy released from the decay of the radiometric isotopes of uranium, thorium, and potassium sets up a reaction whereby ocean water feeds a continuous stream of oxygen into the earth's atmosphere. This streaming was much greater a few billion years ago than it is now. It is sufficient to guarantee the complete shutdown of chemical reactions that possibly could cause pre-biotic molecules to assemble into biotic molecules.

Without oxygen in the atmosphere, no ozone shield will ever form. Without an ozone shield solar ultraviolet radiation will penetrate unimpeded to earth's surface. Such radiation will shutdown the chemical reactions that are essential for the assembly of pre-biotics into organisms. Either way, a naturalistic explanation for life's origins is doomed. The existence of oxygen will shut down the required chemical reactions. The lack of oxygen will also shut down the required chemical reactions. (*The Genesis Question*, pp.38-41)

### ***The Philosophy of Evolution***

The Darwinian Revolution, one of the most significant revolutions of all time, is generally thought to be the establishment of the concept of evolution on a solid, empirical base. Not so. In the words of Harvard biologist Ernst Mayr, the Darwinian Revolution was actually a philosophical revolution from a theistic worldview to a worldview in which God was not involved in any way. (*Bones of Contention*, p.94)

Far from being the established fact of science that it is so typically portrayed to be, evolution is, in reality, an unreasonable and unfounded hypothesis that is riddled with countless scientific fallacies. (*The Collapse of Evolution*, p.127).

As Dr. George Wald, winner of the 1967 Nobel Peace Prize in Science, has written:

When it comes to the origin of life on this earth, there are only two possibilities: creation or spontaneous generation (evolution). There is no third way. Spontaneous generation was disproved 100 years ago, but that leads us only to one other conclusion: that of supernatural creation. We cannot accept that on philosophical grounds (personal reasons); therefore, we choose to believe the impossible: that life arose spontaneously by chance.

Thus, we find that evolution is generally accepted to be a fact of science, not because it can be proven by scientific evidence, but because the only alternative, special creation, is totally unacceptable. (*The Collapse of Evolution*, pp.3-4)

As one studies evolutionist literature, one cannot help but notice in its practitioners both a lack of logic and an inability to weigh evidence properly. Legal experts have also noted this. Some years ago Harvard-trained lawyer Norman Macbeth wrote a book, *Darwin Retried*. After studying evolution for many years, Macbeth, who is not a creationist, concluded that there were serious gaps in the evidence for evolution and errors in the reasoning of evolutionists. He claimed that evolution itself had become a religion. The alleged evidence for evolution, he charged, was not of the quality that would stand up in a court of law.

A similar conclusion was reached in a recent (1991) book, *Darwin on Trial*, by law professor Phillip E. Johnson (University of California, Berkeley). Johnson describes himself as a Christian and a creationist, but not a biblical literalist. His book may be the most significant one to appear on the evolution debate in decades.

Johnson concludes that (1) evolution is grounded not on scientific fact but on a philosophical belief called naturalism; (2) the belief that a large body of empirical evidence supports evolution is an illusion; (3) evolution is itself a religion; (4) if evolution were a scientific hypothesis based upon a rigorous study of the evidence, it would have been abandoned long ago;

and (5) since atheism is a basic *supposition* in the evolutionary process, it cannot be drawn as a *conclusion* from it. (*Bones of Contention*, pp.25-26)

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