AN INQUIRY INTO HUMAN ORIGINS & THE AGE OF THE EARTH» PART 2 OF 3

INTELLIGENT DESIGN – 5 TYPES – DAYS LENGTH – FILLING IN THE GAPS
2 SCHOOLS – REASONS/ANSWERS – EARTH AGE – BATTLING BRETHREN

By David L. Burris

Difference Between Creation Science & Intelligent Design

HUMAN ORIGINS SPECTRUM

Creationism

The people most likely to identify themselves as "creationists" seem usually to endorse some or all of the following claims:

- **There is a God!**
- **The physical world - as we know it - was made in an interval of a literal six, twenty-four hour days.**
- **The present world is only a few thousand years old.**
- **God specially intervened to create the life forms on earth, without using prior, extinct life forms.**

Intelligent Design

The people most likely to identify themselves as advocates of "intelligent design" seem usually to make the following claim:

- **The whole world shows evidence of a scientific nature that suggests it was initially & intelligently designed.**

Most advocates also seem to hold the following proposition:

- **God exists and is the intelligent designer of the world.**
- **This view, however, is not essential to their position.**

Theistic Evolution

The people most likely to identify themselves as being “theistic evolutionists” seem usually to endorse most of these claims:

- There is a God.
- The world developed incrementally by arranged circumstance over a longer period of time than six, twenty-four hour days.
- The present world is much more than a few thousand years old.
- God used prior, extinct life forms to produce the life forms we see today.
- The majority viewpoint in the natural sciences on the age of the world and the origin of present-day life forms is correct.

Atheistic Evolution

The people most likely to identify themselves as being “atheistic evolutionists” seem usually to endorse most of these claims:

- There is no God or, at least, we do not have good reason to believe that there is a God.
- The world and the cosmos developed by chance/circumstance - over a longer period of time than six, twenty-four hour days.
- The present world is much more than a few thousand years old.
- The life forms we see today arose from prior, extinct life forms.
- The majority viewpoint in the natural sciences on the age of the world and the origin of present-day life forms is correct.

The Difference Between Creationism and Intelligent Design

The Differences Between Creationism and Intelligent Design

There have been claims made by independent sources that there is not much difference between the theories of creationism and intelligent design as both support the notion that the *intelligent cause* behind the creation of the universe is inspired by a Divine Being (Pigliucci, 2005). This, however, is inaccurate. While the proponents of creationism believe that the world is less than eight thousand years old, the supporters of the intelligent design theory believe that the world is millions of years old (Ayala, 2008). Creationists also believe that God created the universe and all its life forms from nothing.

There are proponents of the intelligent design theory who support the notion that there is a supreme being that inspired the process of evolution. However, their interpretation of this Supreme Being differs from the creationists' definition of God as the Creator and owner of all life. Creationists do not believe that God used an evolutionary process to create human beings. They reject Charles Darwin's assertions that man originated from the lower primates (Fuller, 2008). William Paley, who encouraged public discussion on the theory of intelligent design, affirmed that the Bible could not be said to be the foremost authority on the original appearance of life on earth (Ayala, 2008).

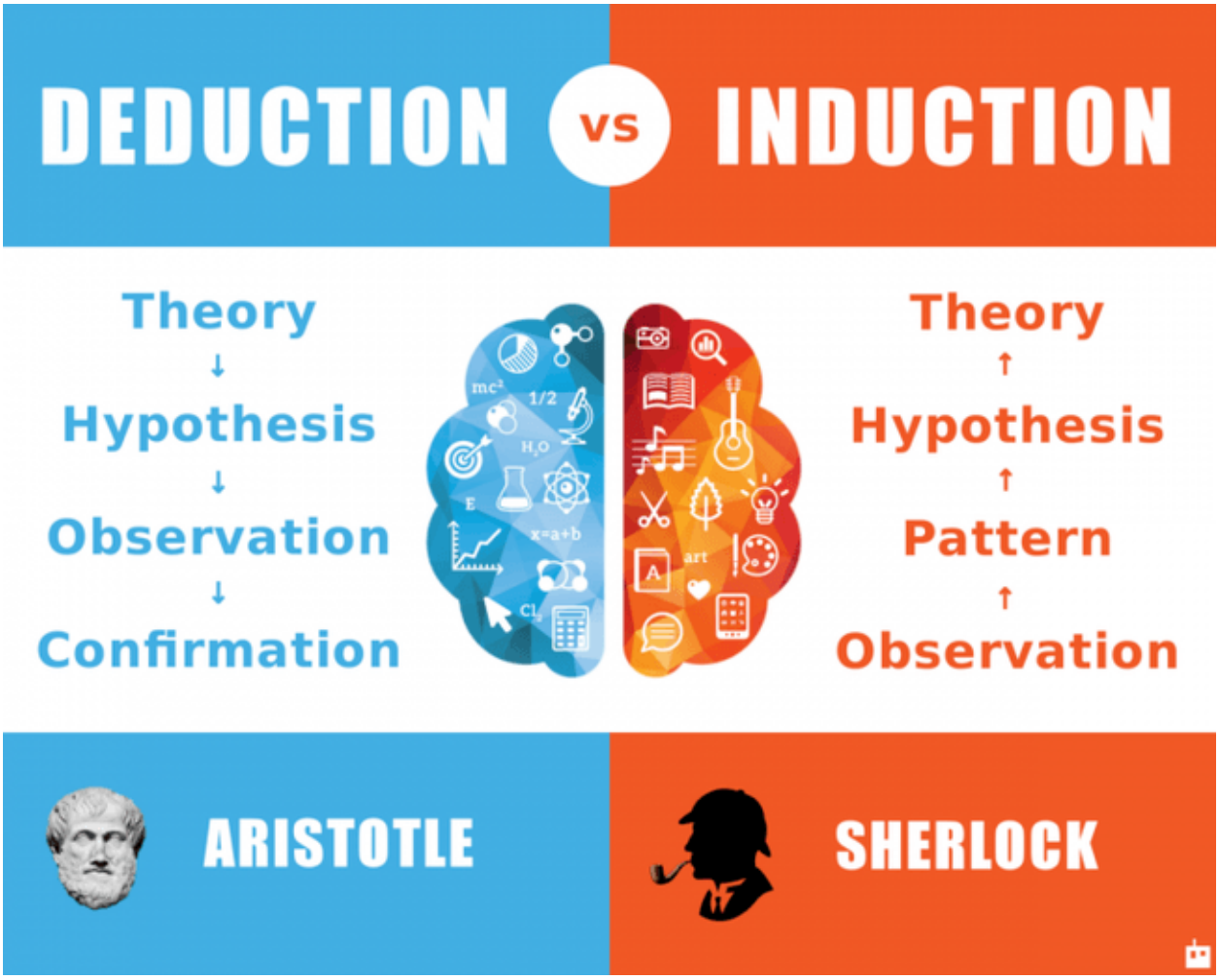
He proposed the theory that life only emerged after an extensive process of evolution which happened over centuries. This process may have been inspired by a Supreme Being (Ayala, 2008). Another difference between creationism & intelligent design has to do with the reasoning methods used by the proponents of both theories. Creationists base their beliefs on the Bible which is a sacred text, while the proponents of intelligent design stress that only science can prove how life originally began on earth (Pigliucci, 2005).

While creationists support the theory that there is a definite Creator who formed the universe & the different life forms on earth, the proponents of the intelligent design theory have observed that scientific design may not adequately explain various aspects of life on earth, and so merely endeavor to speculate about the subject. Essentially, intelligence design theorists tend to limit their assertions on the origin of life to only those aspects that can be scientifically verified. Creationists, though, do not base their claims on scientific findings, but religious doctrine that provides definite explanations about the process of creation.

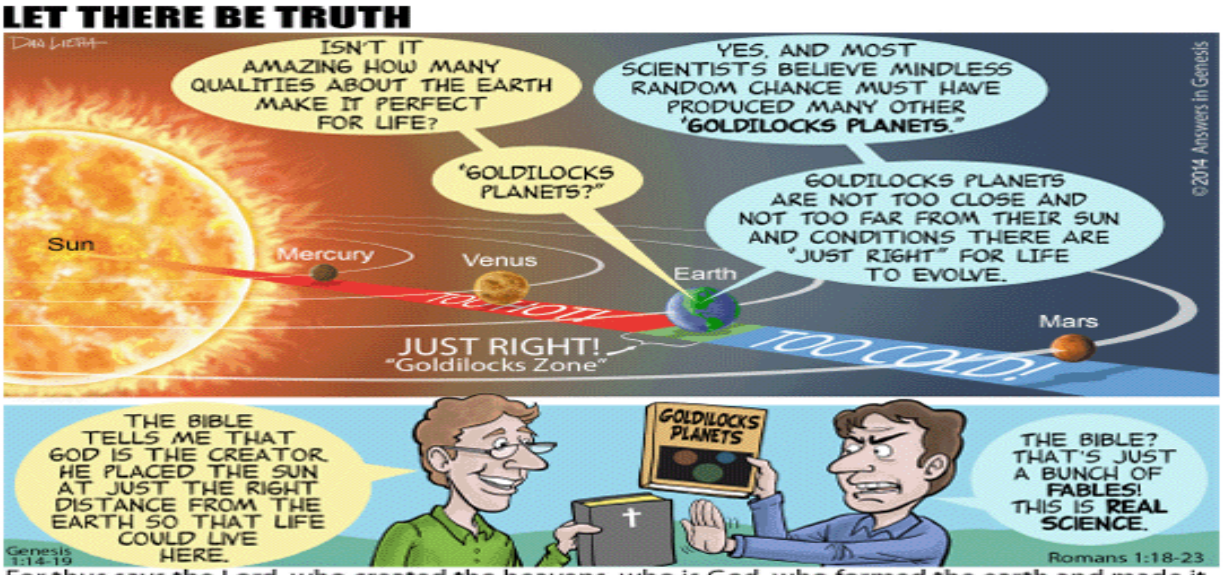
Conclusion

The main difference between creationists and the proponents of the intelligence design theory lies in the role of a Supreme Being in the creation of life. Creationists assert that God formed the universe and all life on earth as dictated by the Bible, while the proponents of intelligent design affirm that a Supreme Being may have inspired the lengthy process of evolution in which plant and animal species slowly developed due to intelligent cause. (Source: Internet Site)

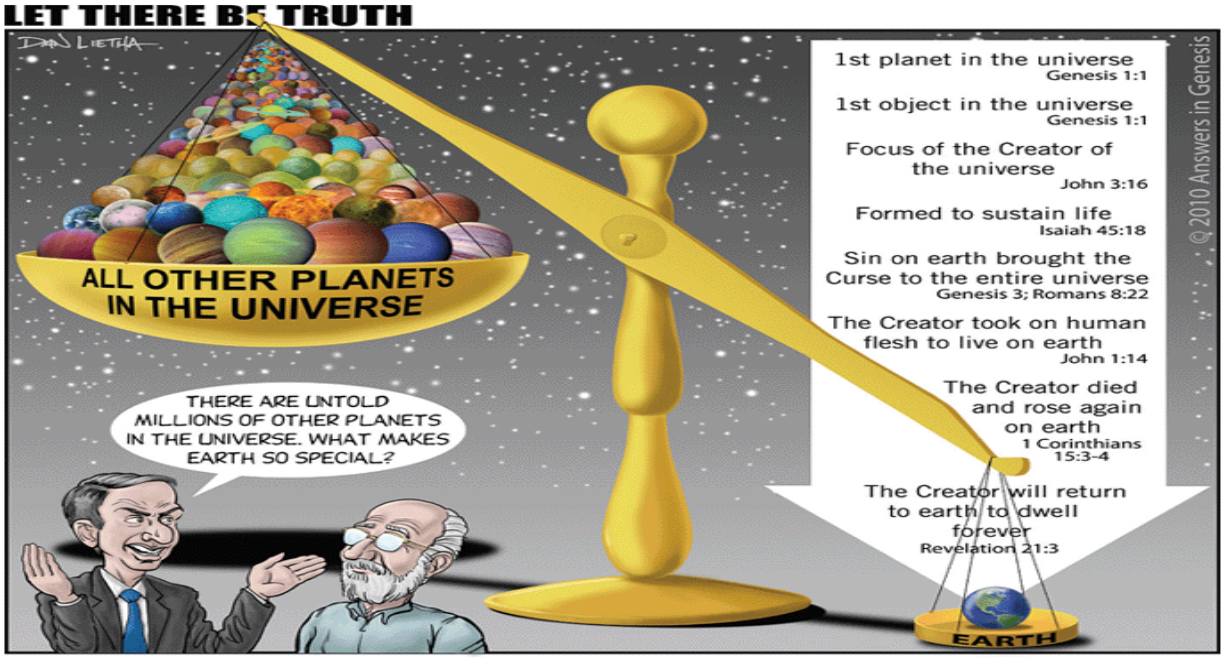
Different Rationales: Creation Science & Intelligent Design



THE ARGUMENTS FOR INTELLIGENT DESIGN



For thus says the Lord, who created the heavens, who is God, who formed the earth and made it, who has established it, who did not create it in vain,who formed it to be inhabited: "I am the Lord, and there is no other." Isaiah 45:18



A "Just Right" Universe

35 Fine-tuned Parameters to the Universe

- There are numerical constants in the equations for gravity, electromagnetism, strong and weak nuclear forces
- ratio of proton to electron mass

A "Just Right" Universe

66 Fine-tuned Parameters to our Galaxy, Solar System, and Planet

- distance from the sun
- size, temperature, & type of sun
- size, axial tilt, rotation speed, moon, & composition of earth
- stability of Jupiter and Saturn

A "Just Right" Universe

- Jupiter acts as a comet and asteroid magnet shielding earth from catastrophic collisions.
- Our sun is located between spiral arms of the Milky Way Galaxy where there are fewer stars (less harmful radiation and disruptive gravity) and less gas and dust (we can see the rest of the galaxy and universe).

A "Just Right" Universe

10^{-166} Probability of all 128 fine-tuned parameters occurring by chance

A "Just Right" Universe

How many planets?

10^{22} Upper limit for number of stars in the universe

Assume 1 planet per star

Therefore 10^{22} planets in the universe

A "Just Right" Universe

- Since 1996, over 50 planets outside our solar system have been found.
- Only 5% of stars have planets.
- The planets are either too large, too close to their star, or with too erratic an orbit to harbor life.
- Have the probabilities changed?

A "Just Right" Universe

So how do we determine how many planets may be suitable for life?

$10^{-166} \times 10^{22} = 10^{-144}$ or

0.000000000000000000000000000000000000000000000000000
00000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000001

planets suitable for life

"As we survey all the evidence, the thought insistently arises that some supernatural agency - or rather Agency - must be involved. Is it possible that suddenly, without intending to, we have stumbled upon scientific proof of the existence of a Supreme Being?"

George Greenstein

A "Just Right" Universe

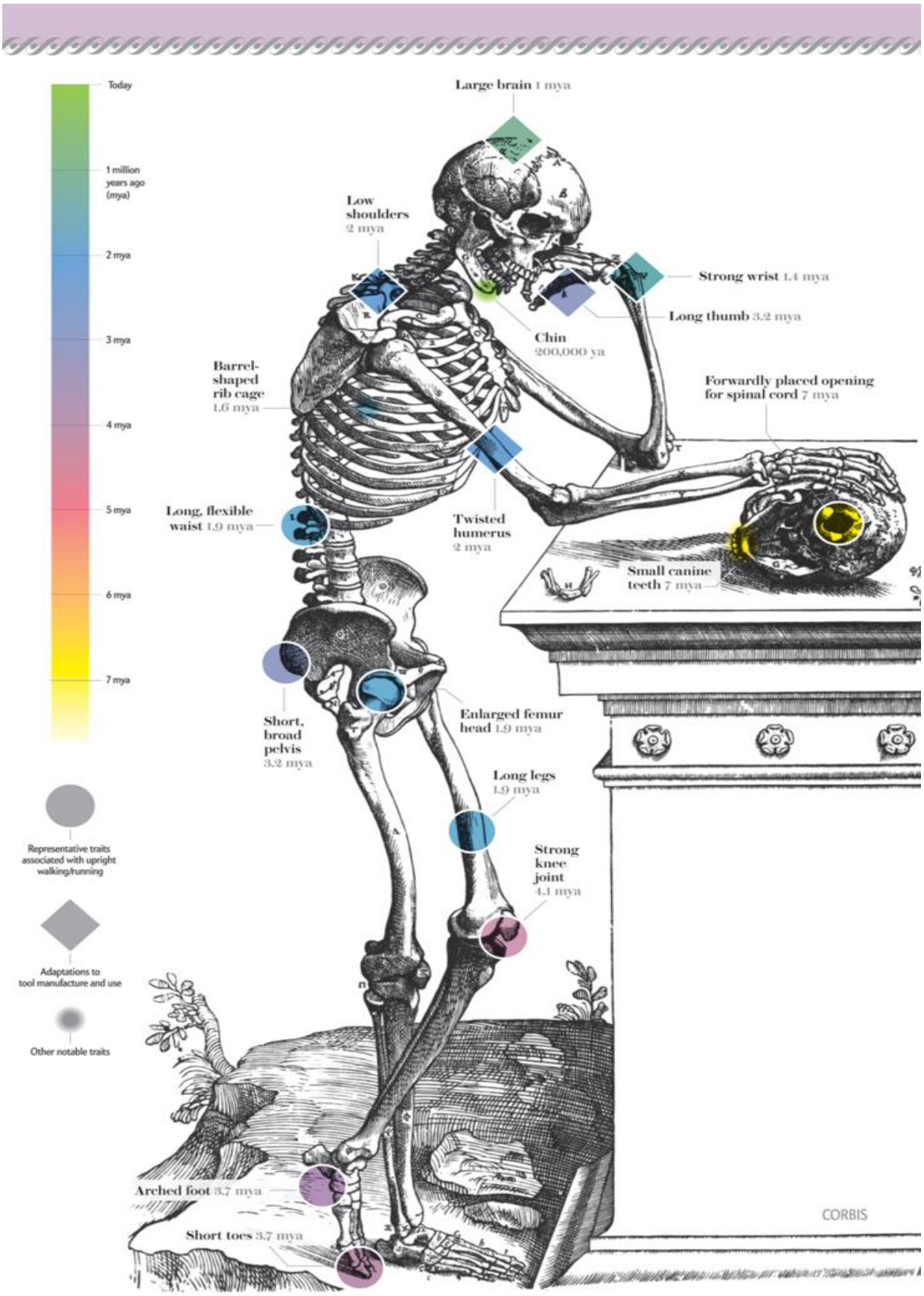
- CNN (2/5/01) just released an article reporting that some astronomers have hatched a plan to move earth's orbit.
- Sun is going to increase in size and heat output over the next few billion years eventually making earth uninhabitable.
- Move the earth farther out (41 million miles) gradually by passing a 62 mile diameter asteroid within 10,000 miles of earth every 6,000 years. 1 million fly bys should do it.

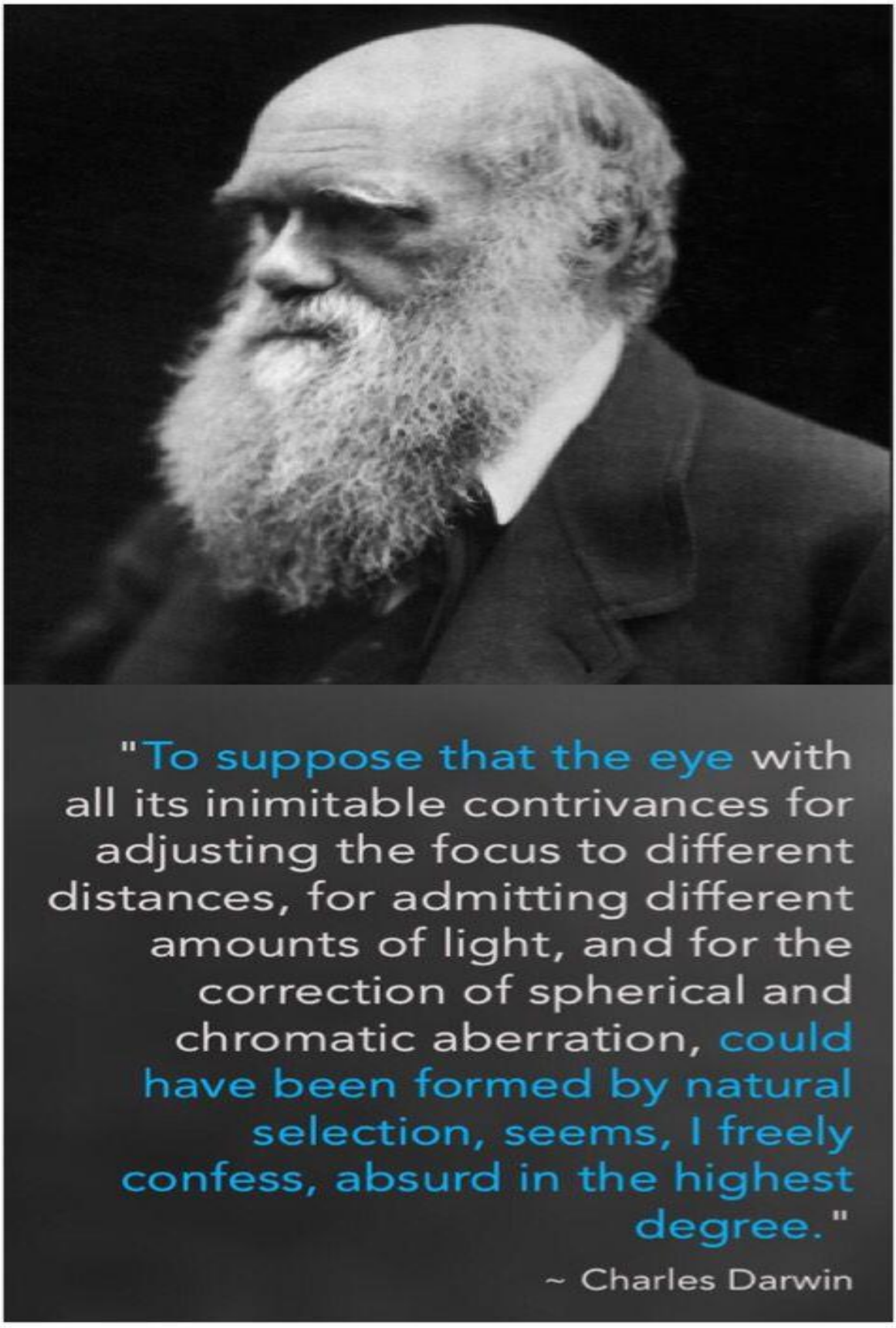
But, . . .

- "If the asteroid comes too close, it might break up or conceivably even slam into Earth."
- "Another possible side effect . . . would be to increase the planet's rotation. The encounters would have to be ***planned*** so that while some would cause the Earth to spin faster, others would slow it down back to normal rotation speed."
- "It's also possible that the moon would be thrown from its orbit around the Earth during these fly-bys."

"If we need an atheist for a debate, I go to the philosophy department. The physics department isn't much use."

Robert Griffiths


Today
1 million years ago (mya)
2 mya
3 mya
4 mya
5 mya
6 mya
7 mya
Large brain 1 mya
Low shoulders 2 mya
Strong wrist 1.4 mya
Long thumb 3.2 mya
Chin 200,000 ya
Barrel-shaped rib cage 1.6 mya
Forwardly placed opening for spinal cord 7 mya
Long, flexible waist 1.9 mya
Twisted humerus 2 mya
Small canine teeth 7 mya
Short, broad pelvis 3.2 mya
Enlarged femur head 1.9 mya
Long legs 1.9 mya
Strong knee joint 4.1 mya
Arched foot 3.7 mya
Short toes 3.7 mya
Representative traits associated with upright walking/running
Adaptations to tool manufacture and use
Other notable traits
CORBIS


"To suppose that the eye with all its inimitable contrivances for adjusting the focus to different distances, for admitting different amounts of light, and for the correction of spherical and chromatic aberration, could have been formed by natural selection, seems, I freely confess, absurd in the highest degree."
~ Charles Darwin

Thomism Religious Philosophy

Aquinas' First Way and a Stack of Books

Michael Egnor
October 4, 2019, 4:33 AM

***Editor's note**: See also, "Introducing Aquinas' Five Ways," by Michael Egnor. For more on Thomas Aquinas, intelligent design, and evolution, see the website Aquinas.Design.*

In the debate about the existence of God, Aquinas' First Way — which is **Aristotle's Primer Mover Argument** — has pride of place. It is the archetype of the cosmological arguments for God's existence, which are arguments based on the beginning of things.

The Prime Mover argument is impeccable. It has never been successfully refuted, and never will be, as you will understand. However, the Prime Mover who is proven by the argument is only the first link in Aquinas' demonstrations of God's nature, and the Prime Mover himself is bare-boned. Yet, the simplicity of the argument makes it powerful. Aquinas (following Aristotle) sets out to answer the question "How can change in nature begin?" and to answer it decisively.

A Few Preliminaries

An *a priori* proof is a proof by logic alone. It makes no reference to existing physical things. Proofs in mathematics and logic are *a priori*. *A posteriori* proofs are proofs that begin & observations about existing physical things & using logic, draw conclusions from the nature of the existing things. Scientific theories are *a posteriori* proofs in this sense. For example, cosmologists begin with physical and astronomical observations about the universe (e.g., the red shift of galaxies) and, using the logical structure provided by Einstein's tensor equations, conclude that the universe began in a singularity, which has been dubbed the Big Bang.

A priori proofs in logic or mathematics are certain as long as the logic is sound. *A posteriori* proofs in science are more or less certain, depending on the reliability of the observations of nature and on the logical structure linking the observations to the conclusion. Some *a posteriori* proofs (scientific theories) are so well evidenced and so logically sound that they are almost universally accepted. Other scientific theories are not as firmly based in observation and logic and are controversial.

The Prime Mover argument is an *a posteriori* argument. That is, it has the structure of a scientific theory. It is not *a priori* — the Prime Mover's existence cannot be proven by logic alone. Succinctly, this is because it is impossible to argue from essence (logical axioms) to existence (God's existence), because essence and existence are metaphysically distinct. This argument is important, but entails a discussion that is beyond the scope of this post.

It *is* possible to demonstrate the existence of the Prime Mover with an *a posteriori* proof, because *a posteriori* proofs argue from existing things via logic to existing things. The Prime Mover proof, as an *a posteriori* argument, depends on observations in nature and on logic .

A posteriori proofs are strong or weak according to three things: the quantity of natural observations, the quality of the natural observations, and the cogency of the logic that ties them to the conclusion.

Both natural theology (proofs of God's existence) and natural science are predicated on *a posteriori* proofs. *The Prime Mover argument has exactly the same structure as any theory of natural science*, and it is more reliable than any theory in natural science, as you will see.

Things Change

The observations of nature on which the Prime Mover proof is based are that things change. That's it. The argument is strengthened enormously by simplicity, undeniability, and the ubiquity of change in nature. Countless things change, and we are sure that they change. There is no better set of natural observations on which to ground a scientific inference. Things change.

Three Predicates

The logic is tight, too. It depends on three metaphysical predicates:

1. **The nature of an essential causal chain.** Change in nature tends to happen in chains of changes. One thing changes another, which changes something else, and so on. There are two kinds of causal chains. **Accidental causal chains** are chains in which any or all of the prior causes can cease to exist, and the chain will continue. A family tree is like that. Your grandfather does not need to be alive now for you to give birth to his great-grandson. Another example is children playing tag on a playground. One kid tags another, who tags another. The first kid can leave the playground, but the game goes on. This is very important: **the Prime Mover argument *does not apply to accidental causal chains*.** There need be no Prime Grandfather or Prime Tagger — infinite regress is (logically) possible in accidental causal chains. Family trees & tag can go back to eternity, at least in theory. They entail no contradiction. **Essential causal chains** are chains in which all of the prior causes must continue to exist for the chain to continue. A stack of books is like that. Each book supports the book above it, and is supported by the book below it. If any book is removed, the chain falls apart. Essential causal chains are common in nature: objects and processes in nature often depend on continuity of causes and effects: the sun must continue to shine to provide light to cause photosynthesis in plants which produces food which enables plants to grow and so on. If any link in this causal chain ceases to exist — if the sun stops shining or if photosynthesis ceases — the chain falls apart. Everything stops when a cause is removed in an essential chain. When a cause is removed in an accidental chain, the chain can continue. ***The Prime Mover proof only applies to essential causal chains in nature — essential causal chains cannot go to infinite regress***, as we will see.
2. **The principle of potency and act.** The principle of potency and act says that change happens when the possibilities (potency) in a thing are made actual (act). An acorn becomes an oak tree by the actualization of that possibility in the acorn.
3. **The law of non-contradiction.** The law of non-contradiction says that a thing cannot *be* and *not be* in the same respect at the same time. If A is true, then it cannot simultaneously be the case that A is not true. The law of non-contradiction applies to potency and act. Potency and act cannot coexist in the same substance at the same time in the same respect. Potency means a thing *could* be, but isn't. Act means a thing is, so "could" doesn't apply.

A Thomistic Dictum

This gets us to the famous Thomistic dictum: *everything changed is changed by another*. This is a consequence of the law of non-contradiction and the principle of potency and act. For something to change itself, it would need to be actual and in potency for the same thing simultaneously. It would have to be both what it was and what it is changing to at the same moment. But in order to be potential and actual simultaneously for the same thing is a contradiction. Therefore, nothing can change itself. Everything changed is changed by another.

The **Prime Mover Argument**:

1. Change occurs in nature.
2. Some changes are essential chains.
3. Change entails elevation of potency to act.
4. Potency and act cannot coexist simultaneously in the same thing in the same respect (the law of non-contradiction).
5. What is changed, is changed by another.
6. Infinite regression is not possible in an essential chain of change
7. An essential chain of change must begin with a cause (the Prime Mover) that is pure act, without potency.
8. That is what all men call God.

The observations in nature are undeniable (change happens) and the logic impeccable (Aristotle, who first asserted the proof, invented logic), but modern readers often find is opaque, largely because we are unfamiliar with the terminology.

A Stack of Books

To gain an intuitive understanding of the force of the argument, it is very helpful to consider a stack of books, one on top of another. Each book is supported by the one below it, and in turn supports the one above it.

If a book is taken out of the stack, the stack above the book shifts one book down, and thus changes. When the stack changes, it is a *causal* chain. The structure of the stack continuously depends on each book in it, and thus the stack is an *essential* causal chain.

Essential causal chains in nature — the chains for which the Prime Mover proof applies — are analogous to a stack of books.

So here's the Prime Mover proof applied to the stack of books. We begin with the stack just sitting there, without change. Imagine the stack of books going down through the floor to infinity (both Aristotle and Aquinas presupposed infinite regression). The change we will consider is *location* change — removing a book and shifting the books above it down a notch. Location change can happen if a book is pulled out of the stack. The ones above it change — shift down — if one book is pulled out. In this sense, each book is in potency to shift down one book, but each book is not actually shifted until the stack begins to change by the removal of a book.

How can change *begin* in the stack? How can it shift? A book needs to be pulled out, then each book above will shift and the causal chain will be completed. Each book is in ***potency*** to pull out, and each book is in potency to shift, but while the stack is just sitting there, nothing can move. ***Since no book can shift itself, the change can't start in the stack itself.*** The stack is frozen without outside intervention. It will just sit there for eternity, and it doesn't matter how far down the stack goes.

No book can move itself and get the shift started, because that would mean that the book was in potency to move and actually moving at the same moment, which is impossible (law of non-contradiction).

Intuitively, this is obvious. The stack can't shift itself. If left alone, it will sit there unchanged forever.

How Change Is Possible

So how can the stack be shifted? How is change possible? The first shift can't be caused by one of the books. The books in an essential chain are all in potency to shift, but, without a Mover outside of the stack, none can actually shift.

The only way the stack can shift is if *an agent that is not one of the books reaches in and shifts it.* And the agent must be special — it can't be, for example, another book from another motionless neighboring stack. That book couldn't get started either.

The Mover that starts the change *has to have its own agency*. It must be a Hand that moves by itself, without the need for a something like a book to move it.

In philosophical terms, the Hand that starts the change has to be *fully actual* — Pure Act, without potency at all, and the Hand has to be outside the stack — outside nature.

The Hand is the Prime Mover. It starts the chain of change by removing one of the books, but it cannot be *itself* one of the books in the stack itself. It needs to come from outside the stack — outside nature — to get the chain started.

Now, could it be *two* Hands? No. This is because if it were two hands, then each hand would be in potency to the other, in terms of position, timing, etc. Thus, there would need to be another Hand (a Guiding Hand) to move the two hands in the proper way.

Then the Guiding Hand would be the Prime Mover, and the two hands would be like the books, moved by another.

The Prime Mover must be fully actual, supernatural, and metaphysically simple. It must move entirely of its own accord. That is what all men call God.

That's Aquinas' First Way.

By Logic, From Nature

When you think of the Prime Mover proof, think of it in terms of a stack of books. That is most helpful in gaining an intuitive sense of the force of the argument. It is logically sound and as irrefutable as any *a posteriori* proof can be. It is *exactly* the structure of theories in natural science — it is a conclusion drawn by logic from nature. Due to the certainty of the natural observation (change) and the rigor of its Aristotelian logic, it is *more* certain than any theory in natural science — more certain than Newtonian gravitation, quantum mechanics, or general relativity, and incomparably more certain than evolution by natural selection.

Nature is like a stack of books, sessile, until moved. And nature must be moved *continuously* by a Hand. In *Summa Contra Gentiles*, St. Thomas tells us much more that can be proven about the Hand. The Prime Mover proof is just the beginning of an elegantly reasoned Thomist exploration of the ground and fabric of reality. Every fall of a leaf, every wisp of wind, every twitch of a muscle requires the Hand *at the moment of change*. The Prime Mover is the source of all change. In him we move and breathe and have our life. He is closer to us than we are to ourselves.

Irrefutable, Impeccable, Inescapable: Aquinas' Second Way

Michael Egnor
October 14, 2019, 4:56 AM

***Editor's note**: See also, "Introducing Aquinas' Five Ways," by Michael Egnor. For more on Thomas Aquinas, intelligent design, and evolution, see the website Aquinas.Design.*

The Cosmological Arguments for God's existence are a series of arguments that share a common theme: you can't get something for nothing. They are arguments about beginnings & they demonstrate that the universe can't cause itself. The three Thomistic cosmological arguments — the First, Second, and Third Ways — are about change, causation and existence, respectively. Another way to describe them is that they are arguments from passivity, activity and contingency.

I posted on the First Way here. The logical structure of the Second Way is similar. It begins with an observation of nature: there are causes. It proceeds with a logical analysis of causes, and concludes by demonstrating the necessity of a First Cause, which is outside of nature and which is not Itself caused. This logical structure is *a posteriori* — it argues from evidence through logic to conclusion. It is the same argument for *all* scientific theories: from evidence through logic to conclusion.

A Posteriori, Not *A Priori*

The Cosmological Arguments are scientific theories, and are more solidly grounded in evidence and logic than any other scientific theories. None of the Cosmological Arguments are *a priori* arguments. That is, none of the arguments are mere logical proofs, unfounded in reality.

The Second Way proceeds from the fact that there are efficient causes in nature — hens that lay eggs, storms that sink ships, hail that pelts roofs. Like all scientific theories, the Second Way begins with evidence. The evidence is undeniable. There are causes in nature.

We see in nature orders of causes—a spark ignites gunpowder, which propels a shell, which hits a building, which collapses and crushes munitions inside, which explode… . Nature is full of causal chains. Nuclear fusion which causes sunlight which causes photosynthesis which causes food production… .

Potency and Actuality

Nothing can cause itself. This is a logical, not empirical, fact. The reason that nothing can cause itself is that to be caused entails a state of potency (to be caused) followed by a state of actuality (being caused). A cause *can* happen, before it *does* happen. However, potency (can) and act (does) for the same thing at the same moment is not possible. A thing cannot be potential and actual *simultaneously* in the same respect. But that is precisely what would be necessary for self-causation. To cause itself, a thing would have to exist at the moment it raised its own possible existence to actual existence. This is a violation of the law of non-contradiction: a thing cannot be not A & A at the same time. A thing cannot be possible (not A) and actual (A) at the same time.

For a chain of causes in nature in which each link in the chain must continue to exist for the chain to continue (called an essential chain), there must be a First Cause that actuates the causal chain. An essential causal chain that is entirely made of potential-to-actual causes could never get started on its own. This First Cause must be outside the chain — outside nature — and must be purely actual, with no potentiality at all. This is what all men call God.

Floor to Ceiling

As with the First Way, a very nice way to intuitively understand the argument is to think of a stack of books from the floor to the ceiling. Each book, if it shifts down in the stack, is a potential cause of the book above it shifting one book down. Imagine that the stack is just sitting there. How can it get started — how can a book shift down and start the "shift one level down" causal chain? The first cause cannot come from the stack by

itself. If left as a stack of potential but not actual causes, the stack will just sit there forever. Something must reach in, from outside the stack, and pull a book out, to get the causal chain started. This First Cause cannot be one of the books — It has to be a Cause from outside the stack, *from outside nature*.

Nor will appeal to infinite regress save the day. The stack of books could go down through the floor as far as you wish, but the stack still could not shift unless a First Cause from outside the stack gets the causal chain started by pulling out a book.

The First Cause argument is, like the Prime Mover argument, simple and irrefutable. It depends on three things: the observation of causation in nature, the fact that cause entails movement from possibility to actuality, and the law of non-contradiction, which states that a thing may not simultaneously be possible and actual in the same respect.

A Common Objection

One common objection to the First Cause argument is that it doesn't apply to living things. This is a misunderstanding in two ways.

First, the First Cause argument, in order to demonstrate God's existence, only has to work *once*. *One* First Cause in *one* causal chain is sufficient to prove God's existence. Godless Atheism would be supported *only* if it could be shown that *no* First Cause was necessary in *any* causal chain. There are countless essential causal chains in nature. The First Cause proof of God's existence is perfectly valid from causal chains in inanimate matter alone — every grain of sand is a link in an essential causal chain. Every grain of sand proves God's existence.

Second, although living things do have a kind of principle of causation in themselves, unlike inanimate objects, they still depend on external causation *ultimately* for their activity. Although I move myself, in a sense that I act according to my will, I still need oxygen and food from outside to continue my activity. All living things depend in some ways — vitally important ways — on external chains of (essential) causes for their activity, and thus the First Cause argument applies as well to living things.

Can't Have it Both Ways

Ironically, atheists who argue that "self-causation" refutes the First Cause argument often are determinists who argue, otherwise, that man lacks free will and is wholly at the mercy of natural causes. Atheists can't have it both ways: if man is matter, wholly determined by the laws of nature, then the First Cause argument applies to him every bit as much as it does to a rock or to a raindrop. If the First Cause argument *doesn't* apply to acts of will, then that will is not in an essential causal chain, and it is *free will*. Oops. It's not easy to be an atheist and a determinist.

It is illuminating to keep the stack of books in mind when you will contemplate the origin of causation in nature. Nature is like a stack of books — an inherently inert chain of causes stacked one on another, destined to immobility, unless a First Cause from outside nature gets the chain of causes started.

The First Cause argument, like the Prime Mover argument, is based on irrefutable evidence, proceeds by impeccable logic to an inescapable conclusion: nature has First Cause, which all men (who understand evidence and logic) call God.

Aquinas' Third Way: Analogy to Moonlight

Michael Egnor
October 15, 2019, 4:18 AM

***Editor's note**: See also, "Introducing Aquinas' Five Ways," by Michael Egnor. For more on Thomas Aquinas, intelligent design, and evolution, see the website Aquinas.Design.*

The Cosmological Arguments for God's existence are proofs from beginnings in nature. Change, causation and existence must have a beginning that is outside nature, because of the impossibility of infinite regress of essentially ordered causal chains. I've explained the proofs for Aquinas' First Way and Second Way in prior posts. Here I'll explain his Third Way — the proof from Necessary Existence.

The Third Way can be subtle, because existence is a trickier concept than change or causation. I find that an analogy to moonlight is helpful. I'll give the analogy, and then the formal proof, for which the analogy will be helpful in gaining an intuitive understanding of the proof.

An Astronomer and a Moon

Imagine that you are an astronomer on a world with one moon. It is always night on your world, and the moon is the only body in the sky. You note that the moon goes through phases — sometimes it is bright and full, sometimes it is dark and new.

One night (it's always night) you are having a conversation with your atheist friend. You raise the question: Where does the moonlight come from? Your atheist friend says "from the moon itself, obviously." But you point out that the moonlight comes and goes. This implies that there must be something else causing it to come and go.

Your atheist friend says, "Moonlight doesn't need a cause. It just exists." But you point out that your research through your telescope shows that the moon is a rocky body with mountains and shadows, without any light of its own, and all of its light is reflected.

Your atheist friend replies: "Then there must be other moons — moons we can't see — that are the sources of the reflected light. Its moons, all the way down!"

All the Way Down

But you point out to your friend that you can't get light from an infinite regress of mere reflection. If an orbital moon doesn't make its own light, you can't provide an ultimate explanation for the light merely by positing the existence of a series of other moons that just reflect light. There must be an ultimate source of the reflected light, something that shines light according to its nature, and doesn't merely reflect it. There must be a Sun, even though we can't see it.

The proof of the Third Way proceeds in the same manner. In nature we see things that exist, and can go into and out of existence. Their existence is contingent (their existence is a *reflection*). But everything that exists can't exist by contingency. If anything exists at all, there must be Something that *necessarily* exists — Something that is a source of existence, not a reflection of existence. Contingent existence — reflected existence — can't go to infinite regress. There must be Something that exists (shines) by its own nature, and gives existence to all other things. The Source of existence must be something for which existence is not merely contingent but necessary.

A Contingent Universe

But, you atheist friends may ask, couldn't the universe *itself* be the necessary (ultimate) existence? No, any more than all of the moons reflecting light could be the ultimate source of the light. An infinite regress of mirrors can't be the source of an image in the mirror.

The universe is contingent — it is a collection of contingent things that can go into and out of existence. Nothing *in* the universe represents *necessary* existence — everything in the universe, as well as the entire universe itself, is capable on not existing. That is, we can describe the universe (its essence) without affirmation of its existence. In fact, existence of the universe is finite - it began with the Big Bang and will presumably end with the Big Crunch. And the argument that the existence of our universe is necessary because we must exist in order to ask the question doesn't work, because an alien from a different universe could define the essence of our universe, on theoretical grounds, without knowing whether it existed or not. We can do the same with other universes in the multiverse. Essence is absolutely distinct from existence. We could know *what* our universe is without knowing *that* our universe is. This is one of the consequences of St. Thomas' most important metaphysical doctrine — existence is absolutely distinct from essence. This is, in my view, the cornerstone of modern experimental science. It turned scientists away from the *a priori* arguments of the ancients about the natural world to modern *a posterori* theories of science based on empirical observations of nature. His doctrine leads, in a direct & rather simple way, to his Third Way of proving God's existence.

A Formal Statement of the Third Way

The formal statement of the 3rd Way may be expressed, as in the Cosmological Arguments, by observation of nature, by act and potency and by the law of non-contradiction.

1. **The universe contains things that are capable of beginning to exist and of ceasing to exist.**
2. **Things in the universe do in fact begin to exist and cease to exist.**
3. **This represents elevation of potency (potential existence) to act (actual existence).**
4. **By the law of non-contradiction, potency and act cannot coexist in a thing in the same respect.**
5. **Therefore, the universe cannot cause itself to exist.**
6. **The universe does exist, therefore its cause of existence must be Something Whose existence is necessary and not contingent.**
7. **That is what all men call God.**

Existence of contingent nature cannot go to infinite regress, just as moons reflecting light cannot go to infinite regress. There must be a Sun. The existence we see all around us is merely *reflected* existence, and it points in a remarkably direct way to the Source of existence. The existence of nature presupposes a Necessary Existence that is outside nature that provides the existence reflected in natural things. **This is what all men call God.**

NATURALIST PERSPECTIVE: HISTORICAL OVERVIEW

Dogmatic opinions about the origin and formation of life are all too common in contemporary discussions in philosophy, science, and theology. This unfortunate state of affairs is understandable in light of the importance of the issues involved. Every culture clings to its particular creation myth. The question of the relationship between a creator and his creation has a long and complex history. For most of the history of Western thought, the idea of "design" or a creator acting in space and time was perfectly acceptable in rational discourse. In the last two hundred years, this notion has come under increasing attack.

As we will see, a conviction exists in the contemporary academic community that the criticisms of design in the modern world, beginning with Hume and culminating in Darwin, have indeed won the field. The argument from design is dead. Design in the natural world itself is best explained away on Darwinian grounds as "apparent design" that is best understood in naturalistic terms.

In the space of this brief introduction, we barely have time to trace more than the bold outlines of the situation. We can, however, trace a "bird's-eye view" of the rise and fall of the idea of design and creation in Western thought.

As is usually the case, the discussion began with the ancient Greeks. Plato made the importance of design and creation quite clear in his last and longest dialogue, *The Laws* (Book X). He said:

> *Athenian:* Quite true, Megillus and Cleinias, but I am afraid that we have unconsciously lighted on a strange doctrine.
> *Cleinias:* What doctrine do you mean?
> *Ath.* The wisest of all doctrines, in the opinion of many.
> *Cle.* I wish that you would speak plainer.
> *Ath.* The doctrine that all things do become, have become, and will become, some by nature, some by art, and some by chance.
> *Cle.* Is not that true?
> *Ath.* Well, philosophers are probably right; at any rate we may as well follow in their track, and examine what is the meaning of them and their disciples.
> *Cle.* By all means.
> *Ath.* They say that the greatest and fairest things are the work of nature and of chance, the lesser of art, which, receiving from nature the greater and primeval creations, molds and fashions all those lesser works which are generally termed artificial.
> *Cle.* How is that?
> *Ath.* I will explain my meaning still more clearly. They say that fire and water, and earth and air, all exist by nature and chance, and none of them by art, and that as to the bodies which come next in order—earth, and sun, and moon, and stars—they have been created by means of these absolutely inanimate existences. The elements are severally moved by chance and some inherent force according to certain affinities among them—of hot with cold, or of dry with moist, or of soft with hard, and according to all the other accidental admixtures of opposites which have been formed by necessity. After this fashion and in this manner the whole heaven has been created, and all that is in the heaven, as well as animals and all plants, and all the seasons come from these elements, not by the action of mind, as they say, or of any God, or from art, but as I was saying, by nature and chance only. Art sprang up afterwards and out of these, mortal and of mortal birth, and produced in play certain images and very partial imitations of the truth, having an affinity to one another, such as music and painting create and their companion arts. And there are other arts which have a serious purpose, and these co-operate with nature, such, for example, as medicine, and husbandry, and gymnastic. And they say that politics cooperate with nature, but in a less degree, and have more of art; also that legislation is entirely a work of art, and is based on assumptions which are not true.

> *Cle.* How do you mean?
> *Ath.* In the first place, my dear friend, these people would say that the gods exist not by nature, but by art, and by the laws of states, which are different in different places, according to the agreement of those who make them; and that the honorable is one thing by nature and another thing by law, and that the principles of justice have no existence at all in nature, but that mankind are always disputing about them and altering them; and that the alterations which are made by art and by law have no basis in nature, but are of authority for the moment and at the time at which they are made.—These, my friends, are the sayings of wise men, poets and prose writers, which find a way into the minds of youth.

Plato described the philosophy of his day that attributed the creation and design of the universe to chance. He suggested that this theory places the origins of the divine and moral norms in an "art," which is itself the product of chance. There is no design or art behind the cosmos. In short, the rational and the orderly sprang from the irrational and disorderly by the workings of chance and some scientific process. Plato, or at least the Athenian of the dialogue, strongly opposed teaching this view in his mythical city-state of Magnesia. He feared it would harm the minds and morals of the youth of the city. Many contemporary arguments are prefigured in this early discussion.

Plato presented the two basic options in his dialogues. The universe might have been created under the control of a craftsman, the Demiurge of the Timaeus. In this case, Mind came before cosmos. Of course, it needed not to be the case that Mind was paramount, as in the Christian conception. Plato's craftsman had to work with recalcitrant matter. This god could only do his best in creation. It still was the case, however, that the cosmos had a fundamental basis in the rational workings of a divine Mind. On the other hand, there is the position we have just examined in the *Laws*. To paraphrase Alfred North Whitehead, most debates about the design or creation of the cosmos are a footnote to this discussion in Plato.

Both Plato and Aristotle saw knowledge of Mind as fundamental to gaining knowledge about the physical cosmos. On the other hand, the philosophies of the Epicureans and Lucretius demanded no god for their cosmological accounts. The Hellenistic and Roman periods were a time of lively discussion in this area. It is safe to say, however, that forms of neo-Platonism and Stoicism (both theistic) came to dominate the later periods of intellectual thought. The apparent order of the universe, and perhaps the need for order in the Roman state, made the more theistic design position the dominant one.

The spread of Christian theism in the Roman Empire encouraged this process. The apologists for the new faith were able to rely in their works on the widespread acceptance of the need for a creator. For example, the second-century apologist Theophilus of Antioch was able to rely on such beliefs in his writing. In the twilight of the western Roman Empire, Augustine was able to appropriate the same sort of inclination toward the reality of design in his *City of God* and his discussion of creation in the latter portions of his *Confessions*.

In the medieval West, design and the involvement of supernatural intelligence were widely accepted, and they helped justify the idea that we live in a creation that can be studied and in which truths can be grasped beyond the surface appearances of things. Contrary to the stereotype of the period as a time of intellectual stagnation and dogmatism, philosophy of science continued to develop during the Middle Ages. Such men as Roger Bacon, Duns Scotus, and William of Ockham made important advances of the Greco-Roman understandings of the natural world and philosophy.

These general inclinations strongly in favor of design did not change with the advent of the modern age. Seeing the work of an intelligent designer was a commonplace for the early scientists.

Isaac Newton, who ushered in new methods in understanding the natural world, was a lifelong student of the Bible and had no difficulty seeing strong evidence for design in the universe. Even the most severe critics of the Christian religion in the period of the Enlightenment, which helped birth the modern world, did not reject the existence of a creator or providence behind the cosmos. Thomas Paine, the archcritic of traditional Christianity, speaking in the *Age of Reason* about the death of the established church said, "Human inventions and priestcraft would be detected; and man would return to the pure, unmixed and unadulterated belief of one God, and no more." Reason demonstrated the providential order of things to such men. The self-proclaimed "infidels" of the Enlightenment were not for the most part atheists in our modern sense, and the order of nature was a powerful reason for their theism.

Two assaults changed this picture, seemingly forever. First, David Hume launched a philosophic assault on the "argument from design." He said:

> You then, who are my accusers have acknowledged, that the chief or sole argument for a divine existence (which I never questioned) is derived from the order of nature; where there appear such marks of intelligence and design, that you think it extravagant to assign for its cause, either chance, or the blind and unguided force of matter. You allow, that this is an argument drawn from effects to causes. From the order of the work, you infer, that there must have been project and forethought in the workman. If you cannot make out this point, you allow, that your conclusion fails; and you pretend not to establish the conclusion in a greater latitude that the phenomena of nature will justify. These are your concessions. I desire you to mark the consequences.
>
> When we infer any particular cause from an effect, we must proportion the one to the other, and can never be allowed to ascribe to the cause any qualities, but what are exactly sufficient to produce the effect. A body of ten ounces raised in any scale may serve as a proof, that the counterbalancing weight exceeds ten ounces; but can never afford a reason that it exceeds a hundred. If the cause, assigned for any effect, be not sufficient to produce it, we must either reject that cause, or add to it such qualities as will give it a just proportion to the effect.

Hume went on to argue that one could never derive a knowledge of a personal, intelligent God from the impersonal cosmos. Any argument from design or to design was not robust enough to do the work many theists had traditionally assigned to it, that is, the establishment of the existence of the full-blown God of Christian theism. The complexity so evident in the natural world, however, still led most thinkers to favor a creationist position.

Darwinism changed the picture substantially. Before Darwin, theists could point to natural objects like the eye and then challenge their philosophically inclined critics to provide a better explanation than theism. Darwin provided a purely naturalistic account for apparent design in the natural world. In the *Origin of Species* he challenges his critics, "It is so easy to hide our ignorance under such expressions as the 'plan of creation' or 'unity of design,' etc., and to think that we give an explanation when we only restate a fact." Darwin would have none of that kind of "sloppy thinking." Instead, he proposed a mechanism—natural selection—that would do the work of providing for the patterns in nature that others had only passively described.

The results of the debate over design in nature for theism were very great. In the words of the contemporary defender of neo-Darwinism, Richard Dawkins, "Darwin made it possible to be an intellectually fulfilled atheist." One can see the impact of Darwin on the argument from design in the writings of the philosopher William James. Writing in *Varieties of Religious Experience* as the twentieth century dawned, he said, "As for the argument from design, see how Darwinian ideas have revolutionized it. Conceived as we now conceive them, as so many fortunate escapes from almost limitless processes of destruction, the benevolent adaptations which we find in Nature

suggest a deity very different from the one who figured in the earlier versions of the argument." God is, at best, unemployed in the new cosmology. In light of the putative failure of the design argument, many scientists and philosophers dispensed with him altogether.

The reaction to Darwin and Darwinism within the Christian community was mixed. The first and most vocal critics of Darwin in England were his fellow scientists. Most theologians had been prepared for the idea of some sort of progressive creation for a long time. Darwinism was in the air in the form of poetic and cultural paeans to progress. Earlier findings in geology had challenged a literal reading of the Genesis chronology and a single, global flood in the days of an actual Noah. Many Christians, especially in the universities, were willing to take Genesis 1–11 as less than actual history. At first, therefore, the majority of English theologians reacted carefully and in a guarded manner to Darwinism. In fact, no large-scale creationist response to Darwin ever developed in England, despite well-known and vocal critics such as Prime Minister Gladstone and the noted scientist Lord Kelvin.

The United States was, however, a different story. There existed a much larger population of more conservative Christians. They were less willing to view Darwin and Darwinism with equanimity. Again, many Christians, even the most conservative, had already accepted the age of the earth and the extent of the Flood as an open question. Such conservative theologians as Charles Hodge and B. B. Warfield were open to these ideas, but reacted more strongly to Darwinism. At the very least, Darwin seemed to limit severely any active role for the Creator in the creation process. Hodge summed up the feeling of many when he baldly equated Darwinism with atheism.

The struggle against Darwinism and modernism in the academy, even in the United States, was a losing battle. By the middle of the twentieth century, opposition to Darwinism was limited to the more fundamentalist religious communities. Groups like the Seventh-day Adventists carried on an active assault against evolutionary thinking, sometimes with more noise and vigor than scientific care or rigor. Large numbers of scientists may have been "theistic evolutionists," reserving for God some nearly invisible role in the process of evolution, but their voice was very quiet in the general culture. The public perception was that Darwinism, and some form of naturalism, had triumphed.

Most unexpectedly, however, the critics of Darwinism were reinforced by two important groups at the mid-century point. First, many conservative Christians began to receive a larger number of graduate degrees in science. In the 1940s the American Scientific Affiliation (ASA) brought a small but growing number of evangelicals together who had training in the sciences. At the very least, this group tended to be cautious about Darwinism. It allowed both theistic evolutionists and critics to dialogue in a sustained and responsible manner. The ASA created a respectable forum and some peer review to critics of evolutionary thought.

A smaller and more conservative group of scientists, who rapidly became more influential with laypeople in traditionalist Christian circles, developed a more radical critique of the reigning paradigm. They were the "young earth creationists." With the publication of *The Genesis Flood* by Henry Morris and John Whitcomb, the movement came to full flower. They insisted that both scientific and biblical evidence favored an earth, and usually a universe, younger than ten thousand years. The young earth creationists also explained many of the features of the modern world by recourse to Noah's flood. Organizations such as the Creation Research Society, the Bible-Science Association, and Morris's own Institute for Creation Research spread these alternative views. Frequently plagued by irresponsible advocates and sloppy scientific methodology, the movement was widely ridiculed and attacked by the secular media and academy. Their influence tended to be quite limited even in the evangelical and fundamentalist academic mainstream.

By the end of the twentieth century, five important developments changed the landscape of this dialogue. First, the rise of postmodernism in the secular world assaulted the confidence of the advocates of Darwinism from within the academic mainstream. Feminist and other critics of modernity questioned the "truth" of scientific theories. This assault on the left sapped some of the strength of the scientific establishment.

Second, young earth creationism began to develop a broader and more sophisticated line of reasoning. Under the leadership of Morris and other well-trained scientists, the movement saw an ever-increasing rigor to its publications. By the late 1980s and the 1990s, meetings like the quadrennial International Conference on Creationism attracted hundreds of scientists, theologians, and philosophers. More and more journal articles and conferences were more adequately reviewed by peers and were of a much higher quality than earlier efforts. Currently, efforts are being made to present a positive theoretical model and not just to attack evolutionary ideas. While success in this latter area remains elusive, the quality of the effort has shown a geometrical improvement.

The third important shift in the Darwinian debate came with a more thoughtful and theologically conservative form of theistic evolution. Scientists, often within the ASA, developed a new way of integrating the findings of modern science and theology that seemed to allow for God's action in creation without limiting the scope of scientific inquiry.

Fourth, a renewed interest in old earth creationism in academic and lay evangelical circles has been in evidence. These Christians accepted evidence for an old earth and universe, while rejecting Darwinian evolution. They usually argued for a literal Adam and Eve and a local deluge. Often caught in the middle—too accommodating for young earth creationists on biblical issues and too conservative for theistic evolutionists—their penetration into the Christian community had been somewhat limited. The ministry of popular writers and speakers such as Hugh Ross gave their ideas new prominence by the end of the 1990s.

Finally, a new intelligent design movement was sparked by the work of Phillip E. Johnson, a University of California at Berkeley law professor. He challenged Darwinism in his works *Darwin on Trial* and *Reason in the Balance.* The intelligent design movement saw contemporary scientific evidence pointing toward a "design hypothesis." At the same time, philosophers William Dembski, Paul Nelson, and Stephen Meyer developed a new approach to design and design arguments that did not seem vulnerable to traditional criticisms. This movement has been neutral on biblical questions and embraces both theists and nontheists. It contains active young earth and old earth creationists.

This current volume allows for an active debate from traditional Christians representing these views. Paul Nelson and John Mark Reynolds are among the most responsible of a new generation of young earth creationists who are also involved in the intelligent design movement. Robert Newman represents a resurgent old earth creationism. He is also an important player on intelligent design. The work of Howard Van Till represents the most theologically and scientifically responsible attempt to accommodate evolution to conservative Christian theology. Respondents range across the ideological spectrum.[1]

[1] Moreland, J. P., & Reynolds, J. M. (1999). Introduction. In S. N. Gundry, J. P. Moreland, & J. M. Reynolds (Eds.), *Three Views on Creation and Evolution* (pp. 26–35). Grand Rapids, MI: Zondervan.

Intelligent Design: What It Is and Where It Came From

"As one of the architects of the theory of intelligent design and the director of a research center that supports scientists developing the theory, I know that this media stereotype isn't accurate. The modern theory of intelligent design predates the legal setback for creationists in 1987, having first been proposed in the early 1980s by a group of scientists—Charles Thaxton, Walter Bradley, and Roger Olson—who were trying to account for an enduring mystery in modern biology: the origin of the digital information encoded along the spine of the DNA molecule. Thaxton and colleagues came to the conclusion that the information-bearing properties of DNA provided strong evidence of a designing intelligence. They wrote a book proposing this idea in 1984, three years before the US Supreme Court decision (in Edwards v. Aguillard) outlawing the teaching of creationism.

Contemporary scientific interest in the design hypothesis not only predates the US Supreme Court rulings against creationism, but formal theory of intelligent design is clearly distinct from creationism in method and content. The theory of intelligent design, unlike creationism, isn't based upon the Bible. Instead, the theory is based on recent scientific discoveries & what we know about the cause-and-effect structure of the world — specifically, what we know about patterns of evidence that indicate intelligent causes. Thus, intelligent design isn't a deduction from, or interpretation of, a religious text but an inference from scientific evidence. Propositional content of the theory of intelligent design also differs from creationism. Intelligent design theory attempts to explain the observed complexity and information-rich structures found in living systems and other features of life and the universe.

Creationism or creation science, as defined by the US Supreme Court, defends a particular reading of the biblical book of Genesis, typically one asserting that God created earth in six twenty-four hour periods a few thousand years ago. In contrast, the theory of intelligent design does not offer an interpretation of the Genesis book, nor does it posit a theory about the length of the biblical days of creation or the age of the earth. Consequently, intelligent design proponents may have a variety of positions on such issues (or none at all).

But if the theory of intelligent design is not creationism, what is it? As it applies to biology, intelligent design is an evidence-based scientific theory about life's origin and development that challenges strictly materialistic views of evolution. According to Darwinian biologists such as Oxford's Richard Dawkins, living systems "give the appearance of having been designed for a purpose." But for modern Darwinists, the appearance of design is entirely illusory. Why? According to Darwinists, wholly undirected processes such as natural selection & random mutations are fully capable of producing the intricate designed-like structures in living systems. In their view, evolutionary processes can mimic the powers of a designing intelligence without themselves being directed by an intelligent agent in any way.

Conversely, the theory of intelligent design holds that there are telltale features of living systems & the universe—for example, the digital code in DNA, the miniature circuits & machines in cells, and the fine tuning of the laws and constants of physics—that are best explained by intelligent cause rather than undirected material process. The theory does not challenge the idea of evolution defined as either change over time or common ancestry, but it does dispute the Darwinian idea that the cause of biological change is wholly blind and undirected. Either life arose as the result of purely undirected material processes or a guiding intelligence played a role. Design theorists affirm the latter option and argue that living organisms look designed because they really were designed." – STEPHEN C. MEYER

A Brief History of the Classical Design Argument

"By making a case for design based on evidence in nature, contemporary advocates of intelligent design have resuscitated the classical design argument. For centuries before Darwin's On the Origin of Species appeared 1859, most Western thinkers held that life arose from activity of a purposeful designer. Design arguments based on observations of the natural world were made by Greek and Roman philosophers such as Plato and Cicero, by Jewish philosophers as Maimonides, and by Christian thinkers such as Thomas Aquinas. The idea of design also figured centrally in the scientific revolution (1300–1700). As historians of science have often noted, many of the founders of early modern science assumed the natural world was intelligible & amenable to rational scientific investigation precisely because they also assumed that it had been designed by a rational mind. In addition, many individual scientists —Johannes Kepler astronomy, John Ray biology, and Robert Boyle in chemistry— made specific design arguments based upon empirical discoveries in their fields.

This tradition attained an almost majestic rhetorical quality in the writings of Sir Isaac Newton, who made sophisticated design arguments based upon biological, physical, and astronomical discoveries. Writing in the General Scholium to the Principia, Newton suggested that the stability of the planetary system depended not only upon the regular action of universal gravitation but also upon the precise initial positioning of the planets & comets in relation to the sun. As he explained, "though these bodies may, indeed, continue in their orbits by the mere laws of gravity, yet they could by no means have at first derived the regular position of the orbits themselves from those laws." Thus, concluding, "this most beautiful system of the sun, planets, and comets, could only proceed from the counsel & dominion of an intelligent & powerful Being." Or as he wrote in the Opticks: How came the Bodies of Animals to be contrived with so much Art, and for what ends were their several parts? Was the Eye contrived without Skill in Opticks, and the Ear without Knowledge of Sounds? . . . And these things being rightly dispatch'd, does it not appear from Phænomena that there is a Being incorporeal, living, intelligent, omnipresent . . .

Scientists continued to make design arguments well into the early 19th century, especially in biology. By the later part of the eighteenth century, however, some enlightenment philosophers began to express skepticism about these arguments. David Hume, in his Dialogues Concerning Natural Religion (1779), argued that the design argument depended upon a flawed analogy with human artifacts. He admitted that artifacts derive from intelligent artificers & that biological organisms have certain similarities to complex human artifacts. Eyes and pocket watches, for example, both depend upon functional integration of many separate & specifically configured parts. Nevertheless, he argued, biological organisms also differ from human artifacts — they reproduce themselves, for example — and the advocates of design fail to take these dissimilarities into account. Since experience teaches that organisms come from other organisms, Hume argued analogical argument ought to suggest that organisms ultimately come from some primeval organism (perhaps a giant spider or vegetable), not a transcendent mind or spirit. Despite his objections, Hume's categorical rejection of design argument didn't prove decisive. Thinkers as diverse as the Scottish Presbyterian Thomas Reid, the Enlightenment deist Thomas Paine, and the rationalist philosopher Immanuel Kant continued to affirm various versions of the design argument after the publication of Hume's Dialogues.

Moreover, with the publication of William Paley's Natural Theology, science-based design arguments would achieve new popularity, both in Britain & on the European continent. Paley catalogued a host of biological systems that suggested the work of a superintending intelligence. Paley argued that the astonishing complexity and superb adaptation of means to ends in such systems could not originate through the blind forces of nature any more than could a complex machine such as a watch. Paley also responded directly to Hume's claim that design inferences rested upon a faulty analogy. A watch that could reproduce itself, he argued, would constitute an even more marvelous system than one that could not. Thus, for Paley, the differences between artifacts and organisms only strengthened the conclusion of design. Thus, despite Hume's objections, many scientists continued to find watch-to-watchmaker reasoning compelling well into the nineteenth century." – STEPHEN C. MEYER

Darwin, Neo-Darwinism, and the Eclipse of Design

"Acceptance of the design argument began to abate during the late 18th century with emergence of increasingly powerful materialistic explanations of "apparent" design in life, particularly Charles Darwin's theory of evolution by natural selection. Darwin argued in 1859 that living organisms only appeared to be designed. To show this, he proposed a concrete mechanism, natural selection acting on random variations, to explain adaptation of organisms to their environment & other evidences of apparent design without invoking an intelligent agency. Darwin thought that natural selection could accomplish the work of a human breeder & thus that blind nature could come to mimic, over time, the action of a selecting intelligence—a designer.

If the origin of biological organisms could be explained naturalistically, as Darwin argued, then explanations invoking an intelligent designer were unnecessary (and even vacuous). Thus, it was not ultimately the arguments of the philosophers that destroyed popularity of design argument, but a scientific theory of biological origins. This trend was reinforced by the emergence of other fully naturalistic origin theories in astronomy, biology and geology throughout the 19th century. Though the design argument in biology went into retreat after On the Origin of Species was published, it never quite disappeared. Darwin was challenged by several leading scientists of his day, most forcefully by the great Harvard naturalist Louis Agassiz, who argued sudden appearance of the first complex animal forms in the Cambrian fossil record pointed to an "intellectual power" and attested to "acts of mind."

Similarly, co-founder of the theory of evolution by natural selection, Alfred Russel Wallace, argued that some features of human beings, such as their consciousness and capacity to use language, were better explained by reference to the work of a "Higher intelligence" than to Darwinian evolution. There seemed to him "to be evidence of a Power" guiding laws of organic development "in definite directions and for special ends." Wallace further insisted that "so far from this view being out of harmony with the teachings of science, it has a striking analogy with what is now taking place in the world." And in 1897 Oxford scholar F. C. Schiller argued that "it will not be possible to rule out the supposition that the process of Evolution may be guided by an intelligent design. Continued interest in the design hypothesis was made possible in part because the mechanism of natural selection had a mixed reception in the immediate post-Darwinian period.

As the historian of biology Peter Bowler has noted, classical Darwinism entered a period of eclipse during the late nineteenth and early twentieth centuries mainly because Darwin lacked an adequate theory for the origin and transmission of new heritable variation. Natural selection, Darwin well understood, could accomplish nothing without a steady supply of variation, the ultimate source of new biological structure. Nevertheless, both the blending theory of inheritance that Darwin had assumed & classical Mendelian genetics that soon replaced it, implied limitations on amount of genetic variability available to natural selection. This in turn implied limits on the amount of novel structure that natural selection could produce. By the late 1930s & 1940s, however, natural selection was revived as the main engine of evolutionary change as developments clarified the nature of genetic variation.

The resuscitation of the variation/natural selection mechanism by modern genetics and population genetics became known as the neo-Darwinian synthesis. According to it, natural selection, acting upon a special kind of random variations known as genetic mutations, could account for origin of novel biological forms and structures. These random mutations (conceived of as copying error or alteration in hereditary material) supplied the variations upon which natural selection could act and from which new biological form & structure would arise. Small-scale microevolutionary changes could, then, in turn, be extrapolated indefinitely to account for large-scale macroevolutionary development.

With the revival of the natural selection mechanism, neo-Darwinists would assert, like Darwinists before them, they had found an entirely undirected natural process or mechanism that explained appearance of design in biology. As evolutionist Ernst Mayr of Harvard explained, "[T]he real core of Darwinism is the theory of natural selection. This theory is so important for Darwinian because it permits explanation of adaptation, the 'design' of the natural theologian, by natural means." By the time of the centennial celebration of Darwin's On the Origin of Species in 1959, many scientists assumed that natural selection could fully explain the appearance of design and that, consequently, the design argument in biology was dead. As Julian Huxley proclaimed at the Centennial celebration, "Future historians will perhaps take this Centennial Week as epitomizing an important critical period in the history of this Earth when the process of evolution, in the person of inquiring man, began to be truly conscious of itself." - STEPHEN C. MEYER

Zondervan,. Four Views on Creation, Evolution, and Intelligent Design (Counterpoints: Bible and Theology) (pp. 178-185). Zondervan Academic. Kindle Edition.

What Is Intelligent Design?

The Definition of Intelligent Design

Intelligent design refers to a scientific research program as well as a community of scientists, philosophers and other scholars who seek evidence of design in nature. The theory of intelligent design holds that certain features of the universe and of living things are best explained by an intelligent cause, not an undirected process such as natural selection. Through the study and analysis of a system's components, a design theorist is able to determine whether various natural structures are the product of chance, natural law, intelligent design, or some combination thereof. Such research is conducted by observing the types of information produced when intelligent agents act. Scientists then seek to find objects which have those same types of informational properties which we commonly know come from intelligence. Intelligent design has applied these scientific methods to detect design in irreducibly complex biological structures, the complex and specified information content in DNA, the life-sustaining physical architecture of the universe, and the geologically rapid origin of biological diversity in the fossil record during the Cambrian explosion approximately 530 million years ago.
See the New World Encyclopedia entry on intelligent design.

Is Intelligent Design Creationism?

No. The theory of intelligent design is simply an effort to empirically detect whether the "apparent design" in nature acknowledged by virtually all biologists is genuine design (the product of an intelligent cause) or is simply the product of an undirected process such as natural selection acting on random variations. Creationism typically starts with a religious text and tries to see how the findings of science can be reconciled to it.

Intelligent design starts with the empirical evidence of nature and seeks to ascertain what inferences can be drawn from that evidence. Unlike creationism, the scientific theory of intelligent design does not claim that modern biology can identify whether the intelligent cause detected through science is supernatural. Honest critics of intelligent design acknowledge the difference between intelligent design & creationism. University of Wisconsin historian of science Ronald Numbers is critical of intelligent design, yet according to the Associated Press, he "agrees the creationist label is inaccurate when it comes to the ID [intelligent design] movement." *Why, then, do some Darwinists keep trying to conflate intelligent design with creationism? According to Doctor Numbers, it is because they think such claims are "the easiest way to discredit intelligent design." In other words, the charge that intelligent design is "creationism" is a rhetorical strategy on the part of Darwinists who wish to delegitimize design theory without actually addressing the merits of its case.*

Is Intelligent Design a Scientific Theory?

Yes. The scientific method is commonly described as a four-step process involving observations, hypothesis, experiments, and conclusion. Intelligent design begins with the observation that intelligent agents produce complex and specified information **(CSI).** Design theorists hypothesize that if a natural object was designed, it will contain high levels of CSI. They then perform experimental tests upon natural objects to determine if they contain complex and specified information. One easily testable form of CSI is **irreducible complexity**, which can be discovered by experimentally reverse-engineering biological structures to see if they require all of their parts to function. When ID researchers find irreducible complexity in biology, they can only conclude that such structures were designed.

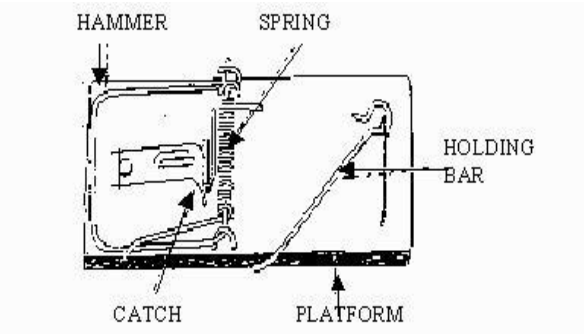
Intelligent Design Postulate: Life's Irreducible Complexity

Irreducible Complexity: The Challenge to the Darwinian Evolutionary Explanations of many Biochemical Structures

> *"If it could be demonstrated that any complex organ existed which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down."*
> --Charles Darwin, Origin of Species

With this statement, Charles Darwin provided a criterion by which his theory of evolution could be falsified. The logic was simple: since evolution is a gradual process in which slight modifications produce advantages for survival, it cannot produce complex structures in a short amount of time. It's a step-by-step process which may gradually build up and modify complex structures, but it cannot produce them suddenly.

Darwin, meet Michael Behe, biochemical researcher and professor at Lehigh University in Pennsylvania. Michale Behe claims to have shown exactly what Darwin claimed would destroy the theory of evolution, through a concept he calls "irreducible complexity." In simple terms, this idea applies to any system of interacting parts in which the removal of any one part destroys the function of the entire system. An irreducibly complex system, then, requires each and every component to be in place before it will function. As a simple example of irreducible complexity, Behe presents the humble mousetrap.



It contains five interdependent parts which allow it to catch mice: the wooden platform, the spring, the hammer (the bar which crushes the mouse against the wooden base), the holding bar, and a catch. Each of these components is absolutely essential for the function of the mousetrap. For instance, if you remove the catch, you cannot set the trap and it will never catch mice, no matter how long they may dance over the contraption. Remove the spring, and the hammer will flop uselessly back and forth-certainly not much of a threat to the little rodents. Of course, removal of the holding bar will ensure that the trap never catches anything because there will again be no way to arm the system.

Now, note what this implies: an irreducibly complex system cannot come about in a gradual manner. One cannot begin with a wooden platform and catch a few mice, then add a spring, catching a few more mice than before, etc. No, all the components must be in place before it functions at all. A step-by-step approach to constructing such a system will result in a useless system until all the components have been added. The system requires all the components to be added at the same time, in the right configuration, before it works at all.

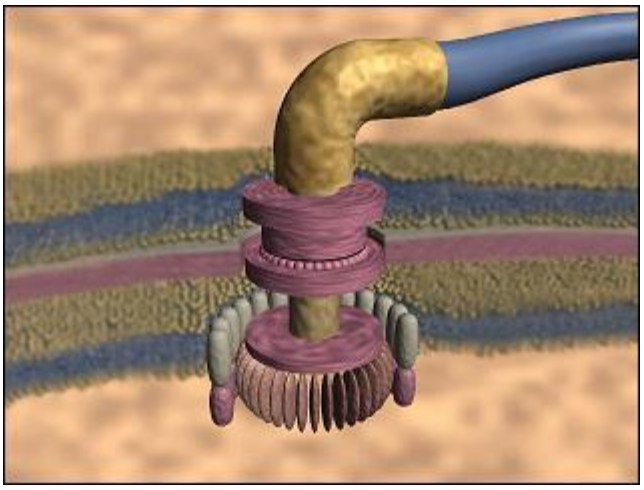
How does irreducible complexity apply to biology? Behe notes that early this century, before biologists really understood the cell, they had a very simplistic model of its inner workings. Without the electron microscopes and other advanced techniques that now allow scientists to peer into the inner workings of the cell, it was assumed that the cells was a fairly simple blob of protoplasm. The living cell was a "black box"-something that could be observed to perform various functions while its inner workings were unknown and mysterious. Therefore, it was easy, and justifiable, to assume that the cell was a simple collection of molecules. But not anymore. Technological advances have provided detailed information about the inner workings of the cell. Michael Denton, in his book Evolution: A Theory in Crisis, states "Although the tiniest bacterial cells are incredibly small, weighing less than 10^-12 grams, each is in effect a veritable microminiaturized factory containing thousands of exquisitely designed pieces of intricate molecular machinery, made up altogether of one hundred thousand million atoms, far more complicated than any machine built by man and absolutely without parallel in the non-living world." In a word, the cell is complicated. Very complicated.

In fact, Michael Behe asserts that the complicated biological structures in a cell exhibit the exact same irreducible complexity that we saw in the mousetrap example. In other words, they are all-or-nothing: either everything is there and it works, or something is missing and it doesn't work. As we saw before, such a system cannot be constructed in a gradual manner-it simply won't work until all the components are present, and Darwinism has no mechanism for adding all the components at once. Remember, Darwin's mechanism is one of gradual mutations leading to improved fitness and survival. A less-than-complete system of this nature simply will not function, and it certainly won't help the organism to survive. Indeed, having a half-formed and hence non-functional system would actually hinder survival and would be selected against. But Behe is not the only scientist to recognize irreducible complexity in nature. In 1986, Michael J. Katz, in his *Templets and the explanation of complex patterns* (Cambridge: Cambridge University Press, 1986) writes:

> "In the natural world, there are many pattern-assembly systems for which there is no simple explanation. There are useful scientific explanations for these complex systems, but the final patterns that they produce are so heterogeneous that they cannot effectively be reduced to smaller or less intricate predecessor components. As I will argue ... these patterns are, in a fundamental sense, irreducibly complex..."

Katz continues that this sort of complexity is found in biology:

> "Cells and organisms are quite complex by all pattern criteria. They are built of heterogeneous elements arranged in heterogeneous configurations, and they do not self-assemble. One cannot stir together the parts of a cell or of an organism and spontaneously assemble a neuron or a walrus: to create a cell or an organisms one needs a preexisting cell or a preexisting organism, with its attendant complex templets. A fundamental characteristic of the biological realm is that organisms are complex patterns, and, for its creation, life requires extensive, and essentially maximal, templets."



The bacterial flagellum is a cellular outboard motor that bears the marks of intelligent design. Taken from http://www.arn.org/docs/mm/motor.htm.

Behe presents several examples of irreducibly complex systems to prove his point, but I'll just focus on one: the cilium. Cilia are hair-like structures, which are used by animals and plants to move fluid over various surfaces (for example, cilia in your respiratory tree sweep mucous towards the throat and thus promote elimination of contaminants) and by single-celled organisms to move through water. Cilia are like "oars" which contain their own mechanism for bending. That mechanism involves tiny rod-like structures called microtubules that are arranged in a ring. Adjacent microtubules are connected to each other by two types of "bridges"-a flexible linker bridge and an arm that can "walk" up the neighboring microtubule. The cilia bends by activating the "walker" arms, and the sliding motion that this tends to generate is converted to a bending motion by the flexible linker bridges.

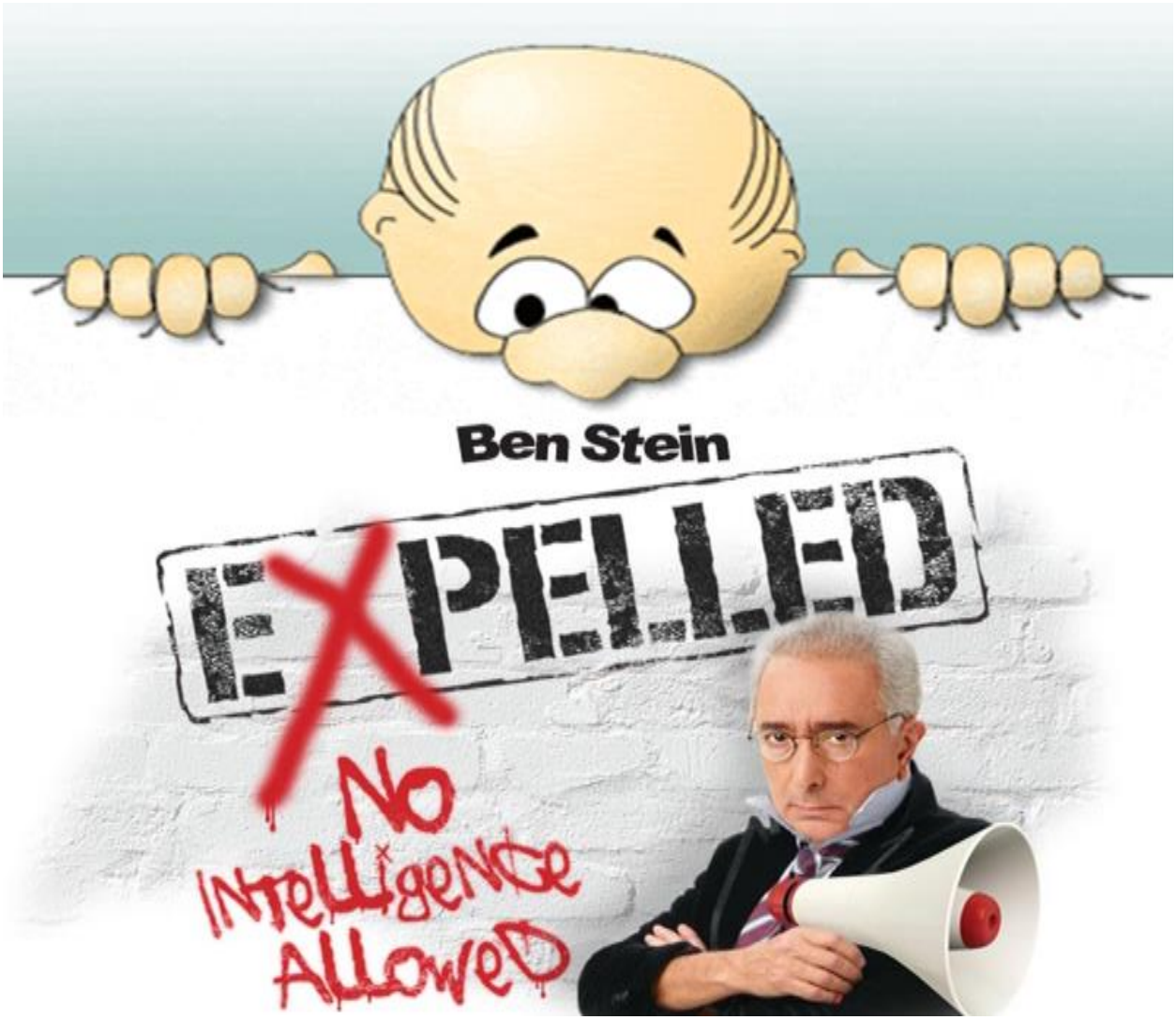
Thus, the cilium has several essential components: stiff microtubules, linker bridges, and the "motors" in the form of walker arms. While my description is greatly simplified (Behe notes that over 200 separate proteins have been identified in this particular system), these 3 components form the basic system, and show what is required for functionality. For without one of these components, the system simply will not function. We can't evolve a cilium by starting with microtubules alone, because the microtubules will be fixed and rigid-not much good for moving around. Adding the flexible linker bridges to the system will not do any good either-there is still no motor and the cilia still will not bend. If we have microtubules and the walker arms (the motors) but no flexible linker arms, the microtubules will keep on sliding past each other till they float away from each other and are lost.

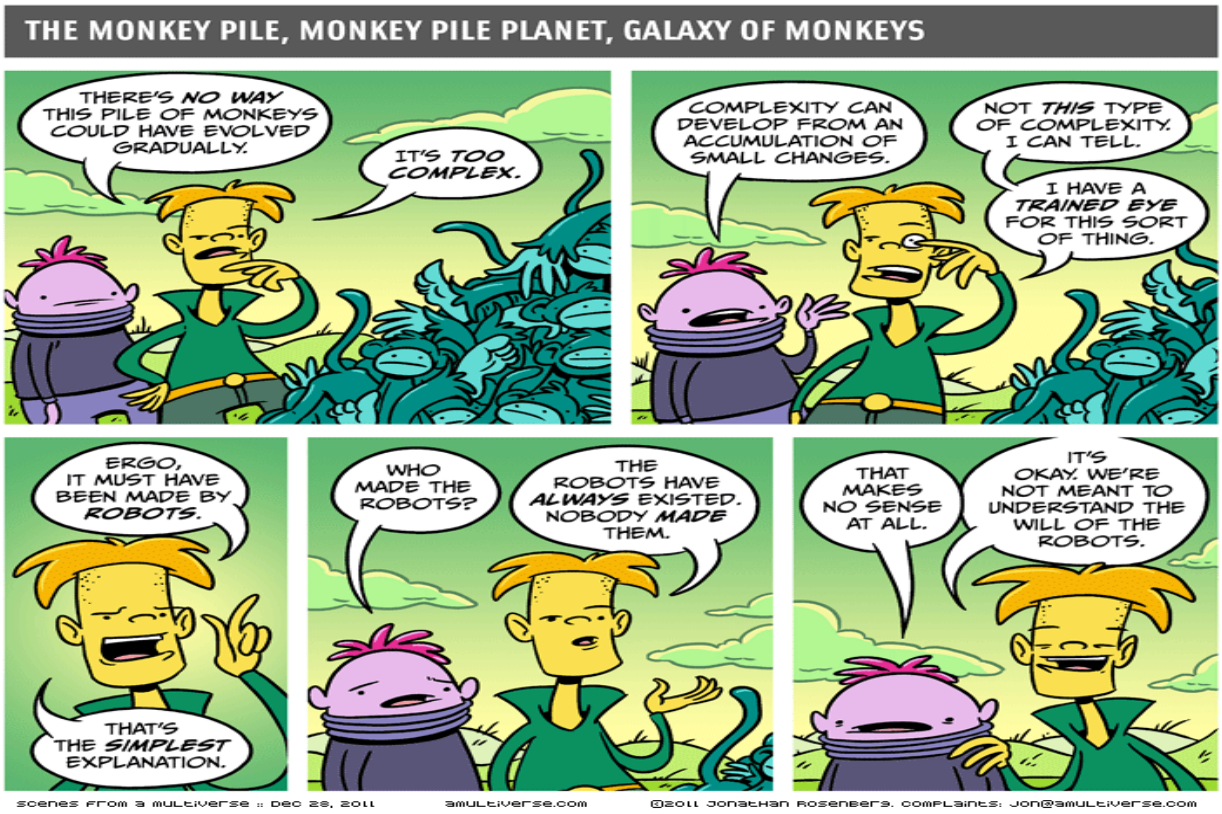
This is only one of many biochemical systems that Behe discusses in his book, Darwin's Black Box. Other examples of irreducible complexity include the light-sensing system in animal eyes, the transport system within the cell, the bacterial flagellum, and the blood clotting system. All consist of a very complex system of interacting parts which cannot be simplified while maintaining functionality.

Since the publication of Darwin's Black Box, Behe has refined the definition of irreducible complexity. In 1996 he wrote that "any precursor to an irreducibly complex system that is missing a part is by definition nonfunctional."(Behe, M, 1996b. Evidence for Intelligent Design from Biochemistry, a speech given at the Discovery Institute's God & Culture Conference, August 10, 1996 Seattle, WA. http://www.arn.org/docs/behe/mb_idfrombiochemistry.htm). By defining irreducible complexity in terms of "nonfunctionality," Behe casts light on the fundamental problem with evolutionary theory: evolution cannot produce something where there would be a non-functional intermediate. Natural selection only preserves or "selects" those structures which are functional. If it is not functional, it cannot be naturally selected. Thus, Behe's latest definition of irreducible complexity is as follows:

> "An irreducibly complex evolutionary pathway is one that contains one or more unselected steps (that is, one or more necessary-but-unselected mutations). The degree of irreducible complexity is the number of unselected steps in the pathway." (A Response to Critics of Darwin's Black Box, by Michael Behe, PCID, Volume 1.1, January February March, 2002; iscid.org/)

Evolution simply cannot produce complex structures in a single generation as would be required for the formation of irreducibly complex systems. To imagine that a chance set of mutations would produce all 200 proteins required for cilia function in a single generation stretches the imagination beyond the breaking point. And yet, producing one or a few of these proteins at a time, in standard Darwinian fashion, would convey no survival advantage because those few proteins would have no function-indeed, they would constitute a waste of energy for the cell to even produce. Darwin recognized this as a potent threat to his theory of evolution-the issue that could completely disprove his idea. So the question must be raised: Has Darwin's theory of evolution "absolutely broken down?" According to Michael Behe, the answer is a resounding "yes."


Ben Stein
EXPELLED
No
Intelligence
Allowed


THE MONKEY PILE, MONKEY PILE PLANET, GALAXY OF MONKEYS
THERE'S NO WAY THIS PILE OF MONKEYS COULD HAVE EVOLVED GRADUALLY.
IT'S TOO COMPLEX.
COMPLEXITY CAN DEVELOP FROM AN ACCUMULATION OF SMALL CHANGES.
NOT THIS TYPE OF COMPLEXITY. I CAN TELL.
I HAVE A TRAINED EYE FOR THIS SORT OF THING.
ERGO, IT MUST HAVE BEEN MADE BY ROBOTS.
THAT'S THE SIMPLEST EXPLANATION.
WHO MADE THE ROBOTS?
THE ROBOTS HAVE ALWAYS EXISTED. NOBODY MADE THEM.
THAT MAKES NO SENSE AT ALL.
IT'S OKAY. WE'RE NOT MEANT TO UNDERSTAND THE WILL OF THE ROBOTS.
SCENES FROM A MULTIVERSE :: DEC 28, 2011
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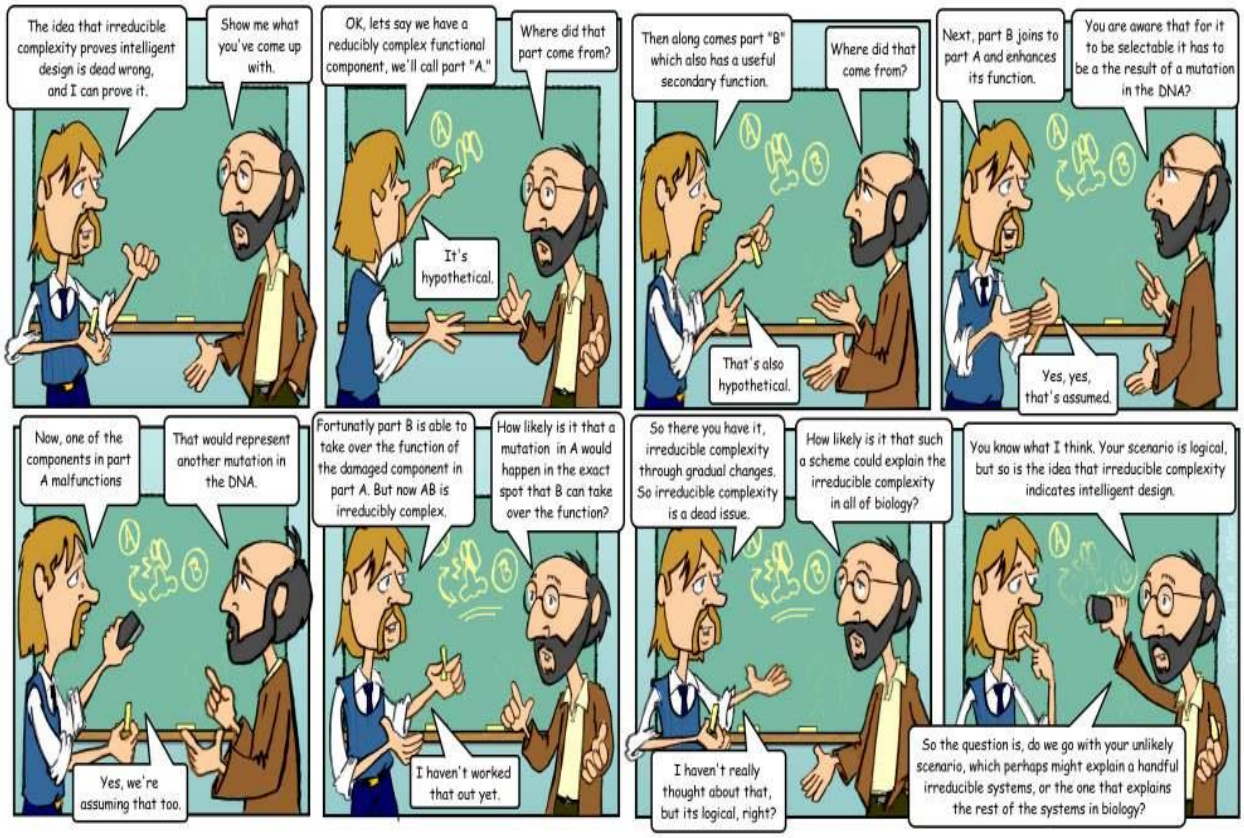

The idea that irreducible complexity proves intelligent design is dead wrong, and I can prove it.
Show me what you've come up with.
OK, lets say we have a reducibly complex functional component, we'll call part "A."
Where did that part come from?
It's hypothetical.
Then along comes part "B" which also has a useful secondary function.
Where did that come from?
That's also hypothetical.
Next, part B joins to part A and enhances its function.
You are aware that for it to be selectable it has to be a the result of a mutation in the DNA?
Yes, yes, that's assumed.
Now, one of the components in part A malfunctions
That would represent another mutation in the DNA.
Yes, we're assuming that too.
Fortunatly part B is able to take over the function of the damaged component in part A. But now AB is irreducibly complex.
How likely is it that a mutation in A would happen in the exact spot that B can take over the function?
I haven't worked that out yet.
So there you have it, irreducible complexity through gradual changes. So irreducible complexity is a dead issue.
How likely is it that such a scheme could explain the irreducible complexity in all of biology?
I haven't really thought about that, but its logical, right?
You know what I think. Your scenario is logical, but so is the idea that irreducible complexity indicates intelligent design.
So the question is, do we go with your unlikely scenario, which perhaps might explain a handful irreducible systems, or the one that explains the rest of the systems in biology?

Argument: ‘Irreducible complexity’

. *Scientific American* states the problem this way:

14. Living things have fantastically intricate features—at the anatomical, cellular and molecular level— that could not function if they were any less complex or sophisticated. The only prudent conclusion is that they are the products of intelligent design, not evolution.

This ‘argument from design’ is the backbone of most recent attacks on evolution, but it is also one of the oldest. In 1802, theologian William Paley wrote that if one finds a pocket watch in a field, the most reasonable conclusion is that someone dropped it, not that natural forces created it there. By analogy, Paley argued, the complex structures of living things must be the handiwork of direct, divine invention. Darwin wrote *On the Origin of Species* as an answer to Paley: he explained how natural forces of selection, acting on inherited features, could gradually shape the evolution of ornate organic structures. [*SA* 83]

Indeed, Gould, who was an expert on the history of evolution, agreed that Darwin was writing to counter Paley. This is another way of saying that he had an anti-theistic agenda,[1] as discussed in chapter 2. This doesn’t stop many churchian academics kowtowing to every pronouncement made by Darwin and his God-hating successors, who in return regard them as contemptuously as Lenin regarded his ‘useful idiot’ allies in the West.[2]

Could the eye have evolved?

It’s interesting to note that the eye, which evolutionists claim is an example of ‘bad design’ leftover from evolution (previous chapter), presents their greatest challenge as an example of superb ‘irreducible complexity’ in God’s creation.

Scientific American says:
Generations of creationists have tried to counter Darwin by citing the example of the eye as a structure that could not have evolved. The eye's ability to provide vision depends on the perfect arrangement of its parts, these critics say. Natural selection could thus never favor the transitional forms needed during the eye's evolution—what good is half an eye? Anticipating this criticism, Darwin suggested that even 'incomplete' eyes might confer benefits (such as helping creatures orient toward light) and thereby survive for further evolutionary refinement. [*SA* 83]

First, this overlooks the incredible complexity of even the simplest light-sensitive spot. Second, it's fallacious to argue that 51 percent vision would necessarily have a strong enough selective advantage over 50 percent to overcome the effects of genetic drift's tendency to eliminate even beneficial mutations.[3]

Biology has vindicated Darwin: researchers have identified primitive eyes and light-sensing organs throughout the animal kingdom and have even tracked the evolutionary history of eyes through comparative genetics. (It now appears that in various families of organisms, eyes have evolved independently.) [*SA* 83]

Scientific American contradicts itself here. If the evolutionary history of eyes has been tracked through comparative genetics, how is it that eyes have supposedly evolved independently? Actually, evolutionists recognize that eyes must have arisen independently at least 30 times because there is no evolutionary pattern to explain the origin of eyes from a common ancestor. What this really means is that since eyes cannot be related by common ancestor, and since they are here, and only materialistic explanations are allowed, hey presto, there's proof that they evolved independently!

Simulation of eye evolution

PBS 1 goes to great lengths to convince us that the eye could easily have evolved. Dan Nilsson explained a simplistic computer simulation he published in a widely publicized paper.[4] Taking his cue from Darwin, who started with a light-sensitive spot when 'explaining' the origin of the eye, Nilsson's simulation starts with a light-sensitive layer, with a transparent coating in front and a light-absorbing layer behind.

Here is how the simulation proceeds. Firstly, the light-sensitive layer bends gradually into a cup, so it can tell the direction of light rays increasingly well. This continues until it is curved into a hemisphere filled with the transparent substance. Secondly, bringing the ends together, closing the aperture, gradually increases the sharpness of the image, as

a pinhole camera does, because a smaller hole cuts out light. But because of the diffraction of light if the hole is too small, there is a limit to this process. So thirdly, the shape and refractive index gradient of the transparent cover change gradually to a finely focusing lens. Even if we were generous and presumed that such computer simulations really have anything to do with the real world of biochemistry, there are more serious problems.

However, the biochemist Michael Behe has shown that even a 'simple' light-sensitive spot requires a dazzling array of biochemicals in the right place and time to function. He states that each of its 'cells makes the complexity of a motorcycle or television set look paltry in comparison' and describes a small part of what's involved:[5]

When light first strikes the retina a photon interacts with a molecule called 11-*cis*-retinal, which rearranges within picoseconds to *trans*-retinal. (A picosecond [10^{-12} sec] is about the time it takes light to travel the breadth of a single human hair.) The change in the shape of the retinal molecule forces a change in the shape of the protein, rhodopsin, to which the retinal is tightly bound. The protein's metamorphosis alters its behavior. Now called metarhodopsin II, the protein sticks to another protein, called transducin. Before bumping into metarhodopsin II, transducin had tightly bound a small molecule called GDP. But when transducin interacts with metarhodopsin II, the GDP falls off, and a molecule called GTP binds to transducin. (GTP is closely related to, but different from, GDP.)

GTP-transducin-metarhodopsin II now binds to a protein called phosphodiesterase, located in the inner membrane of the cell. When attached to metarhodopsin II and its entourage, the phosphodiesterase acquires the chemical ability to 'cut' a molecule called cGMP (a chemical relative of both GDP and GTP). Initially there are a lot of cGMP molecules in the cell, but the phosphodiesterase lowers its concentration, just as a pulled plug lowers the water level in a bathtub.

A transparent layer is also far more difficult to obtain than the researchers think. The best explanation for the cornea's transparency is diffraction theory, which shows that light is not scattered if the refractive index doesn't vary over distances more than half the wavelength of light. This in turn requires a certain very finely organized structure of the corneal fibers, which in turn requires complicated chemical pumps to make sure there is exactly the right water content.[6]

Therefore, these simulations do not start from simple beginnings but presuppose vast complexity even to begin with. Also, in their original paper, the researchers admitted ‘an eye makes little sense on its own,’ because the ability to perceive light is meaningless unless the organism has sophisticated computational machinery to make use of this information. For example, it must have the ability to translate ‘attenuation of photon intensity’ to ‘a shadow of a predator is responsible’ to ‘I must take evasive measures,’ and be able to act on this information for it to have any selective value. Similarly, the first curving, with its slight ability to detect the direction of light, would only work if the creature had the appropriate ‘software’ to interpret this. Perceiving actual images is more complicated still. And having the right hardware & software may not be enough—people who have their sight restored after years of blindness take some time to learn to see properly. It should be noted that much information processing occurs in the retina before the signal reaches the brain.

It is also fallacious to point to a series of more complex eyes in nature, and then argue that this presents an evolutionary sequence. This is like arranging a number of different types of aircraft in order of complexity, then claiming that the simple aircraft evolved into complex ones, as opposed to being designed. For one thing, eyes can’t descend from other eyes *per se*; rather, organisms pass on genes for eyes to their descendants. This is important when considering the nautilus eye, a pinhole camera. This cannot possibly be an ancestor of the vertebrate lens/camera eye, because the nautilus as a whole is not an ancestor of the vertebrates, even according to the evolutionists!

Rotary motors in the bacterial flagellum

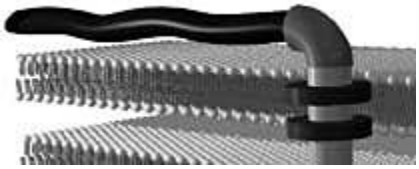
Scientific American cites another difficult example of irreducible complexity—the rotary motors on bacterial flagellum, but it really has no answers.

15. Recent discoveries prove that even at the microscopic level life has a quality of complexity that could not have come about through evolution.

‘Irreducible complexity’ is the battle cry of Michael J. Behe of Lehigh University, author of *Darwin’s Black Box: The Biochemical Challenge to Evolution*. As household example of irreducible complexity, Behe chooses the mousetrap—a machine that could not function if any of its pieces were missing and whose pieces have no value except as parts of the whole.

What is true of the mousetrap, he says, is even truer of the bacterial flagellum, a whiplike cellular organelle used for propulsion that operates like an outboard motor. The proteins that make up a flagellum are uncannily arranged into motor components, a universal joint, and other structures like those that a human engineer might specify. The possibility that this intricate array could have arisen thru evolutionary modification is virtually nil, Behe argues, and that bespeaks intelligent design. [*SA* 84]

Indeed, it does (see diagram below).



Bacterial flagellum with rotary motor, with the following features:

- Self assembly and repair
- Water-cooled rotary engine
- Proton motive force drive system
- Forward and reverse gears
- Operating speeds of up to 100,000 rpm
- Direction reversing capability within 1/4 of a turn
- Hard-wired signal transduction system with short-term memory

[from Bacterial Flagella: *Paradigm for Design,* video, <www.arn.org/arnproducts/videos/v021.htm>]

He makes similar points about the blood's clotting mechanism and other molecular systems.

Yet evolutionary biologists have answers to these objections. First, there exist flagellae with forms simpler than the one that Behe cites, so it is not necessary for all of those components to be present for a flagellum to work. The sophisticated components of this flagellum all have precedents elsewhere in nature, as described by Kenneth R. Miller of Brown University and others. [*SA* 84]

Miller is hardly the epitome of reliability. Behe has also responded to critics such as Miller.[7] In fact, the entire flagellum assembly is extremely similar to an organelle that *Yersinia pestis*, the bubonic plague bacterium, uses to inject toxins into cells. [*SA* 84]

This actually comes from the National Center for Science Education's misuses of the research of Dr Scott Minnich, a geneticist and associate professor of microbiology at the University of Idaho. He is a world-class expert on the flagellum who says that belief in design has given him many research insights. His research shows that the flagellum won't form above 37°C, and instead some secretory organelles form from the same set of genes. But this secretory apparatus, as well as the plague bacterium's drill apparatus, are a *degeneration* from the flagellum, which Minnich says came first although it is more complex.[8]

The key is that the flagellum's component structures, which Behe suggests have no value apart from their role in propulsion, can serve multiple functions that would have helped favor their evolution. [*SA* 84]

Actually, what Behe says he means by irreducible complexity is that the flagellum could not work without about 40 protein components all organized in the right way. *Scientific American*'s argument is like claiming that if the components of an electric motor already exist in an electrical shop, they could assemble by themselves into a working motor. However, the right organization is just as important as the right components.

The final evolution of the flagellum might then have involved only novel recombination of sophisticated parts that initially evolved for other purposes. [*SA* 84]

Minnich points out that only about 10 of the 40 components can be explained by co-option, but the other 30 are brand new. Also, the very process of assembly *in the right sequence* requires other regulatory machines, so is in itself irreducibly complex.[9]

Blood clotting

Scientific American cites another serious problem for evolution—blood clotting.

Similarly, the blood-clotting system seems to involve the modification and elaboration of proteins that were originally used in digestion, according to studies by Russell F. Doolittle of the University of California at San Diego. So some of the complexity that Behe calls proof of intelligent design is not irreducible at all. [*SA* 84]

This is once more bluff by the atheist Doolittle, or at least poor reading comprehension. He cited recent experiments showing that mice could survive with only two of the components of the blood clotting cascade (plasminogen and fibrinogen) eliminated. This supposedly showed that the current cascade was not irreducibly complex but clearly *reducibly* complex. But the experiment *really* showed that the mice lacking both components were better off than one lacking only plasminogen, because the latter suffer from uncleared clots. But the former are hardly as healthy as Doolittle implied, because the only reason they don't suffer from uncleared clots is that they have no functional clotting system at all! A non-functioning clotting system (despite possessing all the many remaining components) is hardly an evolutionary intermediate that natural selection could refine to produce a proper clotting system. Rather, this experiment is evidence against this, because the next step (i.e., from lacking both plasminogen and fibrinogen to fibrinogen only) would be selected *against* because of the uncleared clots.[10]

Complexity of a different kind—'specified complexity'—is the cornerstone of the intelligent-design arguments of William Dembski of Baylor University in his books *The Design Inference* and *No Free Lunch*. Essentially, his argument is that living things are complex in a way that undirected, random processes could never produce. The only logical conclusion, Dembski asserts, in an echo of Paley 200 years ago, is that some superhuman intelligence created and shaped life.

Dembski's argument contains several holes. It is wrong to insinuate that the field of explanations consists only of random processes or designing intelligences. Researchers into nonlinear systems and cellular automata at the Santa Fe Institute and elsewhere have demonstrated that simple, undirected processes can yield extraordinarily complex patterns. Some of the complexity seen in organisms may therefore emerge through natural phenomena that we as yet barely understand. But that is far different from saying that the complexity could not have arisen naturally. [*SA* 84]

Talk about blind faith! But in practice, as Dembski points out, specified complexity in all cases but biology is used as evidence of design, including the search for extraterrestrial intelligence. Since biological complexity is the only exception proposed by evolutionists, it smacks of special pleading.[11]

In addition to the human eye, the flagellum, and blood clotting, there's a host of other examples of irreducible complexity in nature. Earlier I alluded to the dynamic sticking mechanism in the legs of insects. The sticky feet of geckos is another clear example of God's ingenuity.[12] Its structure is described by its evolutionary discoverers as 'beyond the limits of human technology.'[13] Still other examples of design include the lobster eyes with their unique square reflecting geometry that inspired advanced x-ray telescopes and beam producers,[14] the ATP synthase motor.

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6. P.W.V. Gurney, Dawkins's Eye Revisited, *Journal of Creation* **15**(3):92–99, 2001.

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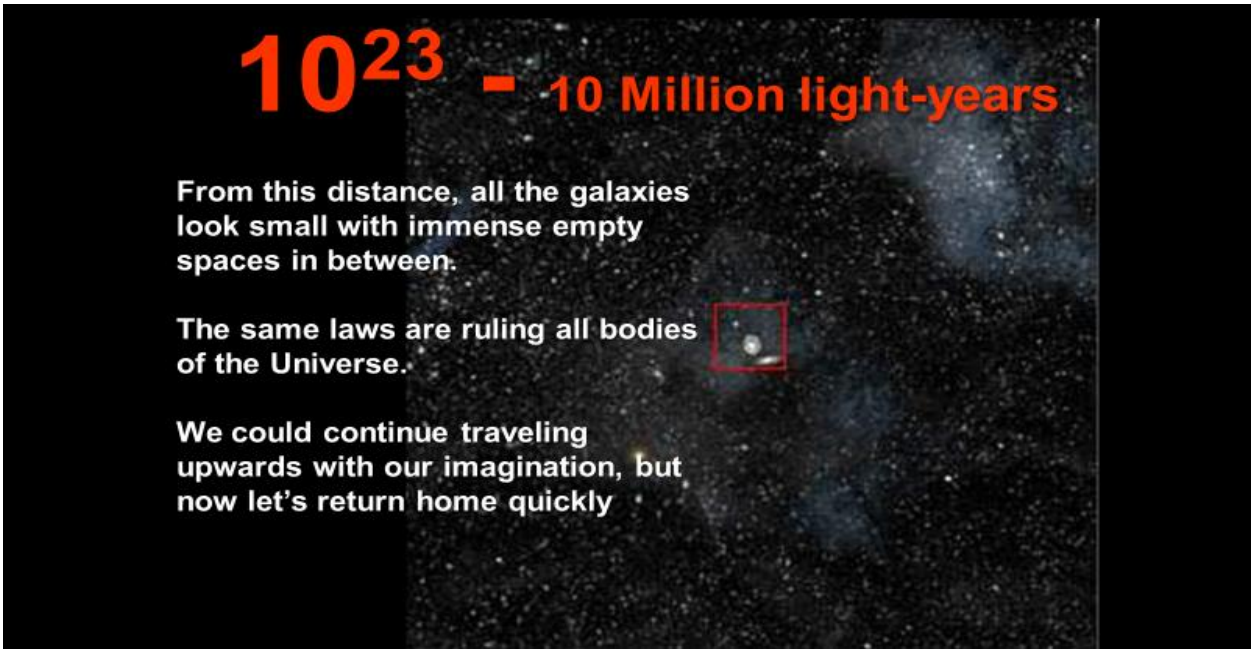
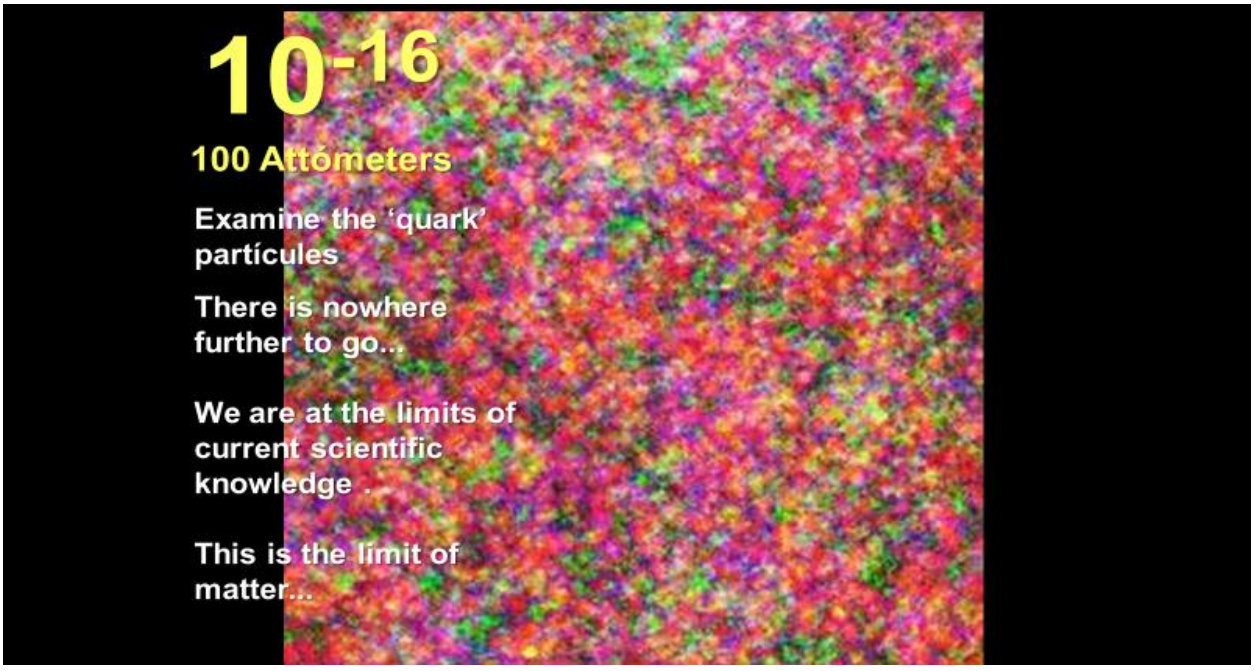
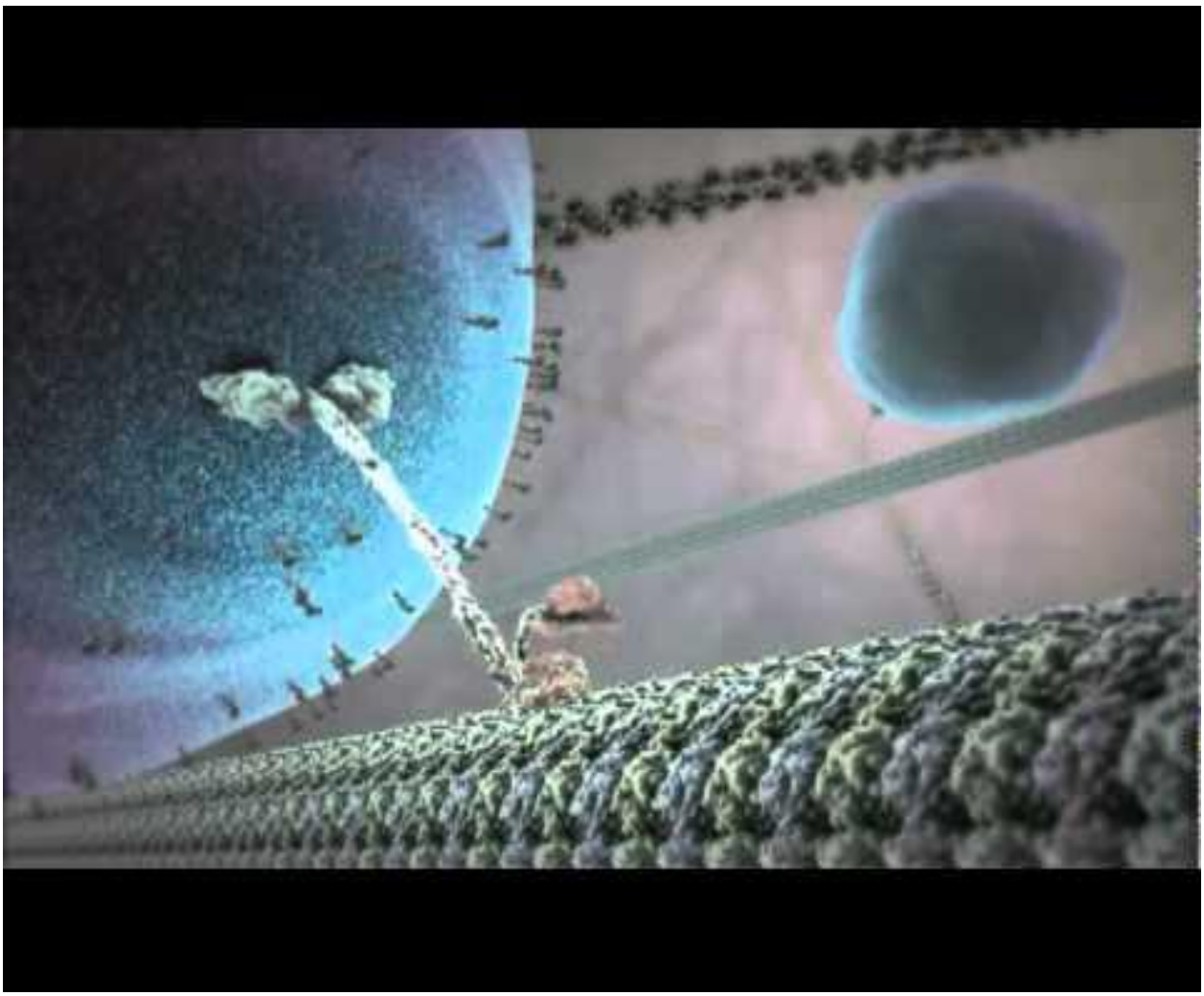
14. J. Sarfati, Lobster eyes—brilliant geometric design, *Creation* **23**(3)12–13 (June–August 2001).

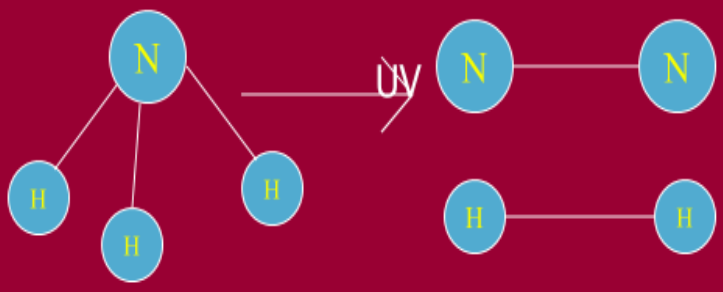
Evidence of Design from Telescope to Microscope:







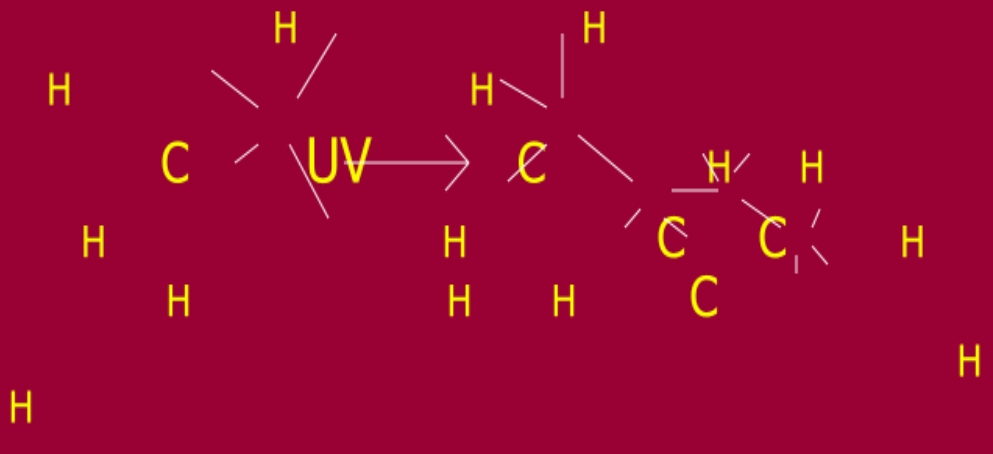
Problems in Chemical Evolution



$2NH_3$
$+ 3H_2$
Ammonia
Nitrogen &

N_2

Problems in Chemical Evolution



CH_4

C_4H_{10}

Problems in Chemical Evolution

- **Break-up of early earth gases**
- Multiple and low level energy sources
- Products broken down before reaching ocean
- Prebiotic soup mixes building blocks together

Problems in Chemical Evolution

Problems in Chemical Evolution

- **Break-up of early earth gases**
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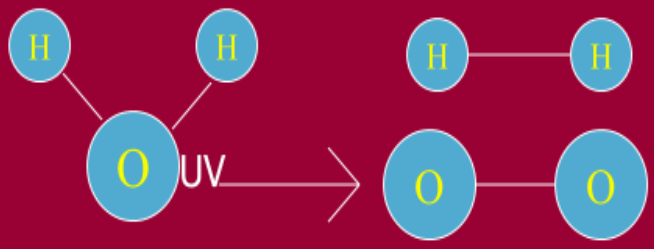
- **Products broken down before reaching ocean**
- **Prebiotic soup mixes building blocks together**
- Presence of oxygen in the atmosphere

Problems in Chemical Evolution



$2H_2O$ $2H_2 + O_2$

Water Hydrogen &

Oxygen

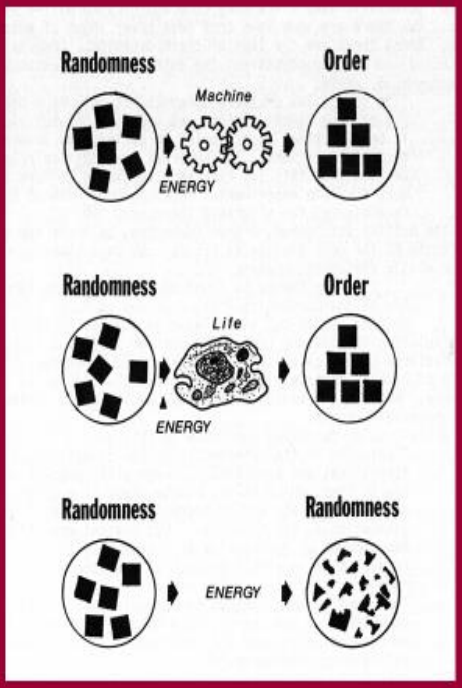
Problems in Chemical Evolution

- Break-up of early earth gases
- Multiple and low level energy sources
- Products broken down before reaching ocean
- Prebiotic soup mixes building blocks together
- Presence of oxygen in the atmosphere
- Reducing atmosphere has been replaced

"Furthermore, no geological evidence indicates an organic soup, even a small organic pond, ever existed on this planet . . . We may therefore with fairness call this scenario, the myth of the prebiotic soup."

Thaxton, Bradley and Olsen

Cells from Soup?



Ordered complexity from randomness?

Cells from Soup?

Suppose all the macromolecules are available in the soup. Can cells still be formed? The usual scenario involves energy from the sun performing the work.

Cells from Soup?

The earth is an open system and the constant input of energy from the sun is supposed to accomplish the organizing work to form the first cell.

Reactions

- "Philosophically, the notion of a beginning is repugnant to me. . . . I should like to find a genuine loophole." "We [must] allow evolution an infinite time to get started." *Sir Arthur Eddington (1882-1944)*
- "It is simpler to postulate creation ex nihilo- divine will constituting nature out of nothingness." *Edmund Whitaker*

Molecular Evidence of Human Origins

by Bert Thompson, Ph.D.
Brad Harrub, Ph.D.

The molecular evidence clearly demonstrates that mitochondrial Eve is **not** the "most-recent common ancestor of all humans on Earth today." The reality is that one of the most critical assumptions behind such a concept has now been disproved. Mitochondrial DNA is not exclusively received from the maternal side—researchers now know that a father's mtDNA can cross into the egg. But what about the second assumption—that mutations occur at constant rates?

BROKEN MOLECULAR CLOCKS

Researchers who made the initial announcement about Eve not only gave a location for this amazing female, but also proposed the time period during which she was supposed to have lived. However, in order for the mtDNA theory to be of any practical use, those scientists had to assume that random mutations in the DNA occurred at documented, steady rates. For example, if they speculated that there was one mutation every 1,000 years, and if they found a difference of 10 mutations between us and our ancient hypothetical ancestor, they then could infer that that ancestor lived 10,000 years ago. Scientists—who use this concept to determine the age of mitochondrial Eve—refer to this proposed mutation rate as a "molecular clock." One group of researchers described the process as follows:

> The hypothesis of the molecular clock of evolution emerged from early observations that the number of amino acid replacements in a given protein appeared to change linearly with time. Indeed, if proteins (and genes) evolve at constant rates, they could serve as molecular clocks for timing evolutionary events and reconstructing the evolutionary history of extant species (Rodriguez-Trelles, et al., 2001, 98:11405, parenthetical item in orig.).

It sounds good in theory, but the actual facts tell an entirely different story. As these same researchers went on to admit:

> The neutrality theory predicts that the rate of neutral molecular evolution is constant over time, and thus that there is a molecular clock for timing evolutionary events. It has been observed that **the variance of the rate of evolution is generally larger than expected** according to the neutrality theory, **which has raised the question of how reliable the molecular clock is or, indeed, whether there is a molecular clock at all**.... The observations are inconsistent with the predictions made by various subsidiary hypotheses proposed to account for the overdispersion of the molecular clock (98:11405, emp. added).

Another study that was published in 2002 pointed out a built-in, natural bias for older ages that result from use of the molecular clock. The researchers who carried out the study noted:

> There is presently a conflict between fossil- and molecular-based evolutionary time scales. Molecular approaches for dating the branches of the tree of life frequently lead to substantially deeper times of divergence than those inferred by paleontologists.... Here we show that molecular time estimates suffer from a methodological handicap, namely that they are asymmetrically bounded random variables, constrained by a nonelastic boundary at the lower end, but not at the higher end of the distribution. **This introduces a bias toward an overestimation of time** since divergence, which becomes greater as the length of the molecular sequence and the rate of evolution decrease....

Despite the booming amount of sequence information, molecular timing of evolutionary events has continued to yield conspicuously deeper dates than indicated by the stratigraphic data. Increasingly, the discrepancies between molecular and paleontological estimates are ascribed to deficiencies of the fossil record, while sequence-based time tables gain credit. **Yet, we have identified a fundamental flaw of molecular dating methods, which leads to dates that are systematically biased towards substantial overestimation of evolutionary times** (Rodriguez-Trelles, et al., 2002, 98:8112,8114, emp. added).

But the problems do not stop with systematic biases towards older ages. Ann Gibbons authored an article for the January 2, 1998 issue of *Science* titled "Calibrating the Mitochondrial Clock," the subheading of which read as follows: "Mitochondrial DNA appears to mutate much faster than expected, prompting new DNA forensics procedures and raising troubling questions about the dating of evolutionary events." In that article, she discussed new data which showed that the mutation rates used to obtain mitochondrial Eve's age no longer could be considered valid.

Evolutionists have assumed that the clock is constant, ticking off mutations every 6,000 to 12,000 years or so. But if the clock ticks faster or at different rates at different times, some of the spectacular results—such as dating our ancestors' first journeys into Europe at about 40,000 years ago—may be in question (279:28).

Gibbons then quoted Neil Howell, a geneticist at the University of Texas Medical Branch in Galveston, who stated: "We've been treating this like a stopwatch, and I'm concerned that it's as precise as a sun dial. I don't mean to be inflammatory, but I'm concerned that we're pushing this system more than we should" (279:28). Gibbons concluded:

Regardless of the cause, evolutionists are most concerned about the effect of a faster mutation rate. For example, researchers have calculated that "mitochondrial Eve"—the woman whose mtDNA was ancestral to that in all living people—lived 10,000 to 200,000 years ago in Africa. **Using the new clock, she would be a mere 6,000 years old** (1998, 279:29, emp. added).

"Mitochondrial Eve" a mere 6,000 years old—instead of 200,000?! Gibbons quickly went on to note, of course, that "no one thinks that's the case" (279:29). She ended her article by discussing the fact that many test results are (to use her exact word) "inconclusive," and went on to lament the fact that "for now, so are some of the evolutionary results gained by using the mtDNA clock" (279:29).

But it gets worse. The "evolutionary results gained by using the mtDNA clock" are not just "inconclusive." They're **wrong**! In the January 2003 edition of the *Annals of Human Genetics*, geneticist Peter Forster of Cambridge authored an article ("To Err is Human") in which he documented that, to use his words, **"more than half of the mtDNA sequencing studies ever published contain obvious errors**." He then asked: "Does it matter? Unfortunately, in many cases it does." Then came the crushing blow for "Mitochondrial Eve": "... **fundamental research papers, such as those claiming a recent African origin for mankind** (Cann, et al., 1987; Vigilant, et al., 1991) ...**have been criticized, and rejected due to the extent of primary data errors**" (67 [1]:2, emp. added). Then, as if to add salt to an already open and bleeding wound, Dr. Forster acknowledged that the errors discovered thus far are "only the tip of the iceberg...," and that "there is no reason to suppose that DNA sequencing errors are restricted to mtDNA" (67[1]:2,3).

Just one month later, *Nature* weighed in with an exposé of its own. In the February 20, 2003 issue, Carina Dennis authored a commentary on Forster's work titled "Error Reports Threaten to Unravel Databases of Mitochondrial DNA." Dennis reiterated the fact that "more than half of all published studies of human mitochondrial DNA (mtDNA) sequences contain mistakes." Then, after admitting that the "published mtDNA sequences are popular tools for investigating the evolution and demography of human populations," she commented:

[T]he problem is far bigger than researchers had imagined. The mistakes may be so extensive that geneticists could be drawing incorrect conclusions to studies of human populations and evolution (2003, 421:773, emp. added).

In her report, Dennis quoted Eric Shoubridge, a geneticist at McGill University's Montreal Neurological Institute in Canada, who investigates human diseases resulting from problems with mtDNA. His response was: "I was surprised by the number of errors. What concerns me most is that these errors could be compounded in the databases" (421:773). In 1981, the complete sequence of human mtDNA—known as the "Cambridge Reference Sequence"—was published in a database format for scientists to use in their research (see Anderson, et al., 1981). It is from that initial database that many of the mtDNA sequences have been taken and used to predict, among other things, the Neolithic origin of Europeans (Simoni, et al., 2000) and the "factuality" of the creature known as "Mitochondrial Eve." Yet Dr. Forster has been busily engaged in making corrections to that 1981 database almost since its inception, and has compiled his own database of corrected mitochondrial sequences.

Eric Shoubridge (quoted above) is not the only one who is "concerned" about Peter Forster's findings. Neil Howell, vice president for research at MitoKor, a San Diego-based biotech company whose speciality is mitochondrial diseases, suggested that Forster's error-detection method "may even **underestimate** the extent of the errors" (as quoted in Dennis, 421:773-774, emp. added).

Until approximately 1997, we did not have good empirical measures of mutation rates in humans. However, that situation greatly improved when geneticists were able to analyze DNA from individuals with well-established family trees going back several generations. One study revealed that mutation rates in mitochondrial DNA were **eighteen times higher than previous estimates** (see Parsons, et al., 1997).

What has been the response of the scientific community? Let Forster answer: "Antagonism would be an understatement in some cases" (as quoted in Dennis, 421:773). He did note, however, that, at times, some of the scientists whose published papers have been found to contain the errors were "forthcoming in resolving discrepancies in sequences." That's nice—since "truth" and "knowledge" are what science is supposedly all about (our English word "science" derives from the Latin *scientia*, meaning knowledge).

We now know that the two key assumptions behind the data used to establish the existence of "mitochondrial Eve" are **not just flawed, but wrong**. The assumption that mitochondrial DNA is passed down only by the mother is completely incorrect (it also can be passed on by the father). And, the mutation rates used to calibrate the so-called "molecular clock" are now known to have been in error. (To use the words of Rodriguez-Trelles and his coworkers, the method contains a "fundamental flaw.") In the end, where does all of this leave "Mitochondrial Eve"? We could not put it any plainer than Dr. Forster did when he said that "fundamental research papers, such as those claiming a recent African origin for mankind have been criticized and rejected due to the extent of primary data errors." Criticized—**and rejected**?!

Philip Awadalla and his coworkers noted in *Science:* "Many inferences about the pattern and tempo of human evolution and mtDNA evolution have been based on the assumption of clonal inheritance. Their inferences will now have to be reconsidered" (1999, 286:2525). Yes, they will. The same year that Awadalla, et al., published their paper on recombination in mitochondrial DNA, Evelyn Strauss published a paper in *Science* ("Can Mitochondrial Clocks Keep Time?")in which she noted:

The DNA sequences pouring in from sequencing projects have fueled the effort and extended the clock approach to many genes in the cell nucleus. But the wash of data has uncovered some troubling facts. **It's now clear that in many cases, the main assumption underlying molecular clocks doesn't hold up**: Clocks tick at different rates in different lineages and at different

> times.... For the clock to work with either sort of DNA [nuclear or mitochondrial—BT/BH], nucleotide changes must tick away steadily so scientists can convert the number of nucleotide differences seen between two organisms into the number of years since they diverged. Different genes evolve at different rates, depending on the selective forces upon them, but the model requires only that each gene's clock maintains its own rate. **Early work hinted that this might not always be true, and now a plethora of data shows that many genes don't conform to this model** (1999, 283:1435,1436, emp. added).

John Avise, an evolutionary geneticist at the University of Georgia in Athens, went so far as to remark: "There's an emerging consensus that there are significant rate heterogeneities across different lineages. How big they are and how to deal with them is very much a matter of concern" (as quoted in Strauss, 283:1435).

Avise observed that the problems with the molecular clock are a "matter of concern." Philip Awadalla suggested that the inferences that have been drawn from those clocks "will now have to be reconsidered." Ann Gibbons reported that "evolutionary results gained by using the mtDNA clock" are "inconclusive." When each of these writers made those statements, they had no idea about the "bomb" that was about to be dropped on the evolutionary community regarding the inaccuracy of huge sections of the reported mitochondrial DNA data. Just as evolutionists thought it could not possibly get any worse—it did!

Poor Eve. How many times, we wonder, will she have to die before she finally can be buried—permanently—and left to "rest in peace"? We suggest that, instead of merely "reconsidering" their theory and attempting to revamp it accordingly, evolutionists need to admit, honestly and forthrightly, that the clock is "broken," and that mitochondrial Eve, as it turns out, has existed only in their minds, not in the facts of the real world. Science works by analyzing the data and forming hypotheses based on those data. Science is not supposed to "massage" the data until they fit a certain preconceived hypothesis. All of the conclusions that have been drawn from research on mitochondrial Eve via the molecular clock must now be discarded as unreliable. But this is just the "tip of the iceberg." The molecular evidence against evolutionary theory does not stop there. Consider the complexity involved in packing all of that genetic information into a cell, and then passing it on. The mechanics underlying genetics is mind-boggling—and yet, it is very real. Read on.

THE SECOND CODE AND "JUNK DNA"

During the 1950s, while James Watson, Francis Crick, Maurice Wilkins, and Rosalind Franklin were racing to see who could be the first in print with the molecular structure of DNA, no one could have imagined the immense molecular complexity that humans had discovered. The race to unravel the genetic code of life was on. Almost exactly fifty years later, on February 16, 2001, a special issue of *Science* was devoted almost entirely to the human genome. In that report, scientists revealed that the genome consisted of 2.91 billion nucleotide base pairs. However, this rough draft had been accomplished using a "shotgun" approach to the entire genome, and as such, there were numerous gaps left to fill. On April 14, 2003, the International Human Genome Consortium announced the successful completion of the Human Genome Project—more than two years ahead of schedule. The press report read: "**The human genome is complete and the Human Genome Project is over**" (see "Human Genome Report...," 2003, emp. added). But the puzzle is nowhere close to being solved.

Having now completed the human genome, it appears there may be a second—more complex—code left to unravel. As Elizabeth Pennisi observed:

> All this work is making clear that buried in DNA sequence is a regulatory code akin to the genetic code "but infinitely more complicated," says Michael Eisen, a computational biologist at Lawrence Berkeley National Laboratory in California.... Manolis Dermitzakis of the Wellcome Trust Sanger Institute in Cambridge, U.K., agrees: "**The complexity of the genome is much**

higher than we have defined for the past 20 years. We have to change our way of thinking" (2004, 304:632, emp. added).

So now we discover that there is a code buried within the code. In fact, as Michael Eisen admitted, this second code is "infinitely more complicated." And yet, we are expected to believe that this massive network of complexity simply arose as the result of some cosmological/biological accident? Pennisi lamented:

> Molecular biologists may have sequenced the human genome, but it's going to take molecular cryptographers to crack its complex code. Genes, keystones to the development and functioning of all organisms, can't by themselves explain what makes cows cows and corn corn. The same genes have turned up in organisms as different as, say, mice and jellyfish. Instead, new findings from a variety of researchers have made clear that it's the genome's exquisite control of each gene's activity—and not the genes per se—that matters most (p. 632).

The genetics sequence is vital. But what is becoming more evident all the time is that the way in which genes are regulated is even a more critical factor. For instance, Savante Pääbo and his colleagues noted in the April 12, 2002 issue of *Science* that certain genes are far more active in the human brain than in the chimp brain (see Enard, et al., 2002). And as if that were not complicated enough, researchers now have discovered that regulatory DNA also is playing a key role in transcription.

Add to this the fact that we know today that there are sections of DNA within a gene that do not code for any part of the protein, but rather are purposefully "spliced out," and one begins to realize the sophistication involved in this second code. **Introns** are sections of DNA that evolutionists frequently refer to as "junk DNA" because those sections do not appear to serve any known role in creating proteins. When mRNA copies DNA, these introns are cut out before a newly synthesized RNA strand leaves the nucleus (what remains is referred to as **exons**). The question should be asked: How did this specific mechanism to splice out very specific portions occur, and why did it "evolve" in the first place? Why would nature select to have "junk DNA" present in the genome? The reality is that this complex information system was designed by an omnipotent Designer—and it is obvious from the fact that it is referred to as "junk" DNA that some scientists have yet to grasp the full import of God's handiwork.

In order to better understand how this second code affects an individual, we need to examine what is taking place inside the cell. Consider the following description of just a few of the mechanics involved in creating a particular protein that is needed within the cell. [We realize that this material may be a bit complicated—but that is exactly the point. How could such a complex information system arrive by random chance? Also, bear in mind that this discussion will not address how an organism allegedly evolved the ability to detect a need for a particular protein, how DNA or RNA evolved, how DNA and RNA "know" one protein from another, or how different types of cells could have evolved. We simply want to point out the intricacy involved in creating just a single protein.]

A double-helix molecule of DNA is composed of two polynucleotide chains wound around each other. Three-dimensionally, the helix twists in the right-handed direction (think of two strands of rope twisted around each other in the clockwise direction). This tightly bound structure is located within the nucleus of a cell where the genetic information needed for the protein is housed.

The first "step" is commonly called **transcription**—where the genetic material from DNA is synthesized into RNA. When our bodies want to make new proteins, the location of DNA that contains that information must be unwound and "read" by a molecular enzyme known as RNA polymerase. We know today that dozens of molecules (mostly proteins) are required to carry out this carefully choreographed event. RNA polymerase is an enzyme that "reads" DNA and

synthesizes a complementary strand of RNA using nucleotides that must match up with the base pairs on the DNA. Keep in mind that all of this is occurring within the nucleus of a cell, and the RNA polymerase must "travel" down the DNA strand in the correct direction to make the needed protein.

Remember, too, that RNA polymerase is a three-dimensional molecular machine composed of a dozen different small proteins. So before a protein can be built, RNA polymerase must be present in the correct three-dimensional configuration. A microscopic investigation into the structure of RNA polymerase reveals a pair of jaws that appears to grip the DNA, a clamp that holds the molecular strand in place, a three-dimensional pore through which RNA nucleotides probably enter, and tiny grooves through which the newly synthesized RNA strand may thread out of the enzyme. You may recall being told in various biology classes about the different "types" of RNA, each of which has a different job. For instance:

- MRNA —Messenger RNA: Encodes the amino acid sequence of a polypeptide.
- TRNA—Transfer RNA: Brings the amino acids to ribosomes during translation.
- RRNA—Ribosomal RNA: With ribosomal proteins, makes up the ribosomes (organelles that translate mRNA).
- SnRNA—Small nuclear RNA: With proteins, forms complexes that are used in RNA processing in eukaryotes (not found in prokaryotes).

The next step cannot occur until the introns (a.k.a. "junk DNA") have been spliced out, so that step must take place within the nucleus. Transcription occurs in the nucleus to produce a "pre-mRNA" molecule. The pre-mRNA is typically processed to produce the mature mRNA. Part of the job of the pre-mRNA is to remove the introns from the nucleotide sequence and splice the exons into a translatable mRNA, which then can exit the nucleus.

The second major step in protein synthesis is one in which the information encoded in mRNA is deciphered (or **translated**) into sequences of amino acids. This process occurs in a cellular organelle known as a ribosome. In cells without a nucleus, transcription and translation occur simultaneously; that is, translation begins while the mRNA is still being synthesized. In cells that possess a nucleus (like the majority with which we are familiar), transcription occurs in the nucleus, and translation takes place in the cytoplasm. Thus, this complex system had to "devise" a method to get the newly synthesized RNA strand through the bilipid membrane of the nucleus, out into the cytoplasm, and onto a ribosome. [Believe it or not, this is a "condensed summary" of the transcription phase.]

Recall that the building blocks of DNA are bases (designated as A, C, G, T) that are "read" in groups of three. Each "three-letter" group codes for a specific amino acid (e.g., ACG codes for threonine, while TAC codes for tyrosine). The newly synthesized piece of genetic material makes its way to a ribosome where it then is "read," and amino acids are joined together to form the protein. Once the DNA code has been read, the appropriate amino acids then are brought in one at a time and joined together by peptide bonds to make a protein. Raven and Johnson summed up the translation phase in the following manner:

> Protein synthesis is carried out on the ribosomes, which bind to sites at one end of the mRNA and then move down the mRNA in increments of three nucleotides. At each step of the ribosome's progress, it exposes a three-base sequence to binding by a tRNA molecule with the complimentary nucleotide sequence. Ultimately, the amino acid carried by that particular tRNA molecule is added to the end of the growing polypeptide chain (1989, p. 307).

[Again, that was another "condensed summary." We do not have the space here to discuss the fact that once the protein has been formed, it then must fold itself into the correct three-dimensional shape. Consider for just a moment that in the time it took you to read the condensed version of this complex process, numerous proteins were being formed in many of the cells throughout your body.]

IRREDUCIBLE COMPLEXITY

Charles Darwin understood that evolutionary theory rested on one key point—that all parts of a system must be the products of slight, successive changes that work together. He wrote, in fact: "If it could be demonstrated that any complex organ existed, which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down" (1859, p. 219). More than a century later, Richard Dawkins would contend:

> One hundred and twenty five years on, we know a lot more about animals and plants than Darwin did, and still not a single case is known to me of a complex organ that could not have been formed by numerous successive slight modifications. I do not believe that such a case will ever be found. If it is...I shall cease to believe in evolution (1986, p. 91).

Ten years after Dawkins penned those words, a powerful challenge arose for Darwinian evolution—one that demonstrates examples of the criterion that Darwin suggested would "absolutely break down" evolutionary theory. The answer lies in "irreducible complexity." In his book, *Darwin's Black Box*, Lehigh University biochemist Michael Behe pointed out:

> What type of biological system could not be formed by "numerous, successive, slight modifications"? Well, for starters, a system that is irreducibly complex. By irreducibly complex, I mean a single system composed of several well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to effectively cease functioning. An irreducibly complex system cannot be produced directly (that is, by continuously improving the initial function, which continues to work by the same mechanism) by slight, successive modifications of a precursor system, because any precursor to an irreducibly complex system that is missing a part is by definition nonfunctional (1996, p. 39).

Within the pages of his book, Dr. Behe pointed out several prominent examples of systems that cannot be explained by successive incremental changes. He examined in detail the intricate complexity of a cell's cilium, and that of the bacterial flagellum. In detailing the sophistication of these molecular motors, he noted:

> The rotary nature of the bacterial flagellar motor was a startling, unexpected discovery. Unlike other systems that generate mechanical motion (muscles, for example) the bacterial motor does not directly use energy that is stored in a "carrier" molecule such as ATP. Rather, to move the flagellum it uses the energy generated by a flow of acid through the bacterial membrane.... The bacterial flagellum, in addition to proteins already discussed, requires about forty other proteins for function (1996, pp. 70, 71, parenthetical item in orig.).

He then went on to observe:

> In summary, 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 (p. 73).

Naturalistic evolution cannot offer an adequate explanation for the origin of all of the microscopic parts to these complex systems. As William Dembski remarked in his classic book, *Intelligent Design*:

> The irreducible complexity of such biochemical systems counts powerfully against the Darwinian mechanism, and indeed against any naturalistic evolutionary mechanism proposed to date. Moreover, because irreducible complexity occurs at the biochemical level, there is no more fundamental level of biological analysis to which the irreducible complexity of biochemical

> systems can be referred, and at which a Darwinian analysis in terms of selection and mutation can still hope for success (1999, p. 149).

An unbiased observation demonstrates that the molecular components of the dynein ATPase motors in cilia and flagella can be "reduced" to the simplest level, and yet without each one of the functional parts, the "organ" will not work.

Italo Calvino's book, *Invisible Cities*, presents a dialogue between Marco Polo and Kublai Khan.

> Marco Polo describes a bridge stone by stone.
>
> "But which is the stone that supports the arch?" Kublai Khan asks.
>
> "This bridge is not supported by one stone or another," Marco Polo answers, "but by the line of the arch that they form."
>
> Kublai Khan remains silent, reflecting. Then he adds, "Why do you speak to me of the stones? It is only the arch that matters to me."
>
> Polo answers, "Without stones there is no arch" (1974).

And that is exactly the point. These complex systems require many simple pieces, but none of them is beneficial on its own; making the flagellum work requires **all** of the pieces. As evolutionist Michael Denton remarked:

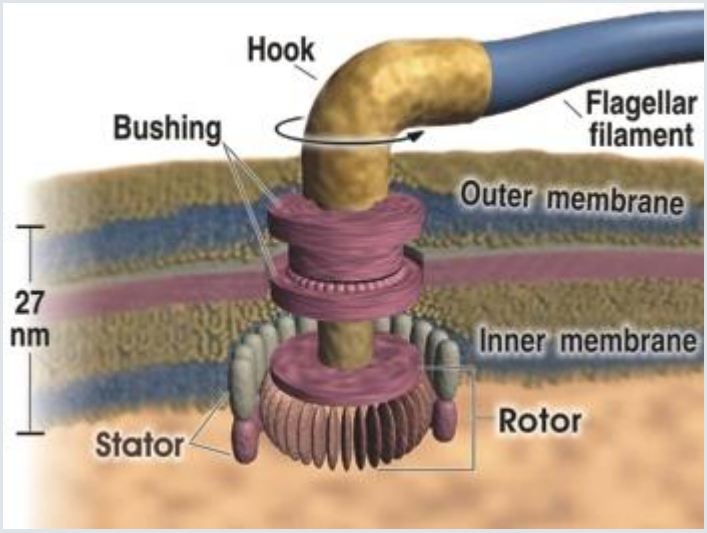
> The bacterial flagellum and the rotary motor which drives it are not led up to gradually through a series of intermediate structures and, as is so often the case, it is hard to envisage a hypothetical evolutionary sequence of similar rotors through which it might have evolved gradually (1985, p. 225).

Darwin's criterion for failure has been met in molecular machines and irreducible complexity. The question, then, that must be asked is this: will Richard Dawkins "cease to believe in evolution?"

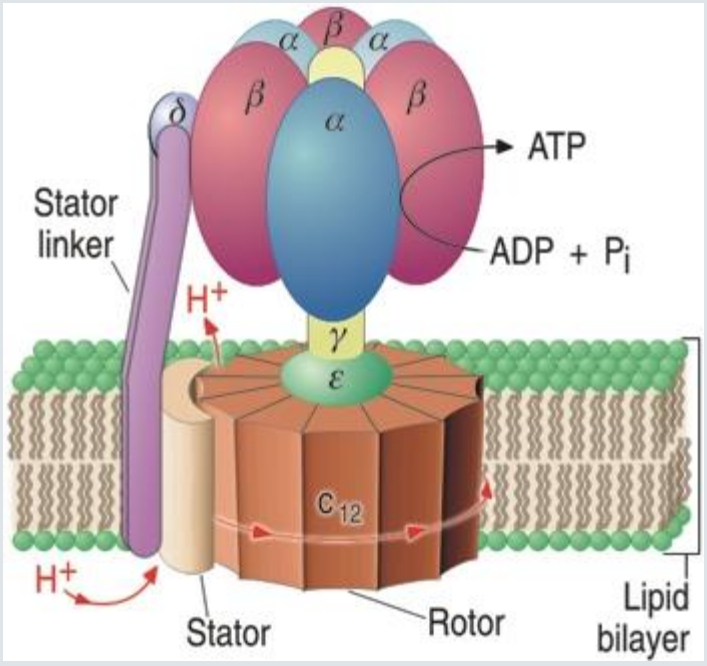
MOLECULAR MOTORS

Evolutionists routinely contend that early life was simple, and subsequently has evolved into more complex forms. German evolutionist Ernst Haeckel, who faked embryological drawings in support of Darwinian theory, purported that a cell was a "simple little lump of albuminous combination of carbon" (as quoted in Farley, 1979, p. 73.). As Michael Behe put it, Haeckel believed that the interior of the cell was "not much different from a piece of microscopic Jell-O" (1996, p. 24). But today we know differently. We no longer think "Jell-O"; rather, we think of the famous (or infamous!) Interstate highway 405 around Los Angeles as a more accurate description. As Behe commented:

Shortly after 1950, science advanced to the point where it could determine the shapes and properties of a few of the molecules that make up living organisms. Slowly, painstakingly, the structures of more and more biological molecules were elucidated, and the way they work inferred from countless experiments. The cumulative results show with piercing clarity that life is based on **machines**—machines made of molecules! Molecular machines haul cargo from one place in the cell to another along "highways" made of other molecules, while still others act as cables, ropes, and pulleys to hold the cell in shape (1996, p. 4, emp. in orig.).



Top: Bacterial flagellum with rotary motor, courtesy of Access Research Network (Art Battson)
Bottom: ATP synthase motor; image by Charles McCown



Consider the validity of evolutionary theory **now**, since **five families** of these structurally complex motors have been identified! The February 21, 2003 issue of *Cell* included a review by Ronald Vale titled "The Molecular Motor Toolbox" (112:467-480). In the abstract that accompanied his article, Dr. Vale noted: "Recent genomic and functional studies suggest that five cargo-carrying motors emerged in primitive eukaryotes and have been widely used throughout evolution" (p. 467). He then described these "evolved" motors as follows:

A cell, like a metropolitan city, must organize its bustling community of macromolecules. Setting meeting points and establishing the timing of transactions are of fundamental importance for cell behavior. The high degree of spatial/temporal organization of molecules and organelles within cells is made possible by protein machines that transport components to various destinations within the cytoplasm (p. 467).

Vale then went into extreme detail, reviewing everything we know about these five major motor-engine families that ferry cargo around the cell: actin, dynein, conventional homodimeric kinesin, heterotrimeric kinesin II, and Unc 104/KIF1. But throughout his review, one point became painfully clear: there still is a great deal of information that we do not yet understand about these amazingly complex motors. As Vale himself admitted:

Fifteen years ago, only a few molecular motors were known. In contrast, complete inventories of molecular motors are now available in a number of diverse organisms. While these remarkable accomplishments have answered many questions, the genomic inventories also have exposed many areas of ignorance (p. 477).

Dr. Behe's book brilliantly exposed the complexity of these structures, and as a result, numerous scientists are echoing his initial observations. A United Kingdom research team headed by Stan Burgess imaged thousands of the tiny molecules that work something like railroad handcars (Burgess, et al., 2003, 421:715). These dynein motors have a ring-shaped, hexagonal head of six AAA proteins, to which is added a C-terminal domain of the protein. Emerging out of one side, and in the same plane as the ring, is what researchers refer to as a "stalk," which has a structure on the end that attaches to microtubules in the cell. These microtubules are like train tracks running throughout the cell. Emerging out of the other end is a stem that attaches to whatever cargo needs to be transported. The stem is fastened to the ring by a linker, which seems to act like a ratchet on a gear during the cycle. In the same issue of *Nature* in which the Burgess study was published, Richard Vallee and Peter Hook provided a review of the study titled "A Magnificent Machine." They noted: "The protein displays a degree of gymnastic ability that is rarely seen" (2003, 421:701).

Words like "remarkable," "magnificent," and "intricately complex" fill the literature as scientists struggle to figure out exactly how these miniature motors can run so efficiently and effectively. In an interview, Joshua Shaevitz, co-author of a study published in the *Proceedings of the National Academy of Sciences,* commented: "This is one of the most efficient engines anyone has ever seen.... Some estimates put it at near 100 percent efficiency. It's an amazing little thing" (as quoted in Swartz, 2003). In an article titled "Acid Stops Bacteria Swimming," Kendall Powell noted:

> "This is a motor with quite remarkable properties," says Robert Macnab of Yale University in New Haven, Connecticut, who studies the assembly of bacterial motors. "It runs like a battery, moves like a ship's propeller, has a gear switch so it can rotate in either direction, and it's under the control of information from environment. These are biological functions at their most simplified form, and yet there are 60 different types of components in this little engine" (2003).

This is hardly the description of a "simple biological function"! While evolutionists may continue to fondly embrace blind chance, a number of serious questions still remain. What, exactly, keeps all of these engines from colliding on the tracks? What (Who?) is responsible for the switching of the tracks? How do these motors "know" specifically what cargo to carry? And perhaps most important of all, how did they get here in the first place? Add to this the fact that most "primitive" life forms such as Archaea and eubacteria possess these same molecular machines, and the pressure **really** begins to mount rapidly for evolutionists.

Evolutionist Richard Dawkins stated in the preface to his book, *The Blind Watchmaker*: "The complexity of living organisms is matched by the elegant efficiency of their apparent design. If anyone doesn't agree that this amount of complex design cries out for an explanation, I give up!" (1986, p. ix). We agree. And this is the same Richard Dawkins who admitted:

> The more statistically improbable a thing is, the less we can believe that it just happened by blind chance. **Superficially the obvious alternative to chance is an intelligent Designer** (1982, 94:130, emp. added).

We, on the other hand, suggest that it is not "superficial" to acknowledge that where there is obvious design, there is, just as obviously, a designer. In fact, for once, we actually find ourselves in agreement with our unbelieving colleagues in science. As atheistic physicist Paul Ricci wrote in *Fundamentals of Critical Thinking*: " 'Everything designed has a designer' is an analytically true statement" (1986, p. 190). Indeed it is. Where there is design, there must, by definition, be a designer. The time has come for evolutionists to stop "marveling" at these "remarkable," "magnificent," and "intricately complex" finely tuned motors, and, instead, to acknowledge the "remarkable," "magnificent," and "intricately complex" design behind them.

CONCLUSION

One of the best arguments against evolution is the complexity, intricacy, ingenuity, beauty, and design of the molecules in living systems.

Michael Denton affirmed:

> Molecular biology has shown that even the simplest of all living systems on earth today, bacterial cells, are exceedingly complex objects. Although the tiniest bacterial cells are incredibly small, weighing less than 10^{-12}gms, each is in effect a veritable microminiaturized factory containing thousands of exquisitely designed pieces of intricate molecular machinery, made up altogether of one hundred thousand million atoms, far more complicated than any machine built in the non-living world (1985, p. 250).

How can blind chance account for the information stored in the molecular structure of DNA? And how can "slight modifications" account for the complex highway of molecular motors? The reality is, they cannot. Centuries ago, Greek philosopher Democritus stated that everything that exists in the Universe is the end result of chance and necessity. Today, even with all of our advanced knowledge of the molecular world around us, many people remain dedicated to such an idea. As G.K. Chesterton once remarked: "When men stop believing in God, they do not believe in **nothing**; they believe in **anything**.

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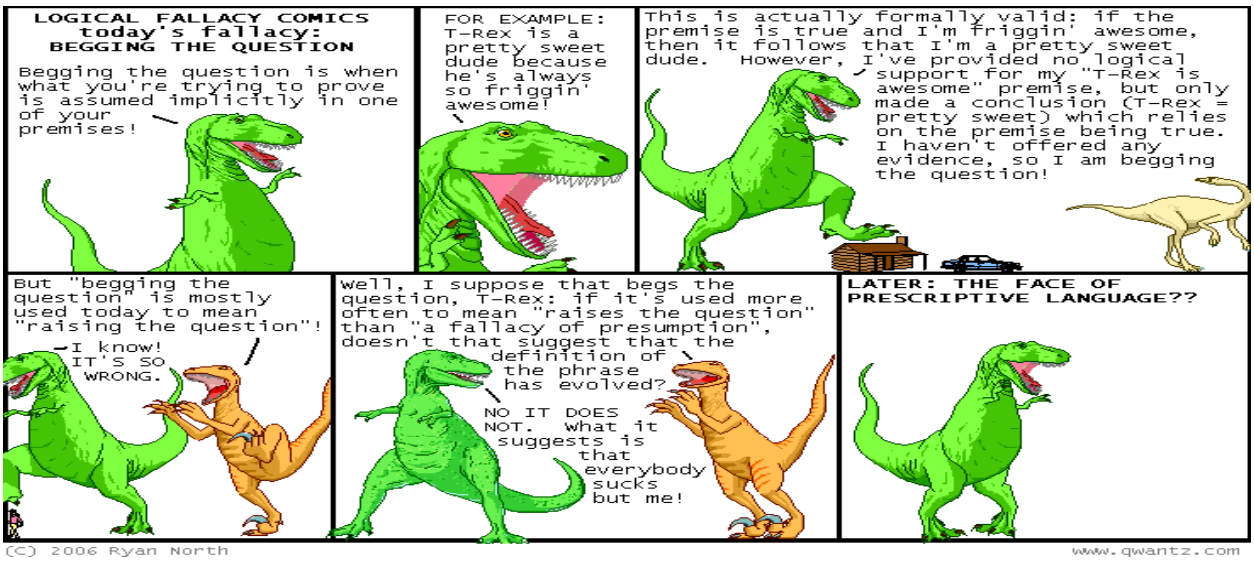


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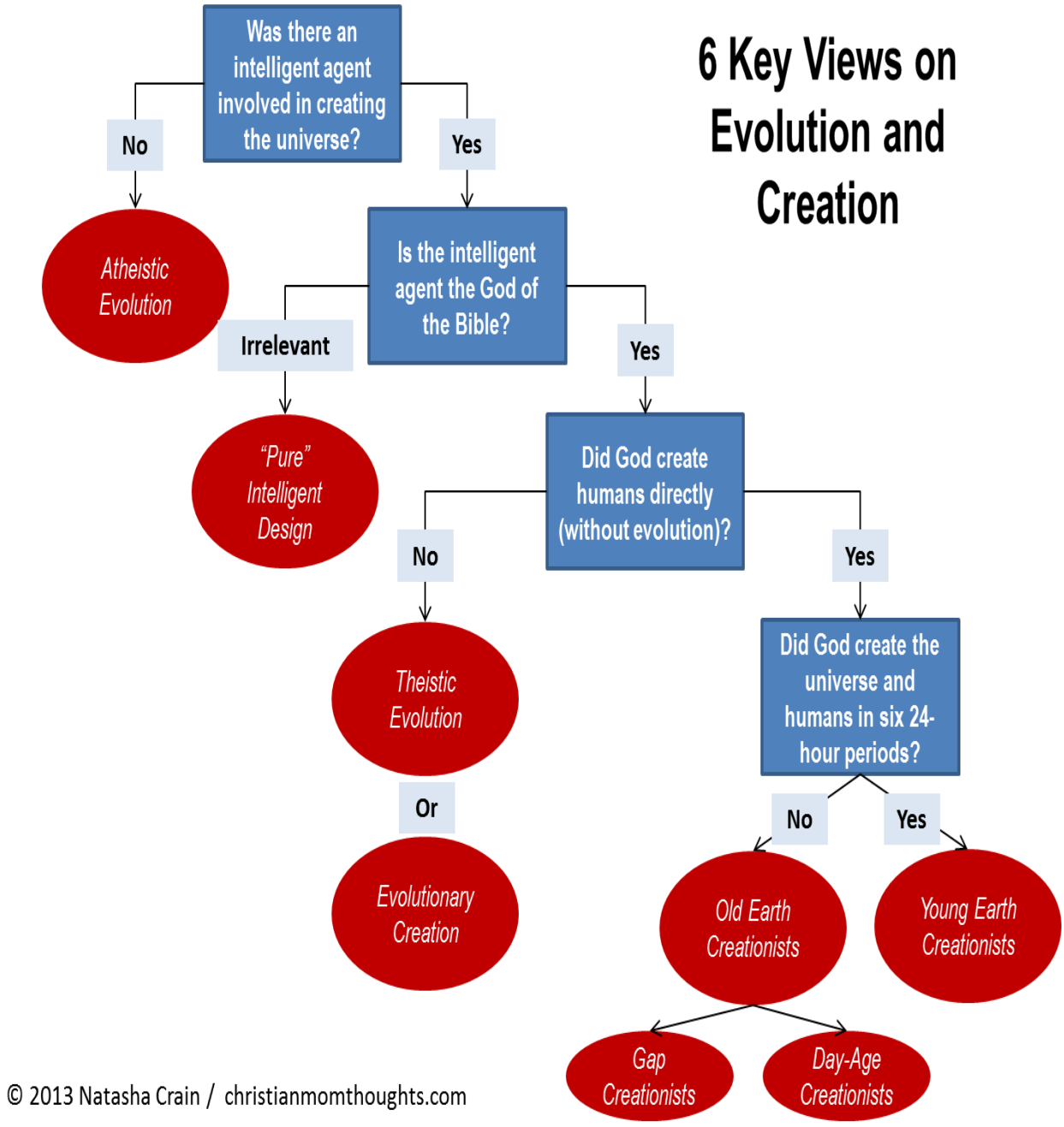
6 Key Views on Evolution and Creation
Was there an intelligent agent involved in creating the universe?
No
Yes
Atheistic Evolution
Is the intelligent agent the God of the Bible?
Irrelevant
Yes
"Pure" Intelligent Design
Did God create humans directly (without evolution)?
No
Yes
Theistic Evolution
Or
Evolutionary Creation
Did God create the universe and humans in six 24-hour periods?
No
Yes
Old Earth Creationists
Young Earth Creationists
Gap Creationists
Day-Age Creationists
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Five Views: Human Creation

#1 – IDENTITY ACCOUNTS

#2 – LITERARY FRAMEWORK

#3 – EVOLUTIONARY CREATIONISM

#4 – ANALOGICAL DAYS

#5 – SIX DAY CREATION

CENTRAL ISSUES IN THE CREATION-EVOLUTION DIALOGUE

The central issues in the creation-evolution dialogue are philosophical, biblical-theological, and scientific, which we will now survey in the following pages.

1. Philosophical Issues

Perhaps the main philosophical issue in the creation-evolution dialogue involves the relationship between science and theology, especially the debate between advocates of what have come to be called theistic science and methodological naturalism. There has been some controversy as to which field is the proper place to turn in order to seek professional expertise in resolving this debate. Nor is the question of professional expertise merely an academic matter of turf protection, because presently scientists and science educators are the key gatekeepers for the public schools in this area. That a controversy exists can be seen from the following statement by J. W. Haas, Jr., editor of the influential *Perspectives on Science and Christian Faith:* "The place of the philosopher in the practice of science has long been controversial. Whether philosophers should (can?) be the arbiters of what constitutes science remains problematic for the working scientist." Along similar lines, scientist Karl Giberson rejects "the traditional viewpoint that practicing scientists find so annoying, namely that philosophers are the relevant, competent and final authorities to determine the rules of science."

Actually, the issue here is not controversial at all, since the central topics do not involve how to *practice* science (which requires familiarity with instrumentation, procedures, etc.), but how to *define* science and *distinguish* it from nonscience or pseudoscience. To understand this debate and the proper field of study for resolving it, we must first make a distinction between a first-and second-order issue. A first-order issue is a topic of science about some phenomenon, for example, how to predict earthquakes or manipulate chemical reaction rates. A second-order issue is a topic of philosophy about science itself, for example, its methods, its nature, its differences from other fields. Now the question of how to define science is clearly a topic for philosophers and historians of science. This is not to say that scientists and others cannot be a part of this discussion; it is merely to affirm that when they participate, they will be largely dealing with philosophical issues for which they are not professionally trained.

The fact that these issues are philosophical and not primarily scientific can be seen in the following. Read the relevant debates and discussions and ask what scientific experiment, what scientific procedure one would use to resolve the dispute. Or get any college catalog and look at the course descriptions in different branches of science. You will discover that hardly any undergraduate or graduate program in any branch of science discusses the relevant topics except perhaps during the first week of freshman chemistry. By contrast, entire graduate study programs in the history or philosophy of science are devoted to definitions of science and to drawing lines of demarcation between science and other fields.

What exactly is the debate about the legitimacy of theistic science? Advocates of theistic science hold to these beliefs:

1. God, conceived of as a personal, transcendent agent of great power and intelligence, has through direct, immediate, primary agency and indirect, mediate, secondary causation created and designed the world for a purpose and has directly acted through immediate, primary agency in the course of its development at various times, including prehistory (i.e., history prior to the arrival of human beings).
2. The commitment expressed in proposition #1 above can appropriately enter into the very fabric of the practice of science and the utilization of scientific methodology.
3. One way this commitment can appropriately enter into the practice of science is through various uses in scientific methodology of gaps in the natural world that are essential features of direct, immediate, primary divine agency properly understood. When God acts as a primary cause, a gap will be present in the natural world because the effect of his action is a result of his direct causal power and not the result of his guidance of natural processes alone.

In its broadest sense, theistic science is rooted in the idea that Christians ought to consult all they know or have reason to believe when forming and testing hypotheses, when explaining things in science, and when evaluating the plausibility of various scientific hypotheses. Among the things they should consult are propositions of theology. Theistic science can be considered a research program (i.e., a series of theories that exist through time and that are united in some way) that, among other things, expresses a commitment to several ideas—namely, propositions 1 and 2 mentioned on page 18.

A number of Christian scholars reject theistic science and advocate what is sometimes called methodological naturalism, which is basically the idea that theological concepts like God or direct acts of God are not properly part of natural science. Thus, theistic science is fundamentally misguided because it has a faulty philosophy of science and an improper view of how science and

theology should be integrated. On this view, the goal of science is to explain contingent natural phenomena strictly in terms of other contingent natural phenomena. Scientific explanations refer only to natural objects and events and not to the personal choices and actions of human or divine agents. Questions about transcendent issues (e.g., ultimate origins, which require a consideration of beings or agents that transcend the physical universe, and the governance of the universe) lie outside the domain of natural science. Advocates of this perspective distinguish methodological naturalism (scientific methodology requires explanation in terms of natural phenomena with no reference to divine action or intention) from metaphysical naturalism (the view that the natural world is all there is) and accept the former but reject the latter.

Does a proper definition of science *require* the adoption of methodological naturalism and the rejection of theistic science as pseudoscience? Remember, this is a second-and not a first-order question. The issue is whether theistic science can count as a scientific research program in the first place, not whether specific theistic science theories currently offer the best scientific models vis-à-vis alternatives. Attempts have been made to show that theistic science is pseudoscience. They take the form of drawing a line of demarcation between science and nonscience (e.g., literature) or pseudoscience (e.g., astrology), a set of necessary and sufficient conditions that some theory, explanation, or research activity must embody to count as science, and of going on to show that theistic science falls on the wrong side of the line of demarcation.

Suggested criteria for what counts as part of the necessary and sufficient conditions for science vary but usually include things like this: the item in question must be falsifiable, be guided by or explained by reference to natural law, be held tentatively, be testable against the empirical world, employ measurable factors, make predictions, be repeatable, be fruitful in guiding future research, and so on.

Space forbids us to investigate these issues further, except to make one point. Historians and philosophers of science are almost universally agreed that theistic science is science and cannot be ruled out as such by demarcationist criteria. Why? Theistic science has been regarded as science throughout most of the history of science, and there are no adequate grounds for thinking that this was wrong. Every line of demarcation used to show that theistic science is pseudoscience has been shown to be neither necessary (some examples of science fail to measure up to the criteria) nor sufficient (there are examples of nonscience that do measure up to the criteria). So even if specific theistic science models are false, empirically inadequate, or in other ways inferior to rival models of the origin and development of life, these models are at least scientific in spite of popular opinions to the contrary. Or so say most experts in the history and philosophy of science.

2. Biblical-Theological Issues

All the writers in this volume are traditional Christians. They care deeply about theology and the Bible. Everyone wants to have God on his or her side of the debate! They all agree that God is the Creator, that he plays an active role in his creation, and that philosophical naturalism is, therefore, false. There the agreement frequently stops.

For many people the central theological issue of the debate is biblical. What does a fair reading of the Bible most reasonably require of the believer? More importantly, how should key passages of the Bible dealing with creation be read? The status of the biblical record and hermeneutical concerns are central to the debate.

Some Christians think that the Bible provides little or no scientific evidence regarding the origin of life or the universe. The accounts in Genesis 1–11 are not historical. They are written in a literary form that does not demand accuracy in historical details. This position is compatible with

an error-free Scripture, since no one demands that the Bible display accuracy beyond its intent. For example, no reader demands "literal" truth of the "scientific" statements in a poem.

By contrast, some Christians think that the biblical accounts in Genesis 1–11 are at least partially historical in nature. For example, they argue that denying a "literal" Adam and Eve has important theological consequences. Moreover, like most traditional readers of the accounts, Jesus himself seems to have regarded Noah as historical. These readers may disagree, as young earth and old earth creationists do, about the nature of the accounts, but they unite in seeing historical importance in them. The "old earth" creationists may allow for large gaps in the genealogical records not acceptable to the "young earth" creationist, but views them as having historical merit. By contrast, some theistic evolutionists deny a real, historical Adam and Eve while others do not.

Young earth and old earth creationists agree on a great deal. They are divided, however, on the theological implications of a second issue: animal death before the fall of Adam. Young earth creationists view this as theologically devastating. How could animals die before the sin of Adam? How could a good God intentionally allow the wasteful and horrific deaths of billions of animals over billions of years before man's sin (much less directly will to employ this struggle as his primary means of creating)? Old earth creationists respond in a number of ways (e.g., animal death before the fall of Adam and Eve was the result of a prior angelic fall; spiritual death resulted from the human fall), but this presents a difficulty for their view.

Another theological problem is often called the "God of the gaps." Proponents of the gaps argument claim that past attempts to find God's "hand" in nature have led to apologetic disaster. Placing God's actions in the gaps in current scientific knowledge restricts his action to those places where science has no explanation for an event or object. This lack of knowledge is the gap into which the Christian thinker tries to fit God. By placing God in the gap, this sort of theist gains a short-term apologetic advantage. The critic of the gap approach argues, however, that in the long term such a policy is misguided. Eventually science discerns a natural explanation for the phenomenon in question, the putative gap disappears, and theism is damaged. What is more important, the gaps in human understanding of the world are growing smaller and smaller. If Christians pursue the gap argument, the place of God in the natural order of things will soon disappear. Many contemporary Christian writers, particularly Christian scientists, take this God-of-the-gaps problem quite seriously.

On closer examination, the gaps argument turns out not to be an actual argument. It is more a bit of apologetic advice. Few contemporary philosophers have risen to defend this worry as being legitimate. Despite the claims of worried Christian scientists, the God-of-the-gaps strategy has had limited historical applicability, at least in the contemporary setting. There are few, if any, cases of serious Christian thinkers actually falling into gap thinking. Merely postulating the action of an agent is not an appeal to a gap. Otherwise, every criminal detective who believes an agent committed a crime is guilty of "giving up" on a more "naturalistic" explanation!

The gaps argument has also turned out to be bad counsel on three grounds: (1) it makes the false assumption that theories about God's actions are rendered false by the mere existence of (sometimes quite implausible) naturalistic accounts dealing with the same events; (2) it fails to define any of its terms. It is, therefore, too vague to be of any practical value. For example, what counts as a gap in human knowledge? What if science itself discovers a limit to scientific investigation? This would not be a gap waiting to be filled but rather a boundary. What is the difference between a gap and a boundary of science? And (3) it does not adequately represent theories like intelligent design, which are not motivated by a gap in human understanding. Most old and young earth creationists who appeal to divine, miraculous actions to explain the creation

of some entity do so because they think there are adequate positive, scientific, philosophical, or theological reasons to justify this move. They do not "appeal to God" merely to cover the ignorance of a supposed naturalistic mechanism, nor do they limit God's activity in nature to cases of primary causes. They think that we are regularly confronted with human artifacts that result from human intelligent design and that we have observational evidence to claim that various features of the biological world bear the characteristics of intelligent design and, therefore, the best explanation of the positive evidence is the design hypothesis.

In the final analysis, many think that what lies behind the God-of-the-gaps complaint is the airtight, rigid employment of methodological naturalism. These respondents to the gaps argument claim that the methodological naturalism in the so-called rules of science are at odds with the scientific evidence which, in certain cases, supports the claim that the primary causal activity of God as Creator/Designer is the best explanation of the relevant scientific evidence. Thus, the gaps argument has the effect of closing minds to the evidence in the interest of following a set of rules that inadvertently express and, in turn, support scientism and philosophical naturalism, regardless of how much theistic advocates of the gap argument desire to allow God a scientifically undetectable role in creation.

3. Scientific Issues

We have little space to outline all the scientific issues that are subject to debate in this controversy. An important fact to keep in mind is that people on all sides of the controversy frequently agree about the brute evidence. They do not, however, agree on how to interpret that evidence. This is evident in all of the main articles in this volume. All of the writers focus their articles on how to see the evidence but spend little or no time arguing over the evidence itself. This is to be expected. Short of the few irresponsible popularizers, who often misrepresent the state of the evidence, there is little question about the "facts." For example, almost all responsible thinkers agree that certain chemical elements now decay at known rates. There is little disagreement about this. So what should be made of these facts and how should they be interpreted? On this there is *widespread* disagreement amongst Christians!

The main scientific divide is between those who think that the scientific evidence for Darwinian evolution is conclusive and those who think it is not. Leaving aside philosophical arguments for Darwinism (e.g., a good, wise God would not design a world with imperfections or with animals with such effective means of inflicting pain and death on other organisms), young and old earth creationists think that it is reasonable to doubt the truth of Darwinism. Some would go even further and suggest that belief in Darwinism is not reasonable at all without the support of philosophical naturalism. On the other hand, theistic evolutionists deny that they are naturalists but are still satisfied that present evidence strongly favors evolution. Some of them would argue that denying the truth of evolution is itself evidence of an irrational religious commitment.

Much hinges on what is meant by *biological evolution*, which can be understood in at least four different ways. First, evolution is sometimes referred to as a "fact." For example, it is a fact that species and other life-forms have changed over time. Finch beaks get smaller and shorter. Dogs can be bred to be bigger or smaller. If evolution simply means "change over time," then all of the writers in this book believe in evolution. "Microevolution" of the sort easily observed by any thoughtful human being is conceded by even the most hard-core critic of Darwin.

Second, evolution can also be used to refer to "macroevolutionary change." This sense of evolution allows for naturally occurring change all the way up to the phyla and kingdom level of biological organization. Usually, proponents argue that observations such as those related to the

fossil record and studies in biochemical similarities strongly favor this possibility. On this view, given time and the right mechanism, biological change can indeed be radical. This view is usually associated, though it need not be, with the idea of common descent. All organisms share a common biological ancestor, that is, there is one "tree" of life to which every living thing is connected. These ideas are rejected by almost all old and young earth creationists. They are accepted both by theistic evolutionists and the scientific mainstream.

A third way of understanding evolution is as a shorthand reference to the neo-Darwinian mechanism to produce "change over time." Natural selection, random mutations, time, chance, and other mechanisms produce all the life-forms now in existence. There is no need to appeal to direct divine activity. Things around humankind may appear to be designed, but they were not. They are the product of a naturalistic "blind watchmaker." They appear to be designed, but are merely adapted for their environment. This is what most mainstream scientists mean by evolution.

Many theistic evolutionists would blanch at the naturalistic implications of the blind watchmaker hypothesis. They would allow for some form of divine providence to provide purpose and design to the process of evolution, even granted the truth and the effectiveness of the neo-Darwinian mechanism. The difficulty is that while some divine action and purpose may be logically compatible with the blind watchmaker, many contemporary intellectuals see no need to appeal to divine action and purpose at all, given the adequacy of naturalistic mechanisms for explaining the origin of living things and their parts. As Phillip E. Johnson has pointed out,

> Politically astute scientific naturalists feel no hostility toward those religious leaders who implicitly accept the key naturalistic doctrine that supernatural powers do not actually affect the course of nature.… The most sophisticated naturalists realize that it is better just to say that statements about God are "religious" and hence incapable of being more than expressions of subjective feeling. It would be pretty ridiculous, after all, to make a big deal out of proving that Zeus and Apollo do not really exist.

Elsewhere, Johnson observes,

> The conflict between the naturalistic worldview and the Christian supernaturalistic worldview goes all the way down. It cannot be papered over by superficial compromises.… It cannot be mitigated by reading the Bible figuratively rather than literally.… There is no satisfactory way to bring two such fundamentally different stories together, although various bogus intellectual systems offer a superficial compromise to those who are willing to overlook a logical contradiction or two. A clear thinker simply has to go one way or another.

Johnson's remarks serve as a reminder that theistic evolutionists have to offer reasons why they believe in Christian theism in the first place in order to avoid achieving a "reconciliation" between Darwinism and Christian theism at the price of placing the epistemological authority of Christianity in some private, upper story.

Finally, many leading scientists such as Richard Dawkins and Carl Sagan have used evolution in a philosophical way. They use it as a shorthand for scientific naturalism. This is an illegitimate use of a scientific term.

What is the status of the evidence? How secure is the blind watchmaker hypothesis based on the "facts" of science? That is the scientific portion of this debate.[2]

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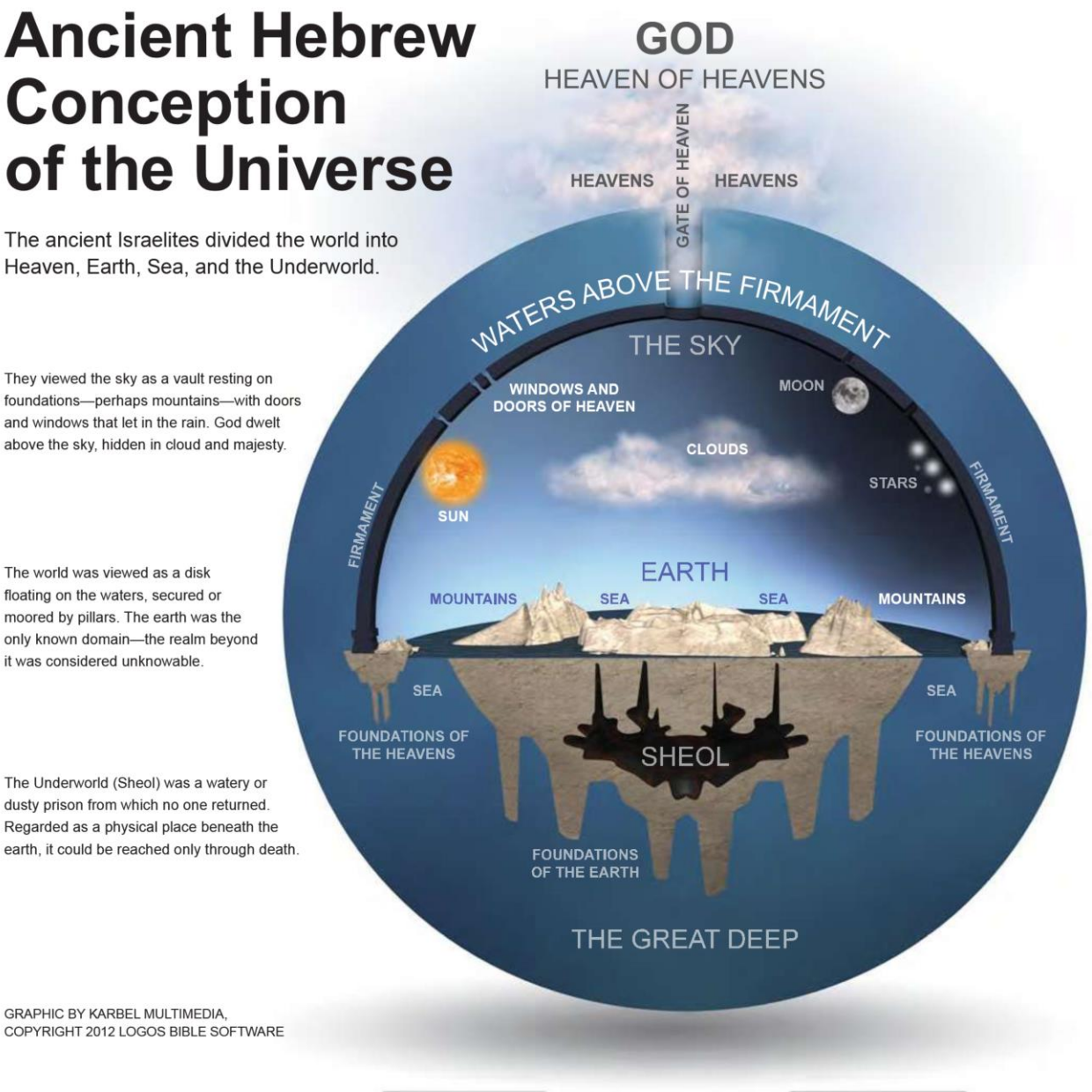
[2] Moreland, J. P., & Reynolds, J. M. (1999). Introduction. In S. N. Gundry, J. P. Moreland, & J. M. Reynolds (Eds.), *Three Views on Creation and Evolution* (pp. 16–26). Grand Rapids, MI: Zondervan.



The Old Testament and the Ancient Near Eastern Worldview

Proper interpretation of the Bible requires an understanding of the original context in which it was written. This is particularly true for the Old Testament. God chose a specific time, place, and culture—the ancient Mediterranean and the ancient Near Eastern world of the second and first millennia BC—in which to inspire faithful persons to produce what we read in the Old Testament. Understanding their worldview leads to more faithful understanding on our part, since misinterpretations result from assuming that the biblical writers thought, believed, and acted as we do.

Although this ancient world is unfamiliar to most of us, it would have been even more unfamiliar to students of the Bible living prior to the archaeological discoveries of the late 19th and early 20th centuries. The languages of the ancient Sumerians, Babylonians, Egyptians, and Canaanites were deciphered within the past 200 years. The intimate relationship between the Old Testament and the literature and ideas of these civilizations became accessible only after such developments in ancient history and archaeology. This opened an extraordinary window for understanding what the biblical writers meant. These connections are especially significant for our understanding of Genesis 1–2.

What is Cosmology?

The term "cosmology" refers to the way in which we understand the structure of the universe. The biblical writers' concept of how the heavens and earth were structured by God represents a particular cosmology. This cosmology involves ideas about where God dwells within the known "universe" and reflects the writer's experience or understanding of the world, not historical or scientific fact. For example, cosmologies include descriptions about places and events humans do not experience until death or unless permitted to do so by an act of God.

Old Testament Cosmology

The Israelites believed in a universe structure that was common among the civilizations of the ancient Near East. This structure included three parts: a heavenly realm for the gods, an earthly realm for humans, and an underworld for the dead. The vocabulary of the Israelites' cosmology is also similar to that found in the literature of Mesopotamia, Egypt, and Canaan.

The three tiers are reflected in the Ten Commandments: "You shall not make for yourself a carved image, or any likeness of anything that is in *heaven above*, or that is in *the earth beneath*, or that is in the *water under the earth*" (Exod 20:4; compare Psa 33:6–8; Prov 8:27–29). This cosmology is also affirmed in Philippians 2:10 and Revelation 5:3.

The Heavens

Genesis 1:6–8 presents a basic understanding of the heavens: "And God said, 'Let there be a vaulted dome (*raqia'*) in the midst of the waters, and let it cause a separation between the waters.' So God made the vaulted dome, and he caused a separation between the waters which were under the vaulted dome (*raqia'*) and between the waters which were over the vaulted dome. And it was so. And God called the vaulted dome (*raqia'*) 'heaven.' " The vaulted dome was believed to be solid and thought to hold back the waters above it, preventing them from falling on the earth.

The vaulted dome, sometimes called the firmament (and sometimes equated with the sky), was seen as connecting to foundations that went deep below the sea. The dome surrounded the earth with its edge meeting at the horizon—the boundary "between light and darkness" (Job 26:10; compare Prov 8:27–28). This explains verses like: "When he made skies from above, when he founded fountains of the deep" (Prov 8:28) and "With [God] can you spread out the skies, hard as a molten mirror?" (Job 37:18).

The vaulted dome was thought to be supported by the tops of mountains, because the peaks appeared to touch the sky (e.g., 2 Sam 22:8). The heavens had doors and windows through which

rain or the waters above could flow upon the earth from their storehouse above the dome (Gen 7:11; 8:2; Psa 78:23; 33:7).

Genesis 1 describes waters above and below the solid firmament, a belief also reflected in Psalm 148:4. God was thought to dwell above the firmament, as described in Job 22:14: "Thick clouds are a covering for him, so that he does not see; and he walks about on the dome of heaven" (compare Amos 9:6; Psa 29:10).

The Earth

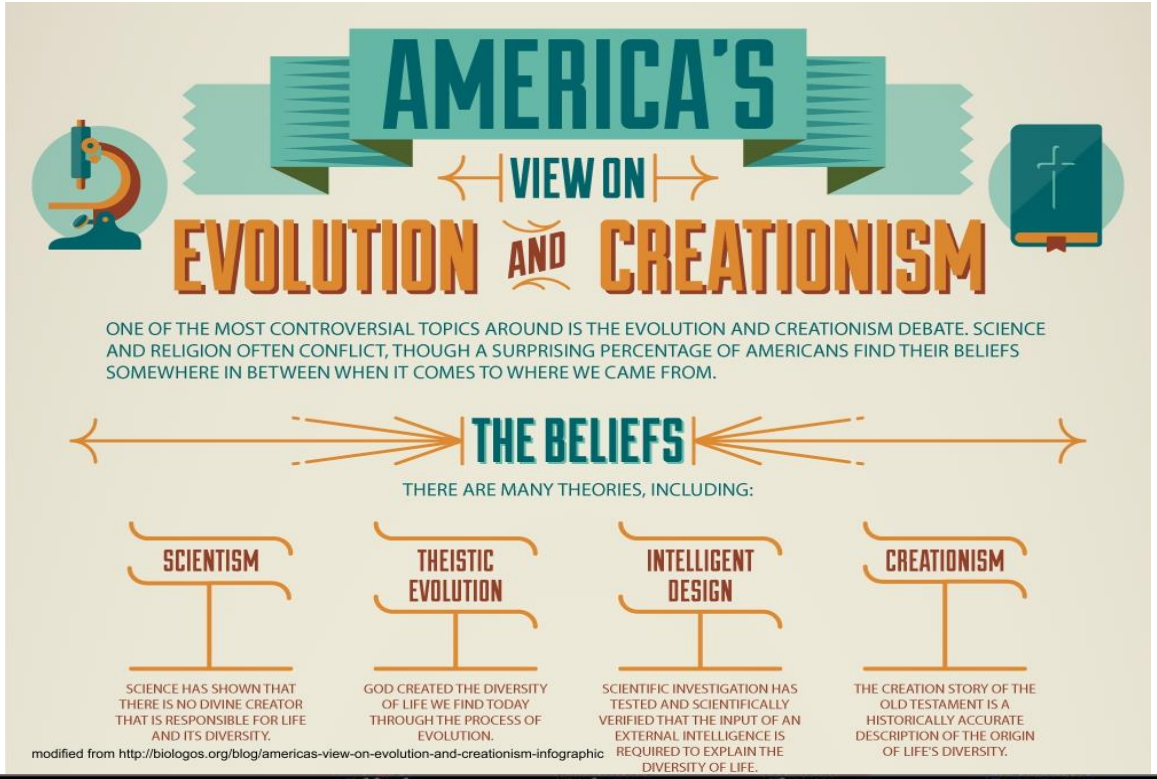
The earth sat atop the watery deep. The "waters below" refers not only to waters that humans use but also the deeper abyss. Thus, the earth was seen as surrounded by and floating upon the seas (Gen 1:9–10), having arisen out of the water (2 Pet 3:5). The earth was thought to be held fast by pillars or sunken foundations (1 Sam 2:8; Job 38:4–6; Psa 104:5).

The Underworld

The realm of the dead was believed to be located under the earth. The most frequent Hebrew term for this place was *she'ol*, often transliterated in English Bibles as Sheol or translated as the realm of the dead, or even the grave (Prov 9:18; Psa 6:4–5; 18:4–5). At times, the Hebrew word for "earth" (*'erets*) is also used to describe the underworld, since graves were believed to represent gateways to the underworld. In Job, the realm of the dead is even described in watery terms: "The spirits of the dead tremble below the waters and their inhabitants" (Job 26:5). Jonah's description is perhaps the most vivid. Although he is located in the belly of the great fish, Jonah says he is in the underworld: the watery deep at "the foundations of the mountains," a "pit" that had "bars" that closed forever (Jonah 2:6).

This worldview shaped the Old Testament and illustrates how the Bible uses the language of its time to explain its perspective and to glorify Yahweh.[3]

[3] Heiser, M. S. (2012, 2016). The Old Testament and the Ancient Near Eastern Worldview. In *Faithlife Study Bible*. Bellingham, WA: Lexham Press.



	Biblical Creation	Evolution (Neo-Darwinism)	Theistic Evolution	Progressive Creation	
Origin of the Universe	Special Creation by an Immaterial, Timeless, omnipresent God; in a method that does not accord with the Big Bang	An unexplained, laws-of-physics breaking singularity exploded uncaused into existence creating space, time and matter (the Big Bang)	An unexplained, laws-of-physics breaking singularity exploded uncaused into existence creating space, time and matter (the Big Bang)	God created the universe...	...using the Big Bang[12]
Order of Creation	Follows Gen 1 order (Earth, Water, Light, Stars...)[9]	Follows Big Bang order (Singularity, Light, Stars, Sun...) [10]	Follows Big Bang (Singularity, Light, Stars , Sun...)	Follows Big Bang (Singularity, Light, Stars , Sun...)	
Age of the Earth/Universe/Life	Everything (Universe, earth, life) was created in 6 days; Universe, Earth, Life has existed 6 - 10,000 years	Universe is 13.7 billion years old; Earth: 4.5 billion years; Life: 3 - 4 Billion yearss	Universe is 13.7 billion years old; Earth: 4.5 billion years; Life: 3 - 4 Billion years	Universe is 13.7 billion years old; Earth: 4.5 billion years; Life: 3 - 4 Billion years	
God's Intervention during creation	The creation event was a direct act of God (Gen 1.1)	God does not exist	God created the framework for evolution, and uses evolution as a means of creation	God creates...	...in small increments over million year time periods
Means of Speciation	God created *kinds* with all information for speciation; normal processes (natural selection; natural reproduction processes) allows manifestation of species	Natural selection working on... ...Undirected mutations	Natural selection working on.... ...undirected mutations	God creates...	...new species over million year time periods of yeas as old species die out
Spirit of Man	Imparted to Man (Adam and Eve) at Creation	Denies spiritual realities; there is no spirit	Does not believe the Genesis account; evolution has no soul... ...so arbitrary assigns time when souls were first created.[11]	Pre-human hominids were used by God,...	...God modified them & breathed spirit into them[13]
Literal Adam and Eve?	Yes	No	No	Yes, but...	...believe God used pre-human hominids[14] to create Adam & Eve
When death begins	Entered the world as a result of Adam's sin; No death previously (Rom 5.1, Gen 2.17)	Death existed for millions of years before Adam	Death existed for millions of years before Adam	Death existed for millions of years before Adam	
Was Noah's Flood Global?	Yes - water covered the whole earth (Gen 8.17-24)	No, the flood was local	No, the flood was local	No, the flood was local	
Believes evolution is a valid theory of origins	False	True	True	False but...	...Uses evolutionary time scale & Big bang evolution of the universe
If Science and the Bible conflict, which is authoritative?	The Bible	Science	Science	Science	

#1 - Identity Accounts by John H. Walton

Biblical Authority and Cultural Rivers

The Authority of the Bible

How Biblical Authority Works

We have to start out with that which is most important. We want to come to the biblical text to understand what its authority has for us. Whatever we gain in interpretation, we want to be able to say that we are well representing the authority of the text, that we are being faithful interpreters. How does that authority work? It's pretty basic. God has decided to communicate. He has a message that He wants to offer us (revelation), and He chose to do that through human communicators; that's how He chose to do it. And since He did that, these human communicators are vested with the authority of God. It's God's message; it's God's authority, but He's put it in them, and therefore, we have to get it through them. We have to go through the communicators, the human authors, in order to get what God has.

For Us, Not *to* Us

In that sense, we can understand that the Bible is written *for* us but not *to* us. We are supposed to gain from it this message that God has for us, but it's not written in our language; it's not written in our culture. We have to get that message by reading someone else's mail. The ancient world was very different than our world.

Cultural Rivers

I like to use the metaphor of a cultural river.

Modern Cultural River

In our modern cultural river, we'll find things like individualism, capitalism, freedom, democracy, tolerance, social media, consumerism—all of these things that are just part of the world that we live in. And sometimes our faith, or our convictions, lead us to say, "Wait a minute, I don't want to get caught up in that!" And we try to swim against it, and maybe we succeed to some extent; but the fact is, even then, we are still in this cultural river.

Ancient Cultural River

In the ancient world, there is also a cultural river, and it's not like ours at all. As a matter of fact, there's hardly any overlap that we could identify. In the ancient cultural river, there are things like divination, like the gods being involved in everything, a community identity, kingship—all sorts of things that are part of their cultural river that aren't part of ours. It's important for us to realize that the Bible is communicated to Israel in their cultural river, and it does not anticipate our cultural river. It addresses us, to transform us, to give us revelation, but it does not anticipate the details of our cultural river—to address it or to solve the problems, to address the issues. It doesn't. It's given in the ancient cultural river.

"Natural" vs. "Supernatural"

As one example, in the ancient cultural river, they had no category [for] "natural." We talk about natural laws, natural science, natural cause and effect, and we differentiate that from something that we might call "supernatural," where there's no chance of being able to give natural explanations. This is a distinction we make in our cultural river. In the ancient cultural river, however, no such categories exist, because in the ancient cultural river, Israel and everybody else believed that God was doing everything; everything that happened was God's work. They don't talk about miracles as if that's something supernatural that God did as opposed to something that could be explained by natural laws. They talk about signs and wonders, and signs and wonders indicate God's activity, God's power, God's intention to deliver His people. They're signs and wonders.

They don't talk about God intervening, because to intervene, you have to be outside. God doesn't intervene; He's active always, just sometimes His actions are unexpected. Certainly they had a concept of normal, but not a concept of natural. God's always involved. And so for them, God is no less involved in the things we call "natural" than He is in the things that we call "supernatural." We take Psalm 139:13: "You knit me together in my mother's womb." We might consider that largely a natural process definable by science, but in the Bible, that's not the case. In the ancient Near East, that's not the case. God is involved with every birth. He made all of us. God is no less involved in what we designate as natural.

Conclusion

So, we have to be careful when we are reading the biblical text. We have to be reading it in their cultural river. We have to be reading it as a text that was written to them, and as we read over their shoulders, [we] try to understand how that can be for us, to help us understand not only who God is, but what His plans and purposes are, because in the end, that's what He wants; He wants for us to have some sense of His plans and purposes, so that we can become partners in that, participating in what He's doing. So, we get the authority of the text by trying to understand what the author intended as he was communicating in his cultural river to his audience. And that's how we get God's authoritative message.

The Old Testament & the Ancient Near East

Embedded, Not Indebted

If we want to understand the biblical text in its cultural river in connection to what the author intended to communicate to his audience, we have to talk about this relationship between the OT and the ancient Near East. Now, lots of times when OT scholars talk about that, you get a lot of discussion about whether the Bible is borrowing from ancient Near Eastern literature. That borrowing suggests that there may be some indebtedness—that the OT is indebted to the ancient Near Eastern literature. And I don't think that's the beneficial way to go.

I am more inclined to think of the OT as *embedded* in the ancient Near East, not *indebted* to pieces of literature. (Maybe occasionally you would find something like that, but that's not the main importance.) But it's embedded in the ancient Near East, and that's that cultural river idea. Sometimes, surely, Israel was supposed to swim against the currents in the ancient cultural river—just as we might do today: swim against those currents—but they're in the river. And even when they're swimming against it, we're going to understand what they're doing as we understand the river that they're in. So rather than thinking about them as being indebted to pieces of literature, let's think about them embedded (we could say immersed) in the cultural river, no matter what their posture toward it might be.

Not Importing or Imposing the Ancient Near East on the Biblical Text

In that sense, when we talk about the ancient Near East and its role, we're not suggesting that we should be importing or imposing the ancient Near East on the biblical text. We really can't do that because the biblical authors are already in that cultural river; they're embedded. You can't import it or impose it on the text if the text is in it. By the same token, I couldn't talk about imposing Hebrew on the biblical text. It's in Hebrew! And I just want to recognize what's already there.

The ancient Near Eastern texts, then, can prompt us to think about the text differently. We really can't learn as much as we would like about the ancient cultural river. But once we realize there is an ancient cultural river and that it's different from our modern cultural river, we can start to notice the ways in which we have to back off from our cultural river. We can start to recognize these things that we're interested in—that are issues, that are controversies—are all in our cultural river, and therefore, we have to pull them out of the discussion.

And so, in that sense, it's not so much that we can find [out] all about the ancient cultural river; we can learn some. The ancient texts can prompt us to that; they provide windows to how people thought. But in the end, we're going to be limited, but at least we can start to recognize that so much that's in our cultural river certainly was not in the ancient cultural river.

Faithful Interpretation

This is the kind of thing that we need to do if we want to be faithful interpreters. Being a faithful interpreter means following the evidence of the text to try to understand what the author's intentions were. And if those authors and those audiences of the biblical texts, if they are embedded in the ancient world, immersed in the cultural river, then we've got to go in and try to understand that as best we can, because only through that procedure are we going to understand what the biblical message is. That biblical message that has authority for us, we can understand it by going to the river, going to their cultural river. Then we can understand what claims the Bible is making.

What Claims Does the Bible Make?

See, some people believe that the Bible is making claims that are in conflict with the science today. Maybe it is. It's worth looking at. But we won't get very far in trying to discuss that until we figure out: What claims is the Bible actually making? And those claims should be understood in connection with the message and the authority of the text. And if that message and authority is to be found in the cultural river, in the use of how the ancient Near East folks thought, then we have to understand the claims in that context.

What claims is the Bible making? That's what we want to know. If we want to be faithful interpreters, we want to try to track the claims that the text is making, not necessarily the claims that people might be making on its behalf. We have to look to the evidence, and it's going to be textual evidence and contextual evidence, so that we can figure out how the embeddedness of the text can help us understand it better.

What Sort of Account?

Role, Function, and Purpose in Days One to Six

Now we are ready to move into Gen 1. What sort of account is it? Well, it's easy to say lots of people would note, "It's a creation account." What sort of creation account? Lots of people would be confused at this point: "I don't know what you are talking about; creation is creation." Well, in our cultural river it is, but how about the ancient cultural river? Did they think about creation the same way we did, the same way we do?

Take a look at day one in Gen 1. We notice very easily that there we have light, and that light leads to an alternating evening and morning (day and night). And "day" and "night" are named, and we find that naming and separating are acts of creation in the ancient world. So no surprise that we find these in a creation account. And the result on day one is that we conclude that God has created the basis for time. This should intrigue us because time is not material; time is not an object. So if it's not creating a material object, what's it doing? In fact, day two, God creates space, a space in which people live; that's not an object. Day three, God says, "Let the plants sprout," "Let the dry land emerge"; He is not making objects.

Day four talks about how the sun, moon, and stars work, and it says, "God made them." But it's very interesting that, in the ancient world, they don't know that the sun, moon, and stars are objects; they considered them lights. "Let birds fly, let fish swarm"—it doesn't say, "God made them." And we find then that day after day after day, as we go through the text, God is not manufacturing objects. "What sort of account is this?" we ask again.

From Non-Order (*thohu wavohu*) to Order (via *bara'*)

So we go back to verse 2, the starting point. Verse 1 gives us a title. This is what this chapter is all about, let's say: how it was that God created heaven and earth in these seven days. And it starts with the earth being "formless and void" (*thohuwavohu*). Sometimes when we talk about it, "formless," we're already thinking about material; we're already thinking about structure. But those words have more to do with whether it is ordered or not, whether there is order in the world, because we find, as we look throughout the ancient Near East, their interest is in how the gods brought order out of nonorder, and that is the act of creation. And in fact, when we look at the Hebrew verb *bara'* (that's translated "create"), we find that in many of the places where it's used it's not dealing with material objects; it talks about bringing order.

House vs. Home

We can talk about this by using an analogy.

A House Story

We can talk about this, for instance, in how we might build a house. A general contractor lays the foundation, builds the walls, puts on the roof. They come and they put in the air conditioning and the electricity and the plumbing, and they build the house. That could be called an origins account—the origin of the house.

And in our modern way of thinking, that's what creation is. We think of creation as a house story for the cosmos—how God built the material cosmos. And for that story, science provides the plot. And so the result is the house is what you live in, and that's how we typically think in our modern times of what creation is: a house story.

A Home Story

But let's think about an alternative. Instead of a house, think about a home. What does it mean to create a home? In a home, the house is already constructed, but still, when we move in, we have to bring order; we have to set it all up, put the furniture in the right places, fill the drawers and the cabinets, unpack the boxes, bring it altogether so it works. It's a home story.

A home story is also an origin story and, I would argue, perhaps a more important origin story because our home story helps us understand the identity of the place where we live. In a home story for the cosmos, theology would provide the plot, not science, and theology would provide this identity account because home is where your story comes to life.

This idea that the cosmos is to serve as a home, a home for us (though that's not all, and we'll get to more a little bit later) … but the fact is God has made it work for us; it functions on our behalf. It's ordered to work for us.

The Image of God

And He's made us in His image; that image is corporate. We could talk about how each one of us is the image of God, but the important part is that it's *'adam* ("humanity") that is in the image of God; the image of God is corporate. And the image of God is functional because we are to subdue and rule, working alongside God to continue the order-bringing process, to be partners in creation, partners in carrying out what God's plans and purposes are for the cosmos and for us, His people.

Conclusion

So I would suggest to you that when we ask, "What sort of account is this?" we should think about the possibility that instead of being a house story (the way we are inclined to think of it in our cultural river), we should think of it is a home story. And I would suggest to you that that's not only how the Bible presents the information, but that's also what we find throughout the ancient Near East. It's part of the ancient cultural river.

Temple and Rest

Rest and Temples

We've talked about the idea that in Gen 1 we have a home story, a home story because God is ordering the cosmos so that it works for us. It's ordered for us to live there; it serves our needs. But there's more to it because He also intends the cosmos to be the place where He will live, where He will establish His residence, where His presence will be there among us. And so it's our home, but more importantly, it's His home as He dwells with us.

Now this fits into what we know in the ancient world. When we read in day seven that God rests, we often don't know what to make of it, because why would God need to rest? Why is it talking about rest in a creation account? And that's because in our cultural river, we don't understand that gods rest in temples.

Rest and Rule

The minute it talks about God's resting, you have to move to the concept of temples. Temples are made for gods to rest in, and that doesn't mean relaxation; it doesn't mean leisure. God's not tired because we find out in a place like Psa 132:7–14 that God's rest in His dwelling place is equivalent to His rule. When God rests, He takes up His throne to rule the cosmos. The temple was considered the operations room. That's where the center of operations are in the cosmos, and God taking up His rest there means He is now ordered it to rule over it and to dwell in it.

Rest and Creation

Rest is the main goal of creation; God's rule is the main goal of creation. It's funny that today we often talk about the six days of creation because we don't know what to do with day seven. Those six days mean nothing if we don't have day seven because that's where God moves in and begins to rule.

Rest, then, here, is not disengagement; it's engagement. Rest, then, is not the opposite of activity; rest here is resolving unrest. Order is being established, and it becomes sufficiently ordered so it works for people. God takes up His reign and His rule, and then together—God with those He's made in His image—begin to work toward bringing further order to the world that He has made. That's the identity of the cosmos: God's place of rule where He's present among us. That's what it's all about.

Seven Days

Temple Building

I've suggested that when God rests on the seventh day, it brings to mind the idea of sacred space. A temple usually marks the center of sacred space, and God's dwelling in a place makes it sacred. That means that we have this imagery. It's a latent imagery for us, but it's very clear for an Israelite, for an ancient audience, that we've got this idea of sacred space. The cosmos has been ordered for that.

Now, if we're going to understand the seven days, then, of Gen 1, we have to try to understand how that might relate to sacred space, to temples. Temple building in the ancient world was done when the gods ordained it. The gods give instructions for kings to build temples, and in the same way, Solomon did that, just like the tabernacle is built also in the book of Exodus. God's instructions [equals] sacred space is constructed. And when it's all done, when all of the house part is done (the house story), then there's an inauguration ceremony, and it's not uncommon for those inauguration ceremonies to take seven days.

Temple Inauguration

And that again draws our attention to this connection between Gen 1 and the temple imagery. It's not so much that the cosmos is a temple—I used to use that terminology—but it's better to talk about it as a sacred space, and the temple marks the center of sacred space. But if this is about the inauguration of sacred space, then objects are not being made in those seven days. This comes after the objects are made; after the house story comes the home story. If the days are concerned with bringing order rather than with making things, then the seven days would have nothing to do with the age of the earth. The age of the earth is what science can talk about; it's a house story issue.

If the Bible has a home story for its creation account, then we should look differently at the seven days. Now, I'm perfectly fine with these being seven actual days because, in fact, the seven days of inauguration of the temple or tabernacle are seven actual days (twenty-four hours each). But the question is, what is taking place in those days? If this is a temple inauguration, again nothing's being made or built or constructed. The seven days are so that it becomes a home instead of just a house, and therefore, those seven days—even as twenty-four-hour days—don't tell us about the age of the earth.

Illustration: A Vision Statement

So some people say, "So if I were there and watching this, what would I see?" Let me use an analogy. The graduate school where I teach has been around for sixty years, and someone noticed a year or two ago that we didn't have a vision statement. And so committees were formed and reports made and wording was bantered around to try to come up with what would be a great vision statement.

And after a year or two, finally they had gotten one together, gone through all the administrative hoops, and here we are: we have a vision statement. And the vision statement was unveiled, and it was written on banners. And it was painted on walls, and we all had a great time of celebrating the vision statement. What changed the next day? Nothing. We still had the same students; we had the same courses; we taught them the same ways. Nothing changed in our operations. But at another level, everything changed, because now we had a sense, a unified sense, of what it was all about, what we were doing, what was driving us, what were our purposes.

And in that sense, we can think about Gen 1 as a vision statement for the cosmos. This is its identity, just as our graduate school had this identity that was embodied in a vision statement. Genesis 1 has given us, as a home story, our home, God's home, and it gives us a sense of purpose and focus. This is what it's all about: it's an identity account for the cosmos.

Archetypes

"Adam" and "Eve" Were Not Names

In Genesis 2, we read about Adam and Eve; those are not their names. "What?" you say. "What do you mean they're not their names? There it is right in the biblical text." Problem: those are Hebrew words, Hebrew names. Hebrew did not exist as a language until about the time of Moses, probably at the earliest. And therefore, Eve would not have called Adam, "Adam," and Adam would not have called Eve, "Eve."

But wait, we have these in the Bible! That tells us that these names have been adopted by the Israelite author for the Israelite audience to give some significance to these individuals, whatever their names might have been in some unknown ancient language. Already, then, we see that the names have sort of an archetypal value. The man is named "humanity"; the woman is named "life," and those are meaningful names that talk about their role.

Archetypes

So I would suggest, my proposal is, that we understand a lot of what's going on with Adam and Eve in Gen 2 as referring to archetypes. What do I mean by an archetype? An archetype is not the same as a prototype; a prototype is like the first one off the assembly line. This is not just a matter of being the first off the assembly line; this is a matter of representation, of even embodiment.

So for example, I heard once an interview of eight-year-olds, and the interviewer asked these eight-year-olds, "What are mothers made of?" And one little girl, a very thoughtful expression on her face, [said,] "Mothers are made of angel wings and clouds, and a little bit of mean." Isn't it interesting that an eight-year-old can understand the concept of archetype? She knew that they weren't asking about her particular mother, though her mother would be the main example she would know of, but she understood that this was kind of about what mothers were like. And we shouldn't think about biology; the little girl's not being silly here, okay—that somehow our mother is like a cloud. She understands that by naming ingredients, she gets to aspects of identity—what things describe a mother's identity. That's very interesting, even an eight-year-old can understand. That's what I mean by archetypes.

Genesis 2 is going to tell us something about these people that help us to understand human identity. Who are we? How should we think about ourselves? Those are much more important questions than biology, genetics. So when I talk about an archetype, I'm talking about elements that we can identify and demonstrate are true of everyone, not uniquely true of Adam and Eve. If there's something that's uniquely true of Adam and Eve, then that's not part of an archetypal picture, but if there are things that are used that are supposed to be true of every one of us, then we can call that an archetype. So that's what we're going to look at: the archetypal aspects of this account.

Dust and Rib

Adam and Dust

Not Chemistry or Craftsmanship

So, when we begin to read the story of Adam, what do we learn? Well, we learn that he was formed from dust. What are we supposed to think of that? Are we supposed to think about biological, material origins here? Would that be part of their cultural river, or is that really just part of ours? Some people think in terms of chemistry, and they talk about how certain elements in the human body are similar to certain elements in dust. But Israelites didn't have very much chemistry.

Others are more content to talk of craftsmanship. There is a problem with that, because it says "dust," and you can't shape dust. It's interesting also that the text says that "he formed humanity, dust of the ground." It doesn't actually have the preposition "from" in the line in Hebrew. Some think it's implied, but it's not there. When we talk about forming, we tend to think of something physical and material, but yet, we find that other places in the Bible talk about God forming a spirit or a self (Zech 12:1); God formed the human spirit, not so much the body.

Dust Pertains to Mortality

And when we start looking around the Bible for what the significance of dust is (related to people), we find out that it pertains to mortality. Genesis 3:19 tells us, "Dust you are and to dust you will return." And if we try to think that people would've been created immortal—some people get that from Rom 5—that's not what it says. Paul knows Genesis very well, and he knows that immortal people would not need a tree of life. So the assumption of Genesis is that people are mortal and that the tree of life gives them an antidote, a remedy, to their mortality.

So dust pertains to this aspect of human identity. We find out that that pertains to all of us in a place like Psa 103:14, where we learn that, as the psalmist says, "You remember that we are formed; we are but dust," obviously relating back to Gen 2, but he uses "we"—all of us are of dust. And so, in that sense, we find out that this is true of everyone, and therefore, Adam is an archetype of humanity, of human identity. This is what we are: we are frail mortals.

Eve and the Rib

This continues with the story about Eve. Does Adam think that Eve was built from a single rib? No. First words out of his mouth: "You are bone of my bone *and* flesh of my flesh." This is not just a bone we're talking about here. No place in the OT, no place else, does it refer to anatomy—this term. It's used as an architectural term, where it talks about one side of a pair. And so, in this sense, God cuts Adam in two and forms Eve from one side, and so we learn there the identity that male and female are one; they're the same essence.

This is not surgery taking place when God puts Adam in a deep sleep. It's not a deep sleep so that it would like an anesthesia. Deep sleep is used in the OT in a number of occasions where there is a visionary experience. Abraham in Genesis 15, where he is in a deep sleep, and he sees the torch and censer passing through the halves of the animals. This is the ratification of the covenant, an important statement about the identity of the covenant people.

And so here we find that this is not a material creation of a woman; it's a vision in which Adam understands the nature of man and woman in this relationship that they have, as they are both of the same essence and can work together—partners in the work that God has for them.

Other Views

Hermeneutical Differences

The view that I've presented is, of course, quite a bit different from other views that one might hear. What really are the differences between them? Really, in the end, the differences are hermeneutical ones—that is, how are we reading and interpreting the text? As I've presented the text, I think that it's important for us to read the text the way the ancients would read the text. In fact, people who value literal reading should be thinking in this same way, because we can't read the text more literally than to read it as the author intended.

If we're to get to the authority of the text, we have to think in those terms: ancient cultural river, author's intention, what the audience would have understood, what the words meant to them. This is all basic hermeneutics that we bring to the text, and it's that hermeneutic that gives us the confidence that we can develop evidence and understand the message of the text.

Reasons for Disagreement

If that's so straightforward, then why don't we all agree? Here are a couple reasons.

Some Read the Text Through Modern Eyes

Some don't want to recognize the difference between the ancient cultural river and the modern one. They believe that the Bible is speaking beyond the authors to our cultural river. We have to ask where they would think that it was doing the same thing for every culture of every time in every place, but that's another issue. So some are content to read the text through modern eyes.

Some Bring Outside Information into the Bible

Now, others want to bring things from our world into the text. They want to take the science that we feel confident about and read it between the lines of the text. So what we find is that there are some views that want to construct a science from the text. There are other views that want to read science into the text.

And I don't feel like we can do either of those things. I don't think we can construct science from the text because it's a text that is situated in an ancient cultural river; it's embedded there. I don't think we should read science into the text because science is not authoritative. Even the science that we are most confident about, it doesn't have the authority of the text, and we should not be bringing that into the text.

So I neither want to build science out of it or read science into it. I want to try to understand the text as the author and his audience would have understood it, because that is the audience that God was addressing. And we know that we can get authority there, and that's what we should be looking at.

Intuitive Reading vs. Authorial Intent

Some people say, "You're making it so hard; I just want to read the Bible as it is." The problem is that intuitive reading can be unreliable. That doesn't mean it always is, but it can be. Because often when we read intuitively, we're reading with our own filter, our own grid; we're reading against our own cultural river, and that can bring distortion. We can read the Bible best when we understand what the author intended.[4]

[4] Pipa, J. A., Jr., Futato, M. D., Collins, C. J., Longman, T., III, & Walton, J. H. (2017). *TH331 Perspectives on Creation: Five Views on Its Meaning and Significance*. Bellingham, WA: Lexham Press.

Ancient Cosmology Is Function Oriented

WHAT DOES IT MEAN FOR SOMETHING to exist? It might seem like an odd question with perhaps an obvious answer, but it is not as simple as it may seem. For example, when we say that a chair exists, we are expressing a conclusion on the basis of an assumption that certain properties of the chair define it as existing. Without getting bogged down in philosophy, in our contemporary ways of thinking, a chair exists because it is material. We can detect it with our senses (particularly sight and touch). We can analyze what it is made from. These physical qualities are what make the chair real, and because of them we consider it to exist. But there are other ways to think about the question of existence.

For example, we might consider what we mean when we talk about a company "existing." It would clearly not be the same as a chair existing. Does a company exist when it has filed the appropriate papers of incorporation? Does it exist when it has a building or a website? In some sense the answer to these would have to be yes. But many would prefer to speak of a company as existing when it is doing business. Consider what is communicated when a small retail business frames and displays the first dollar bill from the first sale. As another alternative, consider a restaurant that is required to display its current permit from the city department of health. Without that permit, the restaurant could be said not to exist, for it cannot do any business. Here existence is connected to the authority that governs existence in relation to the function the business serves. It is the government permit that causes that restaurant to exist, and its existence is defined in functional terms.

The question of existence and the previous examples introduce a concept that philosophers refer to as "ontology." Most people do not use the word *ontology* on a regular basis, and so it can be confusing, but the concept it expresses is relatively simple. The ontology of *X* is what it means for *X* to exist. If we speak of the ontology of evil, we discuss what it means for evil to exist in the world. The ontology of a chair or a company would likewise ask what it means when we say they exist. How would we understand their existence? What is the principle quality of its existence? The view represented in our discussion of the chair would be labeled a "material ontology"—the belief that something exists by virtue of its physical properties and its ability to be experienced by the senses. The example of the company might be labeled a "functional ontology."

In a discussion of origins we need to focus on the ontology of the cosmos. What does it mean for the world or the cosmos (or the objects in it) to exist? How should we think about cosmic ontology? When we speak of cosmic ontology these days, it can be seen that our culture views existence, and therefore meaning, in material terms. Our material view of ontology in turn determines how we think about creation, and it is easy to see how. If ontology defines the terms of existence, and creation means to bring something into existence, then one's ontology sets the parameters by which one thinks about creation. Creation of a chair would be a very different process than the creation of a company. Since in our culture we believe that existence is material, we consequently believe that to create something means to bring its material properties into existence. Thus our discussions of origins tend to focus on material origins.

All of this probably sounds like a silly discussion to many people. Of course something exists because it has material properties; of course creation means to give something material properties! Many would be inclined to ask in their exasperation, what else could it be? But our example of a company above has already alerted us to another possibility. Is it possible to have a cosmic ontology that is function oriented and see creation (bringing something into existence) in those terms?

Even staying in the realm of English usage we can see that we don't always use the verb *create* in material terms. When we create a committee, create a curriculum, create havoc or create a masterpiece, we are not involved in a material manufacturing process. Though a curriculum, for instance, eventually takes a material form, the creation of the curriculum is more a process of organizing ideas and goals. To understand what it means to "create" a curriculum, we would have to decide what it means for a curriculum to exist. What would be the ontology of a curriculum? Whatever our answer might be, these examples should suggest that there are alternate ways of thinking about creative activity, even in our culture. If a curriculum's ontology is functional, then creating that curriculum involves function-giving activities.

With that background in mind, we need to return to the question of cosmic ontology. Most of us never consider alternative ontologies. Our culture has given us our beliefs about what it means for the cosmos to exist (material ontology; existence is material; creation is a material act) and many of us would not realize that these beliefs are the result of a choice. It is a testimony to the pervasive influence of culture that this material ontology seems so obvious as to prevent any thought that it is open to discussion.

As some of the above examples indicate, however, there are alternatives. If we are going to understand a creation account from the ancient world we must understand what they meant by "creation," and to do that we must consider their cosmic ontology instead of supplying our own. It is less important what we might think about ontology. If we are dealing with an ancient account we must ask questions about the world of that text: What did it mean to someone in the ancient world to say that the world existed? What sort of activity brought the world into that state of existence and meaning? What constituted a creative act?

In this book I propose that people in the ancient world believed that something existed not by virtue of its material properties, *but by virtue of its having a function in an ordered system*. Here I do not refer to an ordered system in scientific terms, but an ordered system in human terms, that is, in relation to society and culture. In this sort of functional ontology, the sun does not exist by virtue of its material properties, or even by its function as a burning ball of gas. Rather it exists by virtue of the role that it has in *its* sphere of existence, particularly in the way that it functions for humankind and human society. In theory, this way of thinking could result in something being included in the "existent" category in a material way, but still considered in the "nonexistent" category in functional terms (see the illustration of the restaurant mentioned above). In a functional ontology, to bring something into existence would require giving it a function or a role in an ordered system, rather than giving it material properties. Consequently, something could be manufactured physically but still not "exist" if it has not become functional.

Perhaps a modern example can help. If we think of "creating" a computer, we understand that there are many stages in the process. At the most basic level the casing and the electronics have to be manufactured, the keyboard and other peripherals designed and so forth. This is the basic production and manufacturing process—what we might call the material phase of production. After someone has assembled all those manufactured parts we might say that the computer exists. But another aspect involves writing the programs. Even after those programs are written, if the software has not been installed on the computer, its "existence" is meaningless—it cannot function. So there is a separate process of installing the software that makes the computer theoretically functional. But what if there is no power source (electric or battery)? This is another obstacle to the computer's existence. Adding a power source, we might now claim that its existence is finally and completely achieved. But what if no one sits at the keyboard or knows how to use or even desires to use it? It remains nonfunctional, and, for all intents and purposes, as if it did not exist.

We can see that different observers might be inclined to attribute "existence" to the computer at different stages in the process.

In a functional ontology, all of the above steps are important in the definition of existence. Unless people (or gods) are there to benefit from functions, existence is not achieved. Unless something is integrated into a working, ordered system, it does not exist. Consequently, the actual creative act is to assign something its functioning role in the ordered system. That is what brings it into existence. Of course something must have physical properties before it can be given its function, but the critical question is, what stage is defined as "creation"?

In the ancient world they were not ignorant of the senses and the level at which objects could be perceived by the senses. They would have no difficulty understanding the physical nature of objects. The question here concerns not what they perceived but what they gave significance to. When we speak of a computer we are certainly aware of the tower casing, and it is obvious that someone manufactured that. But that fact does not occupy our attention, nor do we confuse the manufacturing of the tower casing with the "creation" of the computer. To say this in another way, our ontology focuses on what we believe to be most significant. In the ancient world, what was most crucial and significant to their understanding of existence was the way that the parts of the cosmos functioned, not their material status.

How can we know this? The evidence comes both from the biblical text and from the literature of the ancient world. The former is more important because, of course, it is possible for the biblical text to take a different view of ontology than the ancient world. Propositions 3–11 will be offering the biblical evidence. For now then, we can set the stage from the ancient Near Eastern literature. Then we will see in which ways the biblical perspective corresponds and in which ways it differs.

A number of ancient Near Eastern texts giving information about creation come from the Sumerians, the Babylonians and the Egyptians. Full-fledged creation texts include the following:

Egyptian:

- Memphite Theology (featuring Ptah)
- Papyrus Leiden I 350 (Hermopolis, featuring Amun)
- Pyramid Texts, Coffin Texts and Book of the Dead (especially from Heliopolis, featuring Atum)

Babylonian:

- Atrahasis
- *Enuma Elish*

Other sorts of texts that are not in and of themselves creation texts but contain information about creation include the following:

***Sumerian*.** Numerous Sumerian texts contain cosmogonic (cosmogony = an account of the origins of the cosmos) or cosmological statements. Myths make statements in passing and rituals at times contain mythological sections that are cosmogonic. Even genealogical lists of the gods are thought to give hints to the extent that cosmogony can be inferred from theogony (theogony = an account of the origins of deity). Narrative texts from Nippur (an early sacred center in southern Mesopotamia) give the god Enlil a prominent role, while texts from Eridu (considered by the Sumerians to be the first city in history) favor the god Enki. Prominent also are the disputation texts (e.g., Tree and Reed, and such texts which feature discussions between animals or plants)

which often have cosmogonic introductions. Akkadian cosmological information is also found in incantation texts as well as in introductions to dedicatory inscriptions.

***Egyptian*.** The most important allusions are found in the wisdom text titled the Instruction of Merikare and in cosmological depictions such as that on the centograph of Seti I.

Additional creation material is found in the Hittite Kumarbi Cycle and perhaps in the Ugaritic Baal Cycle.

What we learn from these can be summarized under several headings:

- ***Shape of the cosmos*.** Old world cosmic geography is based on what they could observe from their vantage point, just as ours is based on what we are able to observe given our scientific information (including, e.g., math and physics). If water comes down, there must be some up there—so they all thought in terms of cosmic waters in the sky. If it doesn't come down all the time, something must hold the water back—so it was common to think of something somewhat solid (firmament). If there is something solid holding back the waters, something must hold up this firmament—so they thought of mountains or ropes or tent poles. Waters come up from the ground so there must be waters under the ground, yet something must hold the ground steady. On and on the logic goes, following fairly transparent paths. As with any cosmic geography, the theories about structures are developed to understand the functions and operations as they are experienced and observed. Creation texts described these structures being put into place so that the operations would commence or continue.

- ***Role of deity*.** In the transition from cosmic geography to the role of deity, it is important to note that in the Egyptian descriptions of cosmic geography, all of those elements that we might consider cosmic structures (firmament, sun, moon, air, earth, etc.) are depicted as gods. This is strong evidence that the Egyptians were more interested in the functions of these gods than in the actual material structures. The gods represented authority and jurisdiction. The attributes of the deities were manifested in the cosmic elements. The cosmos functioned as an extension of the gods, and the gods functioned within the cosmos. The Mesopotamian texts do not have the artistic depictions, but they confirm the same interests, as the gods are seen in close relationship to the elements of the cosmos. It is the divine decree or divine assignment that dictates the role and function of the various elements.

- ***Origins of cosmos and deity*.** With the functions of the cosmos and the jurisdiction of the deities so closely correlated, it is no surprise that we find the origins of the gods (theogony) connected to the origins of the cosmic elements (cosmogony). This coinciding of origins indicates that those origins are functional in nature.

- ***Divine conflict*.** *Theomachy* is a term that refers to battles among the gods. Particularly in the Babylonian creation epic, *Enuma Elish*, creation is accomplished in the aftermath of a battle for control of the pantheon and the cosmos.

- ***Features*.**

  Nonfunctional. Nearly all the creation accounts of the ancient world start their story with no operational system in place. Egyptian texts talk about a singularity—nothing having yet been separated out. All is inert and undifferentiated. Similarly, one Sumerian text speaks of a time when there was darkness, no flow of water, nothing being produced, no rituals performed, and heaven and earth were still joined together. Even the gods were not yet there. For an example in Egyptian literature, the god Atum is conceptualized as the primordial monad—the

singularity embodying all the potential of the cosmos, from whom all things were separated and thereby were created.[4]

Primeval waters. Creation often begins with that which emerges from the waters—whether a deity or land (e.g., the Egyptian Primeval Hillock). These primeval waters are designated the "nonexistent" in Egyptian texts, a key indicator of their functional ontology. The god Atum is said to have developed "out of the Flood, out of the Waters, out of darkness, out of lostness." The Waters is termed the "father of the gods."[6]

Naming. Names in the ancient world were associated with identity, role and function. Consequently, naming is a typical part of the creation narratives. The Egyptian Memphite Theology identifies the Creator as the one who pronounced the name of everything. *Enuma Elish* begins with neither the heavens and earth nor the gods having yet been named. In this it is clear that naming is a significant part of something's existence, and therefore of its creation.

Separating. This is the most common creative activity in Egyptian texts and is also observable in a number of Mesopotamian texts. Heavens and earth are most often separated. Even Hittite literature indicates this important step when one myth talks about cutting heaven and earth apart with a copper cutting tool. Others include separation of the upper and lower waters and waters from land.

Creatures. It is interesting that living creatures are almost never included in the creation accounts. The only exception is in the Akkadian Disputation of Two Insects, which mentions classification by size and by wild or domesticated nature.

Human beings. Many accounts of creation include human beings. Texts speak of what they are made of (clay, blood of deity, breath of deity) but not in a chemical sense. These ingredients communicate instead the important issues of identity and relationship (see further in proposition 6).

Before we leave the ancient Near Eastern texts, a few specific texts should be noted. The Egyptian Papyrus Insinger is from the Ptolemaic period (dated to the second or third century B.C., though the manuscript is from about the first century A.D.). Toward the end of this piece of wisdom literature, the paragraph designated the twenty-fourth Instruction contains eighteen lines of what the creations describe as the hidden work of the god.

He created light and darkness in which is every creature.
He created the earth, begetting millions, swallowing them up and begetting again.
He created day, month, and year through the commands of the lord of command.
He created summer and winter through the rising and setting of Sothis.
He created food before those who are alive, the wonder of the fields.
He created the constellation of those that are in the sky, so that those on earth should learn them.
He created sweet water in it which all the lands desire.
He created the breath in the egg though there is no access to it.
He created birth in every womb from the semen which they receive.
He created sinews and bones out of the same semen.
He created going and coming in the whole earth through the trembling of the ground.
He created sleep to end weariness, waking for looking after food.
He created remedies to end illness, wine to end affliction.
He created the dream to show the way to the dreamer in his blindness.
He created life and death before him for the torment of the impious man.

> He created wealth for truthfulness, poverty for falsehood.
> He created work for the stupid man, food for the common man.
> He created the succession of generations so as to make them live.

Though this text dates from well into the Hellenistic period, the functional orientation is obvious. Another example selected from a millennium earlier (twelfth c. B.C.) and from the opposite end of the ancient world demonstrates how pervasive this perspective was. In the Babylonian creation epic, *Enuma Elish*, Marduk defeats the rebellious gods and then does his work of "creation" in tablet five, focusing on several key functional features:

- Lines 1–24 show Marduk organizing the celestial sphere: stars, constellations, the phases of the moon.
- Lines 25–45 are not represented in many of the translations included in the major anthologies of ancient texts. Even in their broken form, however, their basic content can be discerned. In 38–40 Marduk makes the night and day and sets it up so that there is an equal amount of light hours and night hours over the course of the year.[10] On line 46 he fixes the watches of night and day. These creative activities have to do with organizing time.
- Lines 47–52 are more legible and deal with the creation of the clouds, wind, rain, and fog, and appointing himself to control them. Here the functions that concern the weather are created.
- Lines 53–58 tell of the harnessing of the waters of Tiamat for the purpose of providing the basis of agriculture. It includes the piling up of dirt, releasing the Tigris and Euphrates, and digging holes to manage the catchwater.
- Lines 59–68 conclude with the transition into the enthronement of Marduk and the building of his temple and the city of Babylon—the grand climax. It is no surprise that a creation text should ultimately be about the god who controls the cosmos and about the origin of his temple. We will see below that cosmic origins and temple origins are intricately intertwined.

Finally, in a Sumerian debate text still another millennium earlier (third millennium), The Debate Between Winter and Summer, Enlil is involved in creation in these same areas (day and night/time; fertility/food; sluices of heaven/weather and seasons):

> An [god's name] lifted his head in pride and brought forth a good day. He laid plans for … and spread the population wide. Enlil set his foot upon the earth like a great bull. Enlil, the king of all lands, set his mind to increasing the good day of abundance, to making the … night resplendent in celebration, to making flax grow, to making barley proliferate, to guaranteeing the spring floods at the quay, to making … lengthen(?) their days in abundance, to making Summer close the sluices of heaven, and to making Winter guarantee plentiful water at the quay.

In conclusion, analysts of the ancient Near Eastern creation literature often observe that nothing material is actually made in these accounts. This is an intriguing observation. Scholars who have assumed that true acts of creation must by definition involve production of material objects are apparently baffled that all of these so-called creation texts have nothing of what these scholars would consider to be creation activities. I propose that the solution is to modify what we consider creation activities based on what we find in the literature. If we follow the sense of the literature and its ideas of creation, we find that people in the ancient Near East did not think of creation in terms of making material things—instead, everything is function oriented. The gods are beginning their own operations and are making all of the elements of the cosmos operational.

Creation thus constituted bringing order to the cosmos from an originally nonfunctional condition. It is from this reading of the literature that we may deduce a functional ontology in the ancient world—that is, that they offer accounts of functional origins rather than accounts of material origins. Consequently, to create something (cause it to exist) in the ancient world means to give it a function, not material properties. We need to note the contrast: we tend to think of the cosmos as a machine and argue whether someone is running the machine or not. The ancient world viewed the cosmos more like a company or a kingdom.

Would they have believed that their gods also manufactured the material? Absolutely, for nothing can be thought to stand apart from the gods. But they show little interest in material origins. Such issues were simply insignificant to them. If we paused to think about it, we might begin to wonder why material origins have taken on such central significance to us. Consider:

- As employees we pay little attention to the history of the company we work for. We are more interested in its corporate structure and what responsibilities each department has. We want to know about who reports to whom and who is in charge of certain operations and tasks.
- When we go to the theater, we may have passing interest in the construction of the set and stage works, but we understand that the play exists in the roles of the performers. When a person comes late and asks what has happened so far, the question is not answered by information about the costume designer, script writer and the hiring of the cast. Telling the person about all that would be offering the wrong sort of origins information.

Some sorts of origins are more important than other sorts of origins.

In summary, this chapter has noted that our own material definition of existence is only one of the possible ways to define existence. I have suggested that in the ancient world they defined it differently. They thought of existence as defined by having a function in an ordered system.

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PROPOSITION

"Create" (Hebrew *bārāʾ*) Concerns Functions

THE PREVIOUS CHAPTER PRESENTED evidence that creation accounts in the ancient world characteristically showed interest in the functional level rather than the material level. Furthermore it proposed that the ancient world defined existence in terms of having a function in an ordered system. This functional ontology indicated that the line between existence and nonexistence was functional, not material.

We now turn our attention to the creation account in Genesis 1 to discover whether it will follow suit or not. Our first matter for discussion is the Hebrew verb *bārāʾ*, translated as "create" in verse 1. What exactly does it mean? Here we cannot be content with delving into the English verb "create"—though that shows an amazing amount of flexibility. Instead we must focus on the verb in Hebrew and how its users would have understood its meaning. If we are trying to understand whether the Israelites thought of existence in functional terms (like the rest of the ancient Near East) or material terms (like we tend to do), one of the places we might expect to find help is in observing what is involved in bringing something into existence. "Create" is the English word for bringing something into existence. If existence is defined in material terms, creating is a material activity. If existence is defined in functional terms, creating is a function-giving activity. We cannot assume that creating is a material activity just because our ontology happens to be material. We must let the word and its usage speak for itself.

It is interesting that many people who discuss Genesis 1 express an interest in interpreting the chapter "literally." By this they generally mean that it is to be taken exactly for what it says rather than to understand Genesis 1 simply in metaphoric, allegorical or symbolic terms. Of course we recognize that sometimes writers intend to communicate by means of metaphor or allegory. When someone insists that Genesis 1 should be interpreted literally it is often an expression of their conviction that the interpreter rather than the author has initiated another level of meaning. Our interpretive commitment is to read the text at what I will call "face value." I will have more to say about this in proposition 11. For the moment, let us consider the concept and challenge of "literal" interpretation.

The English reader must face a difficult fact: one cannot comprehend the literal meaning of a word in the Old Testament without knowing Hebrew or having access to the analysis by someone who does. It does us no good to know what "create" literally means—we have to know what *bārāʾ* literally means. Before that leads to frustration or despair, we can recognize that even those without knowledge of Hebrew can check the data of the Hebrew analyst at some level. A quick review of words and how they work will help us all to see how this is so.

First, we recognize that there is no ancient dictionary of Hebrew that gives us the definitions of all of the words (especially not in English). Instead we rely on the careful work done by commentators and translators over the centuries. How do these scholars figure out the meaning of words? The same way all of us do in whatever language we speak—by usage. The meanings of words are established and determined by the ways in which they are used. This includes the kinds of sentences they are used in, the words they can be compared to (synonyms or antonyms), and the words they are used in connection with. For nouns this means what verbs they take; for verbs it includes what subjects or objects are associated with them. It is context that tells us whether a word is used metaphorically or with an idiomatic or technical sense.[3] Consequently a scholar who says that a Hebrew word means this or that should offer evidence from usage to support his or her

findings. Having been provided a list of references in such an analysis, even someone who does not know Hebrew can double check the data. So, for instance, when I say that all the occurrences of *bārāʾ* have God as the subject or implied subject, an English reader can look at all the occurrences and see that this is so.

Now the analysis can begin. What can be said about the Hebrew verb *bārāʾ*? First, there is no passage in the Old Testament that offers an explanatory gloss for *bārāʾ*—that is, that says "by *bārāʾ* I mean *X*." So, as usual, we must depend on circumstantial, contextual analysis: subjects, objects and related terms.

SUBJECTS

The verb *bārāʾ* occurs about fifty times in the Old Testament. As referred to above, deity is always either the subject or the implied subject (in passive constructions) of the verb. It can therefore be confidently asserted that the activity is inherently a divine activity and not one that humans can perform or participate in. This observation is widely discussed, and on this conclusion all commentators agree.

OBJECTS

It is of interest that few commentators discuss the objects of the verb, but this is the most important issue for our analysis. Since we are exploring what constitutes creative activity (specifically, material or functional), then the nature of that which has been created is of utmost significance. If the objects of the verb are consistently material that would be important information; likewise if they are consistently functional. Of course the profile is unlikely to be so straightforward. Ambiguous contexts are bound to exist, so a bit of methodology must be discussed.

Theoretically, the verb could be broad enough to include either material or functional activity. For that matter, we might conclude that it involves (at least in some cases) both material and functional. Assuming that there will be ambiguous cases (and there are), it is important to see if we have any contexts which *must* be understood in material terms or which *must* be understood in functional terms. If all occurrences were either material or ambiguous, we could not claim support for a functional understanding. If all occurrences were either functional or ambiguous, we could not claim clear support for a material understanding. If there are clear examples that can be only functional, and other clear examples that can only be material, then we would conclude that the verb could work in either kind of context, and ambiguous cases would have to be dealt with on a case-by-case basis.

Table 1 provides a comprehensive list of the objects of *bārāʾ*. (See p. 42.)
The grammatical objects of the verb can be summarized in the following categories:

cosmos (10, including new cosmos)
people in general (10)
specific groups of people (6)

TABLE ONE

Reference	Object	Comments

Gen 1:1	heavens and earth	
Gen 1:21	creatures of the sea	
Gen 1:27	people	male and female
Gen 1:27 (2)	people	in his image
Gen 2:3	(none)	
Gen 2:4	heavens and earth	
Gen 5:1	people	likeness of God
Gen 5:2	people	male and female
Gen 5:2	people	
Gen 6:7	people	
Ex 34:10	wonders	parallel to *ʿāśâ* (made/did)
Num 16:30	something new (debatable)	earth swallowing rebels
Deut 4:32	people	
Ps 51:10	pure heart	
Ps 89:12	north and south	
Ps 89:47	people	for futility
Ps 102:18	people not yet created	to praise the Lord
Ps 104:30	creatures	renewing the face of the earth
Ps 148:5	celestial inhabitants	to praise the Lord
Eccles 12:1	you	
Is 4:5	cloud of smoke	
Is 40:26	starry host	called by name, kept track of
Is 40:28	ends of the earth	

Is 41:20	rivers flowing in desert	to meet needs of his people
Is 42:5	heavens	stretched out
Is 43:1	Jacob	= Israel
Is 43:7	everyone called by my name	for my glory
Is 43:15	Israel	
Is 45:7	darkness	parallel to forming light
Is 45:7	disaster	parallel to bringing prosperity
Is 45:8	heavens and earth	to produce salvation and righteousness
Is 45:12	people	
Is 45:18	earth	did not create it to be *(tōhû)*
Is 45:18	heavens	to be inhabited
Is 48:7	new things, hidden things	
Is 54:16	blacksmith	to forge a weapon
Is 54:16	destroyer	to work havoc
Is 57:19	praise	
Is 65:17	new heavens and new earth	
Is 65:18	new heavens and new earth	
Is 65:18	Jerusalem	to be a delight
Jer 31:22	new thing	woman to surround man
Ezek 21:30	Ammonites	
Ezek 28:13	King of tyre	
Ezek 28:15	King of tyre	
Amos 4:13	wind	
Mal 2:10	covenant people	

specific individuals or types of individuals (5)
creatures (2)
phenomena (e.g., darkness) (10)
components of cosmic geography (3)
condition (1, pure heart)

This list shows that grammatical objects of the verb are not easily identified in material terms, and even when they are, it is questionable that the context is objectifying them. That is, no clear example occurs that demands a material perspective for the verb, though many are ambiguous.[6] In contrast, a large percentage of the contexts require a functional understanding. These data cannot be used to prove a functional ontology, but they offer support that existence is viewed in functional rather than material terms, as is true throughout the rest of the ancient world. If the Israelites understood the word *bārāʾ* to convey creation in functional terms, then that is the most "literal" understanding that we can achieve. Such an understanding does not represent an attempt to accommodate modern science or to neutralize the biblical text. The truest meaning of a text is found in what the author and hearers would have thought.

This view finds support from an unexpected direction. It has long been observed that in the contexts of *bārāʾ* no materials for the creative act are ever mentioned, and an investigation of all the passages mentioned above substantiate that claim. How interesting it is that these scholars then draw the conclusion that *bārāʾ* implies creation out of nothing *(ex nihilo)*. One can see with a moment of thought that such a conclusion assumes that "create" is a material activity. To expand their reasoning for clarity's sake here: Since "create" is a material activity (assumed on their part), and since the contexts never mention the materials used (as demonstrated by the evidence), then the material object must have been brought into existence without using other materials (i.e., out of nothing). But one can see that the whole line of reasoning only works if one can assume that *bārāʾ* is a material activity. In contrast, if, as the analysis of objects presented above suggests, *bārāʾ* is a functional activity, it would be ludicrous to expect that materials are being used in the activity. In other words, the absence of reference to materials, rather than suggesting material creation out of nothing, is better explained as indication that *bārāʾ* is not a material activity but a functional one. This is not a view that has been rejected by other scholars; it is simply one they have never considered because their material ontology was a blind presupposition for which no alternative was ever considered.

An important caveat must be noted at this point. If we conclude that Genesis 1 is not an account of material origins, we are not thereby suggesting that God is not responsible for material origins. I firmly believe that God *is* fully responsible for material origins, and that, in fact, material origins do involve at some point creation out of nothing. But that theological question is not the one we are asking. We are asking a textual question: What sort of origins account do we find in Genesis 1? Or what aspect of origins is addressed in Genesis 1? Most interpreters have generally thought that Genesis 1 contains an account of material origins because that was the only sort of origins that our material culture was interested in. It wasn't that scholars examined all the possible levels at which origins could be discussed; they presupposed the material aspect.

Finally, we must put the verb *bārāʾ* in its context in verse 1 where it tells us that "in the beginning God created the heavens and the earth." One immediate question that would occur is, beginning of what? The answer is not transparent. We must ask what "beginning" refers to and how verse 1 functions in relation to the rest of the context.

BEGINNING

In Hebrew usage this adverb typically introduces a period of time rather than a point in time. We can most easily see this in Job 8:7, which speaks of the early part of Job's life, and Jeremiah 28:1, which refers to the beginning period of Zedekiah's reign. This usage happens to correspond with ideas that are reflected in ancient Near Eastern creation texts. Egyptian texts refer to the "first occasion," which implies the first occurrence of an event that is to be repeated or continued. In Akkadian the comparable term to the Hebrew refers to the first part or first installment. All of this information leads us to conclude that the "beginning" is a way of talking about the seven-day *period* rather than a *point* in time prior to the seven days.

THE ROLE OF VERSE 1

If the "beginning" refers to the seven-day period rather than to a point in time before the seven-day period, then we would conclude that the first verse does not record a separate act of creation that occurred prior to the seven days—but that in fact the creation that it refers to is recounted in the seven days. This suggests that verse 1 serves as a literary introduction to the rest of the chapter. This suggestion is confirmed by the fact that Genesis 2:1 concludes the seven-day report with the statement that the "heavens and earth were completed," indicating that the creation of the heavens and earth was the work of the seven days, not something that preceded them.

Such a conclusion is also supported by the overall structure of the book of Genesis. All commentators have recognized the recurrent transitionary formula "This is the account *(tôlĕdôt)* of …" used eleven times by the author to identify the sections of the book of Genesis. This shows us that the author of Genesis indeed did use initial statements as literary introductions to sections. The first of these occurs in Genesis 2:4 as the first transition from the seven-day cosmogony to the Garden of Eden account. As a transitionary phrase it links what has come before to what comes next. Sometimes what follows is genealogical information that offers information about, for example, what became of Esau or Ishmael. Other times it is followed by narratives that offer information concerning, for instance, what came of Terah's family (thus the stories of Abram). The point is that this formula can only continue an already established sequence—it cannot begin that sequence.

The word "beginning" would be the logical term to introduce such a sequence. It would indicate the initial period, while the *tôlĕdôt* sections would introduce successive periods. If this were the case, the book would now have twelve formally designated sections (much more logical than eleven, considering the numbers that have symbolic significance in the Bible).

The proposals of this chapter can be summarized by the following expanded interpretive translation of verse 1: "In the initial period, God created by assigning functions throughout the heavens and the earth, and this is how he did it." The chapter *does* involve creative activities, but all in relation to the way that the ancient world thought about creation and existence: by naming, separating and assigning functions and roles in an ordered system. This was accomplished in the seven-day period that the text calls "the beginning." Genesis 2:3 comes back to this in its summary as it indicates the completion of the *bārāʾ* activities over the seven-day period.

PROPOSITION

The Beginning State in Genesis 1 Is Nonfunctional

IF EXISTENCE IN THE ANCIENT WORLD was best defined in functional terms rather than material ones, as suggested in previous chapters, and "create" is the activity that brings the transition from nonexistence to existence, then "creation" would also be a functional activity (as suggested for the Hebrew terminology in chapter 3). Further evidence should then be found in how creation accounts describe the "before" and "after" conditions. If the text offered an account of material origins, we would expect it to begin with no material. If the text offered an account of functional origins, we would expect it to begin with no functions.

Genesis 1 offers its starting point in verse 2, where it describes the earth as *tōhû* and *bōhû*. These terms are translated in a variety of ways in the most well-known English translations but with little true variation:

KJV, NASV: Formless and void
ESV, NKJV: Without form and void
NIV, NLT: Formless and empty
NRSV: A formless void
NJPS: Unformed and void
Net Bible: Without shape and empty
NCV: Empty and had no form

In contrast, detailed technical studies on the terms point in other directions. For example, David Tsumura, after a full semantic analysis, translates *tōhû* as "unproductive" rather than descriptive of something without physical form or shape. As with our previous word study in chapter three, we must again take a look at the usage of the term to understand its meaning. In this study we must focus our attention on *tōhû* because the second term, *bōhû*, occurs only three times, and in all three is used in combination with *tōhû*. The Hebrew word *tōhû* occurs twenty times, as follows:

Table 2

Deut 32:10	parallel to the wilderness; described by "howling"
1 Sam 12:21	descriptive of idols who can accomplish nothing
Job 6:18	wasteland away from wadis where caravans perish for lack of water
Job 12:24	wandering in a trackless waste
Job 26:7	what the north is stretched over
Psalm 107:40	wandering in a trackless waste
Is 24:10	a *tōhû* settlement is described as desolate

Is 29:21	with *tōhû* they turn aside righteousness (similar to Is 59:4)
Is 34:11	measuring line of *tōhû* and plumb stone of *bōhû*
Is 40:17	worthlessness of the nations; parallel to "nothingness" and the "end"(?)
Is 40:23	rulers of the world made as *tōhû;* parallel to "nothingness"
Is 41:29	images are wind and *tōhû;* parallel to "end"(?) of their deeds
Is 44:9	all who make images are *tōhû;* parallel to without profit
Is 45:18	God did not bring it into existence *tōhû;* but in contrast formed it for habitation (intended function)
Is 45:19	Israelites not instructed to seek God in waste places; parallel to land of darkness
Is 49:4	expending one's strength to no purpose *(tōhû)*
Is 59:4	describes relying on empty arguments or worthless words (i.e., dissembling); parallel to that which is false or worthless
Jer 4:23	description of *tōhû* and *bōhû*: light gone, mountains quaking, no people, no birds, fruitful lands waste, towns in ruins

Studying this list, one can see nothing in these contexts that would lead us to believe that *tōhû* has anything to do with material form. The contexts in which they occur and the words and phrases used in parallel suggest rather that the word describes that which is nonfunctional, having no purpose and generally unproductive in human terms. Applying it as a descriptive term to nouns that represent geographical areas, nations, cities, people or idols all suggest the same conclusion. A word that had to do with material shape would not serve well in these contexts.

Why then has the term been so consistently translated as a reference to the absence of material form? One can only surmise that the translation tradition has been driven by the predominant material focus of the cultures that produced the translations. We must never forget that translation is the most basic act of interpretation. One cannot convey words meaningfully from a source language to a target language without first determining what they think the text means to say. If the translators were interpreting the text as an account of material origins, it is no surprise that *tōhû* was translated in material terms.

But even the material translation of *tōhû* could not obscure what is clear in verse 2: here at the beginning of the creation process, there is already material in existence—the waters of the deep. These primeval cosmic waters are the classic form that nonexistence takes in the functionally oriented ancient world.

Given the semantic information presented above and the treatment in the technical literature, we propose that *tōhû* and *bōhû* together convey the idea of nonexistence (in their functional ontology), that is, that the earth is described as not yet functioning in an ordered system. (Functional) creation has not yet taken place and therefore there is only (functional) nonexistence.

With this concept in mind, we return to Job 26:7: "He spreads out the northern (skies) over empty space *(tōhû);* he suspends the earth over nothing." The word translated "nothing" occurs only here in the Old Testament but is very important as it is parallel to *tōhû* in the passage. Technical analysis leads me to the conclusion that Job 26:7 describes the creation of heaven and earth in relation to the "nonexistent" cosmic waters above and below. This provides further evidence that *tōhû* refers to the functionally nonexistent, which it represents geographically in the cosmic waters and the deserts as is common in the ancient Near Eastern texts. Thus the adjective *tōhû* could be used to refer

- to the precosmic condition (the beginning state in Genesis);
- to the functionless cosmic waters;
- or in the ordered creation to those places on which order had not been imposed, the desert and the cosmic waters above and below—surrounding the ordered cosmos.

The creation account in Genesis 1 can then be seen to begin with no functions rather than with no material. At this point, however, it is important to establish what we mean when we talk of functions. In our culture we even think of functions in material terms. We describe functions in scientific terms and understand function as a result of material properties. So we might describe the sun functionally as a burning ball of gas that projects heat and light, and which, by virtue of its gravitational pull, holds the solar system in orbit around it. In contrast, in the ancient world, function was not the result of material properties, but the result of purpose. The sun looks down on all and is associated with the god of justice. It functions as a marker for time and seasons. When the ancient texts talk about how something functions in an ordered system, the system under discussion is not a cosmic or ecological system. It is a system inhabited by beings. In the ancient Near East the functions were focused on the gods, who had created everything to work for their benefit and under their authority.

In the Old Testament God has no needs and focuses functionality around people. We will see increasing evidence of this understanding as we move through the remainder of Genesis 1. Consequently, functionality cannot exist without people in the picture. In Genesis people are not put in place until day six, but functionality is established with their needs and situation in mind.

This conclusion is further supported by the meaning of the repeated formula "it was good," which I propose refers to "functioning properly." Such a conclusion is not arbitrary but based on the context. Throughout Genesis 1 any number of possible meanings have been proposed for "good." In the history of interpretation it has often been understood in moral/ethical terms or as a reference to the quality of the workmanship. While the Hebrew term could be used in any of those ways, the context indicates a different direction. We can find out what the author means when saying all of these things are "good" by inquiring what it would mean for something *not* to be good. Fortunately the near context offers us just such an opportunity: "It is not good for the man to be alone" (Gen 2:18). This verse has nothing to do with moral perfection or quality of

workmanship—it is a comment concerning function. The human condition is not functionally complete without the woman. Thus throughout Genesis 1 the refrain "it was good" expressed the functional readiness of the cosmos for human beings. Readers were assured that all functions were operating well and in accord with God's purposes and direction. Moreover the order and function established and maintained by God renders the cosmos both purposeful and intelligible. So there is reason or motivation for studying the detailed nature of creation, which we now call science, even if the ancient Hebrews didn't take up this particular study.

Based on the above assessment of the beginning state as it is presented in Genesis, we are now in a position to compare it to what we find in the ancient world. In the ancient Near East the precosmic condition is neither an abstraction ("Chaos") nor a personified adversary. But the primordial sea, which is the principal element of the precreation condition, *is* personified by Nammu in Sumer and by Nun in Egypt, and it can be perceived in an adversarial role.

More specifically, Egyptian texts describe the precosmic condition both in terms of what is lacking as well as by its positive features. That which is absent includes the spatial world (not yet separated), inhabitable places, life/death, procreation, time, conflict and diversity. Positive features include limitless waters and total darkness.[4] Everything is brought into existence by being differentiated. The "after" picture is consequently one of inestimable diversity.

When Sumerian and Akkadian sources document creation activities, we can observe both the situation before and after the activity, as well as what sorts of verbs are used. All of this helps to determine the focus of the creative activity. Many examples exist, but here I will present just one as an illustration, a few lines from the Sumerian text NBC[6] 11108:

> Earth was in darkness, the lower world was [invi]sible;
> The waters did not flow through the opening (in the earth),
> Nothing was produced, on the vast earth the furrow had not been made.
> The high priest of Enlil did not exist,
> The rites of purification were not carried out,
> The h[ierodul]e(?) of heaven was not adorned, she did not proclaim [the praises?]
> Heaven and earth were joined to each other (forming) a unit, they were not [married].

The "before" picture here is composed both of what *is* present—darkness, water and the nondiscrete heaven and earth—and of what is *not:* the absence of productivity, of the gods and of the operation of the cult. Creative activities then alter this landscape. All of this indicates that cosmic creation in the ancient world was not viewed primarily as a process by which matter was brought into being, but as a process by which functions, roles, order, jurisdiction, organization and stability were established. This defines creation in the ancient world and in turn demonstrates that ontology was focused on something's functional status rather than its material status.

In summary, the evidence in this chapter from the Old Testament as well as from the ancient Near East suggests that both defined the pre-creation state in similar terms and as featuring an absence of functions rather than an absence of material. Such information supports the idea that their concept of existence was linked to functionality and that creation was an activity of bringing functionality to a nonfunctional condition rather than bringing material substance to a situation in which matter was absent. The evidence of matter (the waters of the deep in Gen 1:2) in the precreation state then supports this view.

PROPOSITION

Days One to Three in Genesis 1 Establish Functions

DAY ONE

Why didn't God simply call light "light"? This was one of the questions that first got me started on the journey that has resulted in the interpretation of Genesis 1 presented in this book. It was not the function orientation found in the ancient Near Eastern literature that changed my way of thinking about Genesis 1—it was the text of Genesis 1. The whole process begins with verse 5, the concluding verse of the account of day one:

> God called the light "day" and the darkness he called "night." And there was evening and there was morning—the first day. (NIV)

First of all it should be observed that light is never treated as a material object in the ancient Near East, despite our modern physics. It is rather thought of as a condition, just as darkness is. So even if light were being created, one would not be able to make the claim that this is a material act. In fact, however, light itself is not the focus of this day's activities. What is the text talking about when it indicates that God called the light "day"? After all, that is not what light is. The solution is not difficult to find. Some would even consider it transparent and hardly worth even noticing. If something connected with light is named "day" we can deduce that it is not light itself, but the period of light, for that is what "day" *is*. Since "day" is a period of light, and "day" is the name given, we conclude that we are dealing with a rhetorical device called metonymy in which a noun can reasonably be extended to a related concept. In this case then, the author intends for us to understand the word "light" to mean a period of light. Otherwise the verse would not make sense. As a result, "God called the period of light 'day' and the period of darkness he called 'night.' "[2]

With this information from verse 5, we can now proceed backward through the text to verse 4. There we are told that "God separated the light from the darkness." Again we note that this statement does not make any sense if light and/or darkness are viewed as material objects. They cannot logically be separated, because by definition they cannot exist together in any meaningful scientific or material way. The solution of verse 5 works equally well here as the verse takes on its obvious meaning with God separating the period of light from the period of darkness. These are the distinct periods that are then named day and night in verse 5. So far so good.

Now comes the clincher. If "light" refers to a period of light in verse 5 and in verse 4, consistency demands that we extend the same understanding to verse 3, and here is where the "aha!" moment occurs. We are compelled by the demands of verses 4 and 5 to translate verse 3 as "God said, 'Let there be a period of light.' " If we had previously been inclined to treat this as an act of material creation, we can no longer sustain that opinion. For since what is called into existence is a period of light that is distinguished from a period of darkness and that is named "day," we must inevitably consider day one as describing the creation of time. The basis for time is the invariable alteration between periods of light and periods of darkness. This *is* a creative act, but it is creation in a *functional* sense, not a *material* one.

This interpretation solves the long-standing conundrum of why evening is named before morning. There had been darkness in the precreation condition. When God called forth a period of light and distinguished it from this period of darkness, the "time" system that was set up required

transitions between these two established periods. Since the period of light had been called forth, the first transition was evening (into the period of darkness) and the second was morning (into the period of light). Thus the great cycle of time was put in place by the Creator. As his first act he mixed time into the features of the cosmos that would serve the needs of the human beings he was going to place in its midst.

A second conundrum that this resolves is the detail that many have found baffling over the ages as they ask, How could there be light on day one when the sun is not created until day four? Two observations can now be made: First, this is less of a problem when we are dealing with "time" in day one rather than specifically with "light." But this does not really resolve the problem without the second observation: If creation is understood in functional terms, the order of events concerns functional issues, not material ones. Time is much more important than the sun—in fact, the sun is not a function, it only *has* functions. It is a mere functionary. More about this in the next chapter.

DAY TWO

Day two has been problematic at a number of different levels. In antiquity people routinely believed that the sky was solid. As history progressed through the periods of scholasticism, the Renaissance, the Copernican revolution and the Enlightenment, verse 6 became more difficult to handle. For if the Hebrew term is to be taken in its normal contextual sense, it indicates that God made a solid dome to hold up waters above the earth. The choice of saying the Bible was wrong was deemed unacceptable, but the idea of rendering the word in a way that could tolerate modern scientific thinking could not be considered preferable in that it manipulated the text to say something that it had never said. We cannot think that we can interpret the word "expanse/firmament" as simply the sky or the atmosphere if that is not what the author meant by it when he used it and not what the audience would have understood by the word. As we discussed in the first chapter, we cannot force Genesis to speak to some later science.

We may find some escape from the problem, however, as we continue to think about creation as ultimately concerned with the functional rather than the material. If this is not an account of material origins, then Genesis 1 is affirming nothing about the material world. Whether or not there actually are cosmic waters being held back by a solid dome does not matter. That material cosmic geography is simply what was familiar to them and was used to communicate something that is functional in nature. Instead of objectifying this water barrier, we should focus on the important twofold cosmic function it played. Its first role was to create the space in which people could live. The second and more significant function was to serve as a mechanism by which precipitation was controlled—the means by which weather operated. Order in the cosmos (for people especially) depended on the right amount of precipitation. Too little and we starve; too much and we are overwhelmed. The cosmic waters posed a continual threat, and the "firmament" had been created as a means of establishing cosmic order. That we do not retain the cosmic geography of the ancient world that featured a solid barrier holding back waters does not change the fact that our understanding of the Creator includes his role in setting up and maintaining a weather system. The material terms used in day two reflect accommodation to the way the ancient audience thought about the world. But it doesn't matter what one's material cosmic geography might look like—primitive or sophisticated—the point remains that on the second day, God established the functions that serve as the basis for weather.

DAY THREE

It is amazing to notice at this point that some interpreters are troubled by their observation that God doesn't make anything on day three. We can imagine their quandary—how can this be included in a creation account if God doesn't make anything on this day? By this point in the book, the reader can see the solution easily. Day three is only a problem if this is an account of material origins. If it is understood as an account of functional origins, there is no need for God to make something. Instead, we ask what function(s) were set up, and to that question we find ready answers.

First of all we note that just as day two separated and differentiated cosmic space, so day three differentiates terrestrial space. The act of separating, a key creation activity from a functional perspective, continues in prominence. Commonly in the ancient literature, these same differentiations can be seen.

Even as some commentators ponder the absence of material creation in day three, others often observe that the day seems to contain two separate acts (water/dry land and vegetation). From a functional perspective, the soil, the water and the principle of seed bearing are all very much related as essential to the production of food. The emergence of dry land from the waters is a common element in Egyptian cosmology, and there it has a definite referent. That is, the emergence of the primeval hillock in cosmology reflects the yearly reality of the fertile soil emerging in the aftermath of the inundation of the Nile. Thus it is clear that the emergence of dry land is associated with the growing of food.

Day three reflects the wonder of the ancient world at the whole idea that plants grew, dropped seed, and that more of the same plant came from that tiny seed. The cycle of vegetation, the principles of fertilization, the blessing of fecundity—all of these were seen as part of the amazing provision of food so necessary for people to survive.

So on day one God created the basis for time; day two the basis for weather; and day three the basis for food. These three great functions—time, weather and food—are the foundation of life. If we desire to see the greatest work of the Creator, it is not to be found in the materials that he brought together—it is that he brought them together in such a way that they work. Perhaps we can feel the same wonder when we consider how, even given all that we know about the physiology of the eye, that beyond all of our material understanding, through these bundles of tissue we can see. We should never lose the wonder of this. Functions are far more important than materials.

We should not be surprised to find that the three major functions introduced in the first three days of Genesis 1 are also prominent in ancient Near Eastern texts. These texts have already been cited in chapter two. Note again the three lines near the beginning of Papyrus Insinger:

He created day, month, and year through the commands of the lord of command.
He created summer and winter through the rising and setting of Sothis.
He created food before those who are alive, the wonder of the fields.

Likewise in Marduk's creative activity in *Enuma Elish* tablet five:

- Lines 38–40: night and day
- Lines 47–52: creation of the clouds, wind, rain and fog
- Lines 53–58: harnessing of the waters of Tiamat for the purpose of providing the basis of agriculture, piling up of dirt, releasing the Tigris and Euphrates, and digging holes to manage the catchwater

But these functions feature prominently not just in other ancient cosmologies. In Genesis, after the cosmos is ordered, a crisis leads God to return the cosmos to an unordered, nonfunctional state by means of a flood. Here the cosmic waters are let loose from their boundaries and again the earth becomes nonfunctional. What follows is a re-creation text as the land emerges again from the waters and the blessing is reiterated. Of greatest interest, in that context God makes the Creator's promise in Genesis 8:22:

> As long as the earth endures,
> Seedtime and harvest,
> Cold and heat,
> Summer and winter,
> Day and night
> Will never cease.

Here we find the same three major functions in reverse order: food, weather and time, never to cease. The author is well aware that these are the main categories in the operation of this world that God has organized.

In this chapter we have attempted to establish, first, that functional concerns rather than material ones dominate the account. Indeed the only appearance of what might be considered material in these three days is the firmament—the very thing that we are inclined to dismiss as not part of the material cosmos as we understand it. In contrast the functions of time, weather and food can be clearly seen in the text and recognized as significant in ancient Near Eastern cosmologies. More importantly, we can see that the prominence of these three functions is common to the ancient world. Perspectives on the material universe will vary from era to era and culture to culture. It would be no surprise then that God's creative work should be proclaimed relative to those issues that serve as the universal foundation of how people encounter the cosmos.

We should not worry about the question of "truth" with regard to the Bible's use of Old World science. As we mentioned before, some scientific framework needs to be adopted, and all scientific frameworks are dynamic and subject to change. Adoption of the framework of the target audience is most logical. The Old World science found in the Bible would not be considered "wrong" or "false" as much as it would just offer a perspective from a different vantage point. Even today we can consider it true that the sky is blue, that the sun sets and that the moon shines. But we know that these are scientifically misleading statements. Science, however, simply offers one way of viewing the world, and it does not have a corner on truth. The Old World science in the Bible offers the perspective of the earthbound observer. One could contend that there are some ways in which it is more true that the earth is the center of the cosmos. This does not mean to suggest that there are many truths, but that there are many possible different perspectives that can each offer truthful information. The way any culture describes the makeup of the material cosmos may vary considerably from how another might. A century ago the idea of an expanding universe would have seemed ludicrous, while today the steady-state universe has fallen into disfavor. This is all part of fine-tuning cosmic geography.

God did not give Israel a revised cosmic geography—he revealed his Creator role through the cosmic geography that they had, because the shape of the material world did not matter. His creative work focused on functions, and therefore he communicated that he was the one who set up the functions and who keeps the operations going, regardless of how we envision the material shape. This creation account did not concern the material shape of the cosmos, but rather its functions.

PROPOSITION

Days Four to Six in Genesis 1 Install Functionaries

IN THE ACCOUNT OF DAYS FOUR THROUGH six we see a shift in the focus. While a functional orientation is still obvious, God is not setting up functions as much as he is installing functionaries. In some cases the functionaries will be involved in carrying out the functions (especially the role of the celestial bodies in marking periods of time), but in most cases the functionaries simply carry out their own functions in the spheres delineated in the first three days (time, cosmic space, terrestrial space). The assignment of functionaries to their tasks and realms is equally an act of creation. Days four through six are literarily parallel to days one through three, as has long been recognized, but the literary structure is secondary (see chapter 13).

DAY FOUR

In the report of this day the functional orientation can be clearly seen. The text offers no indication of the material nature of the celestial bodies, and all that it says of their material placement is that they are in the firmament/expanse. This is, of course, problematic if one is trying to understand the text scientifically. On the functional side of the equation, we find that they separate day and night (thus the link to day one), that they provide light and that they serve for "signs, seasons, days and years." Finally we are told that their function is to govern the day and night—the closest the text comes to personification.

Again we point out that these are not scientific functions but human-oriented functions. In this regard it should be noted that the fourfold description of functions (signs, seasons, days, years) are pertinent only to humans. The one that may seem not to belong is "seasons"—but here we must not think of seasons like summer and winter. The Hebrew word when it is used elsewhere designates the festival celebrations that are associated with the sowing season, the harvesting season and so on.

Days four to six continue to be driven by the spoken word. This spoken word can easily be understood in connection to the establishment of functions. In the ancient Near East the cosmos is organized by the decrees of deity (reflected in the importance of the Tablet of Destiny). Genesis 1 also emphasizes the spoken decrees of the Creator, and these decrees initiate the functions and give the functionaries their roles. Such spoken decrees are also acts of creation. In ancient Mesopotamia the establishment of control attributes (Sumerian *me*) by decree and the functional aspects of the celestial bodies are combined in texts such as the Great Astrological Treatise:

> When An, Enlil, and Enki, the great gods,
> In their infallible counsel,
> Among the great laws *[me]* of heaven and earth.
> Had established the crescent of the moon,
> Which brought forth day, established the months
> and furnished the omens
> drawn from heaven and earth,
> This crescent shone in heaven,
> And one saw the stars shining in the highest heaven!

Similar interests and perspectives are attested throughout the ancient Near East.

Moving through day four, we should pause here a moment to comment on another verb associated with creative activity, *ʿāśâ*. This verb had been used in verse 7 ("God *made* the expanse"), and it is used again in day four, verse 16 ("God *made* two great lights"). It will be used again in day six for both animals (v. 25) and people (v. 26). It also shows up in some of the summary statements (Gen 2:2–4, variably as "made" or "done") and in Exodus 20:11 as a summary statement of the work of the seven days. While some may insist that this verb, at least, expresses a material perspective, we must be careful before jumping to such a conclusion. Any Hebrew lexicon will indicate that this verb covers the whole range, not only of "making" but also of "doing." Even in the summary statements in Genesis 2:2–4 the verb covers all the activities of the seven days, many of which clearly involve only doing, not making. It is true that this verb can be used for a material process, but it does not inherently refer to a material process. In Exodus 20, the discussion of the sabbath uses the same verb across verses 9–11. The phrases show a pattern: "In six days you shall *do* all your work … on the seventh … you shall not *do* any work … for in six days the Lord *did* the heavens and the earth [his work]." What does *doing* his work entail? If creation is his work, and creation is function oriented, then doing his work was accomplished by establishing functions. This coincides with Genesis 2:2, which reports that God finished all the work he had been *doing* and rested from all the work of creating that he had *done*—all using the same verb.

On day four, God began with a decree (v. 14) that identified the functions of these celestial functionaries. Unlike the situation in the rest of the ancient Near East, these functionaries are non-personal entities. The text at least tacitly makes this point by referring to them as "lights" rather than by their names which coincided with the names of deities in the rest of the ancient Near East. Then he did the work so that they would govern as intended (v. 16). And finally he appointed them to their stations (v. 17). The conclusion is the familiar, "It was good" which, as we discussed last chapter, indicates that they are all prepared to function for the human beings that are soon going to be installed in their place.

DAY FIVE

In contrast to day four, where the functionaries were helping to accomplish the functions associated with the sphere which they inhabited, in day five the functionaries simply carry out their own functions in the cosmic space that they inhabit. The text addresses what they do (teem, fly) rather than the role they serve. But in the blessing God also gives them a function: to be fruitful and multiply. God created them capable of doing so, and it is their function to fill their respective realms.

Of particular interest is the specific attention paid to the "great creatures of the sea" in verse 21. Here the author returns to the verb he has not used since verse 1, *bārāʾ*, and which will only be used again in this chapter in verse 27. This use raises the significance of these creatures. In the ancient world the cosmic seas were populated with creatures that operated against the ordered system. Whether antithesis or enemy, they were viewed as threats to order, as they inhabited the region that was itself outside of the ordered system. This is the very reason why the author of Genesis would single them out for comment. Since there is no cosmic warfare or conquest in Genesis as is sometimes part of the ancient Near Eastern picture, the text indicates that these creatures are simply part of the ordered system, not enemies that had to be defeated and kept in check. In Genesis these creatures are fully under God's control.

DAY SIX

As with the creatures inhabiting cosmic space in day five, the animals inhabiting terrestrial space in day six are not functionaries that carry out the functions indicated in day three. Instead they carry out their own functions in that space. The text indicates their functions relative to their kind rather than functions relative to other inhabitants. They are viewed in their categories, and they reproduce after their own kind as part of the blessing of God. Their function is to reproduce and to fill the earth—this is what God made them to do. It is the wonder of creation that new generations of the same kinds of creatures are born from parent creatures. This is the same sort of marvel as the system that allows the plants to grow from seed.

One of the more intriguing elements in these verses is the subject and verb in verse 24 ("Let the land produce living creatures"). This is clearly not a scientific mode of expression, and the interpreter should not attempt to read in it scientific concepts. What would it refer to in an ancient Near Eastern context? As already mentioned, ancient Near Eastern texts do not often speak of the creation of animals, and when they do, it is generally a brief comment in passing. The closest statement to this one in Genesis comes from a work entitled The Exploits of Ninurta:

> Let its meadows produce herbs for you. Let its slopes produce honey and wine for you. Let its hillsides grow cedars, cypress, juniper and box for you. Let it make abundant for you ripe fruits, as a garden. Let the mountain supply you richly with divine perfumes.… Let the mountains make wild animals teem for you. Let the mountain increase the fecundity of quadrupeds for you.

The role of the land or the mountains in producing animals does not give us material information as if this were some sort of spontaneous regeneration or a subtle indication of an evolutionary process. Rather the land and mountain are locations of origin. This is where animal life *comes from*, not what it is *produced from*. It is similar to a child today asking where babies come from. Rather than needing a description of sperm and egg in fertilization and conception, the child only needs to be told that babies come from hospitals or from their mothers.

HUMANITY

The difference when we get to the creation of people is that even as they function to populate the world (like fish, birds and animals), they also have a function relative to the rest of God's creatures, to subdue and rule. Not only that, but they have a function relative to God as they are in his image. They also have a function relative to each other as they are designated male and female. All of these show the functional orientation with no reference to the material at all. It could be claimed that the material aspect is picked up in Genesis 2, and we will discuss that in a separate section at the end of this chapter.

Among all of the functional elements referred to in Genesis 1:26–30, the image of God is the most important and is the focus of the section. All of the rest of creation functions in relationship to humankind, and humankind serves the rest of creation as God's vice regent. Among the many things that the image of God may signify and imply, one of them, and probably the main one, is that people are delegated a godlike role (function) in the world where he places them.

It has already been mentioned that whereas in the rest of the ancient world creation was set up to serve the gods, a theocentric view, in Genesis, creation is not set up for the benefit of God but for the benefit of humanity—an anthropocentric view. Thus we can say that humanity is the climax of the creation account. Another contrast between Genesis and the rest of the ancient Near East is

that in the ancient Near East people are created to serve the gods by supplying their needs. That is, the role of people is to bring all of creation to deity—the focus is from inside creation out to the gods. In Genesis people represent God to the rest of creation. So the focus moves from the divine realm, through people, to the world around them. It would be like the difference between the employees in the plant who serve the company in the manufacturing process (like people in the ancient Near East) and the employees engaged in sales and marketing who represent the company to the outside world (like people in Genesis).

MATERIALS FOR HUMANITY

Even though Genesis 1 mentions none of the materials or material processes for human origins, Genesis 2 appears to offer just such a description. Therefore we will step briefly out of our focus on Genesis 1 to address this issue.

Ancient Near Eastern texts contain numerous references to humans being created out of a variety of materials, and we find a great deal of continuity between those reports and the biblical text. This again tells us that Genesis is working within the normal conceptual framework of the ancient Near East rather than forging new scientific trails.

The materials or ingredients that are attested in the ancient Near East are tears of a god (Egypt), blood of a god (Atrahasis), and the most common, clay (both Egypt and Mesopotamia). These ingredients are offered as common to all of humanity since the ancient Near Eastern texts only deal with the mass of humanity being created rather than an individual or a couple as in Genesis. This is an important difference as Adam and Eve are treated as individuals in chapters 4 and 5. This individual identity, however, does not change the significance of the reference to the materials in Genesis 2. The fact that the ancient Near East uses the same sorts of materials to describe all of humanity indicates that the materials have archetypal significance. Unlike a prototype (which is an original item that serves as a model for later production), an archetype serves as a representative for all others in the class and defines the class. So when the ancient Near Eastern texts speak of people being created from clay or the blood of a slain deity, they are not talking about just one individual, but are addressing the nature of all humanity.

This archetypal understanding applies also to Genesis 2. An individual named Adam is not the only human being made of the dust of the earth, for as Genesis 3:19 indicates, "Dust you are and to dust you will return." This is true of all humans, men and women. It is an archetypal feature that describes us all. It is not a statement of chemical composition nor is it describing a material process by which each and every human being is made. The dust is an archetypal feature and therefore cannot be viewed as a material ingredient. It is indicative of human destiny and mortality, and therefore is a functional comment, not a material one.

The situation is no different with the creation of woman. Being drawn from the side of man has an archetypal significance, not an anatomical one. This is the very aspect that the text draws out when it identifies the significance of the detail: "For this reason a man will leave his father and mother and be united to his wife, and they will become one flesh" (Gen 2:24). This is true of all mankind and all womankind. Womankind is archetypally made from the side of mankind. Again we can see that this is a functional discussion, not a material one. After chapter five of Genesis, Adam and Eve are never again mentioned in the Old Testament except in the opening genealogy in Chronicles. In the New Testament, the authors regularly treat Adam and Eve in archetypal terms.

Given these observations, we might conclude that Genesis does not have the same level of interest in the material origins of the first humans as we do. It focuses its attention on the archetypal origins of humanity, mankind and womankind. This interest is part of functional origins.

Humankind is connected to the ground from which we are drawn. Womankind is connected to mankind from whom she is drawn. In both male and female forms, humankind is connected to God in whose image all are made. As such they have the privilege of procreation, the role of subduing and ruling, and a status in the garden serving sacred space (Gen 2:15). All of these, even the last, were designed to be true of all human beings. Neither the materials nor the roles are descriptive only of the first individuals. This creation account gives people their identity and specifies their connectivity to everything around them.

SUMMARY

In days four to six the functionaries of the cosmos are installed in their appropriate positions and given their appropriate roles. Using the company analogy, they are assigned their offices (cubicles), told to whom they will report, and thus given an idea of their place in the company. Their workday is determined by the clock, and they are expected to be productive. Foremen have been put in place, and the plant is now ready for operation. But before the company is ready to operate, the owner is going to arrive and move into his office.[5]

[5] Walton, J. H. (2009). *The Lost World of Genesis One: Ancient Cosmology and the Origins Debate* (pp. 21–70). Downers Grove, IL: IVP Academic.

PROPOSITION

Current Debate About Intelligent Design Ultimately Concerns Purpose

HAVING NOW COVERED THE BIBLICAL and theological issues, we are ready to move into the discussion of contemporary issues. Specifically the next several chapters explore the impact of this view of Genesis 1 on our understanding of evolution, Intelligent Design and public education.

As we begin, it is most important to keep in mind that the view presented in the preceding chapters is what philosophers would label as "teleological"—by which they mean that the view involves God working with intention, purpose and a goal in every aspect of his role as Creator (which includes originating and sustaining). The obvious result of this is that all of creation is, by this definition, intelligent, and likewise, all of it is designed. Nothing could be considered accidental. Nothing happens "by itself," and origins are not just found in the outworking of natural laws. Nothing is really coincidence. In one of Orson Scott Card's novels one character quips, "Coincidence is just the word we use when we have not yet discovered the cause.… It's an illusion of the human mind, a way of saying, 'I don't know why this happened this way, and I have no intention of finding out.' "

Likewise, the fact that we believe that God did *X* does not mean that it is no longer subject to scientific investigation. Everything that exists and everything that happens is, in Christian thinking, ultimately an act of God. Yet in the layer cake model we have presented, that does not mean that scientific or historical inquiry should be cut off—they still have the potential of leading to understanding at a different level.

In recent decades a movement referred to as Intelligent Design has become prominent. Throughout the ages scientists have always admired the cosmos as evidencing design, though in more modern times, many scientists are more likely to talk about the "appearance" of design. The Intelligent Design movement (ID) insists that this appearance of design is not illusive, but is the result of an unidentified intelligent designer.

One of the primary ways the Intelligent Design movement has offered evidence for its contention is through the identification of what they call irreducible complexity. They have identified structures that require a multitude of parts that need to be functional all at once for the structure to continue to exist and do its job, therefore concluding that the structure could not have evolved one piece at a time. They make no consistent claims about the nature of the designer. They believe that these irreducible complexities show the weaknesses of Neo-Darwinian evolution (the reigning paradigm for understanding biological origins), but they have not gotten to the point where they have alternative scientific mechanisms to promote. In other words, ID does not offer a theory of origins. It offers conclusions from observations in the natural world and posits that those observations argue against the reigning paradigm of Neo-Darwinism. It must be noted, however, that even as many might grant weaknesses in the reigning paradigm, ID would only be one among many possible alternatives.

Protagonists of ID would like their claims and particularly their critique accepted as science. In the political realm, some have tried to force its adoption as an alternative to be offered in public education. The difficulty they face is that if there is intelligent design, there must logically be an intelligent designer. Given the existence of a designer, it would logically be inferred that such a designer is not simply playing games or being artistic, but is working with a purpose.[3] Science is not capable of exploring a designer or his purposes. It could theoretically investigate design but has chosen not to by the parameters it has set for itself (back to the layer cake analogy). Therefore,

while alleged irreducible complexities and mathematical equations and probabilities can serve as a critique for the reigning paradigm, empirical science would not be able to embrace Intelligent Design because science has placed an intelligent designer outside of its parameters as subject to neither empirical verification nor falsification.

In short, teleological aspects (exploration of purpose) are not in the realm of science as it has been defined and therefore could not be factored into a scientific understanding. ID *could* be considered as contributing to the scientific enterprise when it is offering a critique of the reigning paradigm because it offers scientific observations in its support. But it does not contribute to the advance of scientific understanding because it does not offer an alternative that is scientifically testable and falsifiable. Its basic premise is a negative one: that "naturalistic mechanisms (i.e., natural selection, random mutation) cannot fully account for life as we know it." ID does not deny the operation of naturalistic mechanisms—it simply finds them insufficient to offer a comprehensive explanation of all observable phenomena. It cannot offer at present a scientific hypothesis proposing alternatives. Consequently it can only offer inferences regarding science that can only be tracked currently by leaving the realm of science. Nevertheless proponents of ID would make a lesser claim that design itself is detectable and researchable and therefore can be subject to scientific investigation—the design element, not the nature or existence of the designer. They offer no theory of origins nor do they attempt to interpret the Bible or contribute to theological thinking.

Some would say that it is just plain and simple logic that some things are the product of design.

> Design seems to be a common thread that runs through the whole of nature. Time and again, in cases that have been cataloged since the dawn of biology, nature reveals that (1) its inhabitants are remarkably suited to fit their environment and (2) the various parts and systems that constitute organisms are remarkably suited to work in concert with one another.

No one finds a watch on the beach and thinks that it is a relic of nature; no one looks at Mount Rushmore and concludes that it is the result of wind and erosion. But when these products of intelligent design are recognized, the process to understand them becomes a historical one, not a scientific one. To recognize them as products of design is to remove them from the arena of scientific investigation.

Intelligent Design has been criticized as being a God of the gaps approach. "God of the gaps" says that if there is no known naturalistic explanation of an observable phenomenon, that phenomenon is attributable to God. The unfortunate result of this way of thinking is that as scientific knowledge grows and more phenomena are explained, the role of God shrinks away. While ID vehemently denies being a God of the gaps approach, the logical hurdle is that if they believe that naturalistic explanations are insufficient, design in nature can only be established beyond reasonable doubt if all naturalistic explanations have been ruled out.[6] Proving a negative logically requires that all possibilities have been considered, which in turn requires that all possibilities are known. As a result design cannot be established beyond reasonable doubt (it would be presumptuous to suggest that knowledge is so exhaustive that all possibilities are known), and it can only fall back on the claim that the *currently proposed* naturalistic mechanisms do not suffice. Design is thus attributed to observable phenomena that carry characteristic hallmarks of design (in an ID way of understanding) that cannot be explained by naturalistic mechanisms. This list ends up looking very much like the God of the gaps list.

Neo-Darwinism (N-D) is in no more attractive a position. While ID says that irreducible complexity provides evidence for design, N-D swings the pendulum in the opposite direction. It responds to the claims of irreducible complexity by proposing components that might have come together to produce what now appears to be irreducibly complex. Even if such an explanation cannot be found, or is criticized as being far-fetched, the underlying assumption is that there *must be one* (presumably because all phenomena *must* be the result of naturalistic mechanisms). Both then are ultimately based on metaphysical premises. ID has defined itself to allow a metaphysical acceptance of purpose (teleology), while some proponents of N-D presuppose by definition a metaphysical acceptance of "dysteleology"—that there can be no purpose or goal. In effect then ID suggests that there is warrant for opening scientific investigation to teleological possibilities. Mainstream science contends that dysteleology must be retained in its self-definition. At this point they are not willing to rewrite the current rules of science to allow for either intelligence or design. Having said this, it must be reiterated that whatever definitions of science may be and whatever scientific methods may be allowed or disallowed, the existence of purpose is unaffected.

Perhaps there are other naturalistic mechanisms beyond random mutation and natural selection that offer better explanations for observable phenomena (and along the way show more promise of explaining how presumably irreducibly complex phenomena came to be). Just such approaches are constantly being proposed and developed. What has been referred to as "meta-Darwinism" includes a variety of (independent) proposals for naturalistic mechanisms that do not supplant natural selection and random mutation, but relegate them to a different role in the developmental process of organisms. These proposed mechanisms include endosymbiosis, developmental mutations (evo-devo), multilevel selection and complexity theory (self-organization). Of course these do not resolve the metaphysical issues if they still operate with dysteleological presuppositions. Some, to their credit, attempt to be neutral with respect to teleology. The stricture remains against making any explicit appeal to purpose in scientific explanations. To appeal to purpose is to shift to a different kind of explanation (e.g., metaphysical, theological).

Consequently we find that even as ID proposes that N-D fails to provide adequate naturalistic mechanisms to explain the existence of "irreducible complexities," the response of science has *not* been to admit that there must be a designer. Instead critique from a variety of sources has prompted continuing work to offer alternative naturalistic mechanisms that will remedy the inadequacies of N-D. This is how science works—it seeks out other scientific explanations. If scientists simply threw up their hands and admitted that a metaphysical, teleological explanation was necessary, they would be departing from that which is scientific.

The question is whether we can assume such hard and fast lines of distinction between the scientific and the metaphysical. It is true that observations can be put into one category or the other, but the fact is that such a categorization is artificial because none of us has a worldview comprised of only one of them. Science and metaphysics blend together in life. Can science be taught with no metaphysical aspect? Should metaphysics be isolated from the sciences? These questions will be dealt with in future chapters.

In conclusion, this chapter has introduced ID as both a critique of N-D, in which sense it alleges to be scientific, but also as offering an understanding of the world that is ultimately teleological—purposeful—in which sense it departs from the realm of scientific investigation and theorization.[6]

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[6] Walton, J. H. (2009). *The Lost World of Genesis One: Ancient Cosmology and the Origins Debate* (pp. 124–130). Downers Grove, IL: IVP Academic.

PROPOSITION

The Seven Days of Genesis 1 Do Not Concern Material Origins

PREVIOUS CHAPTERS PROPOSED that Genesis 1 is not an account of material origins but an account of functional origins, specifically focusing on the functioning of the cosmos as God's temple. In the last chapter we identified the seven days of creation as literal twenty-four-hour days associated with the inauguration of the cosmic temple—its actual creation, accomplished by proclaiming its functions, installing its functionaries, and, most importantly, becoming the place of God's residence.

One of the most common questions about this view comes from those who are struggling with the worldview shift from material orientation to functional orientation (a difficult jump for all of us). In a last effort to cling to a material perspective, they ask, why can't it be both? It is easy to see the functional orientation of the account, but does the material aspect have to be eliminated altogether?

In answer to this question, if we say that the text includes a material element alongside the functional, this view has to be demonstrated, not just retained because it is the perspective most familiar to us. The comfort of our traditional worldview is an insufficient basis for such a conclusion. We must be led by the text. A material interest cannot be assumed by default, it must be demonstrated, and we must ask ourselves why we are so interested in seeing the account in material terms. In previous chapters I have proposed the following:

- The nature of the governing verb (*bārāʾ*, "create") is functional.
- The context is functional (it starts with a nonfunctional world in Gen 1:2 and comes back to a functional description of creation after the flood in Gen 8:22).
- The cultural context is functional (ancient Near Eastern literature).
- The theology is functional (cosmic temple).

These provide some significant evidences of the functional perspective.

If we turn our attention to the possible evidences for the material interests of the account we find significant obstacles:

- Of the seven days, three have no statement of creation of any material component (days 1, 3 and 7).
- Day two has a potentially material component (the firmament, *rāqîʿa*), but no one believes there is actually something material there—no solid construction holds back the upper waters. If the account is material as well as functional we then find ourselves with the problem of trying to explain the material creation of something that does not exist. The word *rāqîʿa* had a meaning to Israelites as referring to a very specific object in their cosmic geography. If this were a legitimate material account, then we would be obliged to find something solid up there (not just change the word to mean something else as concordists tend to do). In the functional approach, this component of Old World science addresses the function of weather, described in terms that they would understand.
- Days four and six have material components, but the text explicitly deals with them only on the functional level (celestial bodies for signs, seasons, days and years; human beings in God's image, male and female, with the task to subdue and rule).

- This leaves only day five in discussion, where functions are mentioned (e.g., let them swarm) and the verb *bārāʾ* is again used. As a result, it is difficult to sustain a case that the account is interested in material origins if one does not already come with that presupposition.

If the seven days refer to the seven days of cosmic temple inauguration, days that concern origins of functions not material, then the seven days and Genesis 1 as a whole have nothing to contribute to the discussion of the age of the earth. This is not a conclusion designed to accommodate science—it was drawn from an analysis and interpretation of the biblical text of Genesis in its ancient environment. The point is *not* that the biblical text therefore supports an old earth, but simply that there is no biblical position on the age of the earth. If it were to turn out that the earth is young, so be it. But most people who seek to defend a young-earth view do so because they believe that the Bible obligates them to such a defense. I admire the fact that believers are willing to take unpopular positions and investigate all sorts of alternatives in an attempt to defend the reputation of the biblical text. But if the biblical text does not demand a young earth there would be little impetus or evidence to offer such a suggestion.

If there is no biblical information concerning the age of the material cosmos, then, as people who take the Bible seriously, we have nothing to defend on that count and can consider the options that science has to offer. Some scientific theories may end up being correct and others may be replaced by new thinking. We need not defend the reigning paradigm in science about the age of the earth if we have scientific reservations, but we are under no compulsion to stand against a scientific view of an old earth because of what the Bible teaches.

One of the sad statistics of the last 150 years is that increasing numbers of young people who were raised in the environment of a biblical faith began to pursue education and careers in the sciences and found themselves conflicted as they tried to sort out the claims of science and the claims of the faith they had been taught. It seems to many that they have to make a choice: either believe the Bible and hold to a young earth, or abandon the Bible because of the persuasiveness of the case for an old earth. The good news is that we do not have to make such a choice. The Bible does not call for a young earth. Biblical faith need not be abandoned if one concludes from the scientific evidence that the earth is old.

At this point a very clear statement must be made: *Viewing Genesis 1 as an account of functional origins of the cosmos as temple does* not *in any way suggest or imply that God was uninvolved in material origins—it only contends that Genesis 1 is not that story*. To the author and audience of Genesis, material origins were simply not a priority. To that audience, however, it would likewise have been unthinkable that God was somehow uninvolved in the material origins of creation. Hence there wouldn't have been any need to stress a material creation account with God depicted as centrally involved in material aspects of creation. We can understand this issue of focused interests through any number of analogies from our own world as we indicated in chapter two with the examples of a company and a computer. Many situations in our experience interest us on the functional level while they generate no curiosity at all about the material aspect.

Our affirmation of God's creation of the material cosmos is supported by theological logic as well as by occasional New Testament references. By New Testament times there was already a growing interest in material aspects and so also a greater likelihood that texts would address material questions. Speaking of Christ, Paul affirms, "For by him all things were created: things in heaven and on earth, visible and invisible, whether thrones or powers of rulers or authorities; all things were created by him and for him. He is before all things, and in him all things hold together" (Col 1:16–17). This statement can certainly be understood to include both the material and the functional. Hebrews 1:2 is less explicit as it affirms that the Son is appointed the heir of all things

and that through him God made the "universe." Here it must be noted that the word translated "universe" is *aiōnas*, not *kosmos*—thus more aptly referring to the ages of history than to the material world (the same in Heb 11:3).

The theological point is that whatever exists, be it material or functional, God made it. But from there our task as interpreters is to evaluate individual texts to see what aspect of God's creation they discuss.

Finally we need to address the question of what actually happens in the seven days. What would a comparison of the "before" and "after" pictures look like? What would an observer see if able to observe the process of these seven days? On these we can only speculate, but I will try to explore the implications of this view.

The functional view understands the functions to be decreed by God to serve the purposes of humanity, who has been made in his image. The main elements lacking in the "before" picture are therefore humanity in God's image and God's presence in his cosmic temple. Without those two ingredients the cosmos would be considered nonfunctional and therefore nonexistent. The material phase nonetheless could have been under development for long eras and could in that case correspond with the descriptions of the prehistoric ages as science has uncovered them for us. There would be no reason to think that the sun had not been shining, plants had not been growing, or animals had not been present. These were like the rehearsals leading up to a performance of a play. The rehearsals are preparatory and necessary, but they are not the play. They find their meaning only when the audience is present. It is then that the play exists, and it is for them that the play exists.

In the "after" picture the cosmos is now not only the handiwork of God (since he was responsible for the material phase all along, whenever it took place), but it also becomes God's residence—the place he has chosen and prepared for his presence to rest. People have been granted the image of God and now serve him as vice regents in the world that has been made for them. Again it is instructive to invoke the analogy of the temple before and after its inauguration. After priests have been installed and God has entered, it is finally a fully functioning temple—it exists only by virtue of those aspects.

What would a college be without students? Without administration and faculty? Without courses? We could talk about the origins of the college when it first opened its doors, enrolled students for the first time, hired faculty, designed courses and offered them and so on. In another sense this process is reenacted year by year as students return (or are newly enrolled), faculty again inhabit their offices, courses are offered. Anyone in academics knows the difference between the empty feel of campus during the summer compared to the energy of a new semester beginning.

Before the college existed, there would have been a material "construction" phase. What a mess! Partially built buildings, construction equipment, torn up ground and so forth. This is all part of a campus taking shape—but it is only preliminary to a college existing, because a college is more than a campus.

What would the observer have seen in these seven days of Genesis 1? At one level this could simply be dismissed as the wrong question. It continues to focus on the eyewitness account of material acts. But perhaps we can indulge our imagination for a moment as we return to the analogy of the college.

The main thing that happens is that students arrive. But even that would not necessarily mean much if faculty did not begin offering courses. In the light of those two events, however, everything else that was there all along takes on energy and meaning. The course schedule brings order to time. Time had been there all along, but the course schedule gives time a meaning to the college

and the students. Even the course schedule had been there a long time (designed months earlier with students registering), but it has no existence until the semester begins. Dorms had existed filled with furniture. But now students inhabit the dorms and the furniture begins to serve its function.

The observer in Genesis 1 would see day by day that everything was ready to do for people what it had been designed to do. It would be like taking a campus tour just before students were ready to arrive to see all the preparations that had been made and how everything had been designed, organized and constructed to serve students. If Genesis 1 served as a liturgy to reenact (annually?) the inauguration of the cosmic temple, we also find a parallel in the college analogy as year by year students arrive and courses begin to bring life and meaning to the campus.

DEATH

Some might object that if the material phase had been carried out for long ages prior to the seven days of Genesis, there would be a problem about death. Romans 5:12 states unequivocally, "Therefore, just as sin entered the world through one man, and death through sin, and in this way death came to all men, because all sinned." Interpreters have inferred from this verse that there was no death at any level prior to the Fall, the entrance of sin. But we should notice that the verse does not say that. Paul is talking about how death came to people—why all of humanity is subject to death. Just because death came to *us* because of sin, does not mean that death did not exist at any level prior to the Fall.

Not only does the verse not make a claim for death in general, everything we know logically repudiates the absence of death at any level prior to the Fall. Day three describes the process by which plants grow. The cycle of sprouting leaves, flowers, fruit and seeds is one that involves death at every stage. This system only functions with death as part of it. Likewise with animals: we need not even broach the topic of predatory meat eaters to see that the food chain involves death. A caterpillar eating a leaf brings death. A bird eating the caterpillar brings death. Fish eating insects brings death. If animals and insects did not die, they would overwhelm their environment and the ecology would suffer. Furthermore, if we move to the cellular level death is inevitable. Human skin has an outer layer of epidermis—dead cells—and we know that Adam had skin (Gen 2:23).

All of this indicates clearly that death did exist in the pre-Fall world—even though humans were not subject to it. But there is more. Human resistance to death was not the result of immortal bodies. The text indicates that we are formed from the dust of the earth, a statement of our mortality (for dust we are and to dust we shall return, cf. Gen 3:19). No, the reason we were not subject to death was because an antidote had been provided to our natural mortality through the mechanism of the tree of life in the garden. When God specified the punishment for disobedience, he said that when they ate, they would be doomed to death (the meaning of the Hebrew phrase in Gen 2:17). That punishment was carried out by banishing them from the garden and blocking access to the tree of life (Gen 3:23–24). Without access to the tree of life, humans were doomed to the natural mortality of their bodies and were therefore doomed to die. And so it was that death came through sin.[7]

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[7] Walton, J. H. (2009). *The Lost World of Genesis One: Ancient Cosmology and the Origins Debate* (pp. 92–100). Downers Grove, IL: IVP Academic.

#2 - Literary Framework by Mark Futato

What Do We Expect Genesis 1–2 to Teach Us?

What Do the Scriptures Principally Teach?

Let's begin our discussion of how to read Gen 1 with the question that comes from the Westminster Shorter Catechism: "What do the Scriptures principally teach?" And my kind of paraphrase of the answer to that question is that the Scriptures principally teach what we're to believe about God and how we are to live before God. That, I think, is a good summary of what the Scriptures principally teach. And I think the reason why the Westminster Shorter Catechism gives this kind of answer is because it's really summarizing the Bible's own answer to that question, an answer that's found, for example, in 2 Tim 3:16–17 that says, "All Scripture is God-breathed and is useful for teaching, rebuking, correcting and training in righteousness, so that the servant of God may be thoroughly equipped for every good work."

Theological Expectations of Genesis 1–2

Expectations Will Be Fulfilled

Now related to the question "What do the Scriptures principally teach?" is another question, and that is: "What do we expect Gen 1 to teach?" Because it will be the case that whatever expectations we bring to the text will tend to find fulfillment. If we expect the text to be teaching us a scientific view of the world in which we live, we'll tend to find that; if we don't expect that, we'll tend not to find that. So, what do we expect Gen 1–2 to teach?

Theology not Astronomy

Well, Galileo made his answer to that question very clear in the pithy saying, "The Bible tells us how to go to heaven, not how the heavens go," and Galileo was really in keeping with the perspective of John Calvin on this issue. John Calvin said, "The Holy Spirit had no intention to teach us astronomy," and he said, "He who would learn astronomy, and other recondite arts, let him go elsewhere." These are comments of Calvin in particular with regard to the fourth day of creation. And so neither Galileo nor Calvin expected the story in Gen 1 to tell us how the heavens go or to teach us astronomy or more broadly to give us a scientific perspective on the universe in which we live. Rather they expected the text to give us a theological perspective.

I expect the Bible, Gen 1 in particular, to teach us about ultimate cause, not to teach us about proximate cause. I expect it in short to teach us theology, not to teach us science. And the reason why this is my expectation is because I think this is the expectation that is in keeping with the original intention of Moses in communicating with his original audience.

Dr. Bruce Waltke has said, "The intense debate between creationists and other scientists … over this text results from a misreading, an attempt to read the narrative through a lens not intended [or we could say, not expected] by the … author." Our expectations must be informed by the expectations of the original audience. And so when we look at the kind of macrostructure of Gen 1 and some of the micro exegetical details, we'll be doing so as best we can to read those as ancients.

Eight Creative Acts in Six Days

One Creation Story

Let's take a look at the macro structure of the creation account in Gen 1, and the first thing to see is that we have an account of creation that presents eight creative acts in six days. Now, because there are eight creative acts in six days, some scholars have been inclined to see that Gen 1 contains a blending of two originally different creation stories—one story about how deity created with eight acts, and one story about how deity created in six days.

But as we look at how these eight acts in six days are laid out, we'll see that there's a perfect symmetry that arises, so that it's really better to understand this as obviously one original text that blends the eight creative acts with the six days. And when we see this structure, it's one indication that the text has been topically arranged to teach theology—that is, who created, and why did He create? It's not chronologically arranged to teach science: How did deity create, and when did the creation take place?

"And God Said"

So we see that on day one, we have one creative act signaled by "and God said." On day two, we have a second creative act signaled by "and God said." On day three, however, we have two creative acts: "and God said," "and God said." Then when we go to day four, we have one creative act: "and God said." On day five, we have one creative act: "and God said." And on day six, we have two creative acts: "and God said," "and God said."

And so the structure of the three days with four acts and three more days with four acts that parallel each other show us a beautiful symmetry in the text. This doesn't look like two different stories sewn together but one original story with a high level of integrity.

And we also see that, in some sense, day three is, let's just say, heavier, weightier than day one and two, and similarly, day six is heavier, weightier than day four and day five. It looks like we have two triads—two triads that come to some kind of culmination, some kind of weightier significance in day three and in day six, which parallel each other by their weightiness.

"And God Saw That It Was Good"

Now another detail here is that we have a repeated refrain throughout the days of creation: "and God saw that it was good." Now what's interesting is this phrase, "and God saw that it was good," is missing on day two, and it's also missing on day seven. And what that does is it frees us up numerically to have "and God saw that it was good" twice on day three and twice on day six—day three, "and God saw that it was good," "and God saw that it was good"; day six, "and God saw that it was good," "and God saw that it was *very* good." So not only are days three and six weightier, heavier, more significant in some way because each has two creative acts, but also each has two repetitions of "and God saw that it was good." These are literary indications that something significant is going on with day three and day six.

Days 1–3 and Days 4–6

Now there are some other correlations between days one through three and days four through six. For example, on day one, we have the creation of light; on day four, we have the creation of lights. On day two, we have the creation of sea and sky; on day five, we have the creation of the fish that swim in the sea and the birds that fly in the sky. On day three, we have the creation of land and the creation of the land animals who live on the land, and then at the end—at the end of day three (the first strand), at the end of day six (the second strand)—we have vegetation created on day three and humans created on day six.

Now all of the correlations look very nice and neat except that last one: vegetation and humanity. That seems a little odd to us until, for example, we think about the fact that the original readers of this text were farmers. So there's a natural connection between vegetation and humanity. But in particular, when we look at the specifics of the text, we can see this connection between vegetation and humanity. At the end of day three, it says, "Let the land produce vegetation," and in particular, it refers to that vegetation as "seed-bearing plants." And it also represents it as "trees on the land that bear fruit with seed in it." So the vegetation is broken down into two large groups, neither of which align well with modern taxonomy. But from an ancient point of view, we have seed-bearing plants and trees on the land that bear fruit with seed in it.

Well, on day six, when God gives food to eat to the humans, He says, "I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it." Again, we see that same twofold taxonomy of plant life, and that twofold taxonomy of plant life that is given to humans matches perfectly the vegetation as described on day three. And so the vegetation at the end of the first triad and humanity at the end of the second triad really are a natural ancient pair: one, because the humans were farmers producing vegetation for food; and two, the language of the text itself with this clear repetition is correlating the second act in day three with the second creative act in day six.

Dischronologization

What Is Dischronologization?

At this point, I want to introduce the concept of dischronologization. Dischronologization is the phenomenon whereby authors—and in our case, in particular, ancient Hebrew authors—will tell story out of chronological order. There might be features on the surface of the text that look chronological, but when we take a closer look, the story is actually dischronologized; it's told out of chronological order. And that happens in a number of places in the OT, and I, along with others, would argue that that happens not only in Gen 2, but also in Gen 1. But before we go there, let's look at a couple of other examples of dischronologization.

Examples of Dischronologization

Temptation of Jesus

If we're reading the temptation narrative in the Gospel of Matthew, we read that Satan tempted Jesus to turn stones to bread, throw Himself down off of the temple, and then worship Satan. However, if we read that same story in Luke, we read that Satan tempted Jesus to turn stones to bread, to worship him, and then to throw Himself down off of the temple. We have two different chronological orders. Now, it's possible that neither of these authors has chronology in view. It's possible that one has chronology in view and the other doesn't. If I were going to pay my money and take my pick, I would say that Luke the physician would be more likely to put things in chronological order than Matthew, who was more of the artist.

But the point is, our exegetical question is not: Which is the order that really took place in time and space? Our exegetical question is: Why does Matthew give us his order? What's he teaching us by that order? And why did Luke give us his order? What is he teaching us by that order? And I doubt that part of the answer to either of those questions is: "Well, because this is the order that it actually happened in in real time and space." No, they have theological reasons for shaping the text the way they do, for dischronologizing the text. Now this is not to say that they falsified anything, because ancients were aware that you could tell a story in chronological order or you could tell it in topical order, much like we could rehearse what we did on vacation either chronologically or topically—just different ways of presenting the data.

Jesus Cleansing the Temple and Cursing the Fig Tree

Or we could turn to the sequence of Jesus cleansing the temple and cursing the fig tree. When we read the Gospel of Matthew in chapter 21, Jesus cleanses the temple and then He curses the fig tree. But when we read these accounts in the Gospel of Mark, Jesus curses the fig tree and then He cleanses the temple. Somebody, at least one of these authors, has dischronologized the text.

Well, we could multiply examples, but [it's] enough to show that when we're talking about dischronologization in Gen 1, we're not talking about something that is unique to that text but

something that happens throughout the pages of Scripture. Well, with that in mind, let's take a look in particular at day one and day four and ask a couple of questions.

Dischronologization in Genesis 1

What Did God Accomplish on Day One?

What did God accomplish on day one? Now I'm going to just be using some English vocabulary to represent the underlying Hebrew text, but there are key repetitions of vocabulary in Hebrew on day one and on day four. What did God accomplish on day one? Well, the verb that is used is the verb that is "divide" or "separate," depending on your English translation. God divided things; that's what He accomplished. In particular, He divided light from darkness and He divided day from night. So by the end of day one, God has accomplished something in the creative process; He has divided light from darkness and He has divided day from night. That's done.

The Purpose of the Sun and Moon

Now, let's ask the question with regard to day four. What's the purpose of the sun and the moon? Well, we find that word "divide" again—or "separate," if that's the translation that your English version uses. The sun and the moon divide; they separate, and what do they divide or separate? Well, they divide light and darkness; they divide day and night. And I ask myself the question, "Why did God need to create the sun and the moon to divide light from darkness and day from night, if light from darkness had already been divided on day one and day from night had already been divided on day one?" It seems that day four is, so to speak, a waste of time and energy; everything's already done on day one that day four intends to do.

Reading Like the Ancients

Well, I think that's looking at it kind of from a modern point of view. I think any ancient, when an ancient came to day four and saw that word "divide," [would say,] "Oh, I remember that from day one"; saw the words "light" and "darkness," "I remember that from day one"; saw the words "day" and "night," "I remember that from day one." Ancients would have realized that day four is not chronologically sequential to day one, but day four is really giving us another perspective on day one.

Day one tells us certain things about light—in particular, the ultimate source of light. The ultimate source of light is not the sun; it's not the moon. The ultimate source of light is God, and had Moses brought in sun and moon that would not have been so clear. Keep in mind that ancient Canaanites and other ancient people saw sun and moon as deity, and Moses wanted to make clear (God wanted to make clear through Moses) that there was not this kind of confusion in the minds of the ancient Israelites. And so, first of all, God says on day one that He is the source of light. He is the source of the division of light and darkness, day and night. Well then, in day four, He goes on to give us more detail about how it is that He did that, so to speak. He did that by creating the sun and the moon as the proximate source of day, not the ultimate source.

And so we can see, I think, that this text is not intending to give us things that were sequentially taking place in creation. That's a very modern question, not an ancient question. This text is answering very ancient questions like, who is the ultimate source of light? And who is the ultimate source of the division of light and darkness and day and night? And are sun and moon deities to be worshiped? Or are they simply created elements that God has used in the process of dividing light from darkness and day from night? So I think it would be off track to read day four as chronologically sequential; I don't think ancients would have read it that way. They would have read this text as teaching and amplification in day four of what took place on day one.

A Neglected Text

Job 38:4–7

Morning Stars

Now with regard to the dischronologization of Gen 1, there is what I call a "neglected text," and that text is Job 38:4–7. And there, God asked Job a series of questions that pertain to the first part of the third day of creation when God was forming the dry land. God says, "Where were you when I laid the earth's foundation? Tell me, if you understand. Who marked off its dimensions? Surely you know! Who stretched a measuring line across it? On what were its footings set, or who laid its cornerstone?"

So God asked Job all of these questions: What does he know in particular about the first half of day three when God was forming the dry land? And then God says, "… while the morning stars sang together and all the angels shouted for joy." Now what's interesting here is that the morning stars are not created until day four. The question is: How can the stars that are created on day four be singing while watching God bring about the production of dry land on day three? This text makes no chronological sense if we're holding rigidly to a chronological sequence in Gen 1. Either there's a problem in the chronology in Genesis, or there is a problem in the chronology in Job. Or maybe by pushing these chronological questions, we're just pushing questions that the ancient text doesn't want us to push.

Potential Solution

Now there is a solution to this problem. You'll notice that it says, "… while the morning stars sang together and all the angels shouted for joy," and this is poetry; this is a poetic line, and it's often the case that people understand poetic lines to kind of be saying the same thing twice in different words. And so perhaps the morning stars are not a reference to stars; perhaps they are a poetic reference to the angels.

Argument for "Stars" Interpretation

Well, one problem with that is it's not typically the case that Hebrew poetic lines say the same thing twice in different words. More of the time, it's the case that a Hebrew line says something similar—twice with a difference in the second half—and so the difference would be that while God is forming the dry land, not only are the morning stars singing together, but also all of the angels are joining in. And so the natural way to read the poetic line is that morning stars and angels are not the same thing, but they're, in fact, different.

And this finds support in an earlier text in Job (Job 3:9), which says, "May its morning stars become dark; may it wait for daylight in vain and not see the first rays of the dawn." And here, the morning stars are clearly just that: morning stars, and if there are morning stars in Job 3, then they're, in all likelihood, morning stars in the later text as well. Certainly the burden of proof would

be for somebody to demonstrate that in the first text that we read, the morning stars are something other than what we'd expect them to be: morning stars.

Dischronologization and the Emphasis of Genesis 1

And so when we look at this Job text, it also supports the idea that we can't read Gen 1 with any kind of strict chronology. Other biblical texts, as well as Gen 1 itself, do not lead us in that direction. Rather the direction that the dischronologization of Gen 1 leads us to is to see that there is a topical arrangement with an emphasis on day three and day six and a particular emphasis on what we could call day 3b (the second act of creation: vegetation) and day 6b (the second act: the creation of humanity), because this text in particular is written to an ancient agrarian society, which is asking itself the question, where are we going to get the grain that we need in order to live, in order to survive? And the answer is that it is the God of Israel, who from the very beginning has been the provider of vegetation for humanity, and so in particular, one ought not to turn to Baal or any other Canaanite deity to look for the supply of the vegetation that leads to life.

These are theological questions that the text is intending to answer, not modern scientific questions. The text is teaching us about, metaphorically speaking, how to go to heaven, not how the heavens go. The text is not teaching us, in Calvin's words, astronomy or "other recondite arts." It's teaching us theology about the true and living God and about humanity and how humanity fits into the world that God has made.

Two Pictures of the World

Modern Picture

The picture that you're looking at is actually a picture of the world taken from a satellite some distance from the world. And you'll see in the top right-hand corner a small round object, which is actually our moon, and there's nothing really surprising about this picture to us as moderns. What I would like you to do for a moment is try to imagine if an ancient Israelite came across this picture as a drawing somewhere on a wall or on a monument—this very picture as an ancient drawing—do you think the ancient Israelite would have had any idea about what he or she was looking at? I daresay they would have looked at this and they would have been relatively clueless. I doubt very much that they would have looked at this and said, "Oh! Yes, that's the earth. And oh! Yes, that's our moon." They didn't have this modern picture available to them. They didn't have satellites to provide them with this kind of picture.

Ancient Picture

Now, let's look at a different picture. This picture that you're now looking at I think would have been very much at home to the ancient Israelite. They would have looked at this and said, "I understand that; that really correlates with the world in which I live." There's the earth on its foundations. There is the water under the earth. There is the sea on the one side and the sea on the other side, because we know that "The LORD reigns," in the language of the psalmist, "from sea to sea," and there's the firmament above with the sun and the moon and the stars. And there are the windows of heaven that allow the water that is above the firmament to come down onto the earth in the form of rain. And above all of it, as Psa 104 says, there is God's upper chambers from which He reigns over the universe as king.

This ancient picture would have made sense to the ancient Israelite in a way that the previous modern picture would not. And conversely, if we're honest, we look at this ancient picture, and it doesn't make a lot of sense to us as moderns, because ancients and moderns had a different picture in their minds with regard to the universe in which they live.

Theological Implications of the Ancient Picture

Now what we want to do at this point is look at a series of exegetical arguments that really unpack this modern picture, or rather not the modern picture, but the ancient picture of the universe, and we want to see how the elements in this picture arise right out of the language of the text. And one of the reasons I'm doing that is so that we can have a good picture in our minds as to how the ancient Israelite viewed the world, because their theology is tied up with this picture, and if we lose this picture, we lose the theology.

But I also want to look at this language carefully, because by looking at this language carefully, we will see that this language doesn't correlate; it doesn't harmonize with our understanding from a modern scientific perspective of the world in which we live. And so looking at the details of this picture via the details of the language in the text is a significant argument as to why we do not read the text literally in Gen 1 and in a myriad of other places as the OT is describing the world in which we live.

The Firmament (Gen 1:6–7)

Figurative Language

Having looked at some macro exegetical considerations that lead us to read Gen 1 topically rather than chronologically, let's turn our attention now to some micro exegetical details which I don't think anybody interprets literally. Even those who say they interpret Gen 1 literally, I think they only interpret some of the text literally, but not all of it. Let's look at some of these micro details that I think require us, at least to some degree, to read the text figuratively and not literally.

The Firmament

Various Translations for *Raqia'*

And the first is what has traditionally been referred to as the "firmament" in Gen 1:6–7, and modern translations have moved away from this good old word "firmament." The ESV, for example, uses the word "expanse"; the NIV uses the word "vault"; but the King James uses the word "firmament," and I think for good traditional reasons. And while it's an odd word, were I on a translation committee working on Gen 1, I would argue that "firmament" is still the best translation for the underlying Hebrew word, and what is that underlying Hebrew word? Well, it's the word *raqia'*.

The Literal Meaning of *Raqia'*

And the *Dictionary of Biblical Languages: Hebrew* says this about *raqia'*: "Though to the modern mind the expanse of the sky"—that's the *raqia'*—"is void of empty space, it is perceived as a 'solid' space (hence *firmament*) and is so a kind of base to hold up highly heavenly objects such as water or a throne." So the *Dictionary of Biblical Languages: Hebrew* is saying that this word *raqia'* has some sense of being solid. It must be solid because, in our text, it's holding something up, namely water, and in other texts like Psa 104, God's heavenly throne room is above and set on this firmament.

Now if we were to look at Exod 3:3–9, we would find the verb that is related to the noun *raqia'*, and that verb is used in the sense of beating out a hard, solid piece of metal. And so if the verb means to beat out a solid piece of metal, it makes sense that *raqia'*, which is a passive form in Hebrew, is that solid piece of metal that is beaten out into a certain shape. In Numbers 16:38, there's a related noun to *raqia'* and that is *riqqua'*, which is also a passive form and that also refers to metal that has been beaten out into a piece, into a certain shape. And so the Hebrew word *raqia'* and the related verb and the related noun, they all really make sense; they make sense that that firmament is pictured as a piece of metal, a solid dome that has been put in place by God.

The Metaphoric Meaning of *Raqia'*

Now I don't think that the ancients actually thought that the firmament was a solid piece of metal. One of the reasons I don't think so is because other texts will liken the firmament to a tent cloth,

which is soft and supple. I think these are all various metaphorical ways that the ancients are describing the world that they lived in. I don't think they took them literally, and if they didn't take them literally, I don't think we ought to take them literally either.

The Best Translation for *Raqia'*

Now this *raqia'*, I've been saying that the Hebrew leads us to conclude that it is a solid dome over the earth, metaphorically speaking. Well, that certainly is confirmed by the Latin translation of this Hebrew word. The Latin translation is *firmamentum*, and notice that *firm*. The reason why the Latin uses *firmamentum* is because they thought it was firm, and this is why the King James, in following the tradition of the Latin translation, uses the word "firmament." Firmament has that firm idea built into it, which is why I think this is a better word than "vault"; it's a better word than "expanse," because the word "firmament" captures this firm sense that is embedded in the Hebrew word *raqia'*.

The Waters above the Firmament

Now having seen, then, that the firmament is solid (metaphorically speaking that is), we're in a position to understand the waters that are above the firmament. Again, these are referred to in Gen 1:6–7. The waters above the firmament, they are also called the "waters above the heavens" in Psa 148:4. Now, how do these waters that are above the firmament stay there? Well, the reason why they stay there is because there is this solid firmament dome that is holding them in place.

You see, a question that I have is: What are the waters that are above the firmament? And I don't think you can give an answer to that question that correlates with a modern scientific understanding of the world, but more on that momentarily. What we've seen so far in Gen 1 is that the language presents a coherent picture (albeit not a modern scientific one) that there is a firmament that is above the land and that firmament holds back the waters—what we could call the "celestial waters." Remember, originally everything down here was wet, and God puts the firmament in place to separate the waters above the firmament from the waters below the firmament. And that only makes sense, this separation only makes sense, if there's something firm that is holding those waters up. Again, I don't think anybody takes this language literally. They're going to come up with some other way to explain it other than a literal firmament holding up literal water because the firmament is solid.

The Windows of Heaven

Now while not mentioned directly in Gen 1, we need to bring into the discussion at this point another concept that you find elsewhere in the Hebrew Bible variously translated. I'm going to use the expression "the windows of heaven." You may recall in Gen 7:11, when the flood begins, God opens up the windows of heaven. Now, why does He need to open up windows, the windows of heaven? Well, the reason for that is because the water is being held back by the firmament, and so there's no way for the water that is above the firmament to come down onto the earth unless God opens up the windows. And then in Gen 8:2, as the flood is starting to come to an end, God closes the windows. Now why does God close the windows in the firmament? He closes them, so that no more water will come through.

Malachi 3:10 uses this same language. With regard to tithing, Malachi says, " 'Test me in this,' says the LORD, 'and see if I will not open up the windows of heaven and pour out a blessing on you.' " Now time does not permit, but were we to understand the climate and the geography of ancient Israel and the agrarian society and the fact that ancient Israelites farmed without the aid of any irrigation—but they were, as Deut 11 says, dependent totally on rain to irrigate their crops—we would understand that when Malachi says, "Test me in this … and see if I will not open up the windows of heaven and pour out a blessing," that the quintessential blessing for the ancient Israelite was rain.

And notice again God is opening the windows in the heavens and pouring out a blessing. He's pouring out a blessing in the form of rain, and the windows have to be open because the firmament is holding the waters up. And unless the windows are open, no rain. And so we have this coherent picture of this firmament, solid *firmament*. Above it are the waters that are the source of rain. When God wants it to rain, He opens the windows; when God does not want it to rain any longer, He closes the windows. He promises to open those windows and pour out a blessing, pour out rain.

And the windows of heaven, which I think everybody takes as a figurative expression, the windows of heaven only make sense if we have a solid dome holding the waters above. And so while we don't take the windows of heaven literally, nor should we take the firmament literally, nor should we take the waters above the firmament literally, these figures of speech do not correlate in any kind of way to our modern scientific understanding of the world.

An Old Interpretation

Now this is not a new interpretation.

Calvin

Calvin understood this perfectly well. In commenting on day two, Calvin says, "Moses describes the special use of this expanse [that's our firmament] to divide the waters from the waters from which word arises a great difficulty." Calvin understood that if we were to try to interpret this language literally, we would run into all sorts of difficulties; we have to understand it in some other way other than literally.

Calvin goes on to say, "For it appears opposed to common sense, and quite incredible." Calvin is not at all afraid to say that a certain interpretation of the text can't be right because it just doesn't make sense in terms of our understanding of the world in which we live—that there should be waters above the heavens. Notice, "it appears opposed to common sense, and quite incredible that there should be waters above the heavens." Calvin does not take this language literally: "Hence some resort to allegory, and philosophize concerning angels; but quite beside the purpose." I would say some try to come up with other scientific interpretations, but with Calvin, I would say, quite beside the purpose of the text.

Calvin goes on to say, "For, to my mind, this is a certain principle that nothing is here treated of but the visible form of the world." Now notice, "He who would learn astronomy, and other recondite arts, let him go elsewhere." Calvin is saying we are not to read this text as if it's going to give us a picture, a scientific picture, of the world in which we live. Elsewhere in Calvin's commentary on Psa 136, which is referring to the fourth day of creation, Calvin says, "The Holy Spirit had no intention to teach us astronomy."

And so by considering the firmament literally—the waters above literally, the windows in the heavens literally—we see that this picture cannot be understood literally. Calvin knew that this was metaphorical language, and so these are reasons why I and others do not read the text as correlating with a modern scientific point of view.

Augustine

Augustine likewise, centuries before Calvin, said, "The Spirit of God, who spoke through them"—that is, those who wrote these ancient texts—"the Spirit of God, who spoke through them, did not choose to teach about the heavens to man, as it was of no use for salvation." Like Calvin, like Galileo, Augustine in essence says the Scriptures are not intended to teach us science (how and when), but rather theology (who and why).

The Foundations of the Earth

Introduction

Now slightly off topic from Gen 1 (but just slightly) and fitting in perfectly with what we have seen with regard to the firmament that holds up the waters above and the windows of heaven that let the waters come down through is another concept that is found in many places in the OT, and that's the concept of the foundations of the earth. Sometimes the language is the language of "foundation"; sometimes the language is the language of "pillars" that hold up the earth. But all of these different representations cohere to one general picture that I'm just going to call the "foundations of the earth."

The Foundations of the Earth

The OT presents the earth as having foundations. You can read about the foundations of the earth, for example, in Job 38:4 or in Prov 8:29. In particular, in Psa 104:5, we get a beautiful picture of this that says that "[God] set the earth on its foundations." And the New American Standard Bible is the best at rendering the text at this point, but it says, "[God] set the earth on its foundations, so that it would not totter"—great word.

Because the earth is pictured as a disk on the waters that are below—the firmament separates the waters above from the waters below and the earth is on the waters that are below—if it doesn't have some sort of foundation, it's going to be tottering, and that's certainly not an acceptable place for human beings to survive and to thrive. This idea of the earth on the waters is found in texts like Psa 24:1–2: "The earth is the LORD's, and everything in it, the world, and all who dwell in it; for he founded it." You see, "He laid its foundation on the seas and established it on the waters."

Now we could, if we wanted to, try to come up with some kind of explanation of this text that makes it correlate with a modern understanding of the world, but the fact is this is just not the intention of the text, and this is a theological picture of the world that does not correlate with our modern scientific understanding. The text is very clear: the earth is on the waters below. It would be tottering, but God sets it on foundations so that it does not totter. So we get this concept of the foundations of the earth that ties in with the firmament and the waters above and the waters below.

A Graphic Representation of the Cosmos

Now we can look at this from a graphic point of view, and in this graphic that you're looking at, we can see, for example, the disk of the earth. And the disk of the earth is floating, so to speak, on the water layer underneath it, and that's why we have to have those representations of the pillars or the foundation of the earth to keep the earth from tottering. Now by the way, the Bible never answers the question: Into what are the pillars set so that there's something firm? The Bible just never goes there. It's not interested in giving us that kind of detailed scientific picture. It's painting a metaphorical picture for the ancients that they would understand and one that we need to understand, so that we can get the theology of the text.

And so you see the waters below the earth and we see the pillars, the foundation, that is holding the earth firm, and then arched above the earth is the firmament. The firmament has those three windows in it. Those windows hold back the celestial waters that are above the firmament, and when God wants rain to come down, He lets the rain down; He opens those windows of heaven.

You'll also notice those three lines coming up from the waters below, so that there's water over the whole surface of the earth. This graphic is actually intended to kind of describe the flood story from an ancient graphic point of view, because it not only says that God opened the windows of heaven, but that He let burst forth the great deeps. See, there's only two places for water to come from—the waters below and the waters above. And so God opens the windows of heaven, and He opens up the great deep, so that water comes up from the bottom. It comes down; it floods the earth, and then God closes the windows. He closes the fountains of the earth, and the water recedes and dry land reappears.

A Theological Picture of the Cosmos

Now again, this might not be a picture that we are familiar with. This is certainly not a modern scientific picture, but it is an ancient picture, and it's a true picture. It truly portrays the theology of the cosmos that God wants us to understand. And so when modern science began to give us a different view, what we did erroneously, I think, is that we jettisoned this biblical metaphorical picture. We thought we had to choose either a scientific or a biblical picture, when I think the better solution would have been to do a "both-and"—to see that, yes, from the perspective of a satellite, the earth is a round globe floating in space with the moon going around it. That's one perspective, but the Bible's perspective is equally valid, giving us a theological picture of the world as governed by the sovereign king of all creation.

Two Big Lights (Gen 1:16)

Introduction

In looking at some of the micro exegetical details of Gen 1, we've primarily been focusing on the question: What is the firmament, and what are the waters above the firmament? And that's led us a little bit off track to talk about things like the "windows of heaven" and the "foundations of the earth," so that we have kind of a more complete ancient picture of the cosmos from an ancient Israelite perspective. But now, let's return to some of the details of Gen 1, in particular Gen 1:16 and what Gen 1:16 calls the "two big lights."

We could translate the text this way, that "God created the two big lights—the big one to rule the day and the little one to rule the night." Let's just ask some questions about the language of the text: the "two big lights."

Are They Really "Two Big Lights"?

And the first question that we ask is: Well, are they really the two big lights? Are the sun and the moon the two big lights in the sky?

Scientific Point of View

And certainly, from a human being's point of view, during the day or during the night it looks that way, but no scientist would say that those are the two big lights. Any scientist would tell us that the sun is really kind of a mediocre star. There are plenty of stars that are way, way, way larger than our sun and there are stars that are smaller. No, it's not the biggest light that's in the sky, nor is the moon the second biggest light in the sky. It may appear that way, but from a scientific point of view, that's just not the case.

You see, the text says that "God put the two big lights in the sky," and I don't think anybody takes that literally. So even those who say they take Gen 1 literally, really only take some of Gen 1 literally; I don't think anybody takes everything in Gen 1 literally. So rather than seeing people as pitted in diametrically opposed positions, perhaps it's better to see people as at different points on the continuum with everybody taking some things literally, but nobody taking everything literally.

Calvin on Science and Scripture

Now Calvin understood very well that there was a problem here with the two big lights. He knew that these were not the two big lights in the sky. And so Calvin says, in commenting on the creation of the two big lights, "Accordingly, as Saturn though bigger than the moon is not so to the eye owing to its greater distance, the Holy Spirit would rather speak childishly than unintelligibly to the humble and unlearned."

Notice the Bible says that the moon, out of the two big lights, is the little light, but Calvin says that's not the case. We know that Saturn is bigger than the moon. In other words, Calvin was

allowing the science of his day to affect his interpretation. He's saying, "It may look like the moon is the second biggest, but scientists tell us that Saturn is actually bigger than the moon." And so Calvin wasn't fearful. He wasn't [averse] at all to letting good science inform his interpretation of the Scriptures.

Are They Both Lights?

Well, another question to ask with regard to the two big lights is this: Are they both lights? And the answer to that is, well, yes and no. From a scientific point of view, no. The sun and the moon are scientifically two different things. The moon is not a fusion engine that produces photons as the sun is. The sun is a light in the sense that it produces light; the moon is not. The moon simply reflects the light of the sun. It's a mirror; it's not a light.

And yet, let me ask you a question: If you have lost your keys at night, would you rather have lost your car keys on a moonless cloudy night or on a full-moon, cloudless night? Well, obviously, you'd rather lose your keys—actually you'd rather not lose them at all—but if you have to lose your keys, you're better off losing your keys on a full-moon night because there's going to be more light. So from an ordinary human point of view, the moon is a light, but not from a scientific point of view, again, underscoring that the Bible is not interested in these kinds of scientific distinctions. In Calvin's words, the text here has no intention to teach us astronomy.

What about the Stars?

A further question: What about the stars? The text says, "And also the stars." And when it says, "God created the big light and the little light and also the stars," it seems as if the stars are something different than the sun. But from a scientific point of view, the stars and the sun are the same thing.

What about the Planets?

A further related question: What about the planets? As I've looked through the Scriptures, I don't find any reference to the planets. Now in Jude 13, we do find reference to "wandering stars." Ancients knew that there was something different about these particular twinklers in the sky—that they didn't follow the same movement pattern as the other stars—but notice what they call them; they call them "wandering stars." They didn't have a differentiation, a scientific differentiation, of planets as opposed to stars. They were all stars; it's just that some of them wandered, some of them kind of went. So they were aware that there were planets that were somehow in their motion different than the stars, but they didn't have a taxonomic differentiation between the stars and the planets.

Under, in, and above the Firmament

So now, as we return to our picture of the ancient world, we can add an element, and you'll notice that in the firmament are the sun, the moon, and the stars. And here's where we really press the point home with the question: Can we interpret the firmament literally? Can we interpret the waters above the firmament literally? I think the answer is obviously no. You'll notice that the text is very careful. God puts the firmament in place, and He puts the waters above the firmament. And then

when God creates the sun, the moon, and the stars, He puts the sun and the moon and the stars in the firmament. And to add one more detail, God causes the birds to fly (*'al-pene*) up against the firmament. So we have the birds flying up against the firmament, the sun, moon, and the stars in the firmament, and the waters above the firmament.

So I ask friends and colleagues, who do not interpret Gen 1 as I do, "What are the waters above the firmament?" And some will say, "Well, they're the clouds," and I say, "That's impossible." Why is it impossible? Because everybody knows that on a cloudy day, you can't see the sun and you can't see the moon on a cloudy night. Obviously to anybody, the clouds are below the sun and the moon and the stars, but the waters are above the sun and the moon and the stars.

Well, some will say, "The water above is our atmosphere." Still impossible, because our atmosphere is below the sun and the moon and the stars, whereas the waters above are, in fact, above the firmament, and since the sun and the moon and the stars are in the firmament, the waters above are above the sun and the moon and the stars.

And from other texts we've already seen, the waters above are the source of rain. They come through the windows of heaven, which are also like the sun and the moon and the stars in the firmament. And so if we try to take this text literally, we have to argue that somehow our rain comes from some fourteen billion light-years away beyond the sun and the moon and the stars. It travels through vacuous space until it penetrates our atmosphere and falls in the form of rain.

Conclusion

Calvin would say this presents us with great difficulties because it's opposed to common sense—that we cannot combine a common sense reading and a literal reading of Gen 1 and correlate this language with a literal reading of the text, which forces us to say that, at least at some points, Gen 1 cannot be read literally; it must be read metaphorically. Taking these micro considerations into the context of the macro consideration of the structure of Gen 1 with the three days culminating in vegetation and the three days culminating in humanity, we come to the conclusion that the best read of Gen 1 is a metaphorical literary framework read of the text.

Phenomenological, Anthropomorphic, and Old World Imagery

Introduction

Before bringing my view on how to read Gen 1 to a conclusion, let me make a few comments on some perspectives on how to read some of this nonliteral language not only in Gen 1, but also in Gen 2 and in other creation texts that we find throughout the Bible. Let me talk about three different types of imagery.

Phenomenological Imagery

We could speak of phenomenological imagery. We've already touched on that without actually referencing it—that is, imaging the world just from the ordinary way that ordinary human beings experience the world. For example, we speak of sunrise and sunset, even though we know the sun doesn't rise and it doesn't set, but to the ordinary human observer, it looks like the sun rises and it looks like the sun sets—phenomenological imagery. Like we speak of sunrise and sunset, the Bible uses that kind of imagery as well.

Now how about the firmament appearing to be a blue dome? Now the firmament does appear to be a blue dome up above us; that's the way it appears. Now I'm not a scientist, but I gather that actually the sky is not blue; it's purple, but our eyes don't have the ability to see the purple-ness and so they perceive it as blue. But if we were to kind of map out the color of the sky with a spectrometer, we would see that it's purple. But who knows that? The ordinary guy like me, gal like you, we don't understand that. And so it looks to us like it's blue, and so the firmament appears to be a blue dome. The birds appear to fly up against the blue dome. The lights appear to be in the blue dome. And so some of the language can be explained as phenomenological imagery. It's not really that way, but that's the way it appears to a human observer.

Anthropomorphic Imagery

Some of this imagery in Gen 1 and also in Gen 2 is anthropomorphic imagery—that is, God is being described as if He had human characteristics.

"Evening and Morning"

I think this is what is going on with the expression "evening and morning." God is being portrayed as the diligent ancient Israelite worker. In Psalm 104, which we have alluded to before, God is describing nighttime and daytime. And nighttime is the time when wild animals go out to get their food, and then the sun rises and it's daytime. And that's when human beings go out to work to get their food, and the text says they work to get their food until evening. And what do they do when evening comes? They leave the fields; they go home; they get something to eat; they rest, and then they get up for the next day's work. And I think that's what's going on with "evening and

morning." God is an ancient Israelite worker, so to speak. He works from sunrise to sunset. And when the sun sets, there's evening. He goes home, metaphorically speaking. He has something to eat. He gets a rest, metaphorically speaking. There is evening and there is morning; it's all over. Time to start again. God gets up, metaphorically speaking, for day two. And so the expression, "evening and morning," is understood anthropomorphically, as if God is an ancient Israelite farmer working from sunrise to sunset.

A Potter and Clay

We might think of Gen 2, when it says, "The LORD God formed the man from the dust of the ground." Now the word "formed" is the word *yatsar* (*yotser* is a potter). God here is being described as if He were a potter, and as a potter takes clay and shapes it, God takes the ground and He shapes it. Now God is not literally a potter; God is spirit. He doesn't have literal hands to shape the clay like a potter, but the Bible is using anthropomorphic language. It's describing God as if He were a potter shaping the clay. And then the text says that God breathed into man the breath of life, but God doesn't have lungs, and so He doesn't literally breathe like you and I breathe. Yet that's what the text says. You see, it's describing God anthropomorphically, as if He were a human being, shaping the man with His hands, breathing into the man the breath of life with His lungs.

Now don't misunderstand me. I'm not saying that God didn't truly create the man and God didn't truly breathe into him the breath of life. All I'm saying is that God didn't do this in a literal way. This text isn't intended to teach us how God created the man and how God enlivened the man, but it is teaching us who created the man and the man as *adam* coming from *adamah*—his connectivity to the cosmos, his connectivity to the earth. This text isn't intending to teach us scientific questions like how God created humans and when God created humans, rather it's intending to teach us theological questions like: who created humans, and why did He create humans, and how are humans connected to the rest of the ground from which they came?

Knit Together

A wonderful related text is the well-known [Psa 139]. And in that psalm, we get this beautiful line that says of God, "You knit me together in my mother's womb." Now, this is not a scientific description of proximate cause. We all know how a child is formed in the womb. We understand, from a scientific point of view, insemination and fertilization and gestation. That's a scientific description, but that's not what the text is giving us here. The text is giving us a very personal, theological perspective on all of these scientific considerations, so to speak.

God didn't literally go into the womb and sew us together. The text isn't intending to teach us astronomy, recondite arts, human physiology, the whole birth process from a scientific point of view. And in the same way that [Psa 139] is not intending to teach us these scientific things—but rather it's intending to teach us through theology, through so many different pictures—Gen 1–2 and other creation texts likewise are not intending to give us a scientific, but rather a theological, perspective on who God is and who we are and how we fit into God's world.

Old World Imagery

Well, one more perspective, we could just call "old world imagery." If we were to say to the ancient Israelite, "Point to the spot on your body where you think," they would certainly go like this; they wouldn't go like this. In the language of the old King James: "As [a man] thinketh in his heart, so is he." The Hebrew Bible regularly correlates thought process with the heart (the Hebrew expression *kashalev*, "to think with the heart"). Now the word *lev* is the word for the organ that pumps the blood, and ancient Israelites correlated thinking with the heart (Psa 142; Prov 16:9; Isa 10:7, even in the NT, Matt 9:4). Throughout the Bible, we have this correlation of thinking with the heart. Well, the Bible is not intending to teach us science—that neurological activity takes place in the heart. No, it's intending to teach us theology, not science; it's intending to teach us theology, not human anatomy. And God uses those ancient pictures that we call "old world imagery" to teach us key things about Himself, about ourselves, and about our place within God's world.

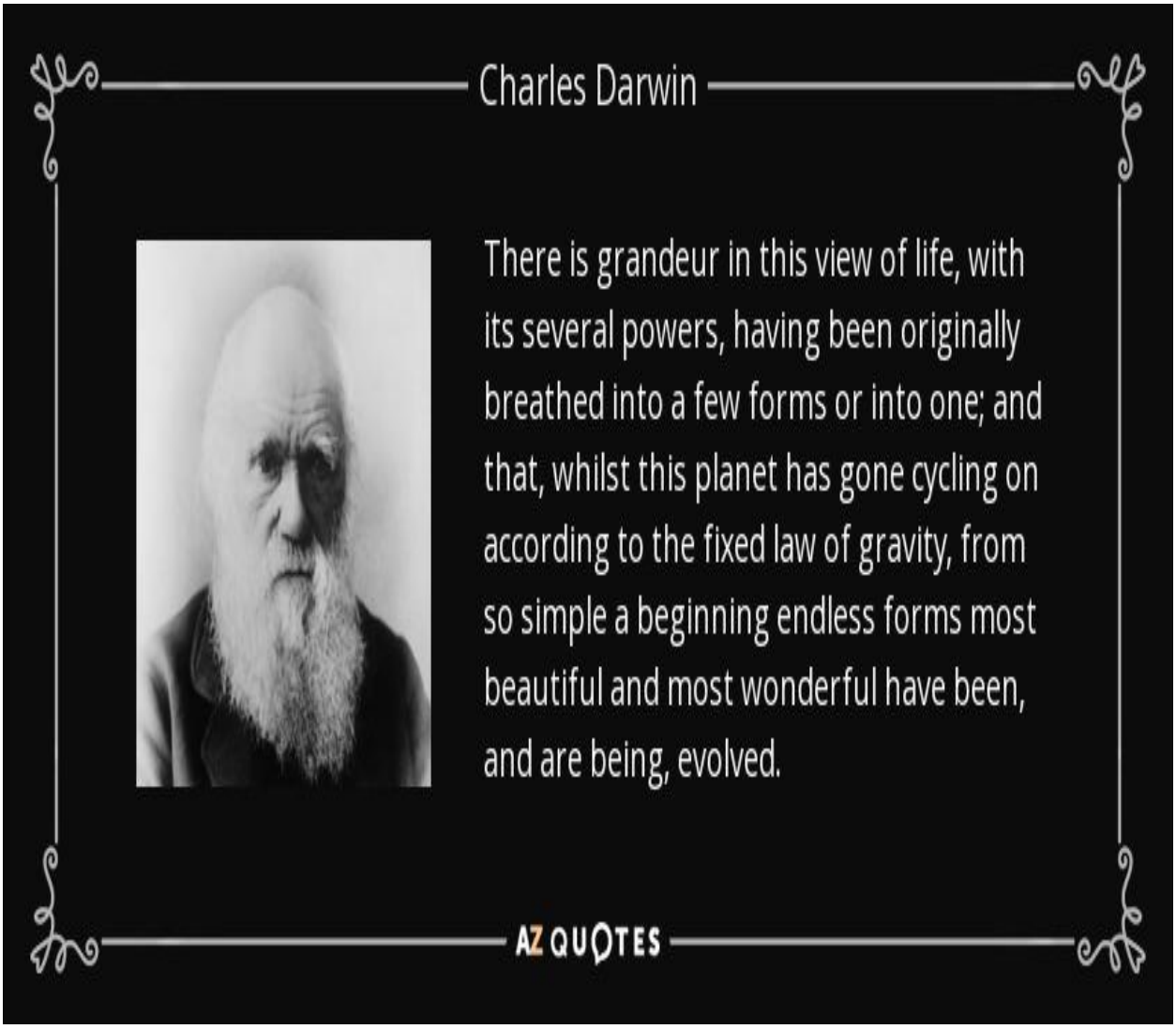
Conclusion to Literary Framework

Conclusion

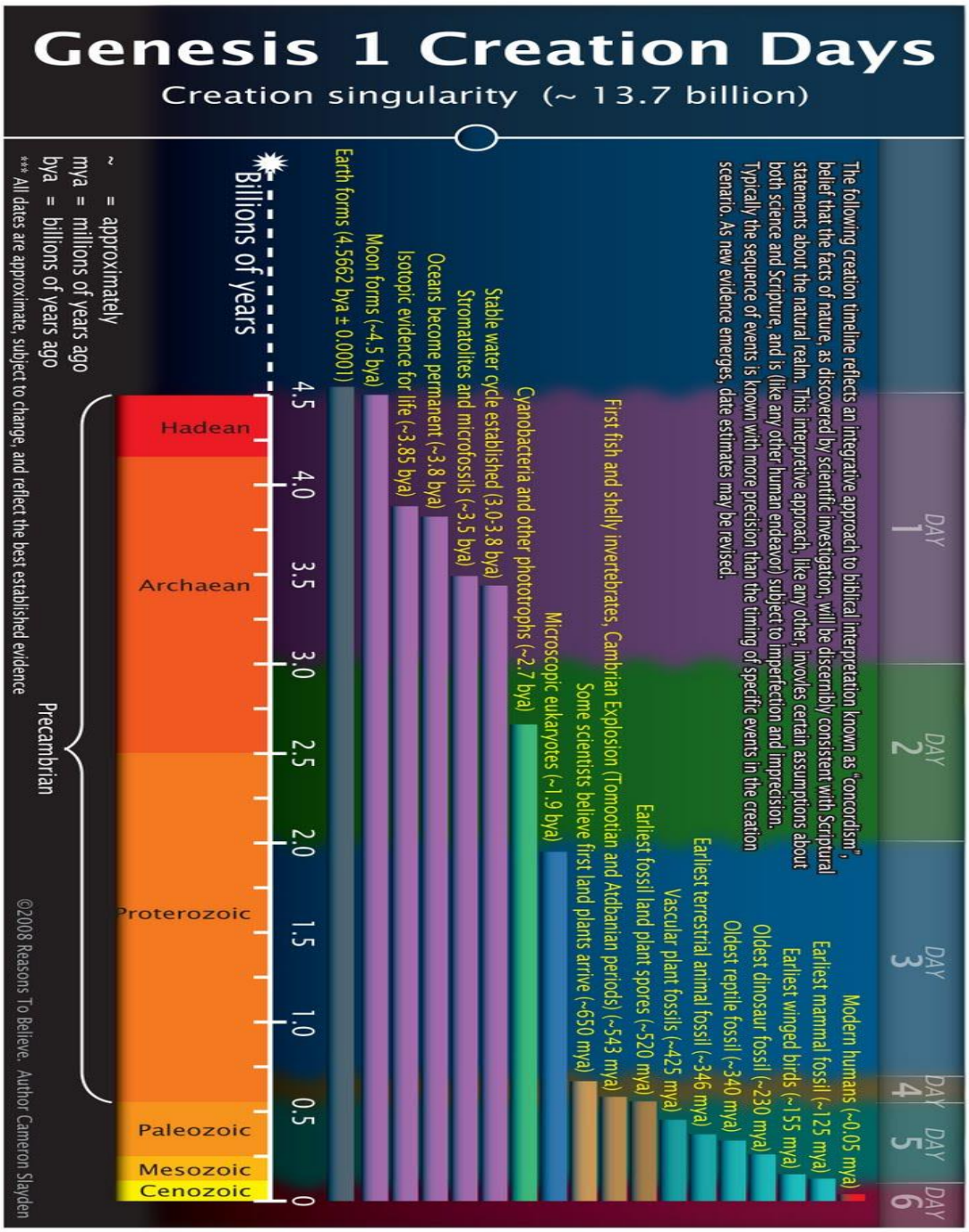
Well, let's conclude this presentation on how to read Gen 1 (in my view) by going back to the beginning. Now, not all the way back to the beginning in Gen 1:1, but just back to the beginning of the presentation, where I raised the catechetical question: What do the Scriptures principally teach? And the Scriptures principally teach what we are to believe about God and what duties God requires of us. The Scriptures do not principally teach astronomy or human anatomy or physiology; they teach theology—the theology of who God is, who we are, and how we are to live in God's world. Or to put it another way, the Bible teaches us about Ultimate Cause, not about proximate cause. A beautiful example of that is [Psa 139]: "You knit me together in my mother's womb." That's speaking to us of ultimate cause, not of proximate cause from a modern scientific point of view. Or to simply put it in the words of Galileo Galilei, "The Bible teaches us how to go to heaven, not how the heavens go."[8]

[8] Pipa, J. A., Jr., Futato, M. D., Collins, C. J., Longman, T., III, & Walton, J. H. (2017). *TH331 Perspectives on Creation: Five Views on Its Meaning and Significance*. Bellingham, WA: Lexham Press.

Charles Darwin: “Originally Breathed”



#3 - Evolutionary Creationism by Tremper Longman III



Summary of Evolutionary Creationism

What, Not How

The view that I'll be presenting is commonly called "evolutionary creationism." It's not the view that the Bible teaches evolution, of course; it's the view that while the Bible tells us that God created everything, including human beings, it's not telling us *how* He created them. And I'm going to be especially focusing in on the question of the genre of Gen 1–2, because genre triggers reading strategy and is telling us what the author intends to teach us.

Inerrancy and Genre

And, of course, that's critical for those of us who hold a view of the inerrancy of Scripture because we believe that the Scriptures are totally true in everything that it intends to teach us, and so that's what we're after. So I'm going to take a close look at Gen 1–2 in order to talk about what the genre is. I'm going to suggest that it is theological history; that it is making historical claims, but it's making historical claims by describing these historical events in a largely figurative manner.

Inerrancy, Genre, and Ancient Cognitive Environment

Inerrancy

As evangelicals, we affirm the fact that the Bible is totally true. We use the term "inerrancy" to describe this. It's totally true, as our evangelical documents like the Chicago Statement on Inerrancy says, in everything that it intends to teach. And that's a very important point to determine what a biblical text is trying to teach us or affirm, and that's critical to the discussion of the relationship between Gen 1–2 and modern scientific theories of origins. We need to know whether the Bible is claiming to tell us how God actually created the cosmos and human beings. So we have to ask the question of genre.

Genre

Genre and Reading Strategy

Genre, of course, is a way of describing classes of literary texts. And the Bible is full of different genres; it's not just one genre. I mean, we have historical books, Wisdom books, we have the Law, we have prophecy, we have apocalyptic, we have Gospels and letters. I mean, there are a whole bunch of different types of writings in the OT. That's what makes it so exciting and so interesting. And the key here is that genre triggers reading strategy.

Example: Song of Songs

Let me give you an example from another part of Scripture before we address the question of the genre of [Gen] 1 and 2. You know the beginning of the Song of Songs. The Song of Songs begins, "Let him kiss me with the kisses of his mouth! For your love is better than wine; … O king, let's run. The king has brought me into his bedroom." How are we to interpret those verses at the beginning of the Song of Songs? Well, most people today would take the Song of Songs as love poetry; that's a genre identification, and therefore, these words would be the woman's expression of desire to have physical intimacy with the man.

But that's not the way it was read during the Middle Ages. During the Middle Ages, especially in the Jewish community, those verses were taken as a reference to the exodus from Egypt because they thought the genre was an allegory, an allegory of the relationship between God and Israel. And here, the woman Israel is asking God, the man, to bring her into His bedroom, which has to be the promised land.

Genre Options

So genre triggers reading strategy, and authors send signals to readers as to how they intend their words to be taken. Now, in the rest of my talk, we're going to be looking at those genre signals in Gen 1–2 in the context of Gen 1–11. And I want to start, though, by saying that there's more than two options here, and often the discussion is posed as if there are only two options: either it's literal history—just straightforward history describing how God literally created the cosmos and humanity—or it's myth and has no connection to history. I hope that at the end of my talk you'll realize that there are other options available to us.

Ancient Cognitive Environment

Another point that I want to make before we get into this subject is that it's really important to read the OT in its ancient cognitive environment. I borrowed this description—this phrase "cognitive environment"—from my friend John Walton, who reminds us that the Bible, while written *for* us, is not written *to* us. In other words, the ancient biblical writings, both OT and NT, were written to contemporary audiences. I like to say they don't call the book of Romans "Romans" for nothing; it was written to the church at Rome. And we're kind of looking over their shoulder and knowing that, since the Bible is canon, it was written *for* us, but it was not written *to* us. And therefore, in our first reading of any OT or NT text, we have to put ourselves within the cognitive environment of that original audience and ask ourselves, "How would they have understood this text?"

The Structure and Genre of Genesis

Introduction

As we approach the question of the genre of Gen 1–3, we, first of all, of course, have to realize that it's found in the context of the whole book of Genesis. So we want to ask this question in terms of the whole book of Genesis. What's the genre of the book of Genesis? And then we'll look more specifically at Gen 1–11 and Gen 1–3 to see if there's any difference between these parts.

Three-Part Structure of Genesis

Well, the book of Genesis is divided into three different parts.

Genesis 1–11

Genesis 1–11 is the primeval history, and it begins, of course, with the account of the creation and takes us up to the moments before the life of Abraham. And you'll notice that this section covers a vast amount of time from creation up until the time of Abraham. For those of us who affirm an old earth creation, we're talking about an incredible period of time. And also, if you think of the story of Genesis like a movie, it's like the filmmaker has the wide-angle lens on; it's looking at the whole world. And so you're going through an incredibly long period of time and covering the whole world.

Genesis 12–36

Then you come to Gen 12–36. Genesis 12–36 is what we call the "patriarchal narratives," and the patriarchal narratives cover the life of Abraham, Isaac, and Jacob. And notice how narrative time slows down and the focus is now on one individual and that individual's family.

Genesis 37–50

And then finally, we come to Gen 37–50—the Joseph narrative, which has even a slightly different literary feel to it. It feels more like a short story, a kind of coherent short story, whereas the patriarchal narrative was kind of episodic.

Genre Signals

Nonetheless, even though we can divide the book of Genesis into three parts, I would argue that there are things that also show a kind of unity to the genre of the book, at least broadly conceived. And specifically, I think there are three, what I would call, "genre signals" that tell us that the book of Genesis and also Gen 1–11 (and within that Gen 1–3) has a historical interest. That is, it's making reference to things that actually happened in space and time, and very briefly, these three things include the *toledoth* formula.

Toledoth Formula

Now let me explain that. *Toledoth*, of course, is a Hebrew word which is often translated something like "account," and it occurs in a formula: "This is the *toledoth*," "this is the *toledoth* of *x*," where *x* is typically a personal name (one time it's not, as I'll mention in a moment). But these *toledoth* introduced sections of the book of Genesis, and they occur, as I say, eleven times throughout the book. And this creates a kind of unity to the book, which makes it difficult to say something like Gen 1–3 is a radically different genre than the rest of the book, and it also gives a kind of historical impulse to the book. Now, "This is the *toledoth* of *x*," and the *x* is usually a personal name—the personal name of someone who is the father of the main subjects of the part of Genesis that follows. So, for instance, in Gen 11:27, you get, "This is the *toledoth* of Terah," and then all the way through chapter 25, we have the story of Terah's son Abraham. So again, the *toledoth* formula gives both a kind of generic unity to the book as well as signaling an interest in things that actually happened in space and time.

Waw-Consecutive Verbal Form

A second consideration is the use of the *waw*-consecutive verbal form. Now, for those of you who don't know Hebrew, I will simply say that the *waw*-consecutive verbal form is a verbal form which is used to talk about past events. Now this isn't a slam dunk that it's talking about history because, of course, you could write historical fiction or parables using *waw*-consecutive verbal form as well. But combined with all the other elements, I would argue that the *waw*-consecutive verbal form also gives a historical impulse to the whole book of Genesis, including Gen 1–3.

Genealogies

And then finally, we have genealogies that occur within Genesis and a high number of them which occur within Gen 1–11. And I would say that that too reminds us that there is a historical interest here, though I have to give a qualification here, and that is, we need to read these genealogies in the light of ancient Near Eastern genealogies, not modern genealogies. And when we do that, for instance, we see that these genealogies can skip generations and also that these genealogies have primarily theological or ideological interests, not strictly historical interests.

Conclusion

But nonetheless, these are what I would call "genre signals" that tell us that the book of Genesis is theological history, meaning that it is talking about things that actually happened in space and time. It has a focus on theological interests—that is, revealing God to us and our relationship with God. But we have to honor the fact that Genesis is telling us, or intending to tell us, that actual things happened in history.

Foundational Truths in Genesis 1–3

When it comes to Gen 1–3, I would argue, and do argue, that it insists to claim that God indeed did create the cosmos and everything in it, including humanity. Secondly, I would say that it insists on telling us that when humans were first created that they were morally innocent, and thirdly, that humanity rebelled against God and thus introduced sin and death into human experience. And in my opinion, any approach to Genesis which undermines any of those three claims is problematic.

A Figurative Description of the Past

Theological History

Genesis is theological history; it's talking about things that actually happened in space and time. It's not myth; it's not poetic without historical reference. It is theological history. And by emphasizing theological history, we mean that it's history that focuses on God and His relationship with His people, as opposed to, say, political history, or military history, or economic history. My point is that theological history doesn't undermine the idea that it's actually referring to space and time events, and indeed, we need to take that seriously.

However, I would go on—as we're exploring the different signals that the author is sending us about how to take his words—I would go on to say that Gen 1–11 is different from Gen 12 and following in that it sends signals to us that it's giving us a figurative description of these past events, not a literal description of these past events.

Signals of a Figurative Description

And I want to talk about some of these signals now, beginning with the fact that there is obvious figurative language in the use of the days of Gen 1. Now, I am, of course, very aware that there are those who want to insist that the days of Gen 1 are literal, twenty-four-hour days, and there are those who would accuse somebody like me of caving in to science and that the view that I'm presenting is a very modern one. I would suggest that, actually, the view that I'm presenting is a view that has been held ever since the days of the early church, and that view is simply that creation is being described in Gen 1 using, figuratively, a typical workweek as the Israelite would have known it.

Days One and Four

And again, I would say that the prime evidence for that is the relationship between the first and the fourth day. That is, you have on the first day the creation of light and darkness, which is a realm that's filled by the inhabitants of that realm on the fourth day, namely the sun, moon, and stars. And this kind of relationship between the first three days and the second three days is followed through, where the first three days create realms and the final three days are the inhabitants of those realms. So on day two, it's the realm of the sky and the waters, the sea, and on day five, it's the birds and the fish; and on day three, it's the land, and on day six, it's the inhabitants of the land, namely land animals and human beings.

The point is that this is a literary description of creation that can't be literally true because as Origen, an early church father, put it, he says, "To what person of intelligence, I ask, will the account seem logically consistent that says there was a 'first day' and a 'second day' and a 'third day,' in which also an 'evening' and 'morning' are named, without a sun, without a moon, and without stars, and even in the case of the first day without a heaven?" And his point is quite simply: you can't have a literal evening and morning without a sun, moon, and stars.

Saint Augustine also, who lived slightly after Origen (around AD 400), he too said that we don't have in Gen 1 references to what he called "solar days." So that's one example of a number of examples within Gen 1–11 where a historical event—in this case, creation—is being described in a figurative manner.

Interaction with Ancient Near Eastern Stories

A second point that I would like to make is that we have in Gen 1–11 a very intense interaction with ancient Near Eastern stories, rival ancient Near Eastern stories. So it seems very likely that the Israelite author is intentionally doing this in order to undermine the claims of Babylonian and Canaanite and Egyptian ideas.

And just to give one example, which is also a second example of the use of figurative language to describe a historical event, you have in Gen 2:7 a reference to God creating the first man by taking some of the dust of the ground and breathing on it. And again, I would say on the surface of it that is a figurative description, because God doesn't have lungs; He is a spiritual being. So this is being described figuratively.

And then when you realize that ancient Babylonian and most likely ancient Canaanite stories, which are related to the Babylonian stories, described the creation of the first human beings as the gods taking some of the clay or dust of the ground and mixing it with the blood of a demon god—and in the case of one ancient Near Eastern creation story, namely Atrahasis, all the gods spit in it as well—you see, I believe that we're not getting a literal description but a kind of polemic against the ideas of these broader ancient Near Eastern peoples and also making the claim that, at creation, humans are dignified, as opposed to the Mesopotamian creation stories, which has a very contemptible view of humanity as evil from the start.

Lack of Sequence Concord

A third signal to me that we're not to take the language of Gen 1–2 as a kind of literal or straightforward description of how God created creation is because of the lack of sequence concord between Gen 1 and 2. We get two creation accounts here, as is well-known. I'm not saying that they're coming from two different authors, or I'm not buying in to the so-called Documentary Hypothesis; it's just a literary observation that we get two creation accounts here.

And the first one has a focus on the whole cosmos, even though it talks about the creation of the first humans, and the second one has a specific focus on the creation of human beings. But as is well-known, there's a lack of sequence concord here—just one example being that in Gen 1 vegetation emerges on the land on day three and, therefore, before human beings, whereas in Gen 2, vegetation is created after the first human being.

Now, I'm well aware of attempts to reconcile the two, and indeed, it goes into our very translations, where translations will translate certain verbs, which most naturally are translated as past as pluperfects. But that's an attempt to reconcile or harmonize the two, which I think are not necessary because, again, it's a signal that Gen 1 and 2 are not giving us a literal description of *how* God created the first human beings but rather is giving us a description of the fact that He *did* do it.

Summary of Theological Truths in Genesis 1–2

A Literary Analogy

So Genesis 1–3 is theological history, which is making historical claims, is talking about real space and time events in the past, but it's describing these events in a figurative way. And as I've thought about this, I've thought that it's interesting that Gen 1–11 is talking about things that happened in the deep, deep past, long ago, going all the way back to creation and how similarly it treats these early events as to how, say, apocalyptic literature—take the most famous example of apocalyptic literature, namely Revelation—how it describes events in the far distant future.

Revelation is talking about the second coming of Christ, and of course, we believe that that's a real event; Christ is going to come again in the future. But that future event is being described using largely figurative language: Jesus returning on a cloud, which, of course, has its roots in the OT and in the ancient Near East. It comes from storm god imagery; God rides the cloud into battle. Jesus will return on a cloud, at least that's one picture, one figurative picture, of Jesus coming back in the future. Another one in Rev 19:11 and following: He'll be riding a white horse with a sword coming out of His mouth. So my point is that Gen 1–3 describes events of the far distant past figuratively, just like the book of Revelation talks about things that are actually going to happen also using figurative language.

Summary of Theological Truths

So to summarize, I would say that Gen 1–2, the creation account, for sure is insisting that God created everything, including humans, but it's not interested in telling us *how* He did it. It is interested in telling us a lot about the nature of God and our relationship with Him. So it's saying more than just He created everything; it's also revealing to us the nature of our God, the nature of our relationship with Him, and also even things about human beings.

God Is Sovereign and Supreme

So, for instance, just to scratch the surface, especially as you read Gen 1–2 in the light of broader ancient Near Eastern ideas, it insists that God is sovereign and supreme. He has no rivals, and that's utterly unique in the ancient Near East, where the creation stories talk about multiple gods who are fighting with each other for supremacy. God is sovereign and supreme.

God Is both Transcendent and Immanent

It's also saying that He's both transcendent—that is, He's not a part of creation; He looks at it, and He pronounces it good; and so He's not a part of creation, but He is involved with creation—[and] He's immanent. And that's a really critical, foundational, theological insight that, again, is

radically different from anything else in the ancient Near East. It really defines what we call "theism" as opposed to deism and pantheism.

Humans Are the Apex of Creation

We also learn from Gen 1–2 that we are the apex of creation, and that is shown in multiple ways in Gen 1–2 (by "we" I mean human beings are the apex of creation). First of all, in Gen 1, we are created after everything else is set in place, and also, we are said to be created "in God's image." Now, what does it mean to be created in God's image? It means that we represent God, just like a king sets up images of himself around his kingdom. So we reflect the glory of God like the moon reflects the light of the sun. The image is a status that comes with the commission, the commission to subdue and rule the earth as a benevolent ruler of the earth. It's not a quality within us as much as a status that comes with a commission.

Humans Were Created Morally Innocent but Rebelled against God

We also learn from Gen 1–2 that human beings were created morally innocent. As opposed, again, to the Mesopotamian ideas that human beings were contemptible at birth, we were created morally innocent and capable of moral choice. But Genesis 3 teaches us that our sin and death are the result of our own willful disobedience. If we were just trying to figure ourselves out without recourse to Revelation, we might think that humanity is just inherently evil, and that's the purpose of Gen 1 and 3 to tell us that, no, God created us morally innocent, but we rebelled against God and, therefore, sin and death came into the human experience.

The Bible and Evolutionary Theory

Introduction

Genesis 1–3 presents a figurative description of actual historical events, but it doesn't tell us how God did it. And therefore, I believe that we can turn to science and ask that question, which is why I personally would describe myself as an evolutionary creationist, because I don't see any conflict between the Bible and evolutionary theory.

Science and Religion

Now, as you might imagine, I've often been criticized by people who say that I bend the interpretation of the Bible to conform to science. I would respond by saying that science can sometimes actually help us read the Bible better. And here, I find extremely illuminating and helpful a quote from Pope John Paul II, who said, "Science can purify [our] religion; … religion can purify science from idolatry and false absolutes."

General and Special Revelation

Let me concentrate now on the first part of that statement: "Science can purify [our] religion." And the point is that, as traditional orthodox Christian theology has pointed out, there are two books of God's revelation. God, of course, reveals Himself in a very special way in Scripture, and God also reveals Himself through nature.

And the [Belgic] Confession of Faith is a good example of a traditional orthodox Christian statement, which makes this point that there are two books of God's revelation. There it says:

> We know Him by two means: First by the creation, preservation, and government of the universe; which is before our eyes as a most elegant book, wherein all creatures, great and small, are as so many characters leading us to see clearly *the invisible things of God*, even *His everlasting power and divinity*, as the apostle … says in Romans 1:20. All which things are sufficient to convince men and leave them without excuse. Second, He makes Himself more clearly and fully known to us by His holy and divine Word; that is to say, as far as is necessary for us to know in this life, to His glory and our salvation.

The Galileo Incident

Now let me give you a commonly accepted example of how science can help us read the Bible better, and of course, I'm referring back to the so-called Galileo incident. You know there was a time when theologians believed with all their heart and very insistently that the Bible taught that the Earth was the center of the cosmos—that everything revolved around the Earth. And Galileo, and others before him, through their observations and scientific study of nature, came to the conclusion that, no, the Earth wasn't the center of even our solar system—that it's better to think of the Earth as orbiting the sun.

Now the initial reaction of theologians was really harsh toward Galileo. There was kind of a kneejerk reaction to science here, rather than what, I think, theologians should do, which is to go back to Scripture and make sure we're reading it correctly. Now, that doesn't mean we bend it out of all proportions, but our doing that is based on the utter belief that Scripture and nature, when both are rightly interpreted—because, of course, Scripture needs to be interpreted as well as our understanding of nature—when both are rightly interpreted, then they're not going to conflict with each other.

The Bible and Evolutionary Theory

Divine Creation by Evolution

So I, therefore, would argue that the Bible teaches us that God created everything, including human beings, and that God used evolution in order to make human beings.

Human Commission as Divine Image

And in my present understanding, I think that God used evolution and there came a point where human beings emerged from their animal past and they were morally innocent at that point and capable of moral choice; they also had awareness of the divine. And at that moment, God endowed them with the status of being His image bearer and giving them the commission of ruling as benevolent sub-kings and queens in the world.

Human Rebellion and Fall

And that rather than obeying God and carrying out their commission, human beings rebelled against God; there was a historical fall, and that explains why we die, that explains our experience of evil in the world.

Summary

So in summary, I would simply say that there is no conflict between the biblical picture of origins and evolution as we learn about it from science.[9]

[9] Pipa, J. A., Jr., Futato, M. D., Collins, C. J., Longman, T., III, & Walton, J. H. (2017). *TH331 Perspectives on Creation: Five Views on Its Meaning and Significance*. Bellingham, WA: Lexham Press.

#4 – The Analogical Days Perspective Presented by C. John Collins

Interpretations of the Days in Genesis

View	Explanation
24-Hour Days	The days described in Genesis 1 are consecutive 24-hour periods of time. This is indicated by the phrase "evening and morning" and the coupling of the Hebrew word *yom* with a number.
Day-Age	The days of Genesis are a chronological description of the remote past, where each "day" corresponds to a long period of time.
Progressive Creation	Creation occurred over six 24-hour days, each of which was separated by long periods of time. Creative activity was intermittently **"punctuated"** by eons of time.
Literary Framework	The days of Genesis do not describe a linear sequence of 24-hour days. Genesis 1 conveys a structured outline of creation activity where the description of days 1, 2, and 3 conceptually parallel days 4, 5, and 6. Days 1–3 are preparatory to the acts of days 4–6:

	Day 1: creation of light; separating light from darkness Day 4: light-bearers are created Day 2: separation of waters; formation of sky Day 5: waters and sky are filled with living creatures Day 3: dry land and vegetation appear Day 6: land animals and humans are created and sustained by plant life
Revelatory Days	The six days described in Genesis are 24-hour periods (or less), but creation did not occur on those days. Rather, over the course of six days God revealed to the writer how He created the heavens and earth.
Analogical	The six days of creation are an analogy for the normal human work week preceding the Sabbath.
Religious Polemic	The creation described in Genesis 1 reflects ancient pre-scientific cosmology, not science. How one understands the days is irrelevant to the actual purpose of the account: to assert which deity deserves credit for creation while denigrating the claims of rival deities associated with the cosmology and its descriptive elements.[10]

[10] Barry, J. D., Mangum, D., Brown, D. R., Heiser, M. S., Custis, M., Ritzema, E., … Bomar, D. (2012, 2016). *Faithlife Study Bible*. Bellingham, WA: Lexham Press.

Old-earth theories

In this section I will take a very brief look at the main theories which attempt to reconcile the Bible with the theory of evolution, or with a billions-of-years timescale. Fuller critiques by biblical creationists can be found in books such as *Refuting Compromise*, by Jonathan Sarfati, and on creationist websites. The fact that these theories were not thought of until geologists began to advocate vast ages is a clear indication that they are being read *into* Scripture, not out of it. And the fact that there are so many old-earth theories is an indication of their inadequacy. Trying to squeeze evolution and billions of years into the biblical account of creation is like trying to fit a square peg into a round hole.

Different old-earth theories suffer from different weaknesses, but there is one fatal weakness which is common to all of them. All involve violence, bloodshed, disease, pain, suffering and death *before Adam and Eve disobeyed God.* Billions of creatures suffered and died. And, according to these theories, suffering and death were experienced not only by animals, but also by alleged pre-Adamite humans and/or 'hominids'. These features are clearly unbiblical, whatever proponents of the theories may say to justify them.

The gap theory
There are different versions of this theory. Basically, it proposes that the fossils and rock layers are the remains of a *previous* creation which was ruled over by Satan. As a result of his fall, this creation was destroyed by a great flood. One version says the fossils were buried in 'Lucifer's flood'. Another says they were buried slowly over millions of years. These events are inserted into a supposed 'gap' between the first two verses of Genesis 1. The second verse is required to say that the earth *became* (rather than 'was') formless and empty. The rest of the chapter describes a *reconstruction* of the world in six literal days. An influential book which promotes this theory is *Earth's Earliest Ages* by G. H. Pember, first published in 1884.

This theory is so obviously unsatisfactory that most scholars have abandoned it. It has many flaws, both biblical and scientific. For example, Exodus 20:11 says, 'For in six days the LORD made the heavens and the earth, the sea, *and all that is in them* ...' Also, the Hebrew does not allow a gap between the first two verses, nor does it allow the meaning required in the second verse. Furthermore, the theory makes no sense geologically.

The day-age theory
This theory tries to uphold the historicity of the creation account, and its proponents try to show that the order of creation in Genesis 1 corresponds to the order of creation 'revealed' by science. The days of creation are considered to be long periods of time, each one lasting millions or billions of years. Most who subscribe to this view are 'progressive creationists'. They recognize the discontinuity of the fossil record, and propose that there were periods of great creative activity, separated by long periods of 'horizontal' diversification or 'micro-evolution'. An influential book which supports this theory is *The Christian View of Science and Scripture* by Bernard Ramm. The most prominent proponent today is Hugh Ross.

The first weakness of this theory is that the days of creation cannot be interpreted as long periods of time. This is recognized by non-evangelical Hebrew scholars, and also by gap theorists and literary framework theorists. 'With the Lord one day is as a thousand years, and a thousand years

as one day' (2 Peter 3:8) is often cited. But this statement is a general truth, explaining that God is outside time. It is irrelevant to the meaning of 'day' in this context. That has to be determined on the basis of what the account says, how it says it, the context, and how the rest of the Bible understands it.

The second weakness is that it is impossible to reconcile the order of creation in Genesis with the order of creation 'revealed by science'. Davis Young, who was a Christian professor of geology, used to be a day-age proponent; but he gave up in despair when he finally realized that it is impossible to make the biblical order agree with the 'scientific' order. He now regards the biblical account as figurative.

The literary framework theory

This theory recognizes that the days of creation are meant to be understood as twenty-four-hour days, but it regards them and the whole account as figurative or symbolical. This leaves its proponents free to embrace the theory of evolution or any other theory. Most in this camp are theistic evolutionists. They accept the whole deistic/atheist concept of 'vertical' macro-evolution (the molecules-to-man kind of evolution), but they think that this was *God's* method of creation. An influential book which supports the literary framework theory is *In the Beginning* by Henri Blocher.

How do they justify this figurative understanding? They downplay or ignore the fact that the grammatical structure of the Hebrew is that of the historical narrative, and claim instead that the account contains 'literary clues' which point to its being symbolical rather than literal. One is the occurrence of numbers with symbolic significance. Another is the artistry, symmetry and ordered structure of the narrative, with three days of 'separation' followed by three days of 'adornment'. Another is the various lessons which the account teaches, such as the errors of certain pagan myths, and the error of worshipping the sun, moon and stars. There are other arguments also, but they are no more effective.

In answer, let me repeat three points made earlier: First, the grammatical structure of the Hebrew is that of *consecutive, historical narrative*, not poetry. Second, the Old Testament, the New Testament and Jesus himself regarded the early chapters of Genesis as *history*. Third, before the rise of long-age geology and the theory of evolution, nearly all exegetes, both Christian and Jewish, understood the early chapters of Genesis to be history.

As for the numbers with symbolic significance, the ordered structure, and the various lessons which the account teaches: all these are fully compatible with the account's historicity. God has the power to create in any way he wishes, and by choosing to create in that particular way, he was teaching certain lessons. These features do absolutely nothing to prove that the account is figurative. The same theological message is conveyed whether the account is figurative or historical—*but the message is much more powerful and authoritative if the account is historical.* If the account is symbolical only, it is mere rhetoric. The message is not backed up by the historical facts. Worse than that, the message is a sham. It is a false message. A vital part of the message is that God's original creation was flawless—absolutely perfect—whereas the *reality* (if there were millions of years of violence, disease and death) is that it was very far from perfect.

Supporters of this (literary framework) theory say also that the creation account is the product of an ancient Near Eastern culture, and that it is naïve to think it is meant to be taken as literal history. They say, quite rightly, that we must discover what it meant to the original readers.

However, we must remember that God himself inspired the record, that it is foundational to the whole Bible, and that it is meant to be understood by all people in all ages—not just the original readers. Most of us do not have the privilege of knowing Hebrew, or the ancient cultures of the Near East. But we do have access to the Old and New Testaments, and the teaching of the Creator himself, Jesus Christ. And, as mentioned already, an important principle of interpretation is that the best interpreter of Scripture is Scripture itself. If we want to know what the creation account meant to its original readers, the best place to look is the Bible itself.

Framework theorists notice the frequency in ancient Near Eastern texts of the pattern 6 + 1, and they inform us that this means the author of Genesis 1 was using a stereotype from his cultural milieu. But a more biblical understanding, I suggest, is that Genesis 1 is the *source* of this pattern—just as the biblical account of the Flood is the *original* account, and the Babylonian Flood texts are corrupt later versions. There is good reason to believe that Genesis 1–11 is very ancient indeed—much more ancient than any other Near Eastern text. When Moses compiled the book of Genesis, he used documents which were already very ancient. In fact, many of us believe that the original account of creation was revealed to Adam by the Creator. No human being witnessed the creation; so this revelation had to come from the only eyewitness, God himself.[11]

[11] Gurney, R. J. M. (2007). *Six Day Creation: Does it matter what you believe?* (pp. 43–46). Leominster, UK: Day One Publications.

Summary of Analogical Days View

Six Days of Work Followed by a Sabbath

My reading of the days in Gen 1 (the creation days) is what's called the "analogical days view." The idea is that these workdays are presented as God's workdays, and so they're analogous to the workdays that human beings would experience—six days of work followed by a seventh day Sabbath. But to say they're analogous is not to say that they're the same. There are ways in which God's workweek resembles a human workweek, but there are also ways in which God's workweek doesn't resemble a human workweek.

What's more important is that the analogy then refines the way that an ancient Israelite would go about his workweek as he would seek to model himself more and more after the pattern that God has set. You see in Gen 1 six days of work followed by a Sabbath, a Sabbath that is a blessed day of no work whatsoever. In fact, it's an unending day; there is no evening and morning marking at all. And Jews from ancient times have recognized that that's God resting from His work of creation and entering into His rest—that is to say, His work of maintaining His creation in good order.

So the six days that precede set for us a pattern of God's activity of working, and you can see that most clearly in the way each day ends: "And there was evening and there was morning, the first day," the second day, and so forth. Just like an Israelite, He'd start in the morning and He'd work until it was evening. Then He'd stop working, and then He'd rest during the nighttime. And then it was morning, and He'd start the next day. So you see God working just like He had told Israel to work.

Authorial Intent

Interpretations of Genesis 1–2

Agreement

My task here is to discuss the account of creation that we find in Gen 1–2. Now all Christians agree on some things about Genesis and about creation. We all agree that this is God's world because He made it and that He made it from nothing. And we all believe that the same God who made the world is the one who revealed Himself to Israel and that He became incarnate in the Lord Jesus, who died for our sins and rose from the dead and who will return to bring us, and the world, to perfect holiness and glory. But beyond that, we have differences, and some of these differences really matter to us.

Disagreement

You know that there are many ways of reading the creation days as regular days, as long ages, as a literary framework, and there's others besides. And we're all aware that this topic is tied up with questions of the Bible's right to speak about the history of the earth and how that relates to science. Well, rather than comparing and contrasting the different approaches, I'll simply show you how I read the passage. We want to try to examine Gen 1–2 for what it aims to say and to do.

Reading in Context

C. S. Lewis once observed, "The first qualification for judging any piece of workmanship from a corkscrew to a cathedral is to know what it is—what it was intended to do and how it is meant to be used." When it comes to the Bible, we who confess its inspiration should assume that the Bible text we're looking at is the right tool for its job, and this means that we can figure out what job that it's there to do by figuring out what it's the right tool for. And we should be careful not to use it for things that it wasn't meant to do, unless, of course, we have to.

Now I'm fairly traditional in my views about who wrote this, namely I think that the best answer is Moses. Trouble is, Moses has been dead for a long time and he didn't write in English. So you and I were not part of the original group that he wrote for. That group was the people of Israel, the people who had followed Moses out of Egypt along with their children and were about to cross the Jordan River under Joshua's leadership. We should guess that God had Moses write what he did with the needs of these people, first of all, in His mind.

Reading in Context

The Literary Context of Genesis 1–2

The Biblical Story

Let me begin by stating the obvious. We should read these chapters like anything else: in their proper context. But what does that mean? Well, Genesis 1–2 form the front end of Gen 1–11, which is the front end of the whole book of Genesis, which is the first of the five books of Moses.

Now, the books of Moses, which we also call the "Pentateuch," serve as a kind of constitution for Israel. Israel is God's people—the people that God chose, so that through them He could bless the whole world. Now we might think of a constitution as a set of ground rules for a nation, and that's right. But we should appreciate that this constitution is very strange. It comes to us as a continuous narrative, from beginning right away through to the end. And even when God gives a set of laws, His speaking is an event in this unfolding story.

Now this narrative gave to ancient Israel a big story. It explained who they were and why they were in the world, and it invited them to take their place in the story as it plays out from here. For Christians, it's a part of our big story as well. So Genesis as a whole sets the stage for Israel's big story. It addresses people about to follow Joshua across the Jordan River, making sure that they really believe themselves to be the proper heirs of Abraham—the person that God promised the land to. Now, Genesis 1–11 provides the front end to this big story.

Ancient Near Eastern Creation Myths

Now other peoples in Israel's neighborhood had their own stories about where people came from and what the gods could do for you if you honored them properly. The biblical front end [aims] to tell these things the right way to make sure we really get it. We have a good creation, marred by human fall into rebellion, where God has acted to redeem humankind and all that they affect, which God will eventually bring into final judgment and to complete fruition. Now if we tell it this way, it's not simply a local tale dealing with a limited group of people; it tells the big story of the whole world.

Genesis 1 and Genesis 2

Genesis 1:1–2:3 and Genesis 2:4–25

Two Creation Accounts

Now, since I'm talking about Gen 1–2, I have to decide what is the relationship between these two passages. To begin with, I take the passages to be these: the first, I'll be calling this "Gen 1," but it's really Gen 1:1–2:3; and then the second, I'll call it "Gen 2," but it's really Gen 2 starting in verse 4 going right the way through to verse 25. Now, the main reason for this is that 2:4 begins with "These are the generations …" and this phrase, "these are the generations," typically begins a new section in Genesis. But then what? Do the events of Gen 2 follow those of Gen 1? Well, the traditional Jewish way of reading these two passages takes Gen 2 as amplifying the sixth day of Gen 1—that is to say, it tells us more about how God went about creating humankind in His image: male and female.

Connected Creation Accounts

Now there's lots that we can say in favor of this way of reading, but I have to be concise here. You can actually see this, though, in the way that Jesus ties the two passages together. In Matthew 19:4–5, Jesus is answering a question put to Him by Jewish leaders, and He ties Gen 1:27 together with Gen 2:24. Jesus answered, "Have you not read that he who created them from the beginning made them male and female [that's from 1:27], and said, 'Therefore a man shall leave his father and his mother and hold fast to his wife, and the two shall become one flesh'?" And that's from 2:24.

How Did the Author Structure Genesis 1?

Pattern of Seven Days

"Evening and Morning"

Let's consider how the author structured Gen 1. The most obvious thing about Gen 1 is the seven days pattern marked off by the refrain "And there was evening and there was morning, the first day," the second day, all the way to the sixth day, and there's no refrain on the seventh day, as a matter of fact. Now the pattern here is that God is going about His workweek, doing special labor on the six days and then having a rest on the seventh. Can we say when each day begins? Yes. If we look at 1:5–6—after the first evening followed by morning in verse 5—then in verse 6, we read, "And God said …" and we see the same thing at the beginning of each of the other days in verses 9, 14, 20, and 24. That is to say God begins each workday by saying something, expressing a wish (let something happen), and then the wish is fulfilled. And that's actually why day seven is different: the Sabbath is not a workday.

"And God Said"

Well, this tells us that the first day begins at 1:3, where God expresses His first wish. It says, "And God said, 'Let there be light.' " In other words, God's initial act of creating all there is—"In the beginning God created the heavens and the earth" in verse 1—that initial act of creating took place sometime before the first day began. And when the first day began "the earth was without form and void," which means that it was not yet ready for us to live in it. Well, this is going to help us when we think about what these passages are about.

Climax of Creation

Now chapter 1 comes to a high point in verse 27: "So God created man in his own image, in the image of God he created him; male and female he created them." You can catch the repetition; three times he says the word "created." And the author is telling us that he wants us to see the making of the first human beings as the key to all the action here. In fact, he's slowed it down so that you talk about the same event three times without moving ahead in the story line.

In fact, we are to think of everything in this chapter in terms of its relationship to human life. Even the lights in the sky (in verse 14) mark off the seasons, the days, and the years. Well, those words ("seasons," "days," and "years") mean that they mark the calendar, so that humans can worship God according to the proper cycle in the Israelite calendar, and also as we still do. We have Sundays; we have Christmas; we have Easter—days and years and seasons.

Lack of Ordinary Names

There are a few other things in the passage that we should notice as well. You can see that few things here get their ordinary name; the main exceptions being God and man. The "expanse" (or the "canopy" as some people think it is) in 1:4 is a poetical name for the sky. You'll find it in other places like in Dan 12 or in Psa 19—that is to say, poetical contexts. The vegetation comes in small varieties ("plants yielding seed") and then in large ones (fruit trees). The sun and the moon are the greater and the lesser lights. You have the "swarms of living creatures" in the waters. You have the birds (or flying creatures) in the sky, and on land you have "livestock" (animals that you can tame for farm use), you have "creeping things" (little creepy crawlies like snakes and lizards and mice and spiders), and you have "beasts of the earth" (wild animals, whether game or predators).

Broad Taxonomies for Plants and Animals

This description as a whole is very, very broad stroke, and it's suggestive rather than detailed. Besides that, you're aware that it tells us that the trees have their seeds "each according to its kind," and God made the animals of the water and the land "according to their kinds." Now the word "kind" is not the same as "species"; it isn't even about the question of whether one kind can turn into another. All we have to do is think about the nomadic shepherds who first heard this. They already knew how you get more sheep; you breed them from your sheep and not from camels. If you want to grow barley, you plant barley seeds and not oats. In fact, Jesus told a parable in Matt 13, where a farmer recognizes that somebody has sown a different kind of seed because two different kinds of plants are growing in his field.

So the questions about changes in "kind" does not even have anything to do with what this text is doing. The point is that this comes from God, and whatever processes God did or did not use to bring that about are still His processes.

Implications of Structure for Interpretation

Now let's take all these factors together. We have this quasi-liturgical recounting of God's achievements in creation. I say, it's quasi liturgical because [if] you were to recite these things aloud together, you would be standing in amazement and admiration of what God has done, His craftsmanship in the creation. You have this highly patterned presentation of the days; each of them begins with "and God said," and it ends with evening followed by morning. You have the lack of "normal" names for the things that are mentioned, together with the rhetorically high "expanse," and the allusive reference to the sun and the moon, the very broad stroke taxonomies for plants and animals—all these factors combine together with the unique events (I mean, after all, creation only happened once) and then with God's own appreciation for His work (He said, "It was very good"), and His rest on His Sabbath, to give the narrative what we could call a "high" or "exalted" feel, something we don't encounter in other narrative passages in the Bible.

So then, the six days are not necessarily the first actual days of the universe because the first day began when God said, "Let there be light," and the creation event took place sometime before then. I don't know how long before that; it doesn't really matter. So these six days are not even necessarily the first days of the earth itself. They are the days during which God set up the earth as the ideal place for human beings to live, to love God, to serve one another, to rule the world with wisdom and goodwill.

So, What about Those Days?

An Analogous Workweek

Evening and *Then* Morning

So what about those days, then? Can we say a little bit more about these days in this chapter? Are they the kind of days that we're used to, and do they follow one another in sequence? Well, the key is that most obvious feature of this passage, namely the refrain. After each day, we find evening and then morning, the nth day. The order of the words makes all the difference in the world: evening and *then* morning. There's only one thing that that can be. The evening followed by the morning gives you the bookends of the nighttime.

Now in that culture—remember I said we have to think about the culture this was written for—in that culture, you work during the daylight (say, caring for your animals or tilling your field), and then you've knocked off in the evening; and you're rested during the night. The next morning you're ready to start over again. You do this for six days and then comes the Sabbath, where the whole day is given over to resting.

Sabbath

Now the Sabbath was introduced to Israel in Exod 16, just after they crossed the Red Sea following Moses. So the people who first received this had already had the seven-day week instilled in them. So God's activity of preparing the earth as the right kind of place for human beings to live is presented to us like an Israelite workweek. You'll notice that on the seventh day God rests. In Exodus 31:17, it even says that on His Sabbath God "rested and was refreshed." Now any Israelite, when he read that, would first think, "Yeah, I know what that's like," but then he'd think, "Wait a second, God doesn't get tired." What we're seeing is that this passage is presenting God's creation activity by way of analogy—that is to say, it's like human work in some ways; then, of course, it's unlike our work in other ways.

But how about length of time? We've already noticed that the seventh day has no refrain. There's no evening and morning the seventh day. And the simplest explanation for that is because it doesn't end. God has rested from His work of preparing the world for mankind and He is still resting.

Now, it looks like Jesus thought of it that way in John 5:17 when He was condemned for healing someone on the Sabbath day. He says, "My father is working until now, and I am working"—that is, even though it is God's Sabbath, He's still working for the benefit of human beings and that justifies Jesus in doing good. And Hebrews 4:3–11 tells us that Christian believers have entered God's Sabbath rest, a rest that began in Gen 2:1–3. This makes sense only if God is still enjoying that same Sabbath. Earlier than the NT, a Jewish writer named Aristobulus had already noticed this, and Augustine also commented on the lack of a refrain on the seventh day, saying, "You have sanctified it … forever" (or an everlasting continuance).

God's Workdays

So the seventh day is not an ordinary day. What about the other days? Well, if we only read Gen 1:1–2:3, we'd just say that they could be ordinary days and they could be unusual days. But we don't stop there. We go on to read the rest of Gen 2 and especially verses 4–7: in verse 4, "These are the generations of the heavens and the earth when they were created, in the day that the LORD God made the earth and the heavens. When no bush of the field was yet in the land and no small plant of the field had yet sprung up—for the LORD God had not caused it to rain on the land, and there was no man to work the ground, and a mist was going up from the land and was watering the whole face of the ground—then the LORD God formed the man of dust from the ground and breathed into his nostrils the breath of life, and the man became a living creature."

In some particular region (it's called the "land" in verse 5), at a particular time of year (and this time of year would be the end of the dry season before it had begun to rain, when the rain clouds, or the "mist," were beginning to rise), that's when God formed the man. In other words, if we read Gen 1–2 together, we can see that, as I said earlier, 2:4–25 fills out details of the sixth day. They tell us what the conditions were when God created the first man.

But I want you to see something. It gives us the reason that no bush or small plant had yet sprung up, and that reason was because the Lord God had not caused it to rain on the land (that is to say, in that region). Now it does not say anything about God not yet having made the plants. So we shouldn't confuse this with the third day of Gen 1. Rather, you need to think of the climate. In that part of the world, it rains in the winter and stops raining sometime around Easter, and it doesn't rain again until sometime in the fall. By the end of the summer, everything is brown and dry, and then when the rains begin, it starts greening up. Well, if that's the explanation for why the bushes hadn't been growing, for that to be the reason, it must mean that this climate cycle had been in effect, and it would have to have been in effect for at least a year, if not longer. So a week that is a year or longer is not an ordinary week.

And all of this comes together to show that the best reading of the days is the one that Herman Bavinck offered when he said these creation days are "God's workdays." Does the passage here have any concerns with our questions about how old the earth might be? I don't think so. After all, we already noticed that these days are not necessarily the first six days of the universe and not even necessarily the first six days of the earth itself. And if they're God's workdays—analogous to human workdays—then exactly how long they were, or exactly how the activities might match (say, what we find in the fossils), is just not important.

Summary of the Doctrine of Creation in Genesis 1:1–2:3

The Creation Week

Now, I don't want to stop by talking about what the passage does *not* say. The purpose of setting out God's work in this pattern of six days, followed by a Sabbath, is to give us a pattern for the ideal human being who imitates God. The Sabbath commandment sets up a workweek in Israel that follows God's workweek. It's a gift of God's love. And so the work and the rest and the days in the fourth commandment are analogous to God's.

And you'll notice that this passage begins with God creating everything. Now there's a debate about whether Gen 1:1 is the very first action or a summary of the whole passage. Now I'm confident that the grammar of the Hebrew supports the first one—namely in the beginning, sometime before the first day, God brought stuff into being, which He then shaped. In the shaping, things happen because God "says" things. The matter in the universe doesn't exist on its own, and it doesn't organize itself. That organization comes in obedience to God's command. Now that doesn't set up a scientific theory for us, but if we indwell the story, we'll not be surprised to find instances of what we can call "design" in the world that God made.

From Nothing

So we can say that God made all things in the first place from nothing, from verse 1. This means that God and only God is self-sufficient. The created world depends on Him, but He doesn't depend on it. When He made the world, He made something different than He is and something less than He is.

By the Word of His Power

Secondly, God made all things by the word of His power. And this means that when God wanted something to be a certain way, He spoke a word and that's just the way it was. Unlike the story that other peoples told, God didn't have to overcome any resistant forces. The world is perfectly obedient to His will.

In the Space of Six Days

Thirdly, God made all things in the space of six days. Now by using the pattern of the human workweek, God shows us how the ideal human laborer does his work and takes his rest.

All Very Good

And all very good—"good" means that it deserves our admiration because it suits just what God wants. This is what the creation was like at first, and there's some sense in which it still applies, as in 1 Tim 4:4 (Paul says, "Everything created by God is good"). But the point is that sin and dysfunction are foreign invaders of God's good creation.

Bears His Imprint

And then finally, God made all things so that it bears His imprint. The whole creation displays to all of us something of what God is like, and it helps us to know and to worship Him.

Right Kind of Place

And He made all things as the right kind of place in which we live out our story. Here is how the story of the world got under way.

Christians are able to affirm these things even when they disagree over the nature of those days. The late Francis Schaeffer came up with the notion of freedoms and limitations. There's a range of views that good people can take, and yet, there are boundaries set by the Bible and by good sense.

Enjoying the Creator by Enjoying His Creation

There's plenty more that I'd like to say right now, but at this point, I want to leave you with this. The first thing about you and me and about everyone else around us and about the world is that God made us all. In fact, God was pleased with what He made; He *liked* it. Since we're Christians, we must also think of God as the redeemer. But His purpose in redemption is to restore His broken creatures, so that they function properly as they did at first. So our Christian faith does not take us away from the world that God made, rather it equips us to live in it and to appreciate it for that magnificent work that it is. God doesn't treat His world as a rival for our affections; as we enjoy it, we enjoy its maker.

Other Views and Objections to the Analogical Days View

Other Views of Genesis 1

Six Regular Days

Now there are, of course, other readings of particularly the days in Gen 1 that differ from the argument that I've just given for you. Obviously the most common view is that those days are regular days, just like the days that you and I experience. I'll come back to one of the strongest arguments for that position in a moment. But as I've argued, that view doesn't really do justice to the difference between the seventh day in the creation account and the six workdays, and it also doesn't really account for the presentation of the evening and the morning as the brackets for the nighttime during which God is resting. And so I'm seeing the whole account as an analogical presentation of God's creative activity.

Day-Age View

A view that became very popular in the nineteenth century was the view called the "day-age view," namely to think of each of these six workdays corresponding to the ages of the geological column that was beginning to be better understood especially in the nineteenth century. One of the difficulties with that is that geological thinking keeps changing, and so, a classic statement of the day age view from the 1870s could, with a little bit of effort, match the work of the six days to what was understood of the geological column in 1870.

The trouble is, in a later date, the geological column is understood differently. So is Genesis now false? It doesn't seem to be a very helpful way to go, and as a matter of fact, that just seems to fall afoul of the notion that the original audience were peasants whose concerns were: How am I going to work my farm? How am I going to live in the land in a way that is pleasing to God? How am I going to live out my humanity in a way that is fulfilling to me, that is a blessing to my community, and that brings blessing to the rest of the world?

Framework View

Another way that people have read this account is called the "framework view," namely to think of the days as having no particular sequence. And the framework view has lots of subspecies. So you might even think of what I've presented as one of the subspecies of the framework view, but there are other versions that think of the first three days and the second three days as just alternate ways of telling the same events. The trouble with that is, of course, you have six workdays and not three told twice. And so I don't really think that that does full justice. There are other subspecies

of the framework view that basically say that history has nothing to do with what Genesis is telling us. However, in the presentation in the Bible, the creation account is how the story got under way, the true story of the world. And so it seems to me that we have to accord some kind of historicity to the account in Genesis. It's about events that really took place; the world that we live in is really a world that God made and He made for the wellbeing of human beings.

Objection and Response to the Analogical Days View

The Objection

So let me move to one of the most common objections to the reading or anything other than the reading of the regular day view, and that's the fourth commandment in the Ten Commandments, because it commands Israel, "You're to work six days and rest on the Sabbath." And the reason that you're to do that is because God made the world: "the heavens and the earth and sea and all that is in them in six days and he rested on the Sabbath." And so the argument goes, "See, the Israelite workweek (six days) are the same as God's workweek."

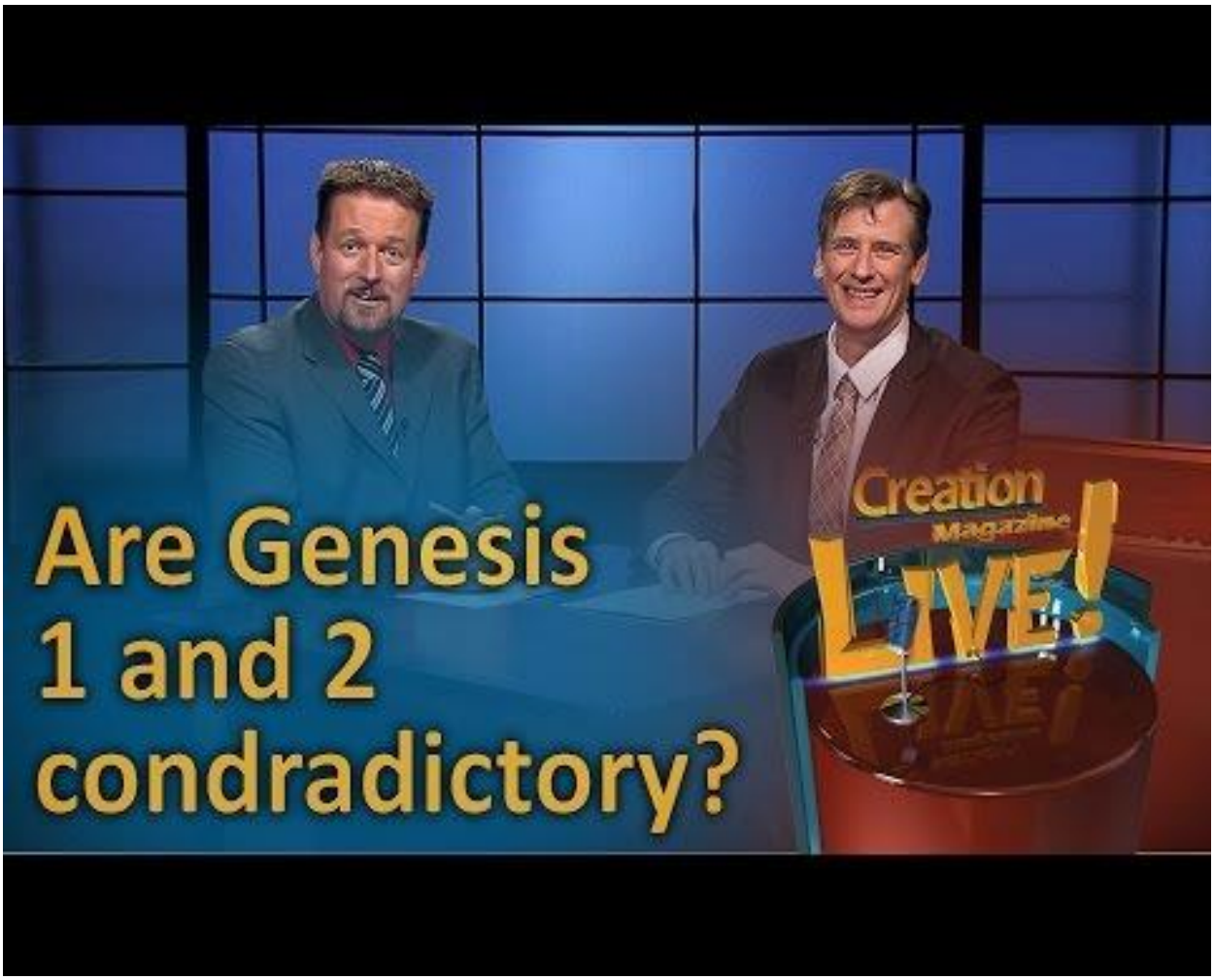
The Response

But the whole principle of the Sabbath commandment is that of analogy—that is to say, our work is like God's work; our work isn't the same as God's work. After all, an Israelite farmer didn't go out into his field and tell the soil to bring forth vegetation. He had to go out there and weed it; he had to hoe it; he had to plant seeds, and so on and so forth. So his work is like God's work, but it's not exactly the same. In the same way, he has to breed his animals; he has to tend his animals, and so forth. All that work is like God's but not the same.

In addition, it says that God "rested on the Sabbath." In fact, the word used for "rested" in the fourth commandment is a little bit more explicit than the word that we have in Genesis. In Genesis, it's properly translated as God "rested." We think of the Sabbath as a day of rest, but the word is He "ceased" working in order to rest. That's the idea. But the word that we have in the fourth commandment is more explicitly "to rest," "to get relief." And then in Exod 31, there is an even more explicit word; its meaning is like "getting your breath back." Well, God doesn't need to get His breath back after a workweek. We know that about God. And so what we have to see is that there are differences, and the ways in which God's activities are presented to us are by analogy.

So since we have analogy, we don't have to have our workdays being the same as God's workdays, just so long as they resemble God's workdays in the ways in which we can discern—namely, we're active in the creation; we're trying to imitate God in our use of intelligence; we're trying to plan ahead. We, as human beings, use language as we communicate with one another. We even use language as we communicate with the creation. We speak to the animals, and we expect them to obey us, to comply with our wishes; and animals under human care actually learn to respond to human speech.

So we can see that there are plenty of analogies, and we don't need to concern ourselves with the question of how long all these things took, nor even how long ago these things took place. That there are actually events that took place need also not concern us because we're accepting this as a part of the true story of the world.[12]



[12] Pipa, J. A., Jr., Futato, M. D., Collins, C. J., Longman, T., III, & Walton, J. H. (2017). *TH331 Perspectives on Creation: Five Views on Its Meaning and Significance*. Bellingham, WA: Lexham Press.

#5 - Six-Day Creation by Joseph Pipa Jr.

Summary of Six-Day Creation

Literal Account of Creation

My intention in this lecture is to demonstrate to you that Gen 1:1–2:3 is to be taken as a literal account of God's work of creation—that God made, by the word of His power, all things from nothing in the space of six normal days. It was all very good.

Structure of the Six Days

I'll begin with a brief statement of why I think this is very important, and then primarily, I'll seek to demonstrate why I think that we are to take this chapter in a literal, chronological sense on the basis of an examination of the chapter itself, looking first at verses 1–2—what God did in His initial act of creation—and seeing that the product of the initial act of creation from our sphere of creation is a universe that is dark, uninhabitable, and uninhabited. And what God begins to do on day one through day three is to make it inhabitable with the creation of light and then make it an inhabitable environment, and days four through six making the inhabitants then for the environment.

Structure of Each Day

And so what we have in addition to that structure, though, is each day also has a structure that I want to show to you where Moses uses five structural elements: the work of creation, the declaration of fulfillment, the expression of delight, a declaration of purpose, and a record of time. And through all of this, I believe Moses, by inspiration of the Holy Spirit, is teaching us this very important truth that we are to take this as a literal record of what God did—not simply a general account that God created, but as I've said, that God created by making by the word of His power all things from nothing in a space of six normal days.

Assessing the Importance

Importance of a Literal Approach to Genesis 1

My intention in this lecture is to demonstrate from Gen 1:1–2:3 that God created all things by the word of His power in the space of six normal days—in other words, the literal approach to Genesis. When I lecture on this topic, I'm often asked the question, "Well, so what? What's so important about one view over against the others as long as the people who hold to the nonliteral views of Gen 1 hold to the inerrancy of Scripture? Does it really matter?" I think it does for a number of reasons, and the first is the premium that Scripture places on the supernatural and sovereign character of God's creating work.

Nonliteral Approaches Compromise the Supernatural Character of Creation

For example, creation is used in the Scripture to be an apologetic—that God alone is the true God (Isa 45:18; Rev 10:8). The Scripture also directs us to worship and fear God because He is the creator of all things (Rev 4:11). And then in Psa 33:4–11, David demonstrates that God keeps His word by relating to the word of God in creation. And in 2 Corinthians 4:6, the apostle Paul shows the parallel between God creating light on day one and the great work of regeneration.

Nonliteral Approaches Compromise Key Doctrines

A second reason this literal view is important is that many key doctrines in Scripture are related to one's view of these chapters. For example, the whole historicity of Gen 1–11 hinges on how one approaches Gen 1:1–2:3. Obviously, the unity of the race coming from one man depends upon a literal interpretation of Gen 1–2. The imputation of Adam's sin to his posterity depends upon a literal interpretation of Gen 1–2. Christ as our covenant head is related to Adam as the first man in 1 Cor 15; Rom 5. The very nature of the flood depends upon a proper understanding of Gen 1–2. And in fact, all of covenant history is dependent upon one's approach to Gen 1:1–2:3 because this is a prologue to a book that introduces us to the covenant.

Nonliteral Approaches Undermine the Perspicuity of Scripture

A third reason for approaching Gen 1 as a literal account of a chronological six-day creation is what we call a doctrine of "perspicuity of Scripture." It's not that all things in Scripture are equally clear, but all doctrines that have to do with man's salvation/relationship to God are clear from one place or another. And we know from Paul's evangelism, for example, that creation was very important with respect to believing in God as the creator.

So a couple of problems here in the first place: the nonliteral views are not easily grasped by your average church member, and thus, they have to have a guide to take them through what appears to be a very plain, simple reading of the Word of God. That, then, undermines people's confidence and their ability with the tutelage of the Holy Spirit to understand Scripture.

Nonliteral Approaches Violate Exegetical Principles

And then a fourth reason why a literal approach in Gen 1 is so important is the nonliteral approaches violate a number of exegetical principles.

- In first place, the interpretations seem to be forced. We really should take the literal sense of the text unless such is clearly a figurative text or contradicts the context or the clear teaching of Scripture.
- Second, the nonliteral views seem to neglect that they're based upon the essential spadework of grammatical, historical exegesis.
- Third, the nonliteral views do not really pay close attention to Gen 1 (at least it seems to me)—its relationship to the remainder of the book. It's a prologue of a very factual historical book.
- And then fourth, the methods also seem to fail in letting Scripture be the interpreter of Scripture. It's very important that we interpret Scripture by Scripture and the rest of Scripture treats Gen 1:1–2:3 as normal, literal days.

Nonliteral Approaches Are Arbitrary

Another reason this is important is the method itself is arbitrary. There is no internal breaks except a person's orthodoxy. Why make this chapter figurative and 2 and 3 that actually have more metaphorical concepts supposedly—such as a snake speaking or God making garments or forming man from the dust of the ground—why would those chapters not be metaphorical or figurative and this one is? Or we look at the account of the flood; that's a chronological account. Why would we take that in a literal, organic way and not Gen 1, or the plagues, which are given to us in a clear structure and yet follow an order? So there's an arbitrariness that's involved in this that gives the appearance of being driven by something other than exegesis.

Nonliteral Approaches Can Have Disastrous Consequences

And then I know people don't like the domino effect, but there really are disastrous consequences in this approach to Gen 1, and we see these things happening. For example, E. J. Young points out that you begin to lose the concept of the Christian Sabbath because it's based upon a factual reading of Gen 1:1–2:3. We have many people now, who began with these nonliteral approaches, who are moving into theistic evolution and even allowing for other origins of the race [rather] than simply a supernaturally created man and woman. There are yet others who not only are denying a universal flood but now are actually saying that the flood did not destroy all people—only the people in a certain geographical region. And so we could go on and on and see that there really are consequences to this whole approach with respect to Scripture.

Conclusion

So, I think it's a very important issue. I am increasingly convinced that we should hold to a literal reading of chronological normal days in Gen 1. When I left seminary, I was of the opinion that it really didn't matter as long as you believe the Bible and that God created all things, and I deliberately preached in Genesis because I wanted my people to get a basis for covenant theology. And I wasn't but halfway through chapter 1, and I realized it is important and the exegesis demands a literal approach to Gen 1.

Overview of Genesis 1

Exegesis of Genesis 1

Well, I've assessed the importance of approaching Gen 1 as a literal recording of what God did in six chronological normal days. With that background, what I want to do now is give you an overview of Gen 1 that will demonstrate exegetically this approach to Scripture.

The Initial Act of Creation (Gen 1:1–2)

I want to begin with the first two verses: "In the beginning God created the heavens and the earth. The earth was formless and void, and darkness was over the surface of the deep; and the Spirit of God was moving over the surface of the waters."

An Eternal God and All Other Things

What we have here is the initial act of creation, and as we look at this, we need to understand that there were two ways to translate verse 1. Grammatically both are correct. One is: "In the beginning *when* God created the heavens and the earth," and then what we have in almost all of our versions of the Bible (if not all) is: "In the beginning God created the heavens and the earth." Both are grammatically possible, but the first is not exegetically or theologically possible because it does not assert a time difference between, or a line between, God's eternity and the work of creation. It gives the impression that things were in existence and then God began to create. When, in fact, the other view states categorically that there was a beginning, and in the beginning, God is the one who created the heavens and the earth. And so we have in Gen 1:1, in the first place, is this demarcation between an eternal God and all other things.

We also have, then, in Gen 1:1 the creation of the heavenly supernatural sphere, and it says, "God created the *heavens* and the earth." We look at Gen 2:1–3; we see that this includes the heavens and the host of heavens, which are not simply the stars but the place where God reveals His gracious presence and angels and such—all are included in the fact that God created all of these things. And we know that angels were in existence because Job tells us in 38:7 that they were witnesses of God's work of creation.

Creation Ex Nihilo

Second thing that is asserted here in 1:1 is that God created what we call *ex nihilo*; it was a primary creation. God was; God is, and in the very first act of creation, God created the things that are in heaven and angels and such and the things from which He would make everything else in the work of creation.

One other comment on Gen 1:1, and that is, is it part of day one? Or is it a title, so to speak, of the chapter? Bavinck thinks it's a title and there might be some time-lapse between 1:1 and 1:2. Bob Raymond sees it as a title but immediately part of the creation account—no lapse of time. But I think when we look at Gen 1:1 in relationship to 1:2, it might be a title, but there's an immediate connection between that first act and what is going on in verse 2. And because of that, it could be a title, but there could be no time gap between them. Turretin and most other theologians and commentators will take Gen 1:1 as a part of day one; I prefer that approach.

So [what] we have here is [an] introduction of God, and we see from the context (at least intimated) a triune God who then brought all things into existence and all matter and creaturely things brought into existence out of nothing. Now, that doesn't mean there was something called "nothing"; it's simply a way of saying that God is, and by His Word, He then began to create the things.

Now, Gen 1:1 also focuses on—or the rest of Gen 1—on the earth. So because the movement is toward the creation of man and God's covenant with him, heaven kind of gets a passing reference at this point.

The Immediate Result with Respect to the Material Universe

Now verse 2 shows us exactly the result of this first creative work of God. It describes the immediate result with respect to the material universe—that it was a dark, watery mass with a threefold created deficit: it was dark, it was uninhabitable, and uninhabited (unfilled, chaotic mass). And the Holy Spirit was hovering over that mass that God created in order to protect, preserve, and to bring into existence at the spoken commandment. Again, note the role then of the triune God in creation: the Father creates; the Spirit hovers and protects; and we know from John 1 that when God speaks, it's God the Son who is speaking.

The Work of the Six Days

Structure of the Six Days

Now what we have in the rest of the chapter, then, is a description of the work of the six days, and actually, this work is described by a twofold structure. There's an overall structure of the chapter with days one through three being the environment, so to speak, and days four through six the inhabitants. And so we don't deny that there is structure in the chapter, but see, that structure is explained by what we have in verse 2—that there was a dark, uninhabitable creation and it was uninhabited. So on day one, as we'll see, light is created, and days one through three, the earth is prepared for its inhabitants. And days four through six, then, are the earth and the created sphere, and [days] four through six then describe the creation of the inhabitants.

Structure of Each Day

But there is a further structure that I want you to notice as we look at chapter 1, and that is that each day is revealed to us under this structure: there is the work of creation, the declaration of fulfillment, the statement of purpose, the expression of delight, and the record of time. So I want to examine the rest of the chapter under this framework.

Work of Creation and Declaration of Fulfillment

Work of Creation

Let's begin to look then at Gen 1 under the structure and beginning with the work of creation, and Moses uses two expressions.

Creative Word

He has what I'm calling the "creative word," and these are the eight fiat acts that are described in Gen 1 (the entire chapter), so that there are eight specific commandments given by God that brought all things into existence.

And this, of course, is God the Son speaking; we know this from John 1:1–3; Prov 8:22–31. So God spoke these eight things into existence.

1. In verse 3 (light), God said, "Let there be light."
2. In verse 6 (the firmament), "Let there be."
3. At verse 9 (the dry land), "Let it be gathered."
4. At verse 11 (vegetation), "Let there sprout."
5. Verse 14 (the luminaries), "Let them be."
6. Verse 20 (fish and fowl), "Let them swarm."
7. Verse 24 (the animals), "Let them bring forth."
8. And then man, actually, "Let us make man in our image."

Creative Act

Now these eight fiat acts are very important, and they speak to us of God's direct involvement in the creation of these six days. But each word is reinforced with what I'm calling a "creative act" (words like "God made," "God created," "God divided," "God generated"). Now not recorded for each act of creation, there are things that were simply separated, such as light and darkness or the firmament (the waters above from the waters beneath). But in all other cases, we have words that express bringing directly into existence, such as the vegetation is generated upon the earth, the earth is brought forth. The word "made" is used: the firmament was made, the luminaries in verse 16, animals in verse 25, man in verse 27.

Then the word "created" is used. I didn't refer to that word as we began; it's used in Gen 1:1. It's a very unique word in Scripture. In this particular form, when God is the subject, it always refers to supernatural acts and never refers to the material that is used, but only to the product. And so God made all things (Gen 1:1), but here we have in 1:21, He created the fish and the birds, and in verse 27, He created man.

So it's interesting, isn't it? That each word, each commandment, is then further expressed with these different words for bringing into existence. Again, there is an emphasis here on an instantaneous creation performed by God.

Immediacy

And this language shows the uniqueness of the origin—each act as an instantaneous, immediate act of an all-powerful God (a non-duplicatable event as we see in Gen 2:1–3 as Moses declares that God completed the work of creation in these six days).

Declaration of Fulfillment

"And There Was Light"

This leads to the declaration of fulfillment—the second part of the structure that's used for each day—and these are those words like "and there was light" in verse 3 for day one.

"It Was So"

For day two: "it was so" with respect to the firmament (fiat act two). On day three: "dry land" in verse 9 (fiat act three); verse 11: "vegetation" (fiat act four); verse 15: "luminaries" (fiat word or act day five); "animals" in 24; and then "man." And so, "it was so" up through the creation of the animals is an expression that speaks to the completeness of the act.

Not Used for Fish, Fowl, or Man

Now it's not used for fish and fowl, and it's not used for man, because in those two verses, the word *bara'* ("create") is used. That word in itself means "it was so"; it was accomplished. But in all the other acts of creation, we had this expression that "it was so."

Completion and Maturity of Creation

And this is very important to understanding and trying to answer some of the scientific objections offered by some scientists to a literal approach to Genesis; this teaches the completion and the functional maturity of creation.

In fact, what else could you have with a fiat creation? And God said, "Let there be a tree." There was a tree; it was a full-grown tree, and if you cut it, obviously, it had rings. But to be a man, there was a mature man who reveled in the beauty of a mature woman. This is not God creating with the appearance of age, so to speak. There is no deception involved in this; this is the simple result of a fiat, instantaneous creation—that everything was created. It was created according to its kind; it was created in a maturity. And this is one way that Christians who study astrophysics and whatever answer about the great distances of stars and light-years is that there would be no problem with the mature creation—that stars would be created with their continuum of light as well.

There is also a continuity because the God of creation is the God of providence, and that's why I suggest that these mature things would have had a record, so to speak, (not a fossil record) but a record such as rings, or adult teeth, or stars with light, because God created in a way that we then could do science by observing what He does in providence. And so the statement of fulfillment is very important.

Statement of Purpose and Expression of Delight

Statement of Purpose

Now next is the statement of purpose, and God expresses purpose for the creation in three ways.

Naming

In the first place, He names things, and God's naming demonstrates nature and purpose. So the light is called "day"; that's the purpose—the primary purpose of it. The dark is called "night"; the firmament is called the "heavens"; the dry land is called "earth"; the water is called "seas." And so God in naming these things is expressing nature and purpose within the whole scope of creation.

Now what we see is that He left it to man to name the animals, because part of man, as the image of God, his purpose was to rule over the creation. So God gives man that role to identify, according to their nature, the various animals.

Purpose

Now, a second way purpose is expressed in this is in the fact that God actually expresses purpose. So the heavenly bodies were to govern day and night, stars, navigation, seasons. The plants were for man to eat, and then man's purpose is expressed in both propagation and ruling and dominion.

Blessing

And then the final way that God expresses purpose is by blessing things. When God blessed these things (animals, man), He gave them purpose and the ability to fulfill that purpose. So He blessed the fish and fowl, and in doing so, He's giving them what we would refer to as instinct—gave them purpose in creation and empowered them, built them, so to speak, to fulfill that purpose. And then, of course, He does this with man. He expresses man's purpose by blessing him and telling him to rule. That helps [us] to understand the Sabbath in 2:3. When He blessed the Sabbath, He was assigning to it purpose, and that's what Christ had in mind when He said, "The Sabbath was made for man and not man made for the Sabbath."

And this concept of purpose teaches us that there is an order and balance in creation as well as the uniqueness of man who now is God's vice-regent, God's governor who governs over the creation.

Up to this point, we've looked at the structure of each day under three headings. We've seen that we have the work of creation, and that's expressed in two things: the creative word and the creative act. You then had a declaration of fulfillment and a statement of purpose, and the fourth thing I want to show you here is the expression of delight.

Expression of Delight

"It Was Good"

This was God's expression of the pleasure that He took in what He had accomplished. So He uses this expression, "It was good," on day one (verse 4) with respect to light. On day three with respect to the earth and sea and vegetation, He expresses this delight that it was good. The luminaries on day four, animals (the fish, the fowl, and the animals), for all of these, God has this expression that it was good. And then, of course, He concludes the whole account with "it was very good."

Now it's interesting that on day two we do not have this expression. That's because day two was simply in a state of incompletion. There was a firmament that was created that had nothing in it, and there was this watery mass that became earth. And so because of the state of incompletion, God did not declare that good. But on day three, then He declares both the dry land and sea good and the vegetation to be good.

Implications of a Good World

Anti-Dualism

This is important for us to understand, because it reminds us that asceticism is wrong or this bifurcation, this division, between the spirit and matter, as if material things were inferior, or even, as some would think, sinful. No, God has made a physical world, and He's declared it to be very good. And it was beautiful; we cannot begin to imagine what the earth was like before the fall. But our God Himself is beautiful, making this world with texture and taste and color and sound. He took delight in it.

Sabbath Rest

In Genesis 2, when God introduces the Sabbath and it says He kept Sabbath, that's the word "rested," and we get our word "Sabbath" from that. A part of God's rest was pleasure. So in Exodus 31—I think it's verse 17—it says that "God refreshed himself on the seventh day." And the Hebrew word there is the verbal form for the word "soul." He "soul-ed" Himself, so to speak. He took delight in what He made, and that delight was it's very good. And He wants us to take delight in this world that He has made.

Record of Time

Introduction

Now the fifth part of our structure in looking at Gen 1 is what I'm calling "the record of time." And here, we have that it was evening and morning with a numbered day.

What *Yom* Cannot Mean

Now, the Hebrew word that's used here for "day" is *yom*. And throughout the years (150 or so years), many commentators tell us that this word can mean a day, but it could mean an unlimited period of time, and thus this became the basis of the day-age approach to creation.

In fact, *yom* never—I'll say it absolutely—never could mean this indefinite long period of time. Skinner, who was no friend of supernaturalism but was a brilliant exegete in handling the Hebrew text, says, "The interpretation of יוֹם [*yom*] as *æon*, a favorite resource of the harmonists of science and revelation, is opposed to the plain sense of the passage and has no warrant in Hebrew usage (not even in Psa 90:4). It is true that the conception of successive creative periods, extending over vast spaces of time is found in other cosmogonies; but it springs in part from views of the world which are foreign to the OT. To introduce that idea here not only destroys the analogy on which the sanction of the sabbath rests but [misconstrues] the character of the Priestly Code."

Now Skinner believed that the Pentateuch was written over centuries and this is part of the Priestly Code. "But if the writer had [seasons or] æons in mind, he would hardly have missed the opportunity of stating how many millenniums each embraced." So here's a man who is no friend of supernaturalism, expressing that this word (*yom*) cannot mean eons or indefinitely long periods of time.

What *Yom* Can Mean

Let me give you some of the arguments for this. And it is interesting because, as I said, for decades very conservative, well-meaning commentators and theologians have said that we just cannot identify *yom* too precisely. It has all these different uses in the OT. I began to do this work on creation. I used the Logos search system to do a word study on *yom* and came to these conclusions that I think are a much more accurate statement of the use in the OT.

Daylight/24-Hour Period

In the first place, the use of the word *yom* ("day") in the Hebrew, the default meaning is either "daylight" or a "twenty-four-hour period." Of the 2,400 appearances of this word in the OT, the great majority are either daylight or a normal twenty-four-hour day.

Berkhof writes, "In its primary meaning the word *yom* denotes a natural day; and it is a good rule of exegesis, not to depart from the primary meaning of a word, unless this is required by the context." Let me just say as an aside, we don't know if the days in Gen 1 were literally twenty-four-hour days. They could have been less or a bit longer; we don't know what the world was like before the flood even. What we do know is that the intention here is that we are to think of a day as we think of a day or of a daylight period.

Nonliteral Uses of *Yom*

Second, the nonliteral uses of the Hebrew word *yom* were always demanded by the context or the grammar.

The proponents of day-age and of the nonliteral views point to the use of *yom* in Gen 2:4, when it refers to the time of the creation as a whole. But in Genesis 2:4, the word for "day" (*yom*) has the preposition with it "in." When this preposition is used with *yom*, it means "when," and it's often translated this way (there in 2:4, also in 2:17). Other times, as in Gen 27 and Amos 9, *yom* is in the plural: "in the days," "in the days of so and so." Again, it's a very discrete historical time.

A third use is with the prepositional phrase "the day of." For example, in Proverbs, "Like the cold of snow as in the time …" and the "time" is "in the day of." Again, the phrase points to a distinct period of time. Now, some proponents like to refer to Hos 6:2 to prove that *yom* can be a unlimited period of time, where God says that "he will revive us after two days; he will raise us up on the third day." Here, the figure refers to, really, a very brief period of time because this is a promise of hope that God will chasten His people briefly, but He will revive them in, also, a brief period of time. And of course, we have here as well probably a type of the resurrection of the Lord Jesus Christ.

Of course, the classic text for day-age, or not taking *yom* literally in Gen 1—or texts—are Psa 90:4 and 2 Pet 3. In both of these texts, however, "day" must be taken literally or there is no analogy. The comparison is that with God that a thousand years is like a day is simply showing that God is timeless.

Yom with Ordinal Number

Third, the use of "day" with the ordinal number demands a sequential reading, and what we have in Gen 1 is "day one" and then "second," "third," "fourth," and "fifth." But often in orders in Hebrew, the first of the order is not given the ordinal number "first," but "one," in order as not to imply some priority. It's still to be read "first," "second," "third," and "fourth."

So what we have here is an order, and when the ordinal number is used with *yom* in the OT—particularly in the Pentateuch; it's used 119 times—each usage indicates a literal day and every one as in the sequence of first, second, third, fourth, and fifth. So this is what we have now in Gen 1. We've got this order of days—literal days. Some would take exception [for] the seventh day since it doesn't conclude as the others; it was not a normal day, but all the others are clearly normal days in this order.

And in fact, in the entire OT (outside the Pentateuch) some 357 times every use is sequential with the possible exception that we saw (Hos 6:2) that "he will revive us after two days; and he will raise us on the third day." And considering the record of time by looking at the Hebrew word *yom*, we've seen the text demands a chronology of normal days.

Now the great OT scholar E. J. Young wrote, "It is this remarkable fact of progression, both in method of statement and in actual content, which proves that the days of Genesis are to be understood as following one another chronologically. When to this there is added the plain chronological indications, day one, day two, etc., climaxing in *the* sixth day (note that the definite article appears only with the sixth day) all support for a non-chronological view is removed."

"Evening and Morning"

A further argument (the fourth) is the phrase "evening and morning." This phrase suggests a completed day. This remarkable phrase describes the period of darkness that completes a regular day. In addition to Gen 1, Moses uses the phrase three times: Exod 27:21 and Lev 24:3, referring to the priest's responsibility to keep the lamps trimmed during the night, and then Num 9:21, referring to the Shekinah cloud—the pillar of fire that burned over the camp at night. All three times the phrase refers to a literal night.

Thus the phrase suggests night, nighttime. A period of darkness was part of the day, just as we refer to day as not only the light, but the whole period of light and darkness and the passage of the one to another. The text presents literal days—evening closing the daylight period, morning closing the darkness (Exod 10:13).

Conclusion

So what we've seen now [is] that the text is divided with these five formal structured divisions, each day, by looking at the work of creation in both the creative word and act, the declaration of fulfillment, the expression of delight, the statement of purpose, and the record of time.

Summary & Conclusion to Six-Day Creation

Evidence for Sequential Narrative

Now I want to summarize this by considering, then, the evidence of four sequential narratives. In the first place, we referred to this a bit under the assessing the importance, but the genre of the passage itself, and actually the literary analysis of how the text is laid out, points to it to be a historical statement, a prologue to this great covenant book.

Waw-Consecutive

Second—we've not really referred to this yet—is the use of what is called the "waw-consecutive." There is other words for it, but it's a special structure in the Hebrew that is used in historical writing. Basically, it means: "And the next thing that happened was …" Well, this is used throughout Gen 1 to show us that there is a flow taking place here in this historical account.

Ordinal Number and "Evening and Morning"

We've also noted the use of the ordinal number to be taken literally, as it's used here with the word *yom*, and then, of course, the phrase "evening and morning."

Logic of the Text

Now you add to these exegetical factors what I refer to as the logic of the text. There's really no other way to understand what God was doing and to make a world to be inhabited by man to undo these, so to speak, created deficits.

On day one, God created light, but He also created the entire energy field, which we know is essential to all things. The work of day two—the separation of the waters above from the waters below—was necessary for everything that follows. The division of the dry land from the water is necessary for the creation of plants on day three. The work of day four depends on the work of days one and two. The creation of the sea creatures and flying things and animals on day five and six presupposes the work of day three, and the creation of man [is] the fitting climax in Gen 1:26–28 and 2:7 and 19. So you see there is a logical order that also enforces our approaching this text as a statement of the literal, normal, sequential period of time—the six days of creation with the seventh day (Sabbath). This is also the clear straightforward reading of Gen 1:1 and 2:3—nothing in the grammar or vocabulary to support any other interpretation.

No Conflict between Structure and Sequence

I also want to point out there's no conflict between structure and sequence. I've sought to admit that there is structure in the creation account. There is a twofold structure; there is the structure of the three days of fixing the environment and the three days of the inhabitants of the environment. And then we've seen that the record of each day has this fivefold structure. But this, in fact, is consistent with other passages of sequential narrative.

The flood account, for example, in Gen 6:9–8:22, has a very clear structure by which Moses reveals the flood to us. We see this in Moses' account of the plagues later in Exodus. Moses arranges the plagues in a very clear structure in Exod 7–12. There are three groups of three leading to the climax of the tenth. In plagues one, four, and seven, we read that Moses is sent to Pharaoh early in the morning with a warning. Plagues two, five, and eight are introduced with a warning to Pharaoh, and then plagues three, six, and nine are sent with no warning at all. And so here we have an account of the plagues. We have no reason not to take them in the order that Moses reveals them, but, in fact, they are in a very clear literary structure, and literary structure was very important. We're talking about a society that did not possess the Scriptures, and so as these accounts are given, they're given in a way that they can be easily memorized and recited and retold by the church.

Conclusion

And so what I've sought to show you by this exposition of Gen 1 is that the internal evidence of the chapter points to a literal, non-figurative approach to the work of creation—that, in fact, God made all things of nothing by the word of His power in the space of six normal days.[13]

[13] Pipa, J. A., Jr., Futato, M. D., Collins, C. J., Longman, T., III, & Walton, J. H. (2017). *TH331 Perspectives on Creation: Five Views on Its Meaning and Significance*. Bellingham, WA: Lexham Press.

POSTSCRIPT COMMENTS TO ANOTHER ORIGINS DEBATE:

Postscript

FINAL REFLECTIONS ON THE DIALOGUE

Richard H. Bube
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REFLECTION 1

Richard H. Bube

INTRODUCTION

There are essentially three types of interpretational frameworks that Christians have used to expound the meaning of Genesis.

1. The *completely literal view*, sometimes referred to as the *literalistic view*, contends that God created all things by instantaneous *fiat*, bringing all things from nothing into full being in six twenty-four-hour days about ten thousand years ago. This view has fundamental difficulties both in the area of biblical interpretation and in disagreement with scientific descriptions of earth history. Efforts to support this position have involved such propositions as: (1) the gap theory, suggesting a long period of time between Genesis 1:1 and 1:2; (2) the apparent-age theory, suggesting that the world was created ten thousand years ago but with all the appearances of being much older; and (3) the flood-geology theory, which sought to find explanations of scientific age data through the effects of a worldwide flood. This position rejects the possibility that any kind of scientifically describable natural process (macroevolution) was involved in the origin of different living species. In this book this view is represented by the chapter "Young Earth Creationism."

2. The *essentially literal view* agrees with the completely literal view in holding to the essentially historical character of Genesis 1–3, but allows for figurative nonliteral descriptions to occur in the text. The emphasis is on *harmonizing* the literal biblical text with scientific descriptions. Two standard variations are: (1) *chronologically accurate age-day theories*, which interpret each day in the Genesis account to correspond to a long period of time during which development occurs by natural process between times of specific *fiat* creation—hence the name *progressive creation*; and (2) *nonchronological day-age theories*, which allow the Creation events of Genesis 1 to be ordered in something other than a chronological framework (topical, liturgical, etc.). This view usually rejects the possibility that human beings came into being as the result of a scientifically describable natural process. In this view current scientific understanding prevents a

completely literal view of Genesis, but commitment to a traditional biblical interpretation makes a harmonizing description essential. In this book this view is represented by the chapter "Progressive Creationism."

3. The *essentially nonliteral view* regards the content of Genesis 1 to be a genuine revelation of God, but also considers that any detailed attempt to harmonize this description with a scientific description is misguided, simply because it was not written for the purpose of informing us about twentieth-century scientific theories. In many ways the essentially nonliteral view regards scientific descriptions of origins to be complementary to theological descriptions of origins. In some forms this view may consider Genesis as a kind of divinely inspired story or parable, revealed to make known the fundamental theological truths essential to humankind. The biblical record is seen as revealing the basic truths about creation, but the question of how God accomplished his work of creation is left open, with major insights coming to us by way of scientific developments. Advocates of this position are open to the possibility that all living creatures, including human beings, have historically come into being as the result of scientifically describable natural processes, but are not dogmatic about it. In this book this view is represented by the chapter "The Fully Gifted Creation."

WHAT IS SCIENCE?

What one thinks science can and should do depends to a large extent on what one thinks science is. And, unfortunately, the definition of science is often treated as if it were "up for grabs" by anyone who cares to offer a personal definition. What "scientists or philosophers say" is given the same prominence as what "doing science" actually involves.

One definition that attempts to be true to the practice and purposes of authentic science is this: "Authentic science is *a* way of knowing based upon *testable descriptions* of the world obtained through the *human interpretation* in *natural categories* of publicly observable and reproducible *sense data*, obtained by interaction with the natural world."

The function of this definition is to limit the domain and implications of science appropriately, so that the results of science may be accepted as valid indications of what the natural world *is like*. The definition emphasizes that science does not provide the only way of knowing, gives descriptions of what the world *is like* and not exclusive explanations of what the world *is*, is the result of human activity, is limited by choice to natural categories to define the area of applicability and not because of an atheistic worldview, and involves the testing of human hypotheses by comparison with phenomena in the natural world. To say that something is scientific is not to say that it is absolutely true, but only that its description fits these criteria; to say that something is not scientific is not necessarily to say that it is false, but only that such insight and knowledge comes via other routes than the scientific one. To say that a position is not scientific is a matter of consistent definition and not necessarily a pejorative statement.

Although it is recognized that no human activity, such as is described in the definition of science above, can be a truly objective activity free of all inputs from personal faith systems or philosophical guidelines, it is the goal to carry out science in as objective a way as possible, seeking to understand how the physical world functions "as it presents itself to us," rather than seeking to base our scientific activity on a variety of subjective influences. It is specifically recognized that "authentic science" cannot be carried out for the purpose of attempting to show the validity of previously assumed philosophical, metaphysical or religious conclusions. Historical examples where scientists have used philosophical perspectives to guide their scientific decisions are usually

cases where nonscientific concepts have been used to develop a model, which then can be tested to determine its scientific validity. It is essential to realize that this does not mean that such influences (e.g., moral commitments, theological beliefs, etc.) should not play a general role in (1) guiding what problems to tackle scientifically (e.g., issues of environmental responsibility); (2) deciding in some cases how to tackle them (e.g., testing the effect of pain on human beings cannot be allowed by deliberately inflicting pain); or even (3) suggesting possible theoretical hypotheses that can then be experimentally tested. The essential emphasis is that mechanisms chosen for scientific descriptions must be susceptible to such scientific tests.

Again, this limitation is imposed in order to contribute to the general reliability and acceptability of our scientific descriptions as they are limited by our choice to a partial description of part of reality. If, in the course of such scientific research, we arrive at the point where we cannot find a scientifically acceptable description of an observable phenomenon in the world, we are left with two possibilities: (1) we can conclude that no such description is possible, and that we have encountered a genuine case of God's direct action; or (2) we can conclude that the subject must remain open, since the possibility always exists that further investigation may lead us to a scientific description of God's activity after all.

Whether we are led tentatively to adopt one or the other of these two possibilities, in both cases we are provided with evidence of God's activity when seen through the eyes of Christian faith. It is not as though acceptance of (1) is more consistent with a Christian worldview and commitment than acceptance of (2).

It is, of course, necessary to recognize differences between various branches of what is commonly called "science." Such differences are particularly evident when comparing the physical sciences (e.g., physics, chemistry, geology, and biology) and the social sciences (e.g., psychology, medicine, political science, and sociology). In practice the physical sciences can accommodate the above definition of science more readily, whereas the social sciences, by their very nature, frequently involve major inputs involving human opinions and beliefs as the actual ingredients of the research. Such differences are illustrated by the fact that social sciences have often been separated into two parts: an "objective as possible" approach like that of the physical sciences, and a different approach involving personal relationships and other inputs (e.g., research psychology versus clinical psychology; medical research versus practice of medicine). To ignore this difference between the physical sciences and the social sciences unfortunately contributes further to confusion about the meaning of "science."

A similar issue arises in treating theories in the "natural sciences" (astronomy, cosmology) in which, by the very nature of the situation, it is difficult to perform experiments to test a variety of theories; these theories must often be considered to be essentially metascientific in nature until and unless some kind of testing becomes possible. If indeed no test is possible, there is nothing inconsistent with claiming that God has acted uniquely in a given case to produce a given result, but it is inconsistent to contend that such a claim is part of science.

Over the years, and particularly in the past few years, a major source of confusion in the creation-evolution debate has centered on the definition and purposes of science. It is unfortunate that a false definition of science as the "explanation of everything" has been embraced both by those on the one extreme who hold to an atheistic worldview, and on the other extreme by those who hold to a literal biblical worldview. The person committed to an atheistic worldview argues that since God is not included in scientific explanations, the successes of science show that there is no God. On the other hand, the person committed to a literal biblical worldview argues that the absence of specific divine activity from current scientific explanations is the cause for this lack of

evidence for the existence of God, and that therefore the existence of God must be acknowledged by changing the scientific process itself into a "theistic science" so that God's activity can be admitted into it as a scientific explanation.

The problem is centered on the false definition of science as the "explanation of everything," that is, on the assumption that science has the ability to tell us what things *are*. Both of the above groups are misled in adopting this position as a starting point, drawing the conclusion either that science is all we need because of this false definition, or that science as practiced must be changed to justify this false definition for the Christian. *One of the major efforts in the science-theology debate in the future should be directed to removing this false antithesis with its misguided solutions, recognizing from the beginning the deliberate and characteristic limitation of scientific descriptions.*

In order to come to a reliable description of all of the features of reality, both those describable by science and those (such as ethics and personal relationships) requiring disciplines such as theology for their description, the inputs from authentic science and the inputs from authentic theology must be seen as interacting, complementary descriptions, each bringing valid and vital partial insights from their own domains. They cannot be considered as independent or noninteracting, but they must be allowed to guide overall perspectives as the result of an attempt to integrate them in a way that preserves the qualities of authentic description relevant to each.

One who has been involved in the *doing* of science, rather than in formulating or speculating about philosophies generated by scientists, realizes that science does not give us the "explanation of everything," or tell us "what reality *is*," but rather that science gives us "a description of what part of reality *is like*," and therefore at best is capable of giving us only a *partial* description of *part* of reality. There is nothing inherently wrong with the scientific method as historically understood, but there is something wrong with philosophical perspectives that claim the authority of science.

If one wishes to resolve the apparent conflict between science and theology, the way to proceed is by challenging the claim that nonbiblical philosophical conclusions have the authority of authentic science, and not by attempting to reconstruct the scientific method by insisting that God's activity must be inserted into that procedure as a scientific hypothesis or mechanism.

THE IMPORTANCE OF DEFINITIONS

In as complex a subject as the interaction between science and Christian theology—especially in the specific case of creation and evolution—attention to assumed definitions is critical. A major part of the misunderstanding, disagreement, and apparent conflict between different views of creation and evolution can be traced to basic differences in the definitions that are assumed for essential terms and concepts. To introduce this importance of definitions is not to seek to reduce the discussion to gerrymandering or sophistry, as is sometimes charged, but rather to attempt to give authenticity and credibility to the discussion. To illustrate this, let us consider a few of the most critical definitions. The application of these definitions is most consistently set forth in this book in the view described by Van Till.

Limited Terms Versus Worldviews

One of the most fundamental distinctions lies in the recognition of the difference between certain limited words (science, natural, deterministic, chance, creation, evolution) and the general

philosophical worldviews extrapolated from them on faith by absolutizing them (scientism, naturalism, determinism, chance, creation, creationism, evolutionism). The addition of "-ism" to many words is a clear signpost that we have moved from the specific to a worldview chosen on faith. We also use capitalization as an indication of a worldview, for example, "Creation" as a biblical worldview and "creation" as a specific process.

Science is a limited human activity as defined above. Scientism is a worldview chosen on faith that matter is all that exists and that science provides the only knowledge of truth possible—it presupposes an atheistic worldview. Christians embrace science and reject scientism.

"Natural" is an adjective describing the types of material and phenomena observable in the physical world and describable, at least in principle, by science—it can be seen as a description of God's regular activity in the physical world. "Naturalism" is a worldview chosen on faith that there is no reality beyond the material physical world investigated by science—it presupposes an atheistic worldview. Christians embrace the natural as God's activity and reject naturalism. To claim that natural materials and processes are responsible for some observed phenomena is in no sense to claim that God is not involved in the creation, preservation, and functioning of those phenomena. Without the continuing, moment-by-moment, foundational activity of God, such natural phenomena simply would not exist.

No more damaging confusion is caused than that which arises from assuming that calling something "natural" means that God is not involved, and that the involvement of God can be assured only by the treatment of specific phenomena as exclusively "supernatural."

A "deterministic scientific description" is one in which future properties of a system can be accurately predicted from a knowledge of present properties. A worldview of "determinism" asserts that all events taking place in the world are determined to occur, as in the concept of "fate," and that such concepts as "individual choice" or "personal responsibility" are at best illusions or epiphenomena. A "chance" scientific description is one in which only probabilities concerning future properties of a system can be accurately predicted from a knowledge of present properties. A worldview of "chance" asserts that all events taking place in the world happen spontaneously so that such concepts as meaningfulness or God's providence are irrelevant. Since evolution is often described as a "chance" process, this represents an objection for those Christians who hold that a scientific chance description automatically supports a meaningless chance worldview. There is, however, the curious paradoxical situation that neither scientific deterministic descriptions nor scientific chance descriptions are by themselves adequate to describe genuine personal choice and responsibility. Christians recognize the limited utility of deterministic and chance scientific descriptions, and are able to see such descriptions as applicable to God's activity in the world, while rejecting the absolute worldview positions of determinism and chance.

What is essential for our present discussion is the realization that neither "determinism" nor "chance" as exclusive worldviews are ultimately supported by science.

"To create" is a verb implying the bringing into being of something new that did not exist in that form and with those properties before—in a general sense, it is a description of the origin of novelty in the world through the continuing creative activity of God. In principle it could occur either as a continuous process susceptible to scientific description, or as an instantaneous act of God not describable scientifically. "Creation" refers to a foundational biblical worldview based on faith in God, the Maker of heaven and earth, as described more fully in the summary section at the end of this chapter. "Creationism" is a worldview in which the specific mechanism of this activity must be identified with instantaneous, nonscientifically describable acts of God, in a literal and historical way with certain biblical passages; it is assumed that the purpose of these biblical

passages is to give us literal information about physical mechanisms. Christians generally embrace the biblical worldview of creation and creation by God through a variety of possible mechanisms; Christians committed to a literal biblical interpretation embrace creationism.

"Evolution" is a description of a possible mechanism that we can use to describe the process of coming into being of something new, which did not exist in that form before, through certain scientifically describable processes—it is in the form of a theory whose suitability for the description of the actual events occurring in the physical world is impressive but incomplete, open to question, and constantly subjected to test. "Evolutionism" is a worldview in which it is assumed on faith that all that was, is, or ever will be is the product of meaningless chance events that result in transforming changes—it is in the form of a faith commitment that assesses all observations and data in terms of an atheistic perspective. Whereas many Christians accept the possibility and utility of evolution as a description of God's activity in creation, they reject evolutionism.

Methodological Naturalism

"Methodological naturalism" has become a battle cry in many science-versus-faith debates. Basically it is because this use of words implies that the methodology adopted in science by choice (i.e., the limitation of scientific descriptions to natural categories) results from or leads to the acceptance of "naturalism," an atheistic worldview and the deliberate rejection of any activity of God in the natural world. *The adoption of a methodology for science that is limited to descriptions in natural categories in no way needs to imply an atheistic worldview of naturalism.*

To the practicing Christian scientist, the limitation of scientific descriptions to natural categories is not at all the necessary result of an atheistic worldview but simply a choice to make it possible for science to be a well-defined and reliable, albeit limited, activity. Nor does the adoption of such a methodology imply that no supernatural or metaphysical inputs are allowed in the formulation of possible theories. What the adoption of such a methodology does insist, however, is that for a particular approach to be considered science, it must be subject to experimental test and shown to be an accurate indication, within limits, of what reality is like, consistent with the definition of science given above.

Consider the different possible interpretations that could be given to the statement that "science today is based on methodological naturalism."

1. The atheist regards "methodological naturalism" as a truism. Since his worldview (chosen on faith) asserts naturalism, it only makes sense to carry out a scientific investigation involving natural categories only. "Science" and "scientism" are identical.
2. The Christian engaged in Christian apologetics sometimes reads the position of the atheist backwards and arrives at the following picture. The application of naturalism to the practice of science requires the adoption of a methodological naturalism that will guarantee that any activity of God is by definition ruled out, not only from the chosen techniques of science but from the fundamental operation of science itself. Therefore, the choice of the practicing scientist to limit himself to descriptions in natural categories is seen as a deliberate choice guaranteed to prevent any supernatural inputs, and hence as an endorsement of naturalism. The only way to challenge the dominance of naturalism over science is to forsake the methodology limiting science to description in terms of natural categories, and to open up a new science in which supernatural categories are accepted as scientific along with natural categories.

3. The Christian involved in doing science may agree that science is based on methodological naturalism, meaning that science is a discipline involving the human interpretation of phenomena in natural categories only. This is a choice made to define the capabilities and limitations of science.

In this context methodological naturalism has no philosophical or theological significance, since the Christian scientist believes in general that *all* authentic scientific descriptions correspond to descriptions of what God's activity in the world appears to be. It specifically does not involve embracing the worldview of naturalism.

The possibility remains open that some phenomena in the world may not be describable in natural categories, that is, that nonscientifically describable phenomena may occur. But the Christian scientist also seeks to maintain a situation where the term "scientific" carries some specific meaning and assurance of validity, and hence insists that nonscientifically describable phenomena should not be called "science." Arriving at this conclusion often leads to open disagreement both with atheistic and Christian philosophers, who often assume that the term "science" appropriately describes a large realm of human thought and experience beyond that described in our initial definition.

Intelligent Design

A major theme in the history of Christian apologetics has been the "argument from purpose and design," also known as the "teleological argument." When one looks at the unique properties of matter and the earth that allow the existence of human life, the marvels of animal and human physiology, and the many examples in the plant and animal world where the existence of one species is totally dependent upon the interactive existence of another, one is struck by the amount of evidence that can be interpreted as indicating that all of this has been designed by a Great Designer. Many of these arguments in recent years have been stated under the title of "the Anthropic Principle" that summarizes many of the nuclear, atomic, and gravitational phenomena that appear to be "fine-tuned" to allow the development and/or existence of intelligent life based on carbon.

All such evidences from phenomena in the natural world for the existence of a Great Designer are powerfully consistent for the person who has a personal relationship with God the Creator and Sustainer. The Christian scientist repeatedly marvels at the evidences he sees for the results of God's design in the properties and development of the universe.

Whether they are accepted as evidence for the activity of the God of the Bible, however, depends primarily on the faith commitment of the person who is considering them. It is logically possible to simply dismiss them as a grand "shake of the dice" that happened in a one-in-a-trillion toss to lead to a universe that will sustain human life; if it had not happened, we would not be here to think about it. Or they may be considered as mysterious evidence for the existence of some kind of "life force" with little or no relationship to the God of the Bible.

Related to this is the more recent emphasis upon the concept of intelligent design to be regarded as an appropriate "scientific mechanism" in our efforts to describe and understand the workings of the universe. For the reasons described above, some Christian apologists have concluded that a science based on methodological naturalism is inextricably linked to a worldview of naturalism, and that therefore we must rescue ourselves from this situation by introducing the concept of intelligent design as a mechanism in scientific descriptions.

There is no objection to using the concept of intelligent design as a guide in helping to suggest how to construct suitable models of physical reality, provided that these models are capable of being subjected to test and description in natural categories before they are accepted as scientific. *Intelligent design for the Christian is a general concept underlying all descriptions, scientific and nonscientific, affirming the creative and sustaining activity of God.*

But if the concept of intelligent design is advanced as a substitute for natural categories of description, limiting the specific instances being considered to acts of God's "intervention" in the "gaps" in our understanding, and considering intelligent design itself as a valid scientific description, critical harm is done to our concepts of the relationship between scientific descriptions and God's continuing activity in creating and sustaining.

There is the frequent temptation to consider that we can meaningfully decide what God has done and does do, directly on the basis of our understanding of who God is and what God could do. The history of science and Christianity supplies many examples, both in the construction of models of the physical world and in biblical interpretation, where the decision about what God has done has been made incorrectly on the basis of what our presumed knowledge of God would lead us to believe that he has the ability to do. If, in the case of evolution, for example, we wish to answer the question, "How did God achieve his designs in biological development?" we must turn to investigate what it is that God has indeed done, and what form his activity has taken in the actual working out of his creative will. Otherwise we are subject to such classic errors as arguing that the shape of the planets' orbits must be circular because the circle is God's perfect shape, or to arguing that sin must be an illusion because God has made us and God is good.

Second, there is the whole area of interaction between such concepts as "natural law" and "God's intervention" in the world. Many writers speak of "natural law" as though "laws" were self-existing elements that God called into existence to rule the physical world. *Within the area of science, "natural laws" are human descriptions of God's regular creative and sustaining activity. Laws do not cause anything to happen; they are descriptive, not prescriptive.*

For God to act in a way different from this regular creative and sustaining activity—as, for example, in the doing of a "miracle"—he does not have to "break his laws," "set aside his laws," or "intervene in his laws" to accomplish his purpose. Just as we can understand the ordinary "laws" of nature as our descriptions of God's regular activity, so we can understand a "miracle" as our description of God's special activity.

Third, there is the concept of "soul" and its implications for reflections on creation and evolution. There is a growing awareness of the difference between the basic biblical concept of soul as "living self," a concept increasingly supported by growing knowledge of the human being, describing a set of properties of the whole human being, and the "immortal soul," a concept of classical dualistic models of human nature, which has often been used as an argument against the "natural" theory of evolution. It appears to be much more appropriate, both scientifically and theologically, to think of the soul as describing what a person "is," rather than what a person "has."

SUMMARY

It would be unthinkable for any Christian not to confess, "I believe in creation."

The worldview summarized in the biblical doctrine of creation is one of the most fundamental sets of doctrines revealed to us by God. It reveals to us that the God who loves us is also the God who created us and all things, and establishes the identity between the God of religious faith and the God of physical reality. Our belief in creation underlies our trust in the reality of a physical and moral structure to the universe, which we can explore as scientists and experience as persons. Our belief in creation enables us to see that the universe and everything in it depends moment by moment upon the sustaining power and activity of God. Our belief in creation provides the foundation for our faith that we are not the end-products of meaningless processes in an impersonal universe, but men and women made in the image of a personal God. Our belief in "creation out of nothing" affirms that God created the universe freely and separately, and rejects the alternatives of dualism and pantheism. To worship God as Creator is to emphasize both his transcendence over the natural order and his imminence in the natural order. It is to recognize that his mode of existence as Creator is completely other than our mode of existence as created. To appreciate God as Creator is to recognize that the creation is intrinsically good, and that sin and evil do not arise ultimately from properties of that creation such as finitude and temporality. The rationale for scientific investigation, the assurance of ultimate personal meaning in life, and the nature of evil as an aberration on a good creation are all intrinsic to such an appreciation.

The biblical doctrine of creation plays such a foundational role in all of the biblical revelation that it is unfortunate when the word "creation" is used narrowly and restrictively to refer—not to the fact of creation—but to a possible mechanism in the creative activity. Once again we have the pattern mentioned above, where creation refers to the mechanisms active in the process of creation, and creation refers to the biblical worldview based on the fundamental significance of God's creative activity.

When it is implied that creation and evolution are necessarily mutually exclusive, or when the word "creation" is used as if it were primarily a scientific mechanism for origins, a profound confusion of categories is involved.

The implication is given, deliberately or not, that if evolution should be the proper mechanism for the growth and development of living forms, then creation would have to be rejected. To pose such a choice is to play directly into the hands of those secular philosophers who argue that their understanding of evolution does away with the theological significance of creation. If such a philosopher is wrong to believe that a biological description does away with the need for a theological description, the Christian antievolutionist is wrong to believe that his theological description must make any biological description impossible.

The key to much of the evolution controversy lies in the recognition of the necessity and propriety of descriptions of the same phenomena on different levels of reality.

Even a complete biological description does not do away with the need for a theological description, any more than a complete theological description does away with the possibility of a biological description. Biological evolution *can* be considered without denying creation; creation *can* be accepted without excluding biological evolution. Biological evolution is a scientific question on the biological level; it would be unfortunate indeed if a mistakenly conceived scientific question were permitted to become the crucial point for Christian faith.

Of course, it is important to realize that evolutionary philosophy—shall we rather say "evolutionary religion"—may well be something quite different, leading to a worldview of evolutionism. In its anti-Christian form, such philosophical evolutionism may involve an exaltation of man, a denial of the reality of moral guilt in any theological sense, and hence an interpretation of the life and death of Jesus as nothing more than a good example. In this view, continued development and improvement are inevitably assured as man, now become conscious of evolution, completes for himself the process of the ages. Such evolutionism is a faith-system that competes for the religious allegiance of men, and against which the Christian faith is called to stand. But, if it is true that the evolutionist must realize that he has little scientific support for extrapolating biological evolution into a general principle of life, the Christian antievolutionist must realize that he has little religious justification upon which to attack a scientific theory dealing with biological mechanisms.

How tragic it often is when Christians, seeking to avoid the errors of philosophical evolutionism, promulgate the falsehood that the efficacy of faith in the atonement of Christ effectively depends upon the dogmatic acceptance of creationism and the dogmatic rejection of any evolutionary processes as descriptions of God's activity in establishing creation.

REFLECTION 2

Phillip E. Johnson

Richard Lewontin, professor of genetics at Harvard University, is one of the most influential evolutionary biologists in the world. Lewontin expressed his views on the relation of evolutionary theory to atheism in a remarkable essay in the *New York Review of Books* in January 1997. I'll start with two of his main points, which illuminate for us what is at stake in the creation-evolution controversy. Then I'll proceed with three more points of my own to show the kind of thinking we need to make progress toward some solutions.

LEWONTIN ON PHILOSOPHICAL MATERIALISM AS THE BASIS OF SCIENTIFIC KNOWLEDGE

Lewontin is skeptical of much of what passes as evolutionary science. In particular, he is downright scornful of the stories that Richard Dawkins and others tell about how natural selection supposedly created complex biological structures like the eye, the wing, and the brain. Like many other scientists, Lewontin calls these accounts "just-so stories" (i.e., imaginative fables like those written by Rudyard Kipling for children), and dismisses the bulk of Dawkins' work as based upon "unsubstantiated assertions or counter-factual claims." So far Lewontin might sound like a creationist, but in fact he considers himself a Darwinist and agrees with Dawkins that some combination of chance events (mutation) and natural law (natural selection) must have produced the wonders of the living world. Why?

The reason is that Lewontin identifies science with a philosophical doctrine called "materialism" (matter is all there is), and considers scientific materialism to be virtually the same thing as rationality. He explains,

> We take the side of science in spite of the patent absurdity of some of its constructs, … [and] in spite of the tolerance of the scientific community for unsubstantiated just-so stories, because we have an a priori commitment, a commitment to materialism.… Moreover, that materialism is absolute, for we cannot allow a Divine Foot in the door.

In other words, the materialism comes first and the scientific investigation comes second. The priority of materialism implies that the most important task of science educators is not to teach facts, or experimental techniques, but rather to convince their students that only science can tell us how the world works, and materialistic explanations are the only ones that are acceptable in science. In Lewontin's own words,

> The primary problem is not to provide the public with the knowledge of how far it is to the nearest star and what genes are made of.… Rather, the problem is to get them to reject irrational and supernatural explanations of the world, the demons that exist only in their imaginations, and to accept a social and intellectual apparatus, Science, as the only begetter of truth.

That is a concise statement of a philosophical position called "scientific materialism" (or "scientific naturalism"), and I am confident that every one of our authors, including Howard Van Till, would agree that it is equivalent to atheism and hence unacceptable. If science is the only begetter of truth, and science assumes that nature (matter) is all there is, then God is entirely out of the picture. So far everybody agrees.

Now I come to the main point of difference. Creationists (both of the young and old earth sorts) argue that evolutionary theory is based primarily on naturalistic philosophy, and conclude that Christians should therefore regard its conclusions with suspicion. We respect the expertise of biologists when they tell us what they have observed in the study of biology, but we do not permit them to dictate to us on matters of religion or philosophy. Creationists would say that the most important "facts" that evolutionary science presses us to accept are not facts at all, but inferences drawn from philosophical assumptions that exclude God from reality. In particular, the Darwinian mechanism (mutation and natural selection) has no creative power of the type required to make complex organs, or to supply the immense quantity of genetic information required for a biological cell. If biologists believe in the creative power of natural selection, it is because of their philosophy and not their observations.

Theistic evolutionists part company with us here. They agree that many influential Darwinists identify their science with a naturalistic worldview, but they argue that this identification is spurious. The most important findings of evolution, theistic evolutionists say, are validated by rigorous scientific testing that is independent of any religious bias. We can have confidence that this is so, they argue, because the findings are endorsed by many scientists who are Christians. Theistic evolutionists admit that evolutionary theory is frequently used to promote atheism, but they say this is the fault of individual atheists and does not discredit other evolutionary scientists or their findings. Christians should therefore accept the scientific theory of evolution, including the creative power of the Darwinian method, and contest only the misuse of that theory by atheists like Richard Dawkins.

LEWONTIN ON "THE TRUTH THAT MAKES US FREE"

Lewontin's second major point starts with one of the most famous statements of Jesus. This may seem odd for a self-proclaimed atheist, but Jesus has a way of identifying the issue even for those who reject his teaching. Lewontin begins by noting what he calls a "deep problem in democratic self-governance." What if the voters reject the teachings of science, and trust instead in some other source of knowledge, such as supernatural revelation? Democracy may lead a nation to disaster if the people are irrational and believe false prophets who only want to lure them into slavery. Lewontin explains why education alone cannot guarantee that the people will follow true rather than false teachings:

> Conscientious and wholly admirable popularizers of science like Carl Sagan use both rhetoric and expertise to form the mind of masses because they believe, like the Evangelist John, that the truth shall make you free. But they are wrong. It is not the truth that makes you free. It is your possession of the power to discover the truth. Our dilemma is that we do not know how to provide that power.

The "truth" in this sense is not a set of facts or specific answers, but a starting point for reasoning that empowers us to find the answers as particular problems arise. (Of course, this is also what Jesus meant, but the starting point is himself.) As applied to the issues debated in this book, this means that what we most need to know is not the answers to specific questions (e.g., How old is the earth?), but rather how to think about these matters so that we have a chance to find the truth and to recognize it as truth when we see it.

The concept that the important truths are the ones that empower us to find new truths helps to explain why the leading evolutionary scientists do not think much of the idea that God is our Creator. The reason is not that they think that biological evolution proves that God does not exist.

The reason is rather that evolutionary science starts by assuming naturalism, and hence excluding any role for God, and then it builds on that foundation. Whether naturalism is ultimately true or not, it is the starting point that empowered the scientists to discover the truth, if—and that is a very *big* "if"—the orthodox theory of evolution actually is the truth. Perhaps it is possible to interpret evolution by natural selection as God's chosen way of creating, if you have a sufficiently powerful personal motivation for wanting to do that, but absent such a motive, why not stick with the philosophy that enabled you to discover the theory?

From the perspective of scientific naturalism, theists are perennially in retreat. New truths are discovered by employing naturalistic assumptions, and then the theists respond by modifying their system to make it unfalsifiable. When scientists who are theists do make a contribution to evolutionary theory, it is because they were able to put aside their theism and think like naturalists. If all theists can do is to defend their position, and if starting from theistic assumptions never leads to the discovery of new knowledge, then theism doesn't have much intellectual value. That is why theism is labeled "religious belief" and confined to the margins of the academic world, and why professors so often are patronizing or even scornful towards Christian students who try to bring Bible-based thinking into the classroom. Sometimes the professors who do this are themselves Christians, but for academic purposes they have adopted the prevailing view that rational thought must be based on naturalistic assumptions.

METHODOLOGICAL NATURALISM

Theistic evolutionists accept naturalism as a methodology in science, but not as a worldview or absolute truth. (Howard Van Till's "robust formational economy principle" is another term for methodological naturalism.) Methodological naturalists do not necessarily say that God does not exist, nor do they necessarily say (as Lewontin does) that science is the only begetter of truth. What they do say is that God may not be invoked as a factor in a scientific explanation. Science confines itself to naturalistic explanations, and the reliability of this research strategy is supposedly confirmed by the demonstrated success of science in providing the technology (airplanes, medicines, the Internet) upon which even religious fundamentalists rely. Religion proceeds by other methods, and any rational form of religion accepts the facts and theories discovered by science. According to theistic evolutionists, science and religion do not conflict because they deal with different subjects and different ways of knowing. Conflict appears only when either science or religion trespasses on the territory of the other, as when Richard Dawkins claims that Darwin made it possible to be an intellectually fulfilled atheist, or when Phillip E. Johnson claims that natural selection has no creative power. The doctrine that methodological naturalism in science is fully compatible with theism in religion is frequently stated in the form of a slogan, such as "The Bible is not a science textbook" or "Religion tells us how to go to heaven and science tells us how the heavens go."

The weak point in the logic of theistic methodological naturalism is that the distinction between "naturalism as a methodology" and "naturalism as a worldview" collapses when science insists on explaining the entire history of the cosmos and, to that end, conclusively presumes that naturalistic solutions are available for every problem. A determination to look for naturalistic processes may be a mere methodology, but an a priori certainty that they always exist has to rest on strong assumptions about reality. For example, evolutionary scientists do not merely say that they are trying to find out whether life can evolve spontaneously from nonliving chemicals. They insist emphatically that they know for certain that chemical evolution can make life, even though the

precise evolutionary pathway may as yet be unknown and the experimental results may seem unpromising. If someone suggests that God may have been directly involved in the creation of life, methodological naturalists scornfully dismiss the idea as an attempt to insert a "God of the gaps," who will inevitably be discredited when science discovers a true theory of chemical evolution. This reasoning takes the question of God's possible involvement outside of scientific investigation altogether and makes naturalism unfalsifiable as a matter of faith.

I summed up the logical implications of the strong version of methodological naturalism in my book *Reason in the Balance:*

> If employing methodological naturalism is the only way to reach true conclusions about the history of the universe, and if the attempt to provide a naturalistic history of the universe has continually gone from success to success, and if even theists concede that trying to do science on theistic premises always leads nowhere or into error (the embarrassing "god of the gaps"), then the likely explanation for this state of affairs is that naturalism is true and theism is false.

Christian intellectuals have unwisely taken comfort in the fact that methodological naturalism does not prove that God does not exist, so there is some wriggle room to allow God back into the picture as the undetectable ruler of the natural realm. What the method does do is imply that Christian theism is intellectually uninteresting and unsupported by evidence. That implication has been quite sufficient to make naturalism the ruling philosophy in the universities.

INTELLIGENT DESIGN AND WHY THEISTIC EVOLUTIONISTS OPPOSE IT

Much current discussion of intelligent design focuses upon molecular biologist Michael Behe's book, *Darwin's Black Box.* Behe shows that the invisible world of molecular systems is replete with examples of irreducible complexity, meaning systems composed of many complex parts, all of which have to be present at once for any part to perform a useful function. Such systems cannot be built up part-by-part through the mindless Darwinian process, which (assuming it capable of producing even a part in the first place) cannot preserve a presently useless part in the hope that it will become useful at some time in the future. Although Behe insists that organisms are designed, he does not insist that they were created suddenly. Designers can work step-by-step, and they can gradually change one kind of thing into another. The crucial thing about a designer is that it can look ahead, and so it can put parts in place one-by-one even though the parts are not presently useful. Hence I can assemble a bicycle from a kit, even though the frame and pedals are useless until they are connected to the wheels. To recognize intelligent design in a complex organ or machine is in no sense to depart from science. For example, computers are intelligently designed, but they operate by lawlike processes that are eminently subject to scientific study. Being a computer scientist in no way entails believing that unintelligent material processes can build a computer without a designer.

Behe says at one point that he is not a creationist, at least if that term means someone who is concerned about supporting the creation account in the Bible. He also does not challenge evolution, if that term means "common ancestry." Then why isn't Behe classified as a theistic evolutionist? He would be if that term meant a theorist who does not rely on the Bible or other religious authority, and accepts gradual development of organisms over long periods of time, but who sees the need for some guiding (i.e., designing) intelligence. The defining characteristic of theistic evolution, however, is that it accepts methodological naturalism and confines the theistic element

to the subjective area of "religious belief." It is (barely) acceptable in science to say, "As a Christian, I believe by faith that God is responsible for evolution." It is emphatically not acceptable to say, "As a scientist, I see evidence that organisms were designed by a preexisting intelligence, and therefore other objective observers should also infer the existence of a designer." The former statement is within the bounds of methodological naturalism, and most scientific naturalists will interpret it to mean nothing more than "It gives me comfort to believe in God, and so I will." The latter statement brings the designer into the territory of objective reality, and that is what methodological naturalism forbids.

I believe that Behe's thesis is correct, but I want to emphasize a different point here. For Christian theists, the hypothesis of intelligent design in biology ought to be extremely interesting, even if they prudently withhold judgment while considering all the possible objections. We live in a culture in which most institutions of higher education have gradually shed their Christian roots and embraced naturalism. Christianity remains strong as a popular movement, but its intellectual influence has steadily dwindled since the triumph of Darwinism in the late nineteenth century. No one doubts that the acceptance of evolutionary naturalism in science has been a major force in driving Christianity to the margins of intellectual life. Even if Howard Van Till doesn't think that Darwin made it possible to be an intellectually fulfilled atheist, he knows very well that lots of other people think so.

What if Behe is right? In that case the confident materialists have been misled, and they have built a very proud tower of theory on a foundation of sand. Indeed, a major reason that scientific naturalists are so reluctant to believe that organisms are designed is that the potential consequences are so far-reaching. A great deal of scientific knowledge has been built around the assumption that material processes can do all the work of biological creation. If evolutionary science is wrong on so fundamental a point, it may be wrong on many others. We may be in for a worldview revolution as spectacular as that caused by Galileo—or Darwin. Persons who have boldly promoted scientific naturalism as a worldview would look as foolish as all those Marxists who assured us that the worldwide triumph of their system was inevitable. Christian intellectuals might reasonably worry that such a possibility sounds too good to be true, but wouldn't you expect them at least to think that it was good?

Interest should be all the greater because Behe's scientific credentials are impeccable, and because he is not the only scientist who is describing a widening rip in the supposedly seamless fabric of evolutionary naturalism. Professor James Shapiro of the University of Chicago, who is about equally critical of creationists and Darwinists, paints a scientific picture virtually identical to Behe's. Just to give the flavor of Shapiro's article, here is a string of excerpts from a 1997 article in the *Boston Review:*

> The molecular revolution has revealed an unanticipated realm of complexity and interaction more consistent with computer technology than with the mechanical viewpoint which dominated when the neo-Darwinian Modern Synthesis was formulated.… It has been a surprise to learn how thoroughly cells protect themselves against the kinds of accidental genetic change that, according to conventional theory, are the sources of evolutionary variability.… The point of this discussion is that our current knowledge of genetic change is fundamentally at variance with postulates held by neo-Darwinists.… Is there any guiding intelligence at work in the origin of species displaying exquisite adaptations that range from lambda prophage repression and the Krebs cycle through the mitotic apparatus and the eye to the immune system, mimicry, and social organization?

I don't blame theistic evolutionists for being initially skeptical of suggestions that biology is replete with evidence of that "guiding intelligence at work." Being careful not to believe something just because we want to believe it is the very essence of the scientific method. What is surprising is that some theistic evolutionists seem to dislike the idea of design in biology so much that they do not bother to conceal their hope that the whole concept is discredited as soon as possible, preferably without a fair hearing. Why?

One reason is that theistic evolutionists have a lot invested in the claim that science and Christian theism are compatible, and the recognition of evidence for intelligent design raises the prospect of a renewed conflict that they wish to avoid. Another reason is that some theistic evolutionists have so successfully incorporated evolution and methodological naturalism into their theology that criticism of these doctrines seems almost heretical to them. Howard Van Till scarcely mentions scientific evidence, but says that intelligent design in biology is unacceptable because it implies that the Creator had to add something to creation after the ultimate beginning. He writes, "I find it theologically awkward to imagine God choosing at the beginning to withhold certain gifts from the creation, thereby introducing gaps into the creation's formational history." This argument bears an interesting similarity to the position of young earth creationists, who also believe, on scriptural grounds, that God did all the creating at the beginning. Of course, any Christian has to believe that God intervened throughout history in the covenant with the Jews, in the Incarnation, and in the continuing work of the Holy Spirit. But did he intervene to finish the work of creation? Only old earth creationists have to answer yes to that question.

WHAT, THEN, SHOULD WE DO?

I confess I am dissatisfied with all the answers that we have at present. The standard materialistic evolutionary theory called neo-Darwinism is the worst answer, because it is based upon materialist philosophy rather than scientific evidence and leads to the absurd conclusion that even our thoughts are the products of irrational material processes. In that case, why believe anything at all, including the theory of evolution? Theistic evolution at least recognizes God as Creator, but it gives away far too much in agreeing to adopt naturalistic standards of reasoning. If God is real, and not imaginary, it doesn't make sense to assume that the only way to find out how creation occurred is to assume that God had nothing to do with it. Theistic evolutionists, like atheistic evolutionists, naively accept that natural selection has great creative power even though the evidence in no way supports that conclusion, because they are bemused by the philosophy.

Young earth creationism honors the Scriptures and gives specific content to the biblical doctrine that death and suffering entered the world through human sin. If it turned out to be true, some tough theological problems would become a lot easier. But, as Robert Newman shows us, the young earth scenario seems to face insurmountable scientific problems. Paul Nelson and John Mark Reynolds can respond that the young earth camp includes a few distinguished scientists who are working on those problems. That is true, but nothing I have read so far leads me to be optimistic. I state these personal opinions with some diffidence, largely because I am nowhere near as familiar with the crucial geological evidence and radiometric dating techniques as I am with the main issues of biological evolution. Because of these opinions, most people think of me as an old earth creationist; however, I agree with critics of that position that something is awkward about the idea that God stepped in at various undetermined points in an earthly history of billions of years to do some more creating or to inject new genetic information into the biosphere. Show me a better scientific position than old earth creationism and I'm open to persuasion.

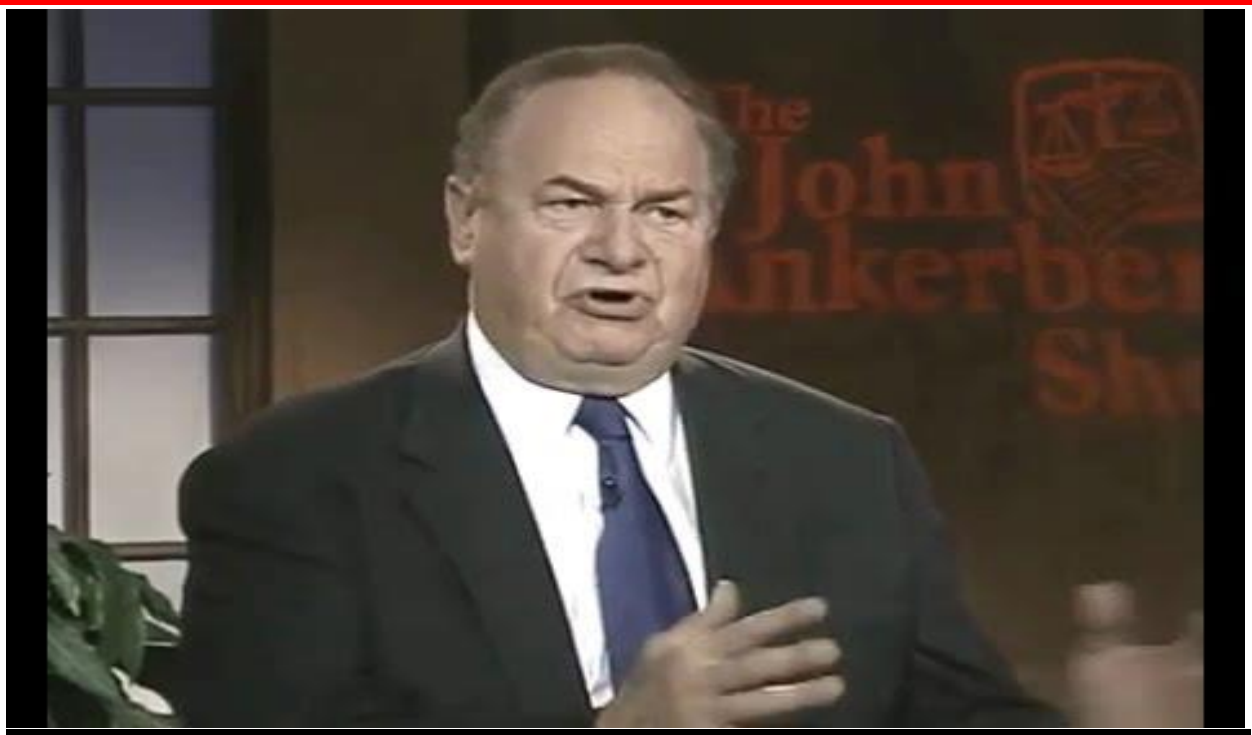
Is it discouraging to have to admit at the end that "I just don't know"? I don't find it discouraging in the least, because I look forward to the exciting work we have to do to get to a position where we can hope to get the answers. The problem is that we want to consider the scientific evidence fairly and without prejudice, but it is hard to do that when so many scientists insist on looking at the evidence only through the distorting lenses of naturalistic philosophy. Until we can separate the philosophy from the science and get an unbiased appraisal of what the evidence does and does not show, it is premature to try to come to any firm conclusions. When we do get an unbiased scientific picture, neo-Darwinism will collapse and we will be in the midst of a scientific revolution so profound that everything will look different.

That's where you come in. What the world needs now is not more people who can argue for one of the existing positions, but people who can advance the ball. Take it from here and run with it![14]

[14] Bube, R. H., & Johnson, P. E. (1999). Postscript: Final Reflections on the Dialogue. In S. N. Gundry, J. P. Moreland, & J. M. Reynolds (Eds.), *Three Views on Creation and Evolution* (pp. 249–278). Grand Rapids, MI: Zondervan.

Part_Three

HOW LONG WAS A GENESIS DAY?



How Long is a Day?

In Genesis chapter 1, we read that God created the world in six days and rested on the seventh. Evolutionary theory, taught in public schools and advocated by many books and magazines, claims the world is billions of years old. Obviously Genesis and Evolution conflict on the age of this world. Many Christians have tried to blend the two in a position that is often called the "Day/Age Theory." The point made is that perhaps the days of creation were not really literal 24-hours days; instead, they represent ages… Each age would have lasted thousands or even millions of years.

People do not understand that Evolution Theory is unprovable, unscientific speculation. Evolutionary theory is based on the assumption that one day we will prove its truth. In contrast, the Bible claims to be The Truth. It contains the Words of God, complete and accurate. Proofs are offered throughout the book with the accuracy of its information, complete and accurate fulfillment of its prophecies, and the miracles supporting the teachers of the Word.

Why would anyone wish to water down Truth with speculation? Have you considered what the consequences would be of the Day/Age Theory to the believableness of the Scriptures? If we cannot accept that the world was created in six literal days, then can we accept the virgin birth of Jesus? After all, it is presented in the same book. Could we believe in the bodily resurrection of Christ? If we can accept these as facts, why is Genesis chapter 1 different?

If the early chapters of Genesis are just an allegory or a fable, then where do the real events and people begin in the Scriptures? Was Adam the first man, created shortly before Eve? If this is a fable, then what does this make the passages based on this event, such as Romans 5:14, I Corinthians 15:21-22, or I Timothy 2:13? If Eve was not the first to sin, then what do we do with Paul's proof in I Timothy 2:14? Was Enoch truly the seventh descendant from Adam as Jude claims in Jude 14? Who was the first real person in Christ's lineage in Luke 3:23-38? Was there really a universal flood as Peter refers to in II Peter 3:5-7 to prove that the world will one day end in fire? As you are beginning to see, most of our Bible rests on the validity of the early chapters of Genesis. If the early chapters of Genesis are not factual, then what part of the Bible can we claim is true? If the creation did not take place in six 24-hour days, then did it actually rain 40 days and night at the start of the flood? Was Jonah truly in the belly of the great fish for just three days? Was Jesus' body in the tomb for three days? If we can't accept that the world was created in six days, then we cannot prove that the use of the word "day" in the Bible was just a single 24-hour period.

Jesus stated that Adam and Eve were created at the beginning of creation in Matt. 19:4 and Mark 10:6. Six days from creation is near the beginning, but can you claim many millions of years later is anywhere near the beginning?

If each day of creation was actually an age, then we run into problems. For example, the Yucca plant was created on the third day. If this was a period of a million years or so, then it would have had to exist and reproduce for millions of years before the pronuba moth was created. However, the Yucca plant is dependent on the pronuba moth to fertilize its seeds! So how did the Yucca exist for a million years?

How much of the sixth "age" did Adam and Eve live? Even if they were created on the last literal day of the sixth "age", then they would have had to live millions of years through the seventh "age" when God rested. Does this mean that Adam was more than 930 years old when he died? If a day was approximately a million years, then Adam, must have been 1,000,930 years old at his death! Do you think that Satan would have truly waited over a million years to cause the fall of God's creation? How did Adam and Eve postpone bearing children for a million years? Or do you propose that they had the ultimate birth control methods in the beginning? God did command Adam and Eve to be fruitful and multiply. Would God have tolerated Adam and Eve waiting a million years to obey his command? Do you truly doubt that God could have created this world in just six 24-hour days? If you cannot believe this, then can you truly believe that God had the power to raise Christ from the dead on the third day?

It is true that the Hebrew word "yom," which is translated as day, can sometimes refer to a general period of time, such as in Abraham's day or in his grandfather's day. However, you could also state it as in the 24-hour days that Abraham lived. In addition, when "yom" is preceded by a number, "yom" always refers to a 24-hour period. In Genesis chapter 1, "yom" is referred to as the "first day," the "second day," the "third day," and so on. As if anticipating a question about the length of each day, the writer shows a 24-hour period: "evening and morning were the first day."

Notice that when God established the week for the Israelites, He paralleled the six days plus the Sabbath day to the six days of creation plus the day God rested (Exodus 20:9-11). If the Hebrew word "yom" was so imprecise, then why was the Sabbath held so regularly. If anyone knew Hebrew, it was the Israelites and they understood precisely what God meant in the Ten Commandments and in the creation account. Can we not do as well?

Exclusions and Hypothetical Arguments

"The same day the Sadducees, who say there is no resurrection, came to Him and asked Him, saying: 'Teacher, Moses said that if a man dies, having no children, his brother shall marry his wife and raise up offspring for his brother. Now there were with us seven brothers. The first died after he had married, and having no offspring, left his wife to his brother. Likewise the second also, and the third, even to the seventh. Last of all the woman died also. Therefore, in the resurrection, whose wife of the seven will she be? For they all had her'" (Matthew 22:23-28).

Arguing by Exclusion

False doctrine often slips in under the guise of exclusion. A person will prove that a particular action is required from the Scriptures but then concludes that it is only this way. For example, advocates of salvation by faith alone will cite verse after verse where faith is a requirement for salvation and then in their summary state, "You see, salvation is by faith alone." The problem is that they have not proved their point. To prove something exclusively exists, you must show one of two things: 1) a direct statement of exclusiveness or 2) a complete lack of any other means of obtaining the desired goal. In the case of faith alone, the first does not exist. There is no statement in the Bible that states salvation comes by faith exclusively. That faith is required for salvation is easily proven, but the exclusion of any other requirements is not. In fact, there is only one first that discuss faith in the exclusive sense and that is James 2:24, which contradicts the faith alone position.

The psalmist stated, "*The entirety of Your word is truth*" (Psalm 119:160). Truth is found by considering the whole of what God said. When you only consider a portion, you can arrive at the wrong conclusion. When making a claim of exclusion and lacking a direct statement proving your point, you must examine every verse concerning the topic and show that it happened in that manner. Since there is no statement stating that salvation is by faith alone, the supporter must show that every instance of salvation came only by faith. If you think about it, this is a tall order. There are a large number of passages dealing with salvation. The one in opposition is in a much better position. To prove the supporter wrong, he needs only to show one verse where there was a requirement of something in addition to faith in order to obtain salvation. Passages such as Acts 2:38 and Acts 22:16 easily establish that faith is not the only requirement for salvation, therefore salvation is not by faith alone.

We must remember this when presenting the gospel to others. Arguments of exclusiveness are difficult to prove and easily defeated. When dealing with someone unfamiliar with the Bible, you are asking a lot for them to except an "only" position based on one or two verses. For example, we understand that the New Testament authorizes singing in worship and that instrumental music is excluded. Ephesians 5:19 and Colossians 3:16 show that singing is required, but they do not show that it is exclusively singing. That argument can only be proven by examining every place where music is mentioned in the New Testament & showing that it was only done with vocal music. This not as difficult as it might sound. There are only a few places where music is discussed in the New Testament. However, it is necessary to show these verses to properly prove the point. It is improper to ask others to accept arguments that we find unacceptable when applied to other topics.

A more subtle exclusive argument is to state that the truth must be one of two choices, then proving one choice isn't true so concluding it must be the other. This method of proof only works if the two choices do not overlap and if the two choices are the only two possible choices.

The Pharisees of Jesus' day frequently attempted to trap Jesus between two seemingly conflicting positions. "*Teacher, we know that You say and teach rightly, and You do not show personal favoritism, but teach the way of God in truth: Is it lawful for us to pay taxes to Caesar or not?*" (Luke 20:21-22). If Jesus stated that taxes should not be paid, they would turn him over to the governing authorities for rebellious statements. If Jesus stated that taxes should be paid, the Jews would turn on him because the Romans were an unpopular occupying force in their country. Jesus' answer showed that there was an overlap in the two positions.

"'*Show Me a denarius. Whose image and inscription does it have?' They answered and said, 'Caesar's.' And He said to them, 'Render therefore to Caesar the things that are Caesar's, and to God the things that are God's'*" (Luke 20:24-25). The Jews accepted and used Roman coinage in their daily transactions. Those coins were backed by the power of the Imperial Roman government. It was inconsistent to both deny the government and benefit from the government at the same time.

Another example is found in John 8:3-5. "*Then the scribes and Pharisees brought to Him a woman caught in adultery. And when they had set her in the midst, they said to Him, "Teacher, this woman was caught in adultery, in the very act. Now Moses, in the law, commanded us that such should be stoned. But what do You say?"*" The law of Moses did command that adultery be punished by stoning (Deut. 22:22). However, the Roman government at that time stated that only a Roman official could impose a death penalty. If

Jesus indicated support for God's law, he would be in violation of man's law. However, Jesus pointed out a third position. These men had broken Moses' law. Read Deuteronomy 22:22 carefully and you will find that both the man and the woman were to be stoned, yet the Pharisees only brought the woman, though they claim they caught her in the act of adultery. Where was the man? This is why Jesus' simple statement, "*He who is without sin among you, let him throw a stone at her first*" (John 8:7), had such a devastating effect on the accusers. They knew they were wrong by accusing the woman while allowing the man freedom.

We must be careful not to make similar faulty arguments. For example, I could claim, "We can't both be right. You're wrong. Therefore, I'm right." The style of argument is called "black or white arguments." What is being ignored is the possibility that we both could be wrong. Most black or white arguments break down when it is shown that more than the two possibilities exist.

Several times we have shown the danger in arguing from the conclusion of an "if-then" statement. One point to make might be the natural consequence of another point, but to then assume that because the conclusion is true, the premise must be true is a falsehood. I could argue, "If it is raining, then the streets are wet. The streets are wet; therefore, it is raining." The fault lies in the fact that streets can be wet for more reason than that it is currently raining. Just because one thing leads to another does not imply that it is the only thing that leads to the conclusion.

Arguing from Possibilities

Some become bent out of shape when you prove their favorite belief is not correct – especially if it is an action in which they have been involved. The argument thrown back is that it could have happened that way and if you deny it, then you are limiting the power of God. I have been told at one time or another, each of the following:

- Jesus could save by faith alone, so to deny it means you are limiting God's power.

- God is able to perform miracles if He so desired, so if you deny that they are occurring, you are trying to limit the power of God.

- **God could have used evolution to create the world, so to argue against it is to limit how God works.**

Taken at face value, the argument is worthless. No matter how I might present a case, I cannot limit God. "*For it is written: 'I will destroy the wisdom of the wise, And bring to nothing the understanding of the prudent.' Where is the wise? Where is the scribe? Where is the disputer of this age? Has not God made foolish the wisdom of this world?*" (I Corinthians 1:19-20). The reality is not whether some man has placed a limit on the power of God, what we must recognize is what God has stated He has done and will do. The point is not whether God could have saved men by faith alone, the question has God done so? (And the clear answer is "no" – James 2:24). It is not a question of whether God could do miracles today, it is whether we will acknowledge that God said the miracles would cease (I Corinthians 13:8-10).

Which of you would like to be tried for murder and have the opposing lawyer argue that you could have pulled the trigger; therefore, it does not matter whether you actually did so or not. I could argue that yesterday it could've rained. Whether the possibility existed or not, the truth is that it did or did not rain. Possibilities do not establish the truth.

While God is infinite in power, He has told us that there are things He cannot do. God cannot sin (I John 1:5). God's promises cannot change (Hebrews 6:17-18). He cannot lie (Titus 1:2). He cannot deny Himself (II Timothy 2:13). Perhaps some would claim these are limits on the power of God. Yet, these are fundamental characteristics of God. If God could do these things, then He would not be the Almighty God that we worship.

Theistic Evolution: An Incoherent and Inconsistent Worldview?

by Callie Joubert on July 11, 2012

Abstract

In recent years there has been an explosion of literature in which theistic evolutionists describe, explain, and defend three beliefs at the core of their worldview. Firstly, God was/is working in and through the evolutionary process. Secondly, the evolutionary story of origins is not only scientific but also compatible with the biblical record of creation. And thirdly, they believe their worldview is entirely plausible, intellectually satisfying, and logically consistent. The aim of this paper is to defend the following thesis: Christians are caught up in theistic evolutionism without realizing that the worldview of theistic evolutionism is incoherent and inconsistent with the teachings of Scripture. I first provide some preliminary remarks about worldviews and the way to assess them. I then contrast the core characteristics of young-earth creationism and theistic evolutionism as they apply to a description and explanation of the kinds of entities that exist, their natures, their coming to be, the cause of evil in the world, and how it can be known. Along the way, I highlight various critical issues to consider and provide a critique of theistic evolution.

Introduction

In recent years there has been an explosion of literature in which theistic evolutionists describe, explain and defend three beliefs at the core of their worldview. The first belief is that although life originated from non-life and humans from apelike creatures (so-called hominids) through an evolutionary process over billions and millions of years, God was/is working in & through the process. The second belief is that the evolutionary story of origins is not only scientific but also compatible with the biblical record of creation. And third, proponents of the theistic evolutionary-scientific picture of the world believe it is "entirely plausible, intellectually satisfying & logically consistent" (Collins 2007, p. 208; cf. Alexander 2008, 2010; Berry 2007; Bishop 2011; Enns 2005, 2010a, 2010b; Falk 2009; Giberson and Collins 2011; Lamoureux 2008, 2010a, 2010b, 2010c; Louis 2011; Pope 2007).

My aim is to defend the following thesis: Christians are caught up in theistic evolutionism without realizing that the worldview of theistic evolutionism is incoherent and inconsistent with Scripture, thus contrary to what they believe. In order to show that, I will provide some preliminary remarks about worldviews and the way to assess them. I will then contrast the core characteristics of young-earth creationism and theistic evolutionism. Details will be fleshed out as they apply to a description, explanation, and an understanding of the kinds of entities that exist, their natures, their coming to be, the cause of evil in the world, and how it can be known. Along the way, I will highlight various critical issues to consider and provide a critique of theistic evolutionism. But before I proceed, it will be useful to clarify a few issues.

It is a misconception to think that the creation-evolution controversy is a "battle" between "science" and "religion" as so often portrayed by theistic evolutionists in their published works. Neither do Christians lack the ability to understand the evolutionary story of origins and/or Scripture, which is also the implicit message of theistic evolutionists to proponents of young-earth creationism. Dr. Francis Collins is a world-renowned geneticist and founder of The BioLogos Foundation, and the former executive vice president of BioLogos, Dr. Karl Giberson is professor in physics at Eastern Nazarene College. According to them, "evolution, properly understood, best describes God's work of creation" (Giberson and Collins 2011, p. 251; cf. Pope 2007, p. 2). Thus, evolution, "the grand story of the creative world that God brought into existence," constitutes what they refer to as "the BioLogos worldview" (Giberson and Collins 2011, p. 37).

It is not difficult to see that the "battle" between young-earth creationism and theistic evolutionism is a controversy that involves the inerrancy and authority of Scripture, and the nature and character of the Creator. The evidence will show that proponents of theistic evolution should not be taken seriously when they inform us that they are committed to the truth of Scripture. Further, the evidence suggests that proponents of theistic evolutionism have reasons to think they are panpsychists, if not pantheists. In a nutshell, the worldview of proponents of theistic evolutionism is weakened by many disqualifications, which undermine their arguments. The areas of confusion are ontology (God and man), etiology (creation and life), epistemology (science and Scripture), ethics (the moral nature of man), and the cause of evil in the world. It is to these issues that I now turn.

Worldviews: A Comparison

Preliminary remarks

For the purposes of this paper, a "worldview" is understood as "a comprehensive and integrated understanding of reality in all of its aspects" (Crowe 2009, p. 229). At the core of this understanding is a set of interrelated assumptions and beliefs in response to four interrelated questions. The assumptions and beliefs are united in such a way that it provides a coherent understanding of everything that is or exists. But before we look at the questions, it is of critical importance to keep four things in mind.

First, a worldview must accurately accord with the entities within its range of description, explanation and understanding. In different words, it must accord well with reality. It is therefore important to know the implications of what will be the case if its descriptions, explanations, and understanding are false. If, for example, a human being is only a material body/brain, what are the implications for our understanding of life after death? For if it is true then human beings decompose and eventually disintegrate upon death. This would make a belief in life in an intermediate state between death & a reunion with a resurrection body impossible to hold. Second, it is important to have an adequate understanding of what a belief is. A belief is, first of all, what a person accepts about reality, to varying degrees of strength. And since a belief is of or about things in the world, a belief is either true or false. Put differently, the mental content of a belief is identical to a proposition or a number of propositions. So understood means that a belief is not an opinion or hypothesis (conjecture or guess) and, if true (that is, when corresponding to facts), constitutes knowledge (Boghossian 2006; Wolfe 1982).

The third thing we need to understand is something about categories. Fundamental to any investigation of reality and the question about the kinds of things that exist, their properties and the relation between them, are categories; they help us to determine the answers to our basic or fundamental questions. To put it somewhat differently, all things that exist fall under one or other category which indicates what something is, for example, a substance (a human being, a dog, an angel, a leaf), a quality (strong, being wise), quantity, relation, place (it is always good to ask where something exists), time (it is always good to ask when something exists), action, event, state, posture, and so on. In short, categories help us to identify things in the world; they help us to make distinctions; they prevent us from confusing one thing with another thing, and they help us to judge things as they are in themselves. In other words, in categorical thinking, the issue is about how to understand reality and to keep things apart that should be kept apart.

Here is an example from Scripture. *Isaiah 5:20* reads:
Woe to those who call evil good, and good evil;
Who put darkness for light, and light for darkness;
Who put bitter for sweet, and sweet for bitter!

Not only does our Creator think in terms of categories, but distinctions between good and evil, light and darkness, and sweet and bitter are also not made without a reason. That is how things are in themselves. It should therefore be a good thing to bear in mind when assessing various beliefs.

Finally, a crucially important issue about the assessment of worldviews is naturalness. Any postulated entity or entity believed to exist in the world should be naturally at home with other entities in a worldview. If, for example, the worldview postulates existence of an immaterial God, mental substances, properties (qualities or attributes) and relations, then it would be natural for that worldview if it bears a relevant similarity to other entities in the worldview. If God is an agent, then it would be reasonable to think that humans, who have been created in His image, would resemble naturally their Creator. Also, if God is a paradigm case of a person, then it would be reasonable to think that human persons resemble naturally their Creator, and not some imaginary hominid (ape-like creature). With this in mind we can now consider the core questions every worldview must provide answers to.

1. *What is real?* This is an ontological question about the kinds of things that exist, their natures, including the question of the highest kind of reality. Related questions are: Does the world consist of only one kind of stuff, say matter? Does God exist, and if so, what kind of being is He? Are there such things as human persons, and if so, are they mere biological organisms, and if not, why not?
2. *How did the world and life on earth originate?* This is an etiological question, since it asks about the source or cause of the universe, including the earth and life. The most relevant questions in this category are: Has the world and life originated from chemicals in some primordial pond (that is, mindless and unconscious processes of nature)? Have human beings descended from ape-like creatures over millions of years of evolution, or are the world and life the products of an intelligent Creator/Designer?
3. *How can we know?* To this epistemological question, there are three answers relevant to the discussion that is to follow: (a) scientists tell us how God created, and the Bible tells us that God created. In this view the Bible is representative of a pre-scientific view of how the world is and came to be; (b) accept that science is inherently atheistic. Any person asking a question about the nature of immaterial entities such as God, angels, the soul, spirit or mind has, by definition, become unscientific. It would therefore be preferable if such questions are relegated to the realm of theology or metaphysics (philosophy); (c) there are many sources of knowledge, but the Bible is a Christian's highest source of knowledge and absolute authority in all matters about which it speaks.
4. *How should we live?* This is the question about ethics. In general, once people formed their beliefs about the kinds of things that exist, and how they relate to them, the way is paved for how they believe they ought to live & how things, including human beings, are to be treated. It is then that beliefs about what is right and good are formed. The questions of importance here are: (a) is the moral sense of a human being the product of a Holy God implanted in him at creation, or is it something that could have evolved from physical atoms & something we could have inherited from ape-like ancestors? and (b) how does the worldview account for evil in the world? The last question refers to "the problem of evil" and the response is called a "theodicy." A theodicy explains, in other words, the ways of God concerning moral and natural evil in the world.

To summarize, a worldview must accurately accord with the phenomena within its range of description, explanation, and understanding. Scripture is a Christian's highest standard of knowledge and authority. Consider the implications of the beliefs— whether true or false. An adequate understanding of categories of reality helps to determine answers to our fundamental questions: What exists? How did it originate? How can we know? & How should we live? Coherence, consistency, and truth are yardsticks by which to judge a worldview, therefore, the merits of accepting or rejecting it.

The Central Characteristics of Young-Earth Creationism

The reader is asked to bear in mind that this section merely lays out the core ontological, etiological, epistemological, and ethical commitments of young-earth creationism. A defense of its truth or rationality will take us beyond the scope of this paper. For the affirmations and denials essential to a consistent Christian (young-earth creationism) worldview, see Mortenson and Ury (2008, pp. 453–456). Readers can also consult Crowe (2009), DeWitt (2007), Kelly (1997), and Morris (2000). For a theology of creation based on Genesis 1–11, the reader is referred to Kulikovsky (2009). For an excellent defense of a creationist explanation of evil and the origin and nature of death, see Mortenson (2009) and Stambaugh (2008) respectively. And for a critique of "christian physicalism" and a defense of our Lord and Savior's view of Scripture against the background of theistic evolutionism, the reader is referred to Joubert (2011) and Joubert (2012b).

Ontological commitments

"In the beginning God created the heavens and the earth" (*Genesis 1:1*; cf. *Malachi 2:10*; *John 1:1–3*; *Colossians 1:16–17*; *Hebrews 1:10*, *11:3*). Heaven and earth had a beginning; God exists, and is its cause. God is a necessary being, and the world and everything in it is contingent. That is to say, God could have existed without the world, but not vice versa. In other words, the physical world owes its existence and continued existence to God. God as the first cause of the world makes other things possible, and other things are therefore dependent on God to become real. God is the intelligent Creator/Designer of the universe, and nothing can cause Him to act besides His own choices and will (*Daniel 4:35*; *Revelation 4:11*). God is therefore absolutely sovereign. He is omnipotent (almighty), omniscient (knows everything, even the number of hairs on our heads & the thoughts we entertain), omnipresent (nothing is outside His awareness), and is absolutely good and perfect (He is a God of truth; He cannot lie, and cannot approve evil)—*Matthew 5:48*, *10:30*; *Numbers 23:19*; *Psalm 139:7–10*; *Isaiah 40:12–14*, *18*, *21*, *22*, *25*, *26*, *28*, *65:16*; *Habakkuk 1:13*; *Titus 1:2*. Among other things, God's creative activity is an expression of knowledge, wisdom, and skillful workmanship (*Job 37:16*; *Psalm 147:5*; *Proverbs 3:19*; *1 John 3:20*).

God is a spirit being, an immaterial, invisible, spiritual substance (*John 4:24*; *1 Timothy 1:17*). God is also a paradigm case of what a person is. He exemplifies thoughts, propositional attitudes and other mental properties of consciousness, such as sensations, attitudes, desires, and choices that are constitutive of His own conscious life (*Psalm 45:7*, *51:6*, *139:17–18*; *Isaiah 55:11*; *Jeremiah 18:9–10*; *Ezekiel 18:23*; *Romans 9:18*; *1 Corinthians 2:11*). He said "I AM WHO I AM. . ." (*Exodus 3:14*),

which means, among other things, that God's "I" knows things from an immediate, direct and first person point of view (*1 Corinthians 2:11*); He is immutable, therefore retains His identity through time (*Psalm 90:2*; *Malachi 3:6*; *James 1:17*). God is also a paradigm case of rationality, intelligence and moral excellence (knowledge, wisdom, truthfulness, holiness, kindness, compassion, and so on). God is thus a being of the order of mind, from which follows that consciousness and mental properties are more basic or fundamental in reality than are physical realities. God created various things, but humans are unique in the sense that they are created in the image of God, therefore, to resemble Him (*Genesis 1:26–27*, *5:1–2*; *Psalms 100:3*; *Colossians 3:10*; *James 3:9*). If human beings are persons, then they and God are of a kind, since human persons bear similarity to their Creator. To be more specific, human beings are immaterial spiritual souls & have material bodies (*Psalm 31:9*; *Matthew 10:28*); they know things about themselves immediately and directly from a first person perspective (*1 Corinthians 2:11*); they have an irreducible conscious mental I that remains the same through change over time; they are agents who have the power to will to do something or refrain from doing it, and they can act with a purpose in mind and plan how to achieve their ends (*Romans 6:13*, *19*, *12:1*). They also have an essence or nature—humanness and personhood—which grounds their membership in the created order "mankind."

Etiological commitments

God created the world and things in it through direct action & indirect processes, with several simple commands: "Let there be . . . and it was so." Man was exception; God made him from the ground of the earth and breathed into him his spirit (*Genesis 2:7*; cf. *Ecclesiastes 12:7*; *Zechariah 12:1*). The Word was in the beginning; the Word was with God, and was God. Not a single thing — visible and invisible — came into being apart from Him. He was therefore before all things & in Him all things endure. The Word also became flesh; He is Jesus Christ, our Savior and Lord (*John 1:1–3*, *10*, *14*; *Colossians 1:16–17*, *2:19*).

Life demands a Life-Giver, who is the Holy Spirit (*John 6:63*). Death is the absence of life, in three senses. There is death once the soul or spirit becomes separated from the body (*John 19:30*; *Acts 7:59*; *James 2:26*); there is spiritual death (*John 3:1–7*, *5:24–25*; *Romans 6:23*; *James 5:20*); there is death which comprises an eternal separation from God (*Revelation 2:11*, *20:6*, *14–15*, *21:8*). God promises new life in this world, and new bodies at the resurrection of the dead (*1 Corinthians 15:42–57*).

It is a reasonable principle that a first member in any given series of subsequent members can only pass on what it itself possesses. Personhood, intelligence, power, and moral natures can only be passed on by One who is already a person, intelligent, powerful and moral. Jesus said, for example, "It is the Spirit who gives life; the flesh profits nothing; the words I have spoken to you are spirit and life" (*John 6:63*).

There is not a single example or instance in the Bible of matter being the cause of life, although many examples of spirits interacting with matter, matter coming alive when the spirit from God entered it, and material bodies becoming corpses when spirit left them (*Genesis 35:18*; *1 Kings 17:17*, *21*, *22*; *Matthew 10:1*, *20*; *Acts 2:1–4*, *38*, *16:16–18*).

Epistemological commitments

Christians have at least three sources of knowledge. The first is personal knowledge, which is knowledge of their selves and mental states of thinking, sensing, desiring, and so on. God has equipped every human being with a set of faculties & capacities to interact with Him, the world of things & their fellow human beings. The faculties comprise the spiritual, mental, and moral seats of the soul. Each faculty consists of thousands of capacities that are inseparably linked with each other & can function either in the way the Creator intended for them to function or in a dysfunctional way. Fundamental capacities, such as thought, belief, sensation, feelings, emotion, desires, choice, and volition are also the basic categories of the soul. And since they are natural kinds of entities, they are both describable and explainable. Our senses have been given us in order to gain knowledge of how the world outside ourselves is. If therefore we see something red, or hear something loud, or smell something rotten, then colors, sounds, and aromas must exist; they are not constructions or imaginations of the mind, but real existents in the world.

This implies that proper knowledge of human beings, their immaterial selves, is gained through understanding their spiritual souls, and not solely by understanding their bodies or brains. A different way of making the same point is to say, knowledge of the spiritual soul/mind cannot be reduced to knowledge of the body/brain and its various functions or mechanisms and replaced by biology and neuroscience.

A second source of knowledge is the created world or nature, referred to by theologians as God's general revelation (*Psalm 19:1–3*; *Romans 1:19–20*, *2:14–15*; *Ephesians 2:10*). This world is studied through the methods of science. There is also a third source of knowledge, and that is God's special revelation - our Scriptures (*Proverbs 30:5–6*; *Matthew 22:29*; *John 17:17*; *1 Thessalonians 2:13*; *2 Timothy 3:16*; *2 Peter 1:19–21*, *3:15–16*; *Jude 3*).

Two points should therefore be emphasized. First, there is a distinct difference between "science as alleged facts of nature explainable by man and Scripture as the certain facts of God given explained by God" (Mayhue 2008, p. 109). What Richard Mayhue said in this quoted passage, he said elsewhere differently:

> Revelation does not include what man discovers on his own (i.e., knowledge) but rather what God discloses that otherwise man could not find on his own. General revelation in nature, as defined by special revelation, discloses the existence of God, the glory of God, the power and intelligence of God, the benevolence of God, and the fallenness (evil) of humanity (Mayhue 2008, p. 119).

In other words, special revelation (the Bible) authenticates what man discovers in and through general revelation; nature is not "the 67th Book of the Bible" (Mayhue 2008, pp. 105–129). The second point is simply that advocates of a young-earth creationism accept Scripture as their highest source of knowledge and absolute authority in all matters about which it speaks.

Ethical commitments

There is evil (death, pain, & frustration) in the world. Death, pain, and frustration entered the world because of Adam's rebellion against God (Genesis 3, 4:8, 6:5, 8:21; *Ecclesiastes 7:29*, *9:3*; *Mark 7:21–23*; *Romans 5:12*, *14*, *17*, *21*, *8:20–22*). The result is a radical incongruity between what the world and everything in it is and how it was originally intended or designed to be. Corruption and dysfunction are, in other words, hard realities of the world we are living in.
Part of man's constitutional nature are his moral faculties (*Romans 2:14–15*), which God implanted in him when He created him (*Ecclesiastes 7:29*). Ethical directions & morality are therefore grounded in the nature of God (*1 Peter 1:14-16*), and what God required for man is what He himself was and is. There is no better evidence for this fact than the command: "Be holy, for I am holy" (*Leviticus 11:44*; *1 Peter 1:16*).

The Central Characteristics of Theistic Evolution

Introductory remarks

While the writer acknowledges that some theistic evolutionists are not comfortable with the words "theistic evolution," it will be retained in this paper for a single reason: whereas some proponents of theistic evolution such as Collins (2007), and Giberson and Collins (2011) prefer BioLogos, and others such as Denis Lamoureux (2010a) prefer "evolutionary creation," they all share their three core beliefs with other variants of theistic evolution, such as the emergentism, panentheism, process theism, or naturalistic theism of Barbour (1990), Clayton (2000; 2006), Griffin (2000), and the late Arthur Peacocke (2006).

"BioLogos," Collins (2007) informed his readers, is his "modest proposal to rename theistic evolution as Bios through Logos, or simply BioLogos" (Collins 2007, p. 203). This "synthesis" or middle-way between young-earth creationism and atheistic evolutionism, he says, is achieved through combining *bios*—the Greek word for "life" (the root word for biology and biochemistry), and *logos* — Greek word for "word," since "the Word is synonymous with God" as expressed in *John 1:1*.

Now it may be that the reader is not aware of it, but *bios* or life is not a word for mere biological life, although the Greeks may have thought of it such. I will explain. The word *nephesh*, the Hebrew word translated as *soul* occurs 756 times in the Old Testament (Pfeiffer, Vos, and Rea 1975, p. 1616). Not only is the word used in terms of reference to animals & humans, but also in reference to God. This is an important point, because proponents of theistic evolution are of the opinion that the soul is not what sets humans apart from animals (Green 2005; Jeeves 2005).1 Now if that is the case, then the soul is also not something that sets animals apart from God.2 When the word soul is used in reference to God, it refers to God as being an immaterial, transcendent self, fully capable of thinking, willing, feeling, desiring, and so on (cf. *Leviticus 26:11*, *30*; *1 Samuel 2:35*; *Job 23:13*; *Amos 6:8*). Since this is so, and the Word was with God and was God before the world came into being, it becomes difficult to reconcile life with biology. The reason is very simple: in His preincarnate state, Jesus had no material body, just as is the case with God the Holy Spirit. Jesus also said, "It is the Spirit that gives life; the flesh profits nothing; the words that I have spoken to you are spirit and are life" (John 6:63).

Moreland and Rae (2000) inform us that *nephesh* is always translated *psychē* and never *bios* in the Septuagint, the Greek translation of the Hebrew Bible. If *bios* is the Greek word for biological or physical health, why have the translators avoided translating soul (*nephesh*) into *bios* in the Septuagint? In the words of Moreland and Rae, this avoidance "is best explained by their recognition that *nephesh* refers to a transcendent, irreducible aspect of living things that goes beyond mere breath or physical life" (Moreland and Rae 2000, p. 30). The implication to be drawn from these facts is that it would be a mistake to assume that *bios* is a mere biological concept or one belonging to biochemistry.

It is important to know that advocates of theistic evolution/BioLogos adhere to what is known as the "scientific worldview," which Collins distinguishes from what he refers to as the "spiritual worldview" of the Bible (Collins 2007, pp. 1–6). In fact, Giberson and Collins contrast the "spiritual worldview" of values with the facts of science (Giberson and Collins 2011, p. 7). Contrarily, advocates of young-earth creation do not separate the values they find in Scripture from the propositional truth of its contents.3

However, Giberson and Collins expressed their regret that "many Christians cannot fully appreciate how science enriches our understanding of God's creation" because of an unfortunate misunderstanding that the scientific picture of the world isn't compatible with their belief that God created the world (Giberson and Collins 2011, p. 17).

What their scientific picture of the world entails is that "the world is made of invisible atoms" (Giberson and Collins 2011, pp. 16–17) and, as we have seen, that "evolution, properly understood, best describes God's work of creation" (Giberson & Collins 2011, p. 251). To claim otherwise, they say, is "illogical and philosophically preposterous" (Giberson and Collins 2011, p. 23). Let us examine their claim.

Professor of philosophy at the University of California (Berkley) John Searle, who is also a naturalist and physicalist, describes the main tenets of the scientific picture of the world, to which proponents of theistic evolution subscribe, as follows:

> Some features of this world view are very tentative, others well established. At least two features of it are so fundamental and so well established as to be no longer optional for reasonably well-educated citizens of the present era . . . These are the atomic theory of matter and the evolutionary theory of biology (Searle 1992, p. 86).

What we need to know is, if proponents of theistic evolution adhere to the same worldview advocating scientism, naturalism, and physicalism, why is God necessary to explain the origin of the world? If atoms and the evolutionary process serve as the answer to the question, as atheists, advocates of naturalism & members of BioLogos believe it does, then God has certainly become an unnecessary extra to explain the realities that exist, their natures, and their coming to be. This is neither an illogical nor a philosophically preposterous conclusion.

Pope lists, among other things, the following features of the evolutionary process:

1. The process is "blind," meaning that it is mindless, has no foresight, and can therefore not think and plan to achieve goals (Pope 2007, pp. 12, 56, 187);
2. The process is purely physical (Pope 2007, p. 56);
3. The process is productive; it produced human behavior (Pope 2007, p. 7) and species marked by contingency and chance (Pope 2007, p. 11);
4. The process is highly creative; it has the inherent capacity to "generate," for example, new kinds of entities (Pope 2007, pp. 7, 56).

Compare now Pope's description of the evolutionary process with how atheist Richard Dawkins (2006) describes his "maker":

> Natural selection, the blind, unconscious, automatic process which Darwin discovered, and which we now know is the explanation for the existence and apparently purposeful form of all life, has no purpose in mind. It has no mind, and no mind's eye. It does not plan for the future. It has no vision, no foresight, not sight at all. If it can be said to play the role of watchmaker in nature, it is the *blind* watchmaker (Dawkins 2006, p. 5; emphasis in the original).

What we need is an explanation: if there is no difference in their respective descriptions of the evolutionary process, why is it necessary for proponents of theistic evolution to insist that God must be part of the process, or better, "in" the process when Darwin's fundamental discovery was that the process is creative enough, "although not conscious" (Ayala 2007, p. 8573), to produce or create beings like ourselves? Giberson and Collins also said, "nature does things—often quite remarkable—without assistance from outside" (Giberson and Collins 2011, p. 134). Who is illogical and philosophically preposterous here?

Ontological commitments

Collins appears to have spoken for all theistic evolutionists when he says that in spite of "the many variants of theistic evolution, any typical version rests upon six premises" (Collins 2007, p. 200). For our purposes, of relevance are premises 4–6, which are worded as follows:

4. Once evolution got under way, no special supernatural intervention was required.
5. Humans are part of the process, sharing a common ancestor with the great apes.
6. But humans are also unique in ways that defy evolutionary explanation and point to our spiritual nature. This includes the existence of the Moral Law (the knowledge of right and wrong) and the search for God that characterizes all human cultures throughout history.

Collins then added:

> If one accepts these six premises, then an entirely plausible, intellectually satisfying, and logically consistent synthesis emerges: God, who is not limited in space and time, created the universe and established natural laws that govern it (Collins 2007, p. 200).

How could that be if it appears from the preliminary remarks that the theistic evolutionistic/scientific picture of the world can do without the Creator? At best, God has become an unnecessary explanation who has very little work to do. Moreover, if theistic evolution is congruent with Searle's naturalism, the scientific grand story, then theistic evolution must be understood as an expression of scientism and physicalism. Collins's commitment to scientism is unequivocally clear: "Science is the only reliable way to understand the natural world" (Collins 2007, p. 6).

If we now recall that proponents of theistic evolution and the scientific picture of the world describe both the evolutionary process and the laws that govern the universe as purely physical in nature, then it follows that only a physical specification will suffice to tell us what has happened in the past and is going to happen in the future. This means further that no atomist or evolutionist can appeal to any immaterial entity or supernatural intervention to explain anything at all in the world. Neither is such an appeal deemed necessary at all (see premise 4). But then, what is God doing, or has God done, in or through the evolutionary process? How can the spiritual nature of a human being "emerge" from or be caused by matter, or ape-like creatures, which were not spiritual or moral in the senses indicated by Collins (premise 6)? At what point in human evolution has a previously and supposedly value-neutral action (for example, one ape killing another ape over feeding or mating rights) become a "moral" one?[4]

If God is working in and through the evolutionary process; if God's role is/was that of supervisor of the process (Giberson and Collins 2011, pp. 122, 129, 205); if it would be a mistake to think that God was "in absolute control of every event" happening in this world (Pope 2007, p. 100), and a mistake to think that God engaged in reasoning in order to "steer courses of events in the desired direction," which means that "evolution does not have to be pre-programmed to be described as reflecting the divine plan" (Pope 2007, p. 102), then, why is there an appeal made to the Creator? If the earth emerged from the universe; if life emerged from the physical conditions on earth; if human beings emerged from hominids as products of a natural process, and if God is working in and through the evolutionary process (Pope 2007, pp. 11–12, 110, 267, 276), what was God doing in the process if He was supervising the process but not steering the events in the process? In exactly what sense was/is God in the process? Is God "in" the process like water in a glass? This cannot be, for water and a glass are indifferent to each other. Neither is it the case that water and a glass depend on each other for their mutual existence or explain each other. Is God metaphysically "in" the evolutionary process? If so, how can we distinguish between God, who is not a process, but a substance, from the process itself? Not only are these questions nowhere asked & answered by proponents of theistic evolution, but nothing about their understanding of God & the evolutionary process makes any sense. It is logically incoherent, to say the least.

Consider this. Giberson and Collins (2011) and Pope (2007) tell us that God is the primary cause of the universe, and the evolutionary process the secondary cause of things that came to be, but Pope also admits that "the notion of secondary causation is not found in Scripture" (Pope 2007, p. 104). But then there must certainly be a reason why that is so, especially since the secondary cause is equated with the evolutionary process. Yet, in an utter self-contradiction, proponents of theistic evolution believe that the theory of evolution, "properly understood," best describes how God brought this world and humans into being.

Let me clarify what Pope is telling us. "Primary cause" should not be taken as God acting first, and then the secondary cause later or that the secondary cause is the effect of God acting first. Far from it; primary "refers to a metaphysical relation, not a temporal sequence" (Pope 2007, p.105). In simple terms, this logically implies that God did not exist prior to matter and/or the evolutionary process. To put it another way, God exists with or alongside it, and was therefore as dependent on the process as the process was/is on God.

Do proponents of theistic evolution believe God created the world out of nothing (*ex nihilo*)? According to theologian and physicist Ian Barbour (1971) God has not. Pope (2007) reckons it is a mistake to identify creation with a temporal beginning of the universe (Pope 2007, p. 101). This view, they hold, wrongly implies that God exists outside of nature, or "Mother Nature", as Giberson and Collins (2011, p. 130) also refer to nature. It would therefore be a further mistake to think of the process in terms of a plan or strategy God implemented to achieve His goals. Again, why has God been placed "in" the process when He supervised the process, but not controlling, planning, or knowing its outcomes (Pope 2007, p. 94)? Who, or is it what, is this "God" proponents of theistic evolution describe to us?

> Giberson and Collins tell their readers that God is an artist bringing beauty from ugliness and order from disorder . . . the world is good (*Genesis 1:31*). The pinnacle of that goodness is humankind, made in God's image and charged by God to be caretakers of the creation (Giberson and Collins 2011, p. 102).

These are highly misleading statements. First, *Genesis 1:31* does not teach that God created the world "good," but "very good." Second, these statements create the false impression that Giberson and Collins believe in the literal truth of Genesis 1–3, when they do not. While they appear to accept a literal interpretation of the "good world" God created, they seem to ignore what "very good" in the context in which it appears implies and entails: the creation could not have been very good if there was "ugliness" and "disorder" in the world prior to when the Creator uttered the words "very good."[5] They therefore assume their conclusion is correct before an argument is offered in support of it. Third, they accept the literal truth of "humankind as the pinnacle of that good creation" at the same time as they do not believe that Genesis 2 provides actual descriptions of the creation of Adam and Eve (Giberson & Collins 2011, p. 206). Similarly, Pope (2007) believes that Adam and Eve were not literal people; Lamoureux (2010b) believed Adam never existed, and Brannan (2007) suggested that we think of Adam as a child, who was unable to distinguish between right and wrong, therefore not responsible for the death, pain, and suffering that entered the world. Their declarations are therefore a highly arbitrary affair. And lastly, their conception of the Creator is also not consistent with the character of the Creator revealed in Scripture. If God created order out of disorder, then we need to know where the disorder came from, or who or what was responsible for the disorder. And if God was working in and through the evolutionary process and

capable of creating disorder, then surely He must have been able to create order without disorder in the first instance. The impression we are left with is that our Creator is not really almighty, never mind not absolutely intelligent.

Lamoureux who holds three doctorates—in dentistry, evolutionary biology, and evangelical theology—categorically stated that science "reveals *how* the Creator made" the world, "while the Bible [reveals] precisely *who* created it" (Lamoureux 2010a, p. 45). From this follows that every single person on earth who read the opening chapters of Genesis, including our Lord, believed falsehood until Darwinists appeared on the scientific landscape to reveal to us how God actually created the world. Lamoureux, it seems, has unconsciously asked us not to take him seriously, therefore we will not. Yet, he expects us to take him seriously when he said he "uphold[s] the Scriptural and Christian view of intelligent design" (Lamoureux 2010a, p. 32). Closer scrutiny reveals that proponents of theistic evolution give us reasons to think exactly the opposite. The "God" they describe to us not only lacks the intelligence to clearly communicate how He created the world; He not only withheld from us how He created the world; He is not only not really in control of the evolutionary process or every event that is happening in the world, but also does not need to know small details in, of, or about the evolutionary process (Giberson and Collins 2011, p. 121). We can therefore not accept their god as the Creator of the world.

Giberson and Collins also tell their readers that they commit a categorical mistake to think of the Creator of the world as we think of human designers. To refer to the "Creator" is "God talk" in metaphorical terms (Giberson and Collins 2011, p. 120), they say. If these two proponents of theistic evolution would think of the Creator as infinitely wise, that His knowledge is exhaustive, and that His thoughts are all-encompassing, then we cannot but agree. If, however, they mean the designation "Creator" in Scripture (cf. *Ecclesiastes 12:1*; *Isaiah 40:12–14*, *26*, *28*, *43:15*; *Romans 1:25*; *1 Peter 4:19*) is a term that is the product of human language or perception, then they are mistaken. Scripture indicates that ". . . we are His workmanship, . . ." (*Ephesians 2:10*), created in His image and "according to [His] likeness" (*Genesis 1:26–27*; *James 3:9*). It is therefore no accident that *1 Corinthians 2:11* reveals a similarity between man and God: the spirit of man is to man as the Spirit of God is to God. Thus, knowledge and thoughts, which entail intelligence, are predicated of both man and the Holy Spirit. Moreover, the Bible speaks of "Bezalel the son of Uri" whose source of wisdom, understanding and knowledge of craftsmanship—"to make designs" and "to perform in every inventive work," for example, the work of ". . . an engraver and of a designer and the tapestry maker, . . ."—was the Spirit of God (*Exodus 35:31–35*). What these facts show is an analogy between the Creator and human persons in virtue of the fact that humans bear similar features to their Creator—literally.[6] Therefore, to refer to the "Creator" as "God talk" in metaphor terms is false.

What makes us human? Giberson and Collins speculate that "various human characteristics might be built into the evolutionary process" (Giberson & Collins 2011, p. 204), but their speculation is totally without foundation. If humans descended from hominids, as evolutionists believe they did, then we will be unable to say where "humans" began & where they end. To hold that the Creator somewhere along the evolutionary process infused some ape-like creature with a soul (or the image of God) would be (1) to contradict Collin's premise 4, or (2) amount to accepting that the Creator performed a miracle. If proponents of theistic evolution opt for (2) as well as that our Lord and Savior's resurrection from the dead was a miracle, then there is absolutely no reason not to accept that Adam was created directly and immediately by the Creator from the dust of the earth, separately from animals, and in mature form (*Genesis 2:7*). In other words, advocates of theistic evolution register an inconsistent view of what our all-powerful Creator is able to do and has done. But if we have to take Giberson and Collins seriously, then where one kind of nature begins and another ends in its evolutionary development is wholly arbitrary. The logical implication is that there simply is no such thing as a human nature. It follows that it is inconsistent for proponents of theistic evolution to even refer to or talk about human nature.[7]

In any case, proponents of theistic evolution know very well they cannot admit the discontinuity between animals and humans: "The outstanding characteristic of an essence [essential nature] is its unchanging permanence. If species had such an essence, gradual evolution would be impossible" (Hull 1989, pp. 74–75; cf. Mayr 1987, p. 156).

But that creates a further problem for evolutionists. If the process is purely physical & mindless, how can an immaterial soul & mind "emerge" from matter? Ironically, in opposition to ontological reductionism, certain proponents of theistic evolution proposed their own version of physicalism, which they call "emergent materialism" or "material emergentism" (Pope 2007, pp. 170, 172).

It is an evolutionary & materialist position that is variously known as nonreductive physicalism, "Christian physicalism" (Murphy 2006b), emergent monism (Clayton 2000; 2006), & double-aspect monism (Jeeves 2005). The core premise of material emergentism can be stated as follows:

The evolutionary process is best explained as the gradual emergence of radically new kinds of entities that cannot be reduced to the matter and material processes from which they emerged (for example, soul from body, and mind from brain, see Pope 2007, pp. 47, 67, 70, 115, 137, 153).[8]

Thus, there is no such thing as a pure spiritual mental being because there is nothing that can have a mental property without having a physical property, and whatever mental properties an entity may have, they emerged from, depend on, and are determined (caused) by matter.

As a first response it should be said that a review of criticisms advanced against Christian physicalists (nonreductive physicalists) have shown that if their thesis, that the human person is identical to his body/brain or is just a property of the brain is true, then sameness of identity through change will be impossible, which means that the resurrection and life after death will be incoherent notions (Delfino 2005), the existence of angels, Satan and demons become an illusion (Garcia 2000), free will and eternal life will be incompatible with Christian physicalism (Larmer 2000), and most important of all, the Incarnation of Christ cannot be true (Siemans 2005). The second response is, if the soul is an immaterial entity, radically different in kind from the material (hominid) body from which it "emerged," then there is no logical reason to preclude the idea that angels (God's ". . . ministering spirits . . ." [*Hebrews 1:14*]) could have emerged from hominids. But if emergent physicalists preclude this possibility then it becomes an incoherent and self-defeating notion. What originates or comes to be from the physical by means of the physical can only be physical. To deny the principle is illogical.
It seems that immaterial entities such as the soul, spirit, mind, and unchanging natures are not natural phenomena for "Christian" physicalists, and are therefore not consistent and at home with theistic evolution. There is therefore only one-way proponents of theistic evolution can overcome their problem, and that is to reduce a human person to a body or brain. But that will not do, for God is complete person without a body and brain. God is also the first Person in a series of subsequent persons—angelic and human—therefore able to have passed on what He already possessed, namely, personhood.

Etiological commitments

Giberson and Collins (2011) state that a "compelling explanation of the origin of life here on earth has not yet emerged" (Giberson and Collins 2011, p. 174). In blatant contradiction to what the Bible asserts, they hold that "the Bible does not specify that God uttered a unique command, one at a time, for each new species" (Giberson and Collins 2011, p. 122). Yet, they must have had evidence when they asserted that "God's Spirit guides the progression of life" (Giberson and Collins 2011, p. 122). And what that evidence is we are not told. We shall later see that this is a classic example of what I will refer to as a card-stacking approach to Scripture. But, and again, if the Spirit of God is able to guide the progression of life, why are we told He did not control or plan it? Since when can it be said of this Person (or human person, for that matter) that He guides[9] a process without controlling or planning, for example, what He has to avoid and what not? Could God not have decided that a human must have four arms instead of just two?

Recall that proponents of theistic evolution adhere to the "scientific worldview." Now if atoms, the most basic building blocks of matter, are purely physical in nature, as is also the evolutionary process, how can lifeless and unconscious matter cause life and consciousness to "emerge?"[10] Pan-psychists (Skrbina 2005) and pan-experientialists (Griffin 1997) realized that this question creates insurmountable obstacles for proponents of theistic evolution. They therefore postulate that all objects in the universe have an inner or psychological nature; physical reality is conscious; mind is a characteristic of the world and atoms have experiences.[11] They had, in other words, the insight to see that a first member in any series of subsequent members can only pass on what it itself possesses. This suggests that proponents of theistic evolution should seriously consider the fact that they are no longer theists, at least not in any biblical sense of its meaning, but indeed panpsychists, if not pantheists.

Epistemological commitments

Lamoureux writes that Genesis 1–2 reflects the "science-of-the-day in the ancient Near East, and this calls into question historicity [sic] the creation of humans as stated in the Bible" (Lamoureux 2010c, p. 1). "None of these 'explanations' can possibly be actual descriptions," said Giberson and Collins (2011, p. 206). It is evident that proponents of theistic evolution place science in some upper story of facts while lowering the teachings of Scripture to mere belief *that* God created the world. Lamoureux even quotes Scripture in support of the fact that he and fellow advocates of theistic evolution are blatantly ignoring the facts of the Bible. This is how he put it:

> The greatest problem with evolutionary creation is that it rejects the traditional literal interpretation of the opening chapters of Scripture. Even more troubling for evolutionary creation is the fact that the New Testament writers, including Jesus Himself, refer to Genesis 1–11 as literal history (*Matthew 19:4–6*; *Romans 5:12–14*; *Hebrews 4:4–7*; *2 Peter 2:4–5*). Therefore, the burning question is: 'How do evolutionary creationists interpret the early chapters of Holy Scripture?' (Lamoureux 2010a, p. 34).

What is Lamoureux doing here? He acknowledged the exalted nature of Scripture by referring to it as "Holy;" he acknowledged that Genesis 1–11 was accepted by New Testament writers, including our Lord, as literal history, but then ignored everything he said. Proponents of theistic evolution leave us no alternative but to conclude that neither the Bible nor the Creator is consistent or at home with the worldview of theistic evolutionists.

Theologian and philosopher Nancey Murphy who teaches Christian philosophy at Fuller Theological Seminary has this to say about science:

> [F]or better or for worse, we have inherited a view of science as *methodologically* atheistic, meaning that science . . . seeks naturalistic explanations for all natural processes. Christians and atheists alike must pursue scientific questions in our era without invoking a creator . . . (Murphy 2007, pp. 194, 195).

Let us therefore be clear on this one point: proponents of theistic evolution make it impossible for biblical Christians to think they possess any knowledge of the world. On the one hand, proponents of young-earth creationism make a mistake to read Genesis 1–3 in a literal sense. On the other hand, they cannot consult science on questions of the nature of the soul and/or mind, for science cannot tell us anything about the existence of entities that cannot be studied by their methods. To put it slightly different, on the one hand, Scripture cannot make an appeal to knowledge. If it does, then it must wait until validated by or accepted by the scientific community. But on the other hand, scientists have already "discovered" that immaterial entities such as the soul, spirit, mind, self, I or me do not exist (Pinker 2002).

This is how Murphy expressed this "insight":

> [N]euroscience is now completing the Darwinian revolution, bringing the mind into the purview of biology. My claim, in short, is this: all of the human capacities once attributed to the immaterial mind or soul are now yielding to the insights of neurobiology. . . . [W]e have to accept the fact that God has to do with brains—crude though this may sound (Murphy 2006a, pp. 88, 96).

That the existence of an immaterial spiritual soul presents a huge problem for Christian physicalists there should be no doubt about. The real reason is simply this:

> Immaterial souls just do not fit with what we know about the natural world. We human persons evolved by natural selection . . . [which is] part of the natural order, but immaterial souls are not (Baker 2007, p. 341).

In short, Murphy and fellow proponents of theistic evolution realized that an immaterial soul and mind are not naturally at home with the scientific/atheistic evolutionary worldview to which they and proponents of naturalism adhere. It is therefore mistakenly assumed that neuroscience confirms their physicalism when it does not (see Beauregard and O'Leary 2007; Moreland 2008).[12] Yet their mission remains singleminded: to convince Christians that a human being is nothing more than a body/brain. The question is, at what price? Contrary to Christian physicalists who find it uneasy ("unnatural") to accommodate immaterial soul and mind in their worldview, it is perfectly consistent and at home with young-earth creationism. Thus, any denial of the existence of these entities constitutes a serious compromise of Scripture and is not a price advocates of young-earth creationism have to pay.

Ethical commitments and theodicy

It was noted previously that advocates of theistic evolution can't uphold the atomic theory of matter without conceding that matter is also equipped with life and mind, in which case they must become panpsychists. We have also noted their challenge, and that is to explain how life can come from non-life and how something non-physical can "emerge" from something physical. Exactly the same challenges await proponents of theistic evolution in the area of human morality. That they realized that human morality presents a problem to their etiology there is no doubt:

"Morality cannot be grounded in atoms and molecules" (Giberson and Collins 2011, p. 144). This means that neither can the moral sense of "rape is wrong" be grounded in human evolutionary history. It therefore becomes logically inconsistent to argue that life, consciousness, mind, and mental capacities can emerge from matter, but not morality. One needs appropriate capacities to execute what is in accordance with one's nature.

Pope has quite a number of things to say about human nature, human capacities, and morality from an evolutionary perspective.[13] Two things require mention. First, morality itself did not evolve (Pope 2007, p. 250), but is nevertheless the result of the evolutionary process. Second, any view that regards either God or evolution as the sole source of morality will be unacceptable to the theistic evolutionist (Pope 2007, p. 265). By now we know the reason: God depends on the process as much as the process depends on God. One comment will suffice. If it is a sound principle that a first member in any series of subsequent members can only pass on that which it itself possesses, then it is inconsistent for Pope to say that we did not inherit our moral sense from so-called hominid ancestors. The alternative explanation would be one that accords with Scripture, and that is that the Creator of human beings is the Cause of their moral natures.

What about evil? First, proponents of theistic evolution hold that "the problem of evil . . . has no satisfactory answer whatsoever" (Giberson and Collins 2011, p. 128). Second, proponents of young-earth creationism are simply wrong to "propose" that "no animals were carnivorous before the Fall" (Giberson and Collins 2011, p. 130). Third, to "ascribe the creation of anything in nature to Satan is to elevate Satan from a creature to a co-creator of the world with God" (Giberson and Collins 2011, p. 133). Fourth, "a God who creates by direct intervention must be held accountable for all the bad designs in the world" (Giberson and Collins 2011, p. 137). And finally, "If human sin is not the culprit responsible for all the evil in the world, what is?" (Giberson and Collins 2011, p. 132). Exactly! What is, if a literal understanding of Genesis 1–3 is out of the question, and when Satan, God, and sin are precluded from being possible causes of evil in the world?

The answer is short: the evolutionary process (Giberson and Collins 2011, p. 137; Pope 2007). It creates another problem for theistic evolution.14 Again, what is/was God doing in and through the process, and how can the process produce evil if the Holy Spirit guided the process? The logical implication is that the Holy Spirit was misguided or less than omnipotent to control or steer the process. That is the illogical implication of their worldview. Whatever alternative advocates of theistic evolution would pick, it will be against the clear facts of Scripture.
What I will do next is to take a look at how proponents of theistic evolution exhibit the character of the Creator, how committed they are to Scripture, and precisely how they manage to find a fit between Scripture and atheistic evolution.

Theistic evolutionists and the character of God, their commitment and approach to Scripture, and their self-defeat

Whether they do this intentionally or unconsciously we do not know, and is also beside the point, but it appears that some theistic evolutionists don't see a problem in creating impressions that there is something suspect with Scripture and/or the character of the Creator. I offer three examples in support of the statement.

Lamoureux (2010a) believes the Spirit of truth (*John 14:17*, *15:26*, *16:13*), who inspired Scripture (*2 Timothy 3:16*), accommodated Himself to the misguided "scientific understanding" of the ancient world and, by so doing, allowed it to be recorded in Scripture. If that is the case, then the Spirit of truth has become a deceiver; the Holy Spirit allowed our Lord and Christians to put their trust and faith in nonsense or absurdity and waited patiently for more than 1,850 years for inspired "prophets" of Darwinism and anti-biblical worldviews to reveal to us how God actually brought human beings into the world.15 He leaves us no option but to think that his explanation binds good and evil into one place; he mixes what should be kept apart.
The second example is found in the writings of psychiatrist Dr. Curt Thompson. At the same time that he acknowledges that God "breathed into [Adam's] nostrils" and that God was doing the "job himself," Thompson tells his readers that it is "not particularly sterile, if you think about it" (Thompson 2010, p. 206). This writer has indeed thought about it, and wondered why we should think it was something infectious or even disgusting, given the nature of the Creator and the fact that humans breath through their nostrils if and when not through their mouths.

The third example comes from the lips of Murphy. She believes that Numbers 22 has no "historical content. It is a violation of the nature of a donkey to make it speak" (Murphy 2005, p. 8). Why she chose such a strong word as "violate" in reference to the Creator when she is consciously quoting the Bible in which it is recorded, she nowhere says. My *Oxford Paperback Dictionary* reflects the following meanings of the word: "to break and act contrary to; to treat with irreverence and disrespect; to disturb; to rape." However, if she is right in what she asserts, then the following never happened: ravens never brought Elijah bread & meat (*1 Kings 17:4–6*), lions were not prevented from killing a man who honored his Creator more than man and a false god (*Daniel 6:22–23*), and a fish was never instructed to spew out what it was instructed to swallow (*Jonah 1:17*, *2:10*). But if it did happen, then we must accept that God is somehow a violator of sorts.

To justify their beliefs they must do two things. The first, they must adopt a card-stacking approach to both Scripture and scientific data. Card-stacking "ignores evidence on the other side of a question. From all the available facts, the person arguing selects only those that will build the best (or worst) possible case" (Troyka 1996, pp. 146–147).16 Prominent professor of evolutionary biology Jerry Coyne at the University of Chicago concluded his review of two books by theistic evolutionists this way: "Attempts to reconcile God and evolution keep rolling off the intellectual assembly line. It never stops, because the reconciliation never works" (Coyne 2009).

The second thing proponents of theistic evolution must do in order to justify their beliefs, is to (a) establish a biblical standard of acceptability for their assertions, (b) place themselves under that standard of acceptability, and then (c) fail to meet that standard of acceptability. Here is one more example that will demonstrate the points just made.

Giberson and Collins (2011) are telling their readers they

> are evangelical Christians, committed to the historic truths of Christianity and the central role of the Bible in communicating those truths. But as scientists, the authors are mindful that the changing understanding of the natural world invites continuous reconsideration of some of those truths . . . (Giberson and Collins 2011, p. 7).

The implication is that Scripture is subject to a continuous revision, contrary to Jude 3. On page 102 of their book the authors bring the following to light:

> [W]e do a great disservice to the concept and power of inspiration when we reduce it to mere factual accuracy, as though God's role were nothing more than a divine fact checker, preventing the biblical authors from making mistakes.

It is on page 206 where the reader finds what the authors had in mind when they wrote these words. That

> Adam was created from dust and God's breath; Eve was created from Adam's rib; the animals, fish and birds were created by divine commands: "let there be . . ." None of these "explanations" can possibly be actual descriptions.

It would be useful to note what the late Dr. Henry Morris (2000) wrote in reference to statements such as those made by Giberson and Collins:

> To judge such a full-grown creation as impossible or unscientific is equivalent to saying God could not create, and this would be equivalent to atheism (Morris 2000, p. 24).

It should be evident that the card-stacking approach of theistic evolutionists and their failure to adhere to their own standards are inconsistent with being a biblical Christian. It is utterly self-defeating.

Conclusion

Theistic evolution is not consistent with the biblical picture of the world and how things came to be, and neither is God at home in the theistic evolution/ scientific picture of the world, just as atheists are contending. Proponents of theist evolution have reasons to think they are panpsychists, if not pantheists, or at least a version thereof. To state that God is in a natural process, yet also transcends the natural world is nothing more than empty words when your descriptions of Him reduce Him to anything less than what the Bible describes Him to be.
If God is the first Person in a series of subsequent persons — angelic and human — then spirit, mind, mental states, consciousness, and morality are not natural phenomena, and are therefore not at home with theistic evolution. It is for this very reason that proponents of theistic evolution must either reject the existence of immaterial souls, spirits, minds & human nature, or accept that a human being is constituted by two radically different ontological kinds of things: an immaterial spiritual soul and material body. Moreover, once the existence of these phenomena is denied, then one cannot refer to them to explain anything about human beings, including the fact of a disembodied existence in an intermediate state between death and the resurrection of the dead at the second coming of Christ.

If a process is blind, mindless and unconscious, then a process cannot think about the difference between good and evil, and are therefore unable to select one or the other; the distinction is invisible to such a process. On the other hand, if the Holy Spirit guided the process, as proponents of theistic evolution hold, then God must be the cause of evil in the world and less than omnipotent.

We conclude that the worldview of theistic evolution does not provide a coherent description, explanation and understanding of the kinds of entities that exist, their natures, their coming to be, the cause of evil in the world, and how it can be known. Neither is theistic evolution reconcilable with Scripture. There is therefore only one way proponents of theistic evolution can escape the illogical implications of their beliefs, and that is to give up theistic evolutionism and adopt a historical-grammatical interpretation of Genesis 1–3.

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Footnotes

1. Professor Joel Green, who teaches New Testament theology at Fuller Theological Seminary, says: "[W]e err when we imagine that it is the 'soul' that distinguishes humanity from non-human creatures" (Green 2005, p. 3). Neuropsychologist Malcolm Jeeves's argument is simply that "the word translated 'soul' in *Genesis 2:7* is a word that has already appeared in *Genesis 1:20*, *21*, *24*, *and* *30* where in every case it refers to animals . . ." (Jeeves 2005, p. 172). These views are not views from nowhere. This is how Charles Darwin expressed them in 1871: "The ground upon which this conclusion rests will never be shaken, for the close similarity between man and the lower animals . . . are facts which cannot be disputed . . . He who is not content to look, like a savage, at the phenomena as disconnected, cannot any longer believe that man is the work of a separate act of creation . . . [T]he conclusion is that man is the co-descendant with other mammals of a common progenitor (Baird and Rosenbaum 2007, p. 70).
2. Christian philosopher Peter van Inwagen said this about himself: "I will say only that when I enter most deeply into that which I call *myself*, I *seem* to discover that I am a living animal" (van Inwagen 1995, p. 475).
3. To see why this dichotomy is not biblical, the reader is referred to Kulikovsky (2009, pp. 18–29, 31–33) and Pearcey (2005).
4. For a detailed discussion of why theistic evolutionists are unable to explain the origin of morality, see Joubert (2012a).
5. See Lubenow (1998). About those who hold to the "scientific" millions of years of creation, "death, pain, and suffering in Genesis 1." James Stambaugh wrote: "They try to hold to some of the orthodox moorings of Christian theology, yet they include many doctrines that contradict what they say they believe" (Stambaugh 2008, p. 385).
6. Two crucially important points in the analogy are these: (1) consider the ways the two beings are like each other and the ways they are different, and (2) consider whether the comparison is relevant to the analogy being used. My few Scripture references reveal that the Spirit of God and the spirit of man are similar and dissimilar in various ways, which means that both the quantity and quality of the respects of resemblance are relevant to the analogy. I conclude that Giberson and Collins's argument serves to weaken or obscure the analogy of design and intelligence; their thought resembles more the blind watchmaker thesis of atheist Richard Dawkins (2006) than the thought revealed by Scripture.
7. Theistic evolutionist and philosopher Donald Wacome stated, to have been able "to function as his [God's] agents [that is, Adam and Eve] in the created world, representing him as they exercise dominion over the creation . . . [makes it] reasonable to suppose that human beings performing these functions presupposes their having certain characteristics" (Wacome 1997, p. 7). While he is prepared to grant that no "convincing scientific theories of how we came to have these characteristics are generally currently available" and that "these characteristics comprise the image of God," it "adds nothing to the argument against the possibility of a naturalistic [evolutionary] explanation . . ." (Wacome 1997, p. 7).

The problem is that Wacome does not offer us an explanation of how blind, mindless processes with no consciousness can produce entities with a mind and consciousness. Moreover, if nature consists entirely of physical processes, then it follows that from the physical by means of the physical only the physical can come. But since Wacome believes that no "plausible interpretation of the imago Dei [image of God] maintains that it is our physical resemblance to God that is involved here, since he [God] is not a material being" (Wacome 1997, p. 7), it follows that something is a person only if there exists a relevant similarity to the supreme Person.

8. It is important to distinguish between emergentism as an ontological thesis and emergentism as an epistemological thesis. The latter view entails that new structures, patterns, and properties at any level in an ontological hierarchy or system are caused by the interaction between entities or parts at a level below it, irrespective of the number of levels postulated. Each higher level requires its own description, for instance, physics at the base, followed by chemistry, biology, psychology, and so on. The crucial point is, the "fundamental causal processes remain, ultimately, physical" (Clayton 2006, p. 6).
9. My *Oxford Paperback Dictionary* reflects the following meanings of guide: a person who shows others the way; one employed to point out interesting sights on a journey or a visit; an adviser, a person or thing that directs or influences one's behaviour; a book of information about a place or subject; a thing that marks a position, guides the eye, or steers moving parts. All of these meanings point toward the reality of rational action, agency, intelligence, knowledge, efficiency, and so on. However, none of these meanings fit the description of the Holy Spirit, if we take proponents of theistic evolution on face value. It is not only a clear indication that evolution defies commonsense, but is also totally at odds with the character of God described in the Bible.
10. Searle admits that, "The way that human and animal intelligence works is through consciousness" (Searle 1998, p. 31). But where consciousness originates from remains a mystery for the evolutionist. Professor of psychology and philosophy Margaret Boden said: "The existence of consciousness as such remains a mystery—at least, given our present state of knowledge . . . I agree . . . we have not the slightest idea how anything material could be conscious" (Boden 1998, p. 10). The good news is that consciousness is no mystery for the biblical Christian, for God is a personal and conscious Agent that communicates and acts, which is clearly evident from Scripture (cf. *Genesis 1:1*ff.).
11. It is arguably the case that panpsychism is the main rival to naturalism and "Christian physicalists." In a paper entitled *Realistic monism. Why physicalism entails panpsychism*, Professor of philosophy Galen Strawson stated that you are "not a real physicalist, if you deny the existence of the phenomenon whose existence is more certain than the existence of anything else: experience, 'consciousness' . . ." (Strawson 2006, p. 3). The panpsychist thesis is very simple: you cannot get A from non-A. That matter or atoms can be conscious and have experiences are therefore a brute (unexplainable) fact of reality. Put another way, the idea that B can "emerge" from A, if B is radically different than A in kind, is an incoherent notion. Anyone who denies that "emergence" is not an incoherent notion, Strawson said, "is a member of the Humpty

Dumpty army and [I will] be very careful with him" (Strawson 2006, p. 18).
However, proponents of panpsychism also face a number of challenges. Even if we grant that it is a brute fact that matter can be conscious and experiences feelings, precisely how has consciousness got into matter in the first place? If each and every part in a whole (for example, an organism) is conscious and is having experiences, then we need to know how the self/subject could be a unified conscious whole rather than a fragmented entity with lots of separate and individual conscious experiences. And if thought implies a thinker, and experiences implies an experiencer, then an aggregate of parts implies that thoughts and experiences are causing a self/subject to come into being, and that is absurd. No thought, no thinker, simple.

12. Elsewhere Murphy said that there is a "massive amount of evidence" which suggests that we no longer "need to postulate the existence of a soul or mind in order to explain life and consciousness" (Murphy 1998, p. 17). Her physicalist account of the mind, "nonreductive physicalism," is also a view many theistic evolutionists subscribe to, for example, psychologists Warren Brown and Malcolm Jeeves (1999), theologian Joel Green (2008), and ethicist Stephen Pope (2007).
The problems that Murphy has with immaterial entities such as the soul, spirit, and mind are also those of atheists. This is how professor of psychology Steven Pinker described it: since Darwin explained how life originated from the blind and mindless physical processes of natural selection, science overcame "one wall standing in the landscape of knowledge": the existence of the "ghost in the machine" (Pinker 2002, p. 31). "Science has now shown", he said, that entities such as "the self, the soul, the ghost, the person, the 'me'" (Pinker 2002, p. 42) do not exist. What is strange is that it escaped Pinker's attention that he continues to talk of self-knowledge without a conscious self who is the possessor of that knowledge! It is incoherent, to say the least.

13. Proponent of theistic evolution and professor of biology at Abilene Christian University Daniel Brannan quoted Canon Wilson who said, "To the evolutionist sin is not an innovation, but . . . incidental to an earlier stage in development [and sinful tendencies] were actually useful" (Brannan 2007, p. 196, fn. 24). So if humans evolved, then God must have intended for them to inherit a sinful nature as well as evolving a conscience to counteract the tendencies of the sinful nature. If this is true, then the so-called hominids were actually in a better state than their supposedly more developed humans after the Fall. This seems to make the requirement of conscience superfluous. Further, if sinful tendencies were useful prior to the Fall then evolution by natural selection actually caused a regress into a less than potent human condition.

14. At the end of the sixth day of creation our Creator declared his works "very good" (*Genesis 1:31*). If millions of years of death, suffering and "struggle" was a process set in motion by God, "who are too pure to approve evil" (*Habakkuk 1:13*), then God is not whom He revealed Himself to us; there is no sense in believing the Bible.

15. Andrew Kulikovsky said this about Lamoureux's kind of reasoning: "Theologians of a more liberal persuasion have longed believed that divine revelation necessitated the use of time-bound and erroneous statements . . . This is essentially another way of saying that Scripture is always wrong when it contradicts modern scientific conclusions" (Kulikovsky 2009, p. 37).

16. Theistic evolutionist and physicist Howard van Till raised a similar criticism against old earth creationists (that is, Christians who believe that the six-days of creation refer to billions or millions of years). This is how he put it:

> . . . old earth special creationism, by its choice to accept the scientifically derived timetable for cosmic history, is in the exceedingly awkward position of attempting to interpret some of the Genesis narrative's pictorial elements (interpreted as episodes of special creation) as historical particulars but treating the narrative's seven-day timetable as being figurative. I see no convincing basis for this dual interpretive strategy" (van Till 1999, p. 211).

Theistic Evolution and the Day-Age Theory

BY RICHARD NIESSEN |
SATURDAY, MARCH 01, 1980

Two elements are essential in any evolutionary scheme, whether it be theistic or atheistic: long periods of time and the assumed validity of the **molecules-to-man** evolutionary scenario. Atheists care little for the biblical account, except to ridicule its statements. Theistic evolutionists, however, profess a certain allegiance to the Scriptures & must attempt to harmonize the biblical account with evolutionary scenario. The biblical text, to the unbiased observer, indicates a universe & earth that were formed in six days; evolutionists suppose six billion plus years. The mechanism by which theistic evolutionists harmonize the two is known as the **day-age theory**.

The key term in this attempted harmony is the word **day** as it is used in Genesis 1. The Hebrew word for **day** is *yom*, and, we are reminded, it is used in a variety of ways: (1) the daylight period in the diurnal cycle as in Genesis 1:5, 14, 16, 18; (2) a normal 24-hour period; and (3) an indefinite time period as in Psalm 90:10.

A passage that is invariably appealed to is 2 Peter 3:8: "One day is with the Lord as a thousand years and a thousand years as one day." Also, it is claimed that too much activity took place on the sixth day (Genesis 2) to fit into a normal day: Adam's naming of thousands of animals, his perception of his loneliness, and the subsequent creation of Eve.

The claim, then, is that the **days** of Genesis 1 are really long periods of time, corresponding to the major periods of evolutionary geological history.

A Refutation of the Day-Age Theory

Most Bible-believing creationists maintain the day-age theory is an unbiblical option for the following reasons:

(1) *An improper interpretation of 2 Peter 3:8.*

It is axiomatic in hermeneutics (the science of biblical interpretation) that "a text without a context is a pretext." Just as a tape recording can be edited to make the speaker say whatever the editor desires, so the Scriptures can be juggled to suit a person's fancy or predisposition. For example, "And Jesus answered ... 'What is truth?' " (John 18:37 - 38). All the above words are straight from the Bible, but a closer examination discloses that it was actually Pilate who uttered the statement, and that the intervening words have been "edited" out.

2 Peter 3:3-10 is a unit. The context speaks of scoffers in the last days who will ridicule the second coming of Jesus Christ. Their rationale is uniformitarian in nature: Jesus promised to come quickly, He has not come yet, therefore He is not going to come at all. Peter refutes these uniformitarian assumptions with a reference to the Great Flood and the certainty of judgment for these scoffers. Then, responding to the charge that Christ has failed to fulfill His promise, Peter writes the words in question, and concludes by reaffirming the certainty of the second coming of Christ.

Verse 8 was never intended to be a mathematical formula of 1=1000 or 1000=1. The point is that God created time, as well as the universe, and therefore stands above it (cf. Hebrews 1:2). While we mortals think 1000 years is a long time, God can scan 1000 years of history — past and future — as quickly as we can scan from one end of the horizon to the other. This very verse could’ve equally been worded, "Five minutes is with the Lord as ten thousand years," and still have conveyed the same message. Note the use of the word *as*, describing similarity, is not the same as an equal sign. Conversely, God is able to do in one day what would normally require a thousand years to accomplish.

A pertinent suggestion here, in light of the passage's reference to Creation and the Flood, is a possible allusion to the flood's rapid buildup of the sedimentary layers of the so-called **geologic column**. One day's flood activity could build up layers of sediments that would normally take a thousand years to form by uniformitarian (slowly acting) processes.

2 Peter 3:8 has nothing whatever to do with the length of the creation week. Genesis 1 needs to be interpreted in its own context and not by an irrelevant verse written 1500 years later.

(2) *The inadequacy of a thousand-year **day**.*

Let us grant, for the sake of discussion, the math formula that theistic evolutionists desire. In that case, day one is the first thousand years of earth's history, day two the second thousand years, etc. Consistency would logically dictate that each of the six periods be the same length, resulting in a 6000-year period of creation from nothing to Adam. But 6000 years is only a drop in the bucket compared to the time required to make the evolutionary system work. A lack of a vast time period is the death knell of the evolutionary process. So, let us try 1 day equals 10,000 years. No, 60,000 years is not enough time either. How about 1 day equals 100,000 years? 1 million years? 10 million years? 100 million years? One billion years? Ah, yes, that does it for the required time! But what does it do to language as a good tool to communicate meaningful information? If words have this kind of infinite flexibility, then the art of communication is indeed a lost cause. These tactics would be laughed to scorn if they were attempted in any other field of study. We should certainly not tolerate them in the study of God's Word.

It appears that 2 Peter 3:8 is merely the wedge used to get the camel's head into the tent. The Hebrew word *olam* was available to communicate the idea of a long time period if Moses had intended to convey that idea. And the Hebrew word *yom* was available had he wanted to convey the idea of a 24-hour day.

(3) *The demands of primary word usage.*

Every language has certain words that are used, in different contexts, with different meanings. For example, *Webster's Dictionary* defines the noun **ship** as follows:

ship (n) 1: a large seagoing boat 2: airplane 3: a ship's officers and crew. If you were able to see the noun form of ship, in isolation and without a context, which of the three definitions would first come to mind? Obviously the definition listed as #1, or the primary definition of the word. If the context absolutely demanded it, #3 could be used, but it would certainly be an unusual usage of the word.

It is likewise in the biblical languages. The lexicons (Greek & Hebrew dictionaries) list the words and then the definitions in descending order of usage. The translation of Greek and Hebrew is not accomplished by the casting of lots, nor by the spin of a roulette wheel. The primary use of any term is always given priority in any translation and secondary uses are tried only when the primary usage does not make sense in the context in which the term is set.

The Hebrew word *yom* is used more than 2000 times in the Old Testament. A cursory examination reveals that in over 1900 cases (95%) the word is clearly used of a 24-hour day, or of the daylight portion of a normal day. Many of the other 5% refer to expressions such as "the day of the Lord" (Joel 2:1) which may not be exceptions at all, since the second coming of Christ will occur on one particular day (1 Corinthians 15:51-52), even though His reign extends over a longer period of time.[1] Therefore, even without a context, an unbiased translator would normally understand the idea of "24-hour period" for the word *yom*.

(4) *The demands of context*.

Words generally do not hang in space and in isolation from other words. When they appear in writing, they are always surrounded by other words which serve as modifiers and/or clarifiers. Let us take the word **ship** used as an illustration in the last point. It is only necessary to add two words to not only differentiate between the noun and the verb forms, but to clarify which of the uses is intended within that form. For example: "The ship flew." The definite article identifies the form as a noun; the verb identifies the secondary usage of the word as an airplane rather than a boat.

We need not belabor the point by multiplying examples here. If I write: "I spaded the garden on my day off," it is clear from the surrounding words that this activity is confined to one particular day. So, it is in Genesis 1: all the surrounding words convey, to the unbiased reader, the idea that each activity is confined to one of the particular 24-hour days of this creation week.

(5) *The numerical qualifier demands a 24-hour day*.

The word "day" appears over 200 times in the Old Testament with numbers (i.e., first day, second day, etc.). In every case, without exception, it refers to a 24-hour day. Each of the six days of the creation week is so qualified and therefore the consistency of Old Testament usage requires a 24-hour day in Genesis 1 as well.

(6) *The terms "evening and morning" require a 24-hour day*.

The words **evening** (52 times) and **morning** (220 times) always refer to normal days where they are used elsewhere in the Old Testament. The Jewish day **began** in the evening (sunset) and **ended** with the start of the evening the following day. Thus, it is appropriate that the sequence is **evening-morning** (of a normal day) rather than opposite **morning-evening** (= start and finish). The literal Hebrew is even more pronounced: "There was evening and there was morning, day one. . . . There was evening and there was morning, day two," etc.

(7) *The words "day" and "night" are part of a normal 24-hour day*.

In Genesis 1:5, 14-18, the words **day** and **night** are used nine times in such a manner that they can refer only to the light and dark periods of a normal, 24-hour day.

(8) *Genesis 1:14 distinguishes between days, years, and seasons.*

And God said, "Let there be light-makers in the expanse above to divide the day from the night, and let them be for signs, and for the determination of *seasons* and for *days* and for *years*.

Clearly the word **days** here represents days and **years** represents years and **seasons** represents seasons. It is a **red herring** to claim that, if the sun did not appear until the fourth day, there could be no days and nights on the first three days. The Bible clearly says that there was a light source (apparently temporary in nature, Genesis 1:3), that there were periods of alternating light and darkness (1:4-5), and that there were evenings and mornings for those first three days (1:5, 8,13).

(9) *Symbiosis requires a 24-hour day*.

Symbiosis is a biological term meant to describe a mutually beneficial relationship between two types of creatures. Of particular interest to us are the species of plants that cannot reproduce apart from the habits of certain insects or birds. For example, the yucca plant is dependent upon the yucca moth, and most flowers require bees or other insects for pollination and reproduction. The *Calvaria* tree, on the Mauritius Islands, was totally dependent upon the dodo bird to ingest its seeds, scarify its hard coating, and excrete the seeds before germination could take place. Since the dodo bird became extinct in 1681, no reproduction of this tree has taken place. As a matter of fact, the youngest trees are 300 years old! Many additional examples could be cited. According to Genesis 1, plants were created on the third day (vv. 9 - 13), birds on the fifth day (vv. 20 - 23), and insects on the sixth day (vv 24-25, 31).

Plants could have survived for 48 or 72 hours without the birds & the bees, but could they have survived 2-3 billion years without each other according to the day-age scenario? Many birds eat only insects. Could they have survived a billion years while waiting for the insects to evolve?[2] Hardly.

(10) *The survival of the plants and animals requires a 24-hour day*.

If each **day** were indeed a billion years, as theistic evolutionists require, then half of that **day** (500 million years) would have been dark. We are explicitly told in verse 5 that the light was called **day** & the darkness was called **night**, and that each day had one period of **light-darkness**. How then would the plants, insects, and animals have survived through each 500 million year stretch of darkness? Clearly a 24-hour day is called for.

(11) *The testimony of the fourth Commandment*.

It is a marvelous thing to observe the unity of the Scriptures and the orderliness with which God carries out His plans. Have you ever wondered why there were six days of creation, rather than some other number? In the light of the apparently instantaneous creation of the new heavens and new earth of Revelation 21, and the instantaneous nature of the miracles of the New Testament, why is it God takes **as long as** six days to create everything? And why is it that God rested on the seventh day? Was He tired after all this exertion? No, Psalm 33:6-9 state that "the heavens were made by the Word of the Lord . . . He spoke and it was done. He commanded and it stood fast." There is no hint of exertion here. Genesis 2:2-3 merely means that He ceased working because the created order was completed, not because He was tired.

The commentary on these questions is found in Exodus 20:8-11, and it reads as follows:

verse 8 - Remember the sabbath **day**, to keep it holy.

verse 9 - **Six days** you shall *labor* and do all your work,

verse 10 - But the **seventh day** is the sabbath (rest) of the Lord your God. In it you shall not do any work...

verse 11 - **For** in **six days** the Lord **made** heaven and earth, the sea, and all that is in them and rested on the **seventh day**...

Verses 8-10 speak of man working six days and ceasing from his work on the seventh. These are obviously not eons of time, but normal 24-hour days. A key word in verse 11 is **for**, because it introduces the rationale or foundation for the previous command. It continues by equating the time period of creation with the time period of man's work week (six days plus one day) and states that God Himself had set the example in Genesis 1. That indeed is the reason why the creation week was 7 days — no more, no less. The passage then becomes nonsense if it reads: "Work for six days and rest on the seventh, because God worked for six billion years and is now resting during the seventh billion-year period." If God is resting, who parted the waters of the Red Sea in Exodus 14? And what did Jesus mean in John 5:17 when He said, "My Father has been working until now, and I myself have been working"? Sometimes the claim is made by the theistic evolutionists that we do not know how long the days were way back in Genesis 1. In the first place, Genesis 1 was not **way back**, but was only a few thousand years prior to the writing of Exodus. Since the earth is constantly slowing down in its rotation, the early earth would have been spinning faster and therefore the days would have been shorter, not longer.

But the day-age people have overlooked something even more obvious here: Genesis 1 and Exodus 20 were written by the same author — Moses — at about the same time (ca. 1500 B.C.). Therefore, the common authorship of both passages is evidence that he had the same time period in mind when he used the word **day**. Furthermore, we might note that the Fourth Commandment was actually written by the finger of God Himself on tablets of stone (Exodus 31:18; 32:16-19; 34:1, 28, 29; Deut. 10:4). If anyone should have known how long the days were, it should be the Creator Himself!

(12) *The testimony of the rabbis.*

The Talmudic literature contains commentaries on virtually every passage in the Old Testament. The liberties they take in interpreting some passages boggle the imagination and yet one thing is certain: they are unanimous in accepting a normal, 24-hour day for Genesis 1. If there were the slightest grammatical or contextual indicator within that chapter that would point to a longer period, you can be sure they would have spotted it and developed it at length. The fact that they do not is a strong testimony for interpreting the days as normal, 24-hour periods.

(13) *The testimony of the church fathers.*

It is sometimes claimed that the church fathers believed in long ages for the days in Genesis 1. That is a half truth. The only two who held to this view were Origen and Clement of Alexandria, and they were allegorizers who devised unusual interpretations for every part of Scripture. Their system of allegorizing led to the most unbelievable interpretations, which were bounded only by the limits of their fertile imaginations. Other early commentators on Genesis 1 include the Epistle of Barnabas, Irenacus, and Justin Martyr. Their remarks have frequently been misunderstood to mean that they believed in the day-age theory. That is not true. What they were doing was developing an eschatological framework which included a literal 1000-year reign of Christ on earth (the millennium). Their logic followed these lines:

a. God worked for six days and rested on the seventh.

b. One day is with the Lord as a thousand years (cf. 2 Peter 3:8).

c. The six days of creation and one day of rest therefore typify the six thousand years of human history that will be concluded by the one thousand-year millennium, followed by eternity. Creation took place on 4000 B.C. therefore the millennium should commence on A.D. 2000, terminate on A.D. 3000, and usher in the timeless period of eternity.

Whether or not we agree with their reasoning and the resulting prophetic framework, we conclude that these early church fathers were not denying the literal six-day creation, but were affirming their faith in it.

The view of the Reformers (Luther, Calvin, etc.) is that of a six-day creation, of 24 hours apiece.

Thomas Scott's commentary of 1780 generally mentions varying interpretations where they exist, but says nothing about any possibility of the "days" being other than 24-hour periods.

It is only since the middle of the nineteenth century that commentators began talking about long periods of time within Genesis 1 itself. That is truly amazing! The Pentateuch was written by Moses in 1500 B.C. The day-age theory is not mentioned by any serious biblical scholar until the 1800's A.D. For 3300 years this supposed secret lay hidden awaiting the craftiness of nineteenth-century scholarship to unlock its mysteries and reveal them to a waiting world! Something is wrong here. Either God does not know how to express Himself very clearly, or three thousand years' worth of biblical scholars were blind for failing to see this obvious truth, or . . . the whole day-age theory is nothing more than a modern contrivance.

Is there some event in the mid 1800's that would tie in with this? Indeed, there is. It was at this time that Darwin's *Origin of Species*, Lyell's *Principles of Geology*, and other evolutionary treatises were flooding the marketplace, resulting in a widespread popular acceptance of the major tenets of evolution. Instead of holding their ground and insisting on the authenticity of God's account of origins, many theologians made the evolutionary theory the criterion of truth & practically fell over each other in their wild scramble to compromise the biblical account of origins with the speculations of nineteenth-century atheists and agnostics. Where it comes to a contest between the Bible and the theories of men, it seems that there are always those who will lean over backwards to make sure the Bible gets the short end of the stick.

(14) *The theological problem of sin and death.*

According to theistic evolutionists, plant and animal life flourished and died at least 500 million years before man evolved. Their deaths have been recorded as the fossil remains embedded in the sedimentary rocks of the so-called **geologic column**.

Romans 5:12, however, does not agree: `Therefore as through one man sin entered into the world, and death through sin, so death passed to all men, because all have sinned."

The passage then goes on to identify Adam as the **one man** referred to in verse 12. There is nothing ambiguous about the passage; it means exactly what it says: Adam was the first man, and there was no death prior to the Garden of Eden incident recorded in Genesis 3. Either theistic evolution and its day-age theory are wrong, or Romans 5:12 is in error. There is no harmonizing or fence-straddling here; one must make a choice between holding to theistic evolution or believing the plain statements in the Bible.

There is yet another lesson to be learned from this New Testament passage. There is a tendency among neo-evangelicals today to make a false dichotomy between the Holy Bible's statements of **faith and practice** and statements pertaining to **science and history**. The former, we are told, are accurate; the latter are riddled with errors of fact. This view is also known as the **partial inspiration** or **limited inerrancy** view of inspiration. Romans 5:12 shows that the above is untenable because the passage bases a theological doctrine (man's sin) upon a historical event (Adam's fall). Likewise 1 Cor. 15:45 bases the doctrine of the resurrection upon the historicity of Adam as the first man. Many other examples could be cited, but the lesson is clear: the theology ("faith and practice") of the Christian life is inseparably linked to and interwoven with the historicity and scientific validity of the narrative portions of Scripture. To deny one is to deny the other.

(15) *The feasibility of the events of the sixth day.*

One problem seems to be: **how could Adam have named all the animals in one day?** There are two factors to consider here.

First, only a limited number of animals are required. The purpose of parading this entourage of animals before Adam appears to have been to demonstrate to him that man was an entirely different order of creation than the animal kingdom and that none of them could ever serve as a physical & psychological companion to him. This obviously eliminates most of the organisms of the earth: insects, mice, lizards, and fish need not even apply for the position. Since God selected the animals here, He probably limited the number of candidates to those who would even conceivably be suitable. The text itself limits them to "all cattle, and to the fowl of the air, and to every beast of the field" (Genesis 2:20).

Second, Adam must have had an extremely high intelligence IQ. Because Adam was capable of using 100% of his pre-Fall brain, he would probably have had an IQ of 1500 or better. Furthermore, Adam did not have to learn his vocabulary: God programmed it into his brain at the moment of his creation & he was created as a fully functioning person. It was therefore with the utmost facility that Adam named the animals that were brought before him.

The second problem is due to a misreading of the biblical text where it says in Genesis 2:18 that "it is not good that the man should be alone." Being alone is not the same as being lonely. The latter requires some time; the former does not.

Unless one comes predisposed, because of outside assumptions (evolution), to find fault with the passage, there is nothing inherently unreasonable about the events occurring on one normal 24-hour day, as indicated.

Conclusion

Much could be said about the scientific fallacies of the evolution model and the scientific superiority of the creation model[3] but that is beyond the scope of this essay. The emphasis here has been on the professing Christian who is attempting to unequally yoke together two entirely opposing scenarios (creation and evolution) and who is using an unscriptural methodology (the day-age theory) to accomplish this unholy matrimony.

Ecclesiastes 4:12 speaks about a three-fold cord being not easily broken. This essay has woven together a fifteen-fold cord that is not easily broken. The day-age theory, according to the above evidence, is not permitted by Scripture and is therefore false. Elijah said, "How long will you waver between two opinions....(1 Kings 18:21). Each of us needs to decide where he stands on this vital issue.

References

[1] There are very few, if any, of these "exceptions" that actually require the meaning of a period of time other than a solar day.
[2] Note that the order of the Bible is not the order required by evolution. See the writer's article "Significant Discrepancies Between Theistic Evolution and the Bible." (*Christian Heritage Courier*, August, 1979). Also see John C. Whitcomb's book *The Early Earth*, (1972), and Henry M. Morris' book *Biblical Cosmology and Modern Science* (1970) - both available from CLP Publishers, P.O. Box 15666, San Diego, CA 92115.
[3] See Henry M. Morris, *Scientific Creationism* (San Diego: CLP Publishers, 1974).

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Evangelical Commentaries on the Days of Creation in Genesis One

by Simon Turpin on March 20, 2013

Abstract

The length of the days of creation in Genesis 1 is a question today that generates much controversy. Both inside and outside the church, people mock the idea of God creating the world in six 24-hour days. Over the last 200 years Christian scholars have gone out of their way to try to find ways to fit the idea of millions of years of evolution into the text of Genesis 1 and today the majority of evangelical commentators on Genesis follow suit in interpretation of the text. This paper will evaluate and critique six commentaries and the reasons they give for not taking the days of creation literally. While these commentaries are a great help in many ways, their stance on the days of creation is hindering the church's witness in a world dominated by evolutionary thinking.

Introduction

Why all the fuss concerning one word, *yom*, especially one that appears to have such little impact on Christian theology? It is probably fair to say that most Christians and Christian leaders today do not accept the days of creation in *Genesis 1* as days of 24 hours. Is the text of Genesis then really that unclear with regards to the days of creation?

For much of church history the days of creation have been understood as a chronological sequence of days of 24 hours. Since the Reformation, with its emphasis on a consistent grammatical-historical hermeneutic to interpreting the Scriptures, the literal understanding of the days of creation has been the dominant view when it comes to interpreting Genesis. Even before the Reformation, the majority of Church Fathers understood the days in Genesis to be days of 24 hours. Although there may have been some Church Fathers who held to a figurative view of the days, they were not like the figurative understanding of the days that modern scholars hold to.

It was not until the rise of uniformitarian science in the 1800s that there was a re-evaluation of how the early chapters of Genesis were interpreted. The belief that the earth's history is millions of years old changed the way the days of creation were interpreted as it seemed that the geological data for an old earth was too convincing to maintain a belief in a literal view of the days (Mortenson 2009, pp. 83–104).

Today the vast majority of evangelical scholars who have written commentaries on Genesis do not interpret the days of creation to be 24 hours long. Some understand the days as spanning millions of years. Others view Genesis as being concerned with teaching theology (God's relationship with the universe) as opposed to its being concerned with cosmology (how the universe was created).

The question that needs to be asked is, why do these evangelical commentators not interpret the days literally? Is it because the text says something else? Are young-earth creationists reading something into the text rather than reading out of it God's intended meaning? Has science shown that a literal interpretation of Genesis 1 is unthinkable?

Dr. R. C. Sproul made the following helpful statement regarding what we should do when science and Scripture seem to conflict:

> . . . if something can be shown to be definitively taught in the Bible without questioning, and somebody gives me a theory from natural revelation—that they think is based off of natural revelation—that contradicts the Word of God, I'm going to stand with the Word of God a hundred times out of a hundred. But again I have to repeat, I could have been a mistaken interpreter of the Word of God (Sproul 2012).

If it can be shown then that the definitive teaching of Genesis 1 is of six 24-hour days, then we need to ask ourselves whether we are going to stand with the plain teaching of the Word of God. Once we have established the actual teaching of Scripture, we will then have a solid foundation on which to stand. Unfortunately, far too often Christians assume that if anyone is wrong it has to be the person who is interpreting Scripture rather than questioning the sure and tested results of "science."

It is important to answer these questions since these commentaries are used by and influence seminary students, pastors, and lay people alike on the issue of the days of creation. This paper will evaluate the reasons given by the scholars in their commentaries as to why they do not understand the days of creation to be literal and see whether their arguments are valid "exegetically and biblically" (*Exodus 20:11*).

To begin I will briefly explain the young-earth position on the meaning of the days of creation and defend the view that this position is a not a modern interpretation. Then we will examine the commentaries. The commentators who will be critiqued are: Gordon Wenham, Victor Hamilton, Kenneth Mathews, Bruce Waltke, John Walton and C. J. Collins. Their commentaries are probably the most popular and influential, modern-day evangelical commentaries on Genesis, which is why they have been chosen.

Young-Earth View of Day in Genesis 1

The young-earth view of Genesis 1 is that the Hebrew text is not written as myth, parable or poetry but as a chronological, historical narrative recording God's divine acts of creation that occurred in space-time history (Kaiser 2001, pp. 80–83).[1] The days of Genesis 1 are six literal 24-hour days (*Exodus 20:11*) which occurred around 6,000–10,000 years ago. The context of *yom* in Genesis 1 makes this clear (McCabe 2009, pp. 225–228).

The Days in Church History

While the history of the teaching of the church should not rule our interpretation of Scripture, it can inform it. The idea that the days of creation are to be understood as days of 24 hours is seen by some as a modern interpretation:

> Insistence that the six days of creation in Genesis 1 must be interpreted as six literal, twenty-four-hour days as we know . . . has not by any means been characteristic of all the great teachers of the church of the past. It seems rather to be the child of modern controversy (Culver 2006, p. 162).[2]

History, however, shows this to be patently false. Many of the Church Fathers understood the days in their plain and natural sense as days of 24 hours. Nevertheless, it seems that whenever the Church Fathers are brought up in the discussion over Genesis, there is either a preference over which Fathers to use or there is a misrepresentation of what they believed in order to support a particular view.

The truth of the matter, however, is that most biblical scholars before the rise of uniformitarian geology accepted Genesis as literal history, as did the Jewish historian Josephus (Josephus 1897, 1.1.1, 1.3.2).

The early Church Father Theophilus (AD 181) of Antioch wrote "All the years from the creation of the world [to Theophilus's day] amount to a total of 5,698 years . . ." Interestingly, Theophilus goes on to say of the chronology of the world set forth by the Greeks: ". . . yet not of thousands and tens of thousands, as Plato and Apollonius and other mendacious authors have hitherto written" (Theophilus 3:28, 29). The conflict over the age of the earth is not new but has always been a debate between pagans and Christians. Theophilus accepted that the chronology of the Bible was accurate and reliable.

Other early Church Fathers, such as Irenaeus believed the days of creation represented the future history of the world (of 1,000 years for each creation day) yet still believed that the days of Genesis 1 themselves were literal days (Mook 2009, pp. 41–42). Lactantius (AD 250–325), believed that the days in Genesis were six consecutive solar days. Whilst, Basil, the Bishop of Caesarea (AD 370–379), also believed this saying that the words are to be understood by their plain meaning, and not to be allegorized (Mook 2009, pp. 26–32). The medieval theologian Thomas Aquinas (1225–1274) also agreed with six-day creation, as shown in his classic *Summa Theologica*:

> Thus we find it said at first that "He called the light Day": for the reason that later on a period of twenty-four hours is also called day, where it is said that "there was evening and morning, one day" (Aquinas 1947a).

Aquinas, speaking of the seventh day, went on:

> Nothing entirely new was afterwards made by God, but all things subsequently made had in a sense been made before in the work of the six days (Aquinas 1947b).

Also the Reformers Martin Luther (1958, p. 3) and John Calvin (1554, p. 78) accepted the days in Genesis as days of 24 hours. As did John Wesley, who said concerning the age of the earth:

> . . . the Scriptures being the only Book in the World, that gives us any Account, of the whole Series of God's Dispensations toward Man from the Creation for four thousand Years . . . (Wesley 1763, vol. 2, p. 227).

Saint Augustine is often cited as someone who allegorized Genesis or took the days to represent long periods of time. In fact, the truth is that he did not believe the days were vast expanses of time or that the earth was very old. Rather, he believed that the earth was thousands of years old (Augustine 1467), and he made precisely the opposite mistake of believing that creation was instantaneous, due to the outside influence of neo-Platonic philosophy. Augustine understood from *Genesis 2:4* that everything was created simultaneously. However, he had to rely on the Old Latin translation of the Bible, the *Vetas Latina*, which mistranslated the Hebrew in this verse. Since he did not know Hebrew, he didn't know this and was most likely

unaware that the Hebrew word for "instant" (*rega`*—*Exodus 33:5*; *Numbers 16:21*) is not used in *Genesis 2:4* (Sarfati 2004, p. 118).
The history of the teaching of the church on the days of creation lends extremely strong support to the 24-hour view being the correct interpretation of Scripture.

Gordon J. Wenham,

Genesis 1–15: *Word Biblical Commentary*, 1987

Gordon Wenham is a distinguished Old Testament scholar who has also authored commentaries on Numbers and Leviticus and written numerous articles for scholarly journals. He is currently a lecturer at Trinity College Bristol, England.

Wenham understands Genesis 1 to be unique in the Old Testament. He notes that it is neither typical poetry (Wenham 1987, p. 10) nor normal Hebrew prose as ". . . its syntax is distinctively different from narrative prose." He instead calls it a "hymn" believing it to be elevated prose (Wenham 1987, p. 10). Wenham sees the use of phrases in day one that become a formula in the subsequent days as making the narrative highly stylized (Wenham 1987, p. 37). Because of this, Wenham believes Genesis 1

> . . . invites comparison with the psalms that praise God's work in creation (e.g., 8, 136, 148) or with passages such as *Prov 8:22–31* or *Job 38* that reflect on the mystery of God's creativity (Wenham 1987, p. 10).

Does Genesis, as Wenham and others claim, invite comparison with Hebrew poetry? *Psalm 8* is often used as a comparison with Genesis. However, Robert Alter states:

> The poem might be described as a kind of summarizing paraphrase of the account of creation in Genesis 1 . . . The difference in form, however, between the two texts is crucial, and instructive. Genesis 1, being narrative, reports creation as a sequence of events . . . Psalm 8 assumes as a background this narrative process, but takes it up after its completion . . . (Alter 1990, p. 117).

Alter notes that the form of Genesis 1 is a sequential narrative which differs from that of the Psalms. The primary element of Hebrew poetry is parallelism and strophes with figurative language being more predominant than in prose & more difficult to understand (Osborne 2006, pp. 238–239). Importantly, characteristics of Hebrew poetry are lacking in Genesis 1, in particular the absence of parallelism (Young 1964, pp. 82–83). Although there may be a discussion concerning artistic elements of the Genesis creation account, there is compelling textual evidence to conclude that Genesis is not a poetic text (Blocher 1984, p. 32; Hasel 1994, pp. 19–21; Kaiser 2001, pp. 80–82).

Wenham believes that historical and scientific questions were probably not on the author's mind, but are problems for the modern reader and that therefore the text should be read on its own terms and not ours (Wenham 1987, p. liii). Instead, the author's concern was a "polemic against pagan mythologies" (Wenham 1987, pp. xlv, 37).

While there could be truth in the suggestion that the author was concerned in giving a polemic against pagan mythologies, it is not clear from the text this is the author's purpose. Even if Genesis were a polemic against other pagan mythologies this would not mean that we should not take the text in its plain sense. Nevertheless, there are several compelling exegetical and biblical arguments as to why we should reject Genesis as being a polemic against other pagan mythologies:

1. Truth, by its very nature, always functions as a polemic against what is false.
2. The *toledots* ("these are the generations of" in *Genesis 2:4*, *5:1*, *6:9*, *10:1*, etc.) strongly indicate that the content of Genesis 1–11 existed before any of the ancient Near East stories were written.
3. Paul says that people who worship idols are worshiping demons (*1 Corinthians 10:20*). So these ancient Near East stories from pagan idolatrous nations are demonically distorted versions of the truth. Genesis is not a modified version of the pagan myths. There is no biblical evidence that God ever uses myths as a basis to teaching truth. On the contrary, Scripture clearly distinguishes truth from myth (*2 Timothy 4:4*; *1 Timothy 1:4*; *Titus 1:14*; *2 Peter 1:16*).
4. There is no evidence in Genesis 1 that it was written for the conscious purpose of being a polemic (such as *Galatians 1* or *Romans 2* or *1 John* indicate).
5. If Genesis 1 was written as a polemic, it is very subtle compared to the obviously polemical condemnations of pagan idolatry and false prophets by Moses (*Exodus 32*), Elijah (*1 Kings 18*), and Jeremiah (*Jeremiah 23*).
6. Moses had no motivation to give the Jews a polemic against ancient Near East pagan creation and flood myths, since they were not involved in evangelism and were told to destroy (or not associate with) the pagan nations around them. Also, they were leaving Egypt for good and would not enter Babylonia or Assyria until centuries later.

It is an assault on the character of the God of truth to think that He would use idolatrous (and therefore demon-inspired) pagan stories mixing truth and error about creation and the Flood as a basis for telling His people the truth about these events.

Wenham reasons that because of the literary nature of Genesis 1, the chronological sequence is also not the narrator's concern (Wenham 1987, p. 19). He therefore advocates the framework view because of the structure of days in Genesis Chapter 1 being symmetrical (Wenham 1987, pp. 6–7). Wenham offers four reasons for this:

- First, the literary devices used in the six day schema: repeating formulae, the grouping of words and phrases into tens and sevens, and literary techniques such as chiasm and inclusio and the arrangement of creative acts into matching groups.
- Second, evening and morning appear before the sun and moon.
- Third, Genesis 1 stands outside the main historical outline of Genesis (the *toledots*) therefore he sees it as an "overture" to the rest of the story and so it does not stand foursquare with the rest of Genesis.
- Fourth, all language about God is analogical, therefore we need not assume that "his week's work was necessarily accomplished in 144 hours" (Wenham 1987, pp. 39–40).

Firstly, if chronological sequence was not the author's intent, then why did the author use a grammatical form [*wav* consecutive] that is regularly used to denote sequence of events (McCabe 2009, p. 217)? Even if symmetry existed in Genesis 1, this does not mean that chronology has been disposed of (Young 1964, p. 66). However, the symmetry that convinces Wenham et al. of the parallels between days 4–6 and days 1–3 just does not exist:

Environment		**Contents**	
Day 1	Heavens	Day 4	Sun, moon and stars
Day 2	Water and sky	Day 5	Fish and birds
Day 3	Land and plants	Day 6	Land animals and man

- Light on Day 1 is not dependent on the sun, as it was created on Day 4. Secondly, the waters existed on Day 1 and not only on Day 2.
- Water was made on Day 1 but the seas were not made until Day 3. The fish made on Day 5 were to fill the waters of the seas. The sea creatures of Day 5 were to fill the "waters in the seas," which were created on Day 3 not Day 2, and none of the sea creatures or birds or land creatures other than man were to "rule" anything.
- On Day 2 it was not the sky that was created but the expanse *raqia* to separate the waters below from the waters above.
- On Day 4 we are told that God made the sun, moon, and stars in the expanse *raqia* (*Genesis 1:17*) and that they were created to fill something that was created not on Day 1 but Day 2.
- Man was created on Day 6 not to rule over the land and vegetation (Day 3) but over the land animals created on Day 6 and the sea creatures and birds created on Day 5.

Unfortunately, the literary theory, a more "sophisticated" approach to Genesis 1, seeks to dehistoricize the text. However, even if Genesis 1 did contain numerous literary devices it would not invalidate it as non-historical. For example, although there is much repetition in Genesis 1…

> . . . it takes the form one would expect from a list in an historical narrative in which a person states his intended action, does it—all shown by God's saying, seeing, blessing, calling etc.—and then assesses the result (Kay 2007, p. 96).

Of all the literary devices put forward, the grouping of words and phrases into numbers suffers most from the fallacy of begging the question.

> The assertion that an apparent pattern of numbers necessarily indicates complete evacuation of historical content rests only upon itself. In other words, it is concluded to be a fact by recirculating the premiss as the argument's conclusion (Kay 2007, p. 97).

Even in reference to *Numbers 7:10–84*, there is repetition of phrasing and numbers, but it is clearly a historical account of the dedication of the tabernacle.
Literary theorists often claim that the presence of chiasm signifies that the text is a-historical as chiasm is a common device in Hebrew poetry. However, chiasm is a literary device not confined to any one literary genre and is a genuine technique of ancient Near Eastern prose and isn't necessarily limited to poetry (*Genesis 17:1–25*; *18:1–16*; *22:1–19*; *Leviticus 24:10–23*) (Kay 2007, pp. 94–95). Furthermore, the employment of an

> . . . inclusio technique suggests a tightly knit sequence is in place, and forbids random order or open ended chronology in the creation account (Craigen 2009, p. 207).

The argument for rejecting chronological sequence in order to accept the literary view of the days because evening and morning appears before the sun and moon is a common objection for many scholars (Mathews 1996, p. 149; Waltke with Fredricks 2001, p. 76). However, this argument is simply not valid. On the first day of creation God created light & although no light sources are mentioned, it is not unreasonable to suggest that a temporary light source existed up until Day Four. Is it really too difficult for the God who is light (*1 John 1:5*) to create a source of light without the sun or the stars? Not at all! He blinded Saul on the road to Damascus at noon and that light was not from the sun (*Acts 9:3*). Also, there will be no need for the sun in the new heavens and earth, because the presence of the glory of God provides the needed illumination (*Revelation 21:23*). So, God is not dependent on the sun to produce the phenomenon of light.
Wenham's contention that Genesis 1 stands outside the main historical outline of Genesis (*toledot*) and, therefore, needs to be interpreted differently is invalid. There is no reason to separate *Genesis 1:1–2:3* from the rest of the book. Bruce Waltke, who also sees Genesis 1:1–2:3 as a prologue, acknowledges that the…

> . . . narrator, however, binds the prologue to the first *toledot* by the catchwords "heaven and earth" . . . This intentional binding suggests that the narrator intends for the prologue to be understood as historical just as the ten *toledot* that follow (Waltke 2007, p. 189).

The first *toledot* in *Genesis 2:4* is linked to Genesis 1 in the same way that *Genesis 5:1* is linked back to the account of Adam in *Genesis 4:25–26*.
Wenham is not the only scholar who believes all language about God and the days are analogical (Waltke with Fredricks 2001, p. 77). Even if the language in Genesis 1 were analogical, John Calvin notes: "Such modes of expression . . . accommodate the knowledge of him [God] to our feebleness" (Calvin 1559, p. 66). While the Bible does contain analogical language, there is more in Genesis 2 and 3 (*Genesis 2:7*; *3:8*) than in Genesis 1. In fact analogical language is usually used to describe God's action in human form (for example, *Exodus 15:3*; *Numbers 12:8*; *Isaiah 40:5*). Analogical language never takes the form of a unit of time such as day (Beall 2009, p. 159). Wenham correctly observes that in *Genesis 1:5* "There can be little doubt that here 'day' has its basic sense of a 24-hour period" (Wenham 1987, p. 19). However, because of his view of the literary nature of the text he believes that a divine (not a human) week is being described. Even though Wenham offers literary reasons for rejecting a chronological 24 hour sequence of the days of creation, "scientific discoveries" play a role in his interpretation. For example, he reasons…

> Astronomical knowledge makes it difficult to conceive of the existence of day and night before the creation of the sun . . . It must, therefore, be supposed that the first three days were seen as different . . . (Wenham 1987, p. 22).

Unfortunately, Wenham's hermeneutic is controlled more by "scientific discoveries" than by the text itself, the very thing he has already said must not be done.

Wenham believes it has been unfortunate that:

> . . . the various creative acts to six days, has been seized on and interpreted over-literalistically, with the result that science and Scripture have been pitted against each other instead of being seen as complementary (Wenham 1987, p. 39).

Wenham tries to avoid a science-versus-Bible debate believing that readers of Genesis 1 have been sidetracked and bogged down in attempting to…

> . . . squeeze Scripture into the mold of the latest scientific hypothesis or distorting scientific facts to fit a particular interpretation (Wenham 1987, p. 40).

What is really unfortunate is

1. Wenham actually does what he accuses of others (as noted above); and
2. Wenham's ascribing to Genesis 1 a genre that is foreign to the biblical text, by which he forces the text to speak of a literary framework that is nonexistent and caricatures as "literalistic" those who understand the text naturally, according to its literature.

Victor P. Hamilton

The Book of Genesis Chapters 1–17: The New International Commentary on the Old Testament, 1990

Until 2007 Victor Hamilton was Professor of Theology at Asbury College in Kentucky and has written a two-part commentary on the book of Genesis.

Concerning the opening chapters of Genesis, Hamilton writes:

> . . . the battle lines are drawn between the interpretation of the Creation story and scientific knowledge about the origin of the earth and mankind (Hamilton 1990, p. 53).

Unfortunately, like Wenham (Wenham 1987, p. 40) Hamilton raises a false dilemma between science and the Bible. There is no battle between the creation account in Genesis and science but between the Bible and fallible humans' beliefs about the past based upon their questionable, even anti-biblical, assumptions used to interpret the scientific evidence in the present.

Hamilton correctly affirms that a literal understanding of the word "day" in the Hebrew Bible is a day of one week (Hamilton 1990, p. 53). Interestingly he states:

> The burden of proof, however, is on those who do not attribute to *yom* in Gen. 1 its normal and most common interpretation, especially when *yom* is always described as being composed of an evening and morning (Hamilton 1990, p. 53).

Hamilton, therefore, offers two caveats against a literal understanding to *yom*.
Firstly he believes that this interpretation is not more spiritual and biblical and, therefore, is not inherently preferable. However, the issue is not whether the interpretation is more spiritual but whether the interpretation is biblical and reflects sound exegesis (of the historical grammatical method).
Secondly, he argues that a conservative reading of Genesis 1 does not always produce a conservative conclusion. Arguing against the liberal theologian James Barr's agreement with the "literalist" that the author of Genesis was talking about literal days, Hamilton writes ". . . over the last few centuries science has shown that it is absurd and preposterous to think that the universe was created in one week" (Hamilton 1990, p. 53). Hamilton, however, believes that a literal understanding is not the only understanding of the text to keep biblical inerrancy from being refuted, something which he says never occurred to Barr (Hamilton 1990, p. 54). The other understanding that he proposes to be consistent with inerrancy is the literary interpretation which he says:

> . . . leaves open the possibility for taking "day" literally or nonliterally . . . [and] still permits the retention of "day" as a solar day of 24 hours. But it understands "day" not as chronological account of how many hours God invested in his creating project, but as an analogy of God's creative activity (Hamilton 1990, pp. 54–56).

With regards to James Barr, Hamilton misses the point entirely with regards to what he is actually saying concerning Genesis. Barr is simply stating that sound exegesis of the biblical text, which includes the author's intended meaning, leads to the conclusion that the days of creation are the chronological days of 24 hours that we now experience. Because Hamilton sees "science" (which is really a naturalistic interpretation of the facts) as having shown this to be "absurd," he prefers the literary view as it ". . . leaves open the possibility for taking 'day' literally or nonliterally." He reasons:

> The eight creative acts in Genesis 1 are over a six day period. This pattern is further evidence of the author's intention to describe the creation schematically (Hamilton 1990, p. 125). (See Wenham above for refutation.)

Regarding the interpretation of *Genesis 1:1–2*, Hamilton believes that verse 1 functions as both a superscription and as a summary statement and is equivalent to the colophon "these are the generations of," while he believes verse 2 ". . . describes the situation prior to the detailed creation that is spelled out in vv. 3ff" (Hamilton 1990, p. 117).

If *Genesis 1:1* is a summary statement then this would mean it is not part of the first day. Genesis 1:1, however, is an independent clause of God's initial act of creating the universe, while the second verse does not introduce consecutive action because it is a disjunctive clause which distinguishes verse 2 as circumstantial, describing the unformed and unfilled condition of the earth after initial creation. The narrative of events goes from verse 1 to verse 3. Verse 2 is not a narrative of events but a description of what the earth is like. The fact that Genesis 1:1 is not a heading or a summary statement is evident…

> . . . from the fact that the following account of creation commences with the *waw* (and) which connects the different acts of creation with the first expressed in ver. 1, as the primary foundation on which they rest (Keil and Delitzsch 1886, p. 46).

Furthermore, *Exodus 20:11* teaches that God made everything in six days—he did not make anything before the first day. *Exodus 20:8–11* has a number of connections with the Creation week: a "six-plus-one" pattern, "the heavens and the earth," "the seventh day," "rested," "blessed," and "made it holy." All of this suggests that, at the least, one of God's purposes in creating heavens & the earth within six, successive literal days followed by a literal day of rest was to set up a pattern for his people to follow. Also, Exodus 20:8–11 uses an adverbial accusative of time ("in six days") which indicates the duration of God's creative activity (Waltke and O'Connor 1990, p. 171). *Exodus 20:11* stands firmly against putting *Genesis 1:1* or *1:1–2* before the beginning of Day 1 (supposedly at *Genesis 1:3*).

Hamilton comments on *Genesis 1:5* arguing that the repetitive phrase about evening and morning is not a foolproof indication that the Old Testament reckons a day from sunset to sunset. He gives evidence that a day was from sunrise to sunrise (*Genesis 19:33–34*; *Judges. 6:38*; *21:4*), leading him to believe the…

> . . . refrain in Genesis refers not to the computation of a day but rather to the "vacant time till the morning, the end of a day and the beginning of the next work" (Hamilton 1990, p. 121).

Unfortunately, Hamilton's choice of verses is arbitrary and do not prove his point regarding the meaning of evening and morning. The fact that the Old Testament sometimes refers to a day being from sunrise to sunrise, does not in any way negate the fact that very often a day is from sunset to sunset. Nevertheless, the refrain in Genesis 1 there was…

> . . . "evening" and "morning" are respectively used to represent the conclusion of the daylight portion of a literal day, when God suspended his creative activity, and the reemergence of daylight, when God resumed another day of his creative work (McCabe 2000, p. 109).

Deuteronomy 16:4; *Exodus 20:8–11*; *31:14–17* would clearly support this conclusion.

Kenneth A. Mathews

Genesis 1–11:26: The New American Commentary, 1996

Dr. Mathews is a professor of Old Testament at Beeson Divinity School, Samford University. He is an acknowledged expert in the Dead Sea Scrolls, text criticism, biblical Hebrew and literary study of the Old Testament.

Mathews identifies two central problems that underlie the diverse interpretations of biblical creation:

- What is the proper relationship between Scripture and modern science?
- What is the literary genre of the Genesis description?

Mathews correctly rules out understanding *Genesis 1:1–2:3* as a theological parable or story as we would have a theology of creation grounded neither in history nor the cosmos (Mathews 1996, p. 110).
However, he believes it is not ". . . the same kind of history writing as Genesis 12–50, or even chaps. 3–4, and it is quite different from Samuel and Kings" (Mathews 1996, p. 109). For Mathews, Gen 1:1– 2:3 does not clearly fit a traditional literary category. Unfortunately, Mathews gives no reasons for these bald assertions they are simply based on his own authority. Nevertheless, he states that although "it comes closest to 'narrative,' we must conclude that it is a unique piece of literature." There can be no doubt that Genesis 1 is definitely a unique piece of literature. However, this is surely partly because of the unique events recorded. Furthermore, this does not make it unique in its form. Gerhard Hasel states:

> . . . it is hardly *sui generis* [its own genre] in an exclusive literary sense which will remove it from communication on a factual, accurate and historical level (Hasel 1994, p. 20).

The liberal scholar Claus Westermann understands what Genesis 1:1–2:3 implies:

> The average reader who opens the Bible to Genesis 1 and 2 receives the impression that he is reading a sober account of creation, which relates facts in much the same manner as does the story of the rise of the Israelite monarchy, that is, as straightforward history (Westermann 1964, p. 5).

Mathews is convinced by the "literary symmetry" of Genesis 1:1–2:3 because the passage possesses a parallelism between the six days in which the creative acts of productivity in Days 1 to 3 correspond to the works of populating in Days 4 to 6 (see refutation in Wenham above). Although the symmetry does not preclude an historical telling of early Genesis it ". . . suggests at most that 1:1–2:3 may be topical in arrangement and dischronologized" (Mathews 1996, p. 110). It should be noted that a closer look at the days reveals the parallels that are often claimed to exist are simply not found in the text. There is no need to view the text as dischronologized because of the supposed literary symmetry. However, even if the literary symmetry was there, as Young notes: "Why, then, must we conclude that, merely because of symmetry arrangement, Moses, has disposed of chronology" (Young 1964, p. 66). Another argument Mathews raises for dismissing a chronological hermeneutic is that there was no sun for the first three days. For Mathews, this creates a world difficult for us to envisage, where vegetation (Day 3) flourishes before the existence of the sun (Day 4), and where the concluding refrain about evening and morning on Days 1 to 3 presupposes a planetary situation that could not have existed without a sun (Mathews 1996, p. 110) (for refutation see Wenham above).

He goes on to say concerning the fourth day:

> The creation narrative sends ambiguous signals since on the one hand the refrain "evening and morning" suggests a normal solar day, yet the sun was not created until the fourth day (Mathews 1996, pp. 148–149).

This objection is central to Mathew's argument, although he admits understanding "day" as a solar day on Day 4 has the advantage of its simplicity. Nevertheless, for him there are many indications (for his other indications see below) that "day" in its customary sense may not be intended. The most obvious indication is the sun's absence for the first three "days" (Mathews 1996, p. 149).

The "ambiguous" signal Mathews supposes that Genesis sends is not existent within the text but in the presupposition of the need for the sun before evening & morning. On Day 1 God created light (Genesis 1:3) and all that is needed for evening and morning for the first few days is a light source, not necessarily the sun, and a rotational earth. Victor Hamilton even notes:

> The creation of light anticipates the creation of sunlight . . . What the author states is that God caused the light to shine from a source other than the sun for the first three "days" (Hamilton 1990, p. 121).

Mathews at least recognizes that evening and morning suggest a normal 24-hour day (Mathews 1996, p. 149). Nevertheless, his arguments discounting chronological sequence are not textual. Genesis 1 clearly teaches that God created light on Day 1 and created the sun, moon, and stars on Day 4.

When it comes to interpreting the days of creation, Mathews holds to the literary framework. Therefore he believes that the sequence of "evening and morning" is rhetorical, establishing the literary scheme of the creation week by distinguishing six units or "days" (Mathews 1996, pp. 147–148). Also, because each of the seven days are numbered and indefinite (that is, a second day) he sees this as fitting a sequential pattern rather than to strictly delimited units of time (Mathews 1996, p. 148).

Although evening and morning having a rhetorical function, they are part of a five-fold structure of God's creative activity and cessation:

> Narration: "God said . . ."
> Commandment: "Let there be . . ."
> Fulfilment: "There was"
> Evaluation: "God saw that it was good"
> And conclusion: "there was evening and morning"

They are followed by a sequential number on each of the first six days which show that they are normal days of 24 hours. This five-fold structure is integrated with the use of the *wav* consecutive, which is used in Genesis 1 to advance the narrative (McCabe 2009, pp. 225–227).
Are the days indefinite, as Mathews suggests, fitting a sequential pattern rather than units of time? The Hebrew definite article is used with Days 1, 6, and 7 but is not attached to *yom* on Days 2 through 5. Kenneth Mathews's objection overlooks the significance of the opening and closing definite articles. Hasel points out:

> Since the first and sixth days are definite, providing a clear boundary, the days are meant to be chronological and sequential, forming an uninterrupted six-day period of literal 24-hour days of creation. Thus, the definite use of the first and sixth days respectively mark and frame the six-day sequence into a coherent sequential and chronological unit of time, which will be repeated in each successive week (Hasel 1994, pp. 27–28).

The employment of the definite articles at the beginning and end of the narrative suggests that a firmly knit sequence is in place and removes the idea of a random chronology in the account or the idea of a non-chronological account.

Mathews's other indications that day in its customary sense may not be intended are that *yom* is a designation for the "daylight" of the first creative day, not as a reference to a full solar day (*Genesis 1:5*) & that it is used as a temporal expression for the entire creative period of six days ". . . in the day that they were created (*Genesis 2:4*)". Mathews recognizes the argument used that when "day" occurs in

the singular, with a number, or in a numbered series, it always means "solar day" or "daylight," and never an undefined period of time. Yet he says it is begging the question to argue on this basis since it assumes that the author could not use a numbered series to describe non-literal days sequentially (Mathews 1996, p. 149). So why do none of the Old Testament authors do this? This merely begs the question itself.

Additionally, how can we have evening in the daylight of the first day? The phrase "there was evening and there was morning, the xth day" cannot possibly refer to anything but the first whole (24-hour, but not "solar"—there was no sun yet) day. Also, in a numbered series does *yom* ever mean daylight (as opposed to the daylight period of a 24-hour day) or just to the daylight portion of a 24-hour day (rather than to the whole 24-hour day)? Moreover, it is not logically proper to call the first three days of Creation week "solar days" because there was no sun to make them "solar" days.

In Genesis 1:5 two primary meanings for the word "day" appear in the same verse: daytime and the whole 24 hours. The singular use of "day" (*yom*) in *Genesis 2:4* is often cited as evidence to demonstrate that the word refers to the entire Creation week. However, the word here is used with the preposition *be* prefixed to the construct noun *yom* resulting in "*beyom.*" These words are followed by infinitive construct verb. This construction "*beyom*," meaning "when" (McCabe, pg. 117)[3] is often simply translated idiomatically summarizing the entirety of the six days of creation. Therefore, to use the word "day" here as an example of the days being figurative in chapter 1 is a failure to recognize the difference between the absolute and numbered noun "day" (Genesis 1) and the construct noun "day" (Genesis 2:4).

In light of all of Mathews's arguments against the days being literal, it is the age of the earth that seems to be the controlling factor in his interpretation of Genesis, for he states:

> . . . modern interpreters are puzzled by the brevity of creation in light of geology's testimony of the age of the earth (Mathews 1996, p. 148).

Unfortunately, Mathews does not see the bigger picture concerning the days when he says:

> There is much in the Bible regarding creation but little concerning creation's "six days" . . . in contrast to the modern fascination with the days (Mathews 1996, p. 148).

The reason there is a "fascination" in our modern era with the days of creation is because that is where the secularists have aimed their missiles.

Bruce K. Waltke with Cathi J. Fredricks
Genesis: A Commentary, 2001

Dr. Bruce Waltke is a Reformed evangelical professor of the Old Testament and Hebrew and has taught at a number of leading seminaries. Waltke left Reformed Theological Seminary, Orlando in 2010 because of his stand on evolution and currently teaches at Knox Theological Seminary in Fort Lauderdale, Florida. Waltke recognizes that the "... historicity and scientific accuracy of the creation account has been the subject of much controversy & debate" (Waltke w/Fredricks 2001, page 74). He advocates the literary framework view of creation, believing Genesis not to be about science or history but about theology (Waltke w/Fredricks 2001, pp. 76 – 78). Waltke rejects the 24-hour meaning of day because it poses "scientific and textual difficulties," namely that "most scientists reject a literal twenty-four-hour period" (Waltke with Fredricks 2001, p. 61). The word "day" he believes is part of the literary framework designed to illustrate the orderly nature of God's creation (Waltke with Fredricks 2001, p. 61).

Waltke states that:

> Questions concerning the relationship of the Genesis creation account and science can only be addressed intelligently by determining the literary genre of *Gen. 1:1–2:3* (Waltke with Fredricks 2001, p. 74).

He understands that determining the genre must be founded upon the text.

He believes the author represents himself as an historian who gives an essentially chronological succession of events, using Hebrew narrative verb form to validate his material by locating the story in time and space (Waltke with Fredricks 2001, p. 29). Waltke believes that a careful textual analysis of Genesis Chapter One reveals that it is problematic to assign the passage to myth, science, history, or theology thereby rejecting Genesis as a myth or as science (Waltke with Fredricks 2001, p. 74). While he believes Genesis 1 has historical elements to it in the sense that God created the cosmos and all that is in it, he does not believe it is straightforward history (Waltke with Fredricks 2001, p. 75). He writes:

> The creation account is unlike any other history. History is generally humanity recounting its experiences. The Genesis creation account is not a record of human history, since no humans are present for these acts (Waltke with Fredricks 2001, p. 76).

As we have seen, Genesis 1 is a unique chapter although this does not make it unique in its form. Waltke's belief concerning the genre of Genesis is purely arbitrary. Although no humans were present at creation, God was, and He has revealed the truth of those events to us through Scripture (*Romans 5: 12–14*; *1 Timothy 2:13–14*).

There is no legitimate reason to limit facts of history to human witness when God was a witness to His own act of creation. Furthermore, there is no difference in Genesis 1 grammatically and in form to the other historical accounts in Genesis as there is no break in the literary style in the first 12 chapters. These are in the same literary category as they use the same rubric "*toledot*" to tell the story (Kaiser 2001, p. 82).[4]

Waltke believes *Genesis 1:1–2:3* is a prologue representing the creation of the cosmos and is separate from the rest of the book (Waltke with Fredricks 2001, p. 17). He rejects the idea that Genesis 1:1 functions as the first event of creation rather than a summary of the account because the grammar makes this impossible (Waltke with Fredricks 2001, p. 58). He writes that God did not create in time but with time (Waltke with Fredricks 2001, p. 57). Waltke believes, "beginning" in Genesis 1:1 "refers to the entire created event, the six days of creation, not something before the six days" and therefore believes it to be a relative beginning. As verse 2 seems to indicate, there is a pre-Genesis time and space (Waltke with Fredricks 2001, p. 58). He goes on to say concerning verse two that "There is no word of God creating the planet earth or darkness or the watery chaos" which is why Genesis 1:2 tells us nothing about an old or a young earth (Waltke w/Fredricks 2001, p. 59). This leads Waltke to conclude that "Chronologically, this must describe the state of the earth prior to verse 1" (Waltke with Fredricks 2001, p. 60).

Waltke is mistaken with regards to *Genesis 1:1–2:3* being a prologue. He thinks that the *toledots* in Genesis serve as headings, marking a transition and introducing the descendants of the account that follows (Waltke with Fredricks 2001, pp. 17–18). However, the only place where *toledot* is not found as a heading is Genesis 1:1–2:3 and this is because there was nothing created prior to it (Mathews 1996, p. 35). Unlike the other uses of *toledot* in Genesis, this is the only time the genitive phrase does not contain a personal name. The reason for this is that Adam as the first man had no direct predecessors. The purpose of the *toledot* in *Genesis 2:4* is twofold. First, it looks back at Genesis 1:1–2:3. Brevard Childs understands the *toledot* to formulate the structure of Genesis and the role of the *toledot* in Genesis 2:4 "is to connect the creation of the world with the history which follows" (Childs 1979, p. 146).

Second, Genesis 2:4 also

> . . . connects 2:4–25 with 1:1–2:3. First, while v. 4 looks back to 1:1–2:3, its main purpose is to shift attention to the creation of man and his placement in the garden (McCabe 2006, p. 73).

Genesis 1:1 is not a summary statement. This is evident from the fact that Genesis 1:1 is an independent statement describing the absolute creation of all things, while in verse 1 the verb is in the perfect tense form and in verse 3 the *wav* consecutive verb is used. Verse two, however, begins with a *wav* disjunctive (*wav* conjunction is attached to the noun "the earth" rather than being connected to the imperfect verb). This means that verse 2 is a parenthetical statement saying something about what the earth was like when God first created it (just as Jonah 3:3b says something about

Nineveh but is not part of the action of the narrative). The narrative of events goes from verse 1 to verse 3. Verse 2 is not a narrative of events but a description the initial state of the earth, providing three circumstantial clauses to describe the existing conditions when God said, "Let there be light." Waltke's statement that God "did not create with time but in time" is meaningless. Time has a beginning (Genesis 1:1) and God is not subject to it (*2 Peter 3:8*) as He is the Creator of it. As human beings we clearly experience time because we were created in time (*Genesis 1:26–27*).
Waltke rejects fiat creation believing instead that God created the cosmos through "successive days" which serve as a paradigm for his development of humanity through successive eras of history (Waltke with Fredricks 2001, p. 61). However, this overlooks not only what the text of Genesis states but what the rest of Scripture reveals about our Creator. No significant amount of time is needed in Genesis One because God works primarily thru fiat supernatural creation speaking His creation into being.

This can be seen from *Psalm 33:6*, *9* where it says that "By the word of the Lord the heavens were made . . . for He spoke, and it was done; . . ." *Hebrews 11:3* also affirms that the world was made by "the word of God." The author of Hebrews has in mind the divine command ". . . Let there be light; . . ." (*Genesis 1:3*) interpreting it in the fashion of Psalm 33:6, 9 (Bruce 1990, p. 279). The divine command "let there be" is a jussive verb which is followed by "and it was so," revealing rapid fulfilment of that command. Because God is the Creator of time, He does not need time to create. The New Testament bears witness to this through the miracles of the Creator of the world, Jesus Christ, who is called "the Word" (*John 1:1–3*). We see this most clearly with His encounter with the Roman centurion in *Matthew 8:5–13* where his servant was healed the very moment Jesus commanded it. All His miracles, in fact, were instantaneous.
Waltke gives several reasons for thinking events in Genesis 1 are dischronologized in order to give a theological point:

- God created evening, morning, and days without luminaries and then created the luminaries in order to affect them.
- The order of events in the 1st and 2nd creation accounts differ (that is, *Genesis 1:1–2:3*; *2:4–25*).
- It is also difficult to imagine that Adam named all the animals (both domestic and wild), underwent an operation, woke up, and composed a poem all within the daylight hours of the sixth day.
- The narrator speaks of the first five days as "a day", not "the day." (Waltke with Fredricks 2001, p. 76)

Waltke's arguments concerning the dischronologization of the days may seem convincing at first but under closer examination they do not hold up.

Firstly, all that is needed for a day-night cycle is a rotating earth and light coming from one direction. *Genesis 1:1–5* clearly tells us that God created light on Day 1 as well as the earth.

Second, there is no contradiction between Genesis 1 and 2 when the text is closely examined. After being introduced to the creation of the world in the first chapter, the author focuses in chapter two on man and women in the Garden of Eden. Genesis 2 gives no account of the creation of the heavens and earth, the expanse (firmament), sun, moon, stars, land, sea creatures, and creeping things. In other words, *Genesis 1:1–2:3* gives us a wide-angle lens view of the whole Creation week, whereas *Genesis 2:4–25* gives us the telephoto-zoom lens view of some of the events on Day 6. It is often the case in the ancient Near East that Semitic historians gave an historical overview followed by a recap of the details concerning events that have already taken place (Keil and Delitzsch 1886, p. 87) (*Genesis 10–11* have a similar relationship—see also *1 Kings 6–7*).

The third argument raised by Waltke is unwarranted given the fact that no time duration for the events is given in the text concerning what took place on Day 6. Waltke has to assume that a large number of animals were named, but again the text does not say how many animals Adam had to name. *Genesis 2:20* tells us that Adam only named the cattle, beasts of the field, and birds of the air. He didn't have to name the sea creatures, the beasts of the earth, or creeping things. He also has to discount the fact that God miraculously put Adam to sleep to create Eve, which, for the Creator of the universe, could take no time at all. Lastly, regarding the lack of the article on each of the first five days, Andrew Steinmann states:

> . . . by omission of the article it must be read as "one day," thereby defining a day as something akin to a twenty-four hour solar period with light and darkness and transitions between day and night, even though there is no sun until the fourth day. This would explain the lack of definite articles on the second through fifth days. Another evening and morning constituted "a" (not "the") second day (Steinmann 2002, pp. 583–584).

Waltke's real reason for rejecting the days as a strict historical account seems clear when he states:

> Contemporary scientists almost unanimously discount the possibility of creation in one week, and we cannot summarily discount the evidence of the earth sciences (Waltke w/Fredricks 2001, p. 77).

But majority vote doesn't determine truth and the Ph.D. scientists who are young-earth creationists don't "summarily discount" the "evidence" presented by old-earth geologists. Rather, it is rejected after careful analysis of that "evidence." Furthermore, contemporary scientists almost unanimously discount the virgin birth and resurrection of Jesus, but Waltke doesn't have any problems believing the Bible on those points. So there is a serious inconsistency in Waltke's reasoning here.

Interestingly, even secular scholars recognize that understanding Genesis in its "literal" or plain sense has been a help and not a hindrance to science (Harrison 2002, pp. 14–15).[5]

In order to confirm this idea concerning the earth sciences Waltke appeals to general revelation in creation as the voice of God: "We live in a 'universe,' and all truth speaks with one voice" (Waltke with Fredricks 2001, p. 77). This is a maxim that is frequently recited by those who believe in an old earth. However, we must remember that general revelation is referred to as "general" revelation because it has a general content and is revealed to a general audience. Robert L. Thomas rightly notes the problems with the maxim "all truth is God's truth":

> Though all truth is God's truth, truth exists in varying degrees of certitude. Though all truth is God's truth, all truth does not rest on the same authority. . . . probably the major flaw in an integrative watchword that all truth is God's truth derives from wrong assumptions about the range of general revelation . . . information and discoveries originating in secular fields do not belong in the category of God's revealed truth. They therefore, have no basis for a ranking alongside God's special revelation (Thomas 2002, pp. 121–124).

Since general and special revelation both proceed from God, they cannot ultimately conflict each other and they do not when they are correctly interpreted in the light of Scripture (*Psalm 119:30*). Two more additional important points must be made:

1. Richard Mayhue persuasively argues in his chapter of *Coming to Grips with Genesis: Biblical Authority and the Age of the Earth*: The content of "general revelation" is the existence and attributes of God. Scripture does not say that by studying creation alone (apart from the special revelation of Scripture) we can reconstruct the past history of the earth so that we are without excuse if we reject that "truth." Rather Scripture (for example, *Romans 1:18–20*; *Psalm 19:1*; *97:6*; *Job 12:7–10*; *Jeremiah 31:35–36*,) says that the Creation infallibly reveals the Creator, so that unbelievers of all sorts are without excuse for not honoring Him as God (Mayhue 2009, pp. 105–129).
2. Not all truth claims are actually true. There are lots of "truths" that are accepted by "all scientists" that are false (the history of science repeatedly demonstrates this as scientists are constantly correcting the textbooks). So scientific "truth" is not infallible, whereas special revelation given in the Bible is infallible and unchanging.

This does not mean that we cannot learn anything from studying nature. It just means that our interpretation of what we observe must be consistent with the infallible revelation of Scripture. It is the eyewitness testimony that enables us to correctly interpret the physical evidence in the present as we seek to reconstruct the past history of the Creation, just as a police detective uses reliable eyewitness testimony to understand the circumstantial evidence at the scene of a dead body to figure out who committed the crime in the past. Therefore, it is not biblically sound to call the evidence a scientist uncovers as "general revelation."

John H. Walton

The NIV Application Commentary Genesis, 2001

John H. Walton is a professor of Old Testament at Wheaton College. As well as writing a commentary on Genesis, Walton has written a book entitled *The Lost World of Genesis One*, which argues that Genesis 1 does not provide an account of material origins but functional origins.

Walton accepts the Bible as God's revelation of Himself and consequently writes:

> I am committed to accepting without question whatever God has revealed. If I am convinced, for instance, that the Bible teaches a global flood, my worldview of faith dictates that whatever scientific or logical problems may exist must be set aside in deference to the text (Walton 2001, p. 43).

Yet he goes on to say that he does not want to bring the text into disrepute and subject it and ourselves to ridicule by making claims for the Bible that it never makes for itself. Walton gives as example of the misplaced faith of the medieval church and their opposition to Galileo (Walton 2001, pp. 43–44).

Walton recognizes that

> the seven day structure and the meaning of the word *yom* serve as the nucleus around which the theories and problems of Genesis 1 revolve (Walton 2001, p. 80).

He notes that

> the idea of creation in seven days serves as one of the main sticking points in the attempts to harmonize science and Scripture (Walton 2001, p. 80).

Walton believes that Genesis 1–11 belongs to the genre of myth rather than history (Walton 2001, pp. 27–31). He suggests that in the ancient world mythology was like science in the modern world, that is to say, it represented their explanation of how the world came into being and how it worked. Mythology, then, served as a window to culture, that is, as a reflection of the worldview & values of the culture that forged it (Walton 2001, p. 27).

Walton acknowledges that Genesis is made up of a number of different types of literature, with narrative being the most prominent. However, he goes on to say that "identifying something as narrative is not the same as identifying it as history" as he believes narrative can be used for mythology (Walton 2001, p. 45).

By using ancient Near East literature, Walton is going outside of the Bible, which is committing eisegesis—reading meanings "into" the biblical text as opposed to "out of" the biblical text exegesis, this is to substantiate what he wants the Bible to say in order to accommodate those views.

There is much dissimilarity between the ancient Near Eastern accounts and the Bible. For example, how does one explain the polytheism, the theogony (creation of the various gods) the cosmic wars, the magic that is at the center of these epics. These are not found in the Bible. The Scriptures on the other hand give a true historical, chronological account of the event.

Furthermore, Genesis 1–11, while written as narrative, records events that took place in space-time history. In Genesis 11–12 there is no transition from non-historical to historical and it is not treated as a separate literary category from Genesis 12–50. Genesis 12 begins with a *waw* consecutive verb, *wayomer* ("and he said") indicating that what follows is a continuation of chapter 11 and not a major break in the narrative. Genesis 1–11 also contains the same characteristics of historical narrative as Genesis 12–50, most of Exodus, much of Numbers and 1 and 2 Kings (see Mathews 1996). Genesis 1–50 is all in the same characteristics of historical narrative as Genesis 12–50, most of Exodus, much of Numbers and 1 and 2 Kings (see Mathews 1996). Genesis 1–50 is all in the same literary category as they use the same rubric "*toledot*" to tell the story (Kaiser 2001, p. 82).
He points out that while some attempt to understand Genesis 1 poetic/figurative and theological he says that, taken at face value, these approaches do not work (Walton 2001, p. 82). While Genesis may contain poetic qualities, Walton believes this does not demonstrate that it is figurative (Walton 2001, p. 83).

Walton admits that at face value

> If we add up numbers, the result is something like the scheme devised in the seventeenth century by Bishop James Ussher, who assigned creation to 4004 BC.

However he goes on to say: "But we must ask whether the text as at face value requires us to add up numbers." He says this because he believes the genealogies have gaps (Walton 2001, pp. 48–49).[6]
When it comes to interpreting Genesis 1:1, Walton asks what "in the beginning" (Hebrew: *beresit*) refers to (Walton 2001, p. 67). Is it the beginning of time, history, matter, the universe, the human race or is it simply a literary beginning (that is, the beginning of the story)? In order to answer this question, Walton says we need to consider our methodological assumptions as the above question works on the fact that the word "beginning" indicates the beginning of something. He queries whether the Hebrew carries the same implication as the English (Walton 2001, p. 67). Although Walton admits the Hebrew can use *beresit* to refer to the beginning of something, he refers to John Sailhamer who suggests that *beresit* refers to an initial period or duration rather than to a specific point in time, as for example in *Job 8:7* and *Jeremiah 28:1* (Walton 2001, p. 68). While it is true that *beresit* sometimes is used this way (*Jeremiah 28:1*), Walton's conclusion is very dubious.

Context must always govern interpretation. Bildad's comment about Job is obviously referring in general terms to the beginning period and end period of Job's life, not a precise moment in time. In contrast what God said He did "in the beginning" as well as God's commentary on Genesis 1 in *Exodus 20:11* clearly indicates that Genesis 1:1 is referring to the absolute beginning of creation. In Jeremiah, "in the beginning" is modified by "of the reign of Zedekiah." However in Genesis 1:1 there is no such modifier. In Genesis 1:1 *beresit* is used in the absolute state and is independent of the verbal clause ("God created") while the *qal* perfect verb (*bara*), refers to an action rather than a state of being.
The next question Walton asks is "what portion of the text was contained in this initial period?" (Walton 2001, p. 69). Walton understands Gen. 1:1 as a dependent clause believing the best rendering of the text to be: "When God began to create heaven and earth—the earth being unformed and void… …God said (NJPS)."

Walton gives two reasons to support this option:

1. The book of Genesis typically operates literarily by introducing sections with a summary statement. Thus, for example, beginning in *Genesis 2:4* and ten additional times throughout the book, a *toledot* statement introduces a section.
2. Even more persuasive is that the account of the six days closes with the comment that "the heavens and the earth" were completed (*Genesis 2:1*) (Walton 2001, p. 70).

This leads Walton to believe that the text is not suggesting that anything was actually created in Genesis 1:1. Rather it is a literary introduction, a summary of what follows with the initial period indicated by the word *beresit* not being described in verse 1 but in all of chapter 1 (Walton 2001, p. 70).
Walton's understanding of *beresit* is a serious departure from the traditional position that Genesis 1:1 is in the absolute state. While the traditional translation "In the beginning, God created . . ." is correct, the alternative "When God began to create heaven and earth" is grammatically possible. However, there are strong arguments against it.

If Genesis 1:1 is a dependent clause then this would mean *beresit* is a construct and we could not deduce absolute creation from Genesis 1:1–3. Young points out:

> In the Old Testament when a construct precedes a finite verb that fact is apparent either from the form of the word in construct or from the fact that the context demands that the word be taken as a construct . . . In Genesis 1:1 neither of these conditions is present (Young 1964, p. 6).

In the context of Genesis 1:1 *beresit* is used alongside of *bara* which is in the *qal* stem form and this form ". . . is employed exclusively of divine activity . . . [and the] subject of the verb is always God and never man" (Young 1964, page 6). In every occurrence of the verb *bara*, God is always the subject, and the material out of which something is created (*bara*) is never mentioned, therefore making the verb *bara* most suitable to express creation out of nothing. For example, we are told that God created man (*Genesis 1:27*) but we are not told that God created man from the dust

of the ground. In *Genesis 2:7* we are told that God formed, *yatsar*, man from the dust of the ground and that he fashioned, *banah*, (*Genesis 2:22*) the woman from the rib which He had taken from the man.
It is, therefore, best then to view *beresit* in Genesis 1:1 as being in the absolute form (as in *Isaiah 46:10*; *Nehemiah 12:44*) rather than the construct form. Furthermore, if Genesis were a dependent clause then verse two should have had begun with a *waw* consecutive or with the perfect tense verb (see *Jeremiah. 26:1*; *Hosea. 1:2*) whereas it actually begins with a *waw* disjunctive.

Walter Kaiser explains that

> the Hebrew Masoretic punctuation and those Greek transliterations of the Hebrew text into Greek letters show convincingly that there was quite a respectable history of interpretation which took the first word, *beresit*, as an absolute noun, "in the beginning" rather than as a Hebrew construct noun, "in beginning of creating" (Kaiser 1991, p. 73).

Lastly, in the New Testament John's intentional echo of Genesis 1:1 makes sense only if John understands Genesis 1:1 as being in the absolute form and "in the beginning" as the absolute beginning.
Contextually it is best to view *Genesis 2:4* as the true title of creation. The only place where the *toledot* is not found as a heading is *Genesis 1:1–2:3* and this is because there was nothing created prior to it.

> At 2:4 the author has joined the account of universal creation (1:1–2:3) and the singular story of human history (2:5–4:26) (Mathews 1996, p. 188).

The *toledot* heading introduces what came after creation. This is indicated by the fact that *Genesis 2:4–25* is an expansion of chapter one by the similarity of 2:4 as with *Genesis 5:1* and *Numbers 3:1*. *Toledot* is followed by a temporal clause "when" (*beyom*) and in both Genesis 5:1 and Numbers 3:1 the content of the "when" clause refers to the former prominent information, in order to bring it to the attention of the reader for understanding the context of the following *toledot* section. Moreover, the language of Genesis 2:4 looks back to *Genesis 1:1–2:3*.
"The heavens & the earth" has been used in Genesis 1:1 and Genesis 2:1, while "created" has been used four times in *Genesis 1:1*, *21*, *27*; *2:3* and "made" 10 times in *Genesis 1:7*, *11*, *12*, *16*, *25*, *26*, *31*, *2:2* (twice), *3*.
Commenting on the word *bara* he tells us that we must be careful to remember to interpret the Bible accurately, understanding *bara* in Hebrew terms. Noting two things about *bara*:

1. It takes only God as its subject and therefore must be identified as a characteristically divine activity.
2. The objects of this verb are widely varied (*Psalm 102:18*; *Ezekiel 21:30*; *Isaiah 65:18*; *Exodus 34:10*; *Numbers 16:30*; *Isaiah 45:7*; *Amos 4:13*; *Psalm 51:10*; *Isaiah 57:19*).

In light of this Walton believes…

. . . [E]ven when then object is something that could be "manufactured" ("creatures of the sea" in *Gen. 1:21*), the point need not necessarily be physical manufacturing as much as assigning roles (Walton 2001, p. 70).

He goes on to say "In all of these cases, something is brought into existence, but rarely does the statement concern the issue of physical matter" (Walton 2001, p. 71). Regardless of this Walton does believe that God made matter out of nothing (*Colossians 1:16–17*; *Hebrews 11:3*) but believes that is not what Genesis means by *bara* and that the existence of matter was not the concern of the author (Walton 2001, p. 71).

Walton's use of the word "manufacturing" makes a ridiculous idea regarding the meaning of *bara*. What is more, no young-earth creationist would talk about *bara* this way. It is also illogical for Walton to reason that:

1. something can be brought into existence without involving physical matter (see *Isaiah 40:25–26*)
2. a false dichotomy is made in pitting (on the one hand) bringing a physical object into existence against (on the other hand) giving that object a role or function. There is no logical reason why it cannot be both. In fact, everything is created with a role or function in mind and it is irrational to think of something existing without a role. What would it mean for plants and animals and earth and sun, moon and stars to exist but not to have a role or function? Walton's idea is illogical as well as inconsistent with the text of *Genesis 1* and *Exodus 20:11*.

Even though *bara* does not inherently refer to creation *ex nihilo*, the context in Genesis 1:1 clearly implies this (as has already been shown above). Walton is correct to say that the New Testament suggests that God made matter out of nothing but it begs the question as to where the New Testament authors (*Hebrews 11:3*) got that concept. Surely it was Genesis 1:1.

Walton recognizes the semantic range of *yom* saying that

. . . though it is true that *yom* sometimes refers to an extended period of time, that usage is limited to certain expressions and collocations, and its meaning cannot be so glibly transferred to Genesis 1 (Walton 2001, p. 81).

Walton goes on:

We must instead try to determine what the author and audience would have understood from the usage in the context (Walton 2001, p. 81).

He admits that the original Israelite audience would have understood the word "day" in the context of Genesis 1 to have been 24-hour days (Walton 2001, p. 154).

Walton recognizes that *yom* in context means a 24-hour day and interestingly states

It is not the text that causes people to think otherwise, only the demands of trying to harmonize with modern science (Walton 2001, p. 81).

Unfortunately, Walton believes understanding *yom* as a 24-hour day will not be seen as posing the problem it has in the past once his functional approach to the text is understood (Walton 2001, p. 81). For him the days focus on functions and not making things or ordering the cosmos (Walton 2001, p. 154).
Although Walton acknowledges the meaning of *yom* as a day of 24 hours in its context, he just insists that God didn't make anything in Genesis 1 coming up with a unique approach to the text. In order to understand the text at face value Walton says ". . . we must clarify the distinction between a functional and structural approach" (Walton 2001, p. 83).
However, this is another false dichotomy from Walton in that why can it not be both? Also, he is really making a distinction between giving a pre-existing thing a function versus creating the thing (with function from the start), not a "functional versus structural approach."

However, this distinction Walton makes, is the reason he believes we must be careful on how we use material from the ancient Near East because we often go looking into the biblical account for information on its physical makeup and laws which is not what Walton believes the text is describing (Walton 2001, page 83). Again, this is another example of a straw-man argument. Young-earth creationists do not say that Genesis 1 gives information about the physical make up and laws of creation and neither do most old earth creationists. Rather, they say it is about the origin of the Creation.

Because of his functional approach to the text Walton believes:

> It is fruitless to ask what things God created on day one, for the text is not concerned about things and therefore will not address itself to that question (Walton 2001, p. 84).

Walton does believe that God was involved in the material origins of the universe but for him Genesis is an account of the functional origins. Walton says "If we come to the Bible expecting it to discuss creation in terms of material structure, we will be sadly disappointed" (Walton 2001, p. 96). Again, this misrepresents what young-earth creationists teach. They don't teach that Genesis 1 teaches material "structure" of the universe and its contents, but rather the creation or origin of it all. Moreover, Walton's example of a functional creation is a personal computer, but here materials are involved. It is hard to assign functional properties to something that had no material existence.

Unfortunately, Walton, like others, caricatures the young-earth creationists position by saying that they have taken on a role in society declaring science as the enemy of the faith and using its own brand of theistic science to make sense of the Bible (Walton 2001, pp. 98–99). Walton goes on to say:

> Our best theological, hermeneutical, and scientific minds need to work to forge a new consensus for the relationship between science and Scripture . . . rather than sacrificing more Galileo-type martyrs on the altar of stone-rigid, quasi-scientific presuppositions dressed up as if they were the Word of God (Walton 2001, p. 100).

Walton's caricature of the young-earth position maligns how biblical creationists understand the biblical text and its meaning. Also, like many others, Walton uses Galileo to attack creationists when Galileo himself believed in the trustworthiness of the Bible. Galileo was contesting against the geocentric understanding of the universe & was trying to show that the heliocentric system was not contradictory to the Bible.

Galileo was fighting against the interpretive principles of the church of his day, blinded by Aristotelian philosophy. The lesson from the Galileo incident is that many Christians are repeating the errors of the past by insisting on taking the popular ideas of the age, such as evolutionary naturalism, as their authority rather than the Bible. The history of the Galileo affair should serve as a warning to old-earth creationists.

Regarding the fourth day Walton argues that although the Hebrew verb *asah*, can mean "to do or make" it probably does not mean that here. Although he recognizes that *Genesis 2:3* and *Exodus 20:11* also use *asah* to speak of God making, Walton argues that when the verb is used in some other cosmological contexts it can mean something other than create or make (Walton 2001, pp. 124–125). The verses Walton lists for *asah* being used in a cosmological context are *Job 9:9*; *Isaiah 41:17–20*; *45:7*. He writes,

> It is significant that though there are numerous ambiguous usages, no passage using asah in a cosmological context demands the meaning "manufacture" rather than something more functional (Walton 2001, p. 125).

Walton concludes that on the basis of these passages - that - the author of Genesis used the term functionally.

However, Walton has clearly overlooked more verses than he gives of *asah* being used in a cosmological context. There are several verses (for example, *Exodus 31:17*; *2 Kings 19:15*; *2 Chronicles 2:12*; *Isaiah 37:16*) which use *asah*, yet clearly refer to the creation of the universe. Therefore, *bara* and *asah* can often be used interchangeably. While *Isaiah 66:1–2* clearly refers to God making (*asah*) heavens and the earth, it is not talking about their function but the fact that they came into existence.

Concerning *Genesis 2:1–3* Walton states:

. . . the lexical information suggests that the seventh day is marked by God's ceasing the work of the previous six days and by his settling into the stability of the cosmos he created . . . (Walton 2001, p. 147)

Walton's rejection of Genesis 1 as an account of material origins of the universe does not fit with Genesis 2:1–3 which clearly tells us God ceased from working by the seventh day. If, as Walton suggests, God did not create anything in Genesis 1 but was only about assigning the functions that already existed, then what work had he ceased from? Walton's functional approach also has nothing to do with the biblical text and it leaves the Bible without an account of the origin of the universe at the very place we would expect it to be.

C. John Collins

Genesis 1–4 A Linguistic, Literary, and Theological Commentary, 2006

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Professor Collins recognizes that it is correct to call Genesis 1 a narrative because of prominent use of the *wayyiqtol* (*waw* consecutive) verb form to denote successive events (Collins 2006, p. 41). Nevertheless, he sees it as an unusual narrative…

> not only because of the unique events described . . . but also because of the highly patterned way of telling it all (Collins 2006, p. 41).

He is right in saying it should not be called poetry, because parallelism is absent (Collins 2006, p. 44), choosing instead to call it "exalted prose narrative." For this reason he believes we should not impose a "literalistic" hermeneutic on the text (Collins 2006, pp. 44 and 255). Collins caricatures the young-earth position as a "literalistic interpretation," which is unfortunate as young-earth creationists explain their hermeneutic as grammatical-historical interpretation. Unfortunately, the discussion over the days of creation is often shaped by the way it is framed by those who caricature the young-earth position. By stereotyping the young-earth position as "literalistic," Collins and others (for example, Wenham and Walton) try to show how it is wrong as they advance their own interpretation as the correct one. But calling it "exalted prose" no more rules out that it is a revelation of literal history, just as *Psalm 136* recites some key events of the history of Israel in poetic form.

When it comes to interpreting the days of creation, Collins holds to the…

> analogical day position: namely, the days being God's workdays, their length is neither specified nor important, and not everything in the account needs to be taken as historically sequential (Collins 2006, p. 124).

But we must ask why God put chronological information in Genesis 1, if it's not important. God could have easily explained His creation work in general times without mentioning evening and morning, first day, second day, etc. This language, along with *Genesis 5:5* and *Exodus 20:11*, certainly appears to shed some light on the specific length of the creation days (that is, 24 hours, just like all of Adam's days and the days of the Jews at the time of Moses, and therefore like our days today). If what God has revealed to us in the Bible has a different meaning for Him than for us then surely the meaning of Scripture is incomprehensible. The Bible itself then wouldn't be a reliable source of truth.
Collins believes that any attempt to take this story as making historical claims is inconsistent with the text itself, although, he states that he would change his mind if the evidence leads elsewhere (Collins 2006, p. 124).

Although, Collins does not directly say what the evidence is that would lead him to change his mind, he does give several reasons for rejecting the literal approach in favor of the analogical approach:

- The first day starts in *Genesis 1:3* & thus our author has not necessarily presented the six days as the first six days of the universe: the author presents the origin of everything, Genesis 1:1 as taking place an unspecified amount of time before the work week.
- The fourth day does not describe the creation of the heavenly lights
- The refrain evening and morning: Its effect is to present God as a workman going through his work week . . . This analogy cautions us against applying strict literalism to the passage . . . a good interpretation must account for the absence of the refrain on the seventh day [the seventh day] lacks the refrain because it has no end—it is not an ordinary day by any stretch of the imagination, and this makes us question whether the other days are supposed to be ordinary in their length.
- The Creation account makes no claim as to how old the universe is or about how old the earth itself is, since the author does not specify how long God waited between verses 1 and 2 (Collins 2006, pp. 125–126).

These evidences for Collin's belief in the analogical view of the days will now be examined.

First, Collins's contention that *Genesis 1:1–2* is before the first creation day which begins with God's speech in *Genesis 1:3*. Collins reasons that "since Genesis 1:1–2 does not use the *wayyiqtol*, we conclude that these verses stand outside the main stream of the narrative" (Collins 2006, p. 42). Later he says regarding the perfect tense verb (*bara*, create) in verse one, "the normal use of the perfect at the very beginning of a periscope is to denote an event that took place before the storyline gets under way" (Collins 2006, p. 51). For Collins, Genesis 1:1–2 provides

background material for the narrative. Collins is not alone in asserting that Genesis 1:1–2 stands outside the mainstream of the narrative. But as we have seen, these claims are unfounded (Hamilton 1990, p. 117; Waltke with Fredricks 2001, p. 17). Consequently, Collins reasons that the origin of time was before the workweek and that the first day began in *Genesis 1:3* (Collins, p. 125). This leads Collins to conclude:

> . . . the creation account makes no claim about how old the universe is or about how old the earth itself is, since the author does not specify how long God waited between verses 1 and 2 . . . it makes no claim about how long the creation period was, because it is noncommittal about how long the days were (Collins 2006, p. 126).

Collins's view is wrong for two reasons. First, while he may be right about "the normal use of the perfect," there are many examples where his statement is not correct, particularly at the beginning of books. See, for example, *Ezra 1:1*; *Esther 1:3*; *Job 1:1*; *Haggai 1:1*; *Obadiah 1:1*; *Habakkuk 1:1* *and* *Zechariah 1:1*, where the sentence with the perfect verb is the first event in the following narrative, not something outside that narrative, just as in the case of Genesis 1:1 and following. Second, Collins' argument is mistaken because it is based on a misunderstanding of the relationship of verses 1–3. In Genesis 1:1 the verb is in the perfect tense form and in verse 3 the *wav* consecutive is used. Verse 2, however, begins in a different way with the *wav* attached to the noun "the earth" rather than being connected to the imperfect verb. This is called a *waw* disjunctive.[7] It means that verse two is a parenthetical statement describing the state of the earth when God first created it. The same grammatical structure occurs in many places, including *Jonah 3:3–4*, where the sentence in second half of verse 3 begins with the *waw* consecutive and describes the nature of the city of Nineveh. The narrative of events goes from verse 3a to verse 4.[8]

Moreover, in verse 4 God separates the light from the darkness, and in verse 5 He calls the darkness "night"—both verses begin with the definite article attached to the verb. However, the only darkness that has been mentioned so far is in verse 2 which means that verse 2 is describing the state of the earth at the beginning of the first night. Verse 5 has the first night between evening and morning as it defines the day. There is no need or grammatical necessity to place a time gap between verses 1:1–2 & verse 3 in order to separate it from the first day of creation unless you are trying to insert millions of years, which is what Collins and others are trying to do. Collins assertion regarding verses 1–3 stands opposed to grammar of the Hebrew text & also conflicts with Jesus teaching in Mark 10:6 that "From the beginning of creation God made them male and female." He then quoted from Genesis 1 and 2, showing that He believed that Adam & Eve were there at the beginning of creation, not billions of years after the beginning.[9]

Secondly, Collins argues that for those who believe events of the fourth day refer to the creation of the heavenly lights (Genesis 1:14–19) and to the creation of light (Genesis 1:3) that this:

> . . . presents a serious problem to those who want to correlate this account with a scientific description, because we assume that day and night are marked off by the heavenly lights—but how could that happen on the first three days (Collins 2006, pp. 56–57)?

He reasons:

> . . . if we look closely at the Hebrew, we must conclude that the words used do not require that we take them as describing the creation of the lights [beginning of their being] though it is true that the words allow such a reading (Collins 2006, p. 57).

Collins argues that,

> The verb made in *Genesis 1:16* does not specifically mean "create"; it can refer to that, but it can also refer to "working" on something that is already there or even "appointed" (Collins 2006, p. 57).

Collins's reason for rejecting the creation of light on Day 1 and the creation of the sun, moon and stars on Day 4 is ultimately not based upon the text.

Although Collins is correct to point out that *asah* can mean something other than "make," *asah* means "make" everywhere else in Genesis One [10] and is justifiably translated that way in *Genesis 1:16* in all the major English translations as well as by leading Hebrew-English lexicons (Brown, Driver, and Briggs 2006, p. 794). Furthermore, it is poor exegesis to apply a different meaning to the same word simply to fit with evolutionary ideas such as the big bang.

Thirdly, the refrain "evening and morning" (*Genesis 1:5*, *8*, *13*, *19*, *23*, *31*) "indicates the end of each workday, and its absence from the seventh day is so striking that an adequate reading must account for it" (Collins 2006, p. 42). He believes…

> the lack of refrain on the seventh day leads us to wonder whether that day is open-ended, which would mean that the rest of human history takes place during God's Sabbath (Collins, pp. 74–75).

Collins goes on to say that "this Sabbath rest continues into the present, a notion that underlines *John 5:17* and *Hebrews 4:3–11*" (Collins 2006, p. 125). According to Collins, the refrain "evening & morning" presents God as a workman going through his workweek, taking His daily rest (the night between the evening & the morning) and enjoying His Sabbath "rest." It is this analogy that "cautions us against applying strict literalism to the passage" (Collins 2006, p. 125). The lack of refrain on the seventh day causes Collins to believe…

> it is not an ordinary day by any stretch of the imagination, and this makes us question whether the other days are supposed to be ordinary in their length (Collins 2006, p. 125).

Collins is not the only scholar to use this argument regarding the seventh day (for example, Mathews 1996, p. 149).

But we should note that the words of *Genesis 2:1* introduce the completion of God's creation. The seventh day is mentioned three times in verses *2:2–3* revealing its uniqueness and importance. The verbs "completed," "rested," and "blessed" indicate the uniqueness of this day, and these are all associated with the work of God on the first six days. Day 7 is not a day of creation, but a day of rest.
Dr. Robert McCabe (McCabe, pp. 225–242) shows there to be a five-fold framework apparent in the first six days, which is absent on Day Seven. This framework is used in Genesis 1:1–2:3 to shape each of the days:
Narration: "God said . . ."
Commandment: "Let there be . . ."
Fulfilment: "There was"
Evaluation: "God saw that it was good"
And conclusion: "There was evening and morning"

The evening and morning formula that has been used with the other days is no longer needed on Day 7 because the formula has a rhetorical function to mark the transition from the creative work of one day to the creative work of the following day. At the end of Day 6 the Creation week is now complete (*Genesis 1:31*) and, therefore, it is not necessary to use the evening and morning formula on Day 7. However, it is not only "evening and morning" that are missing from the seventh day but also all of the other parts of this framework. The framework is used to represent accurately God's work of creation. The reason this framework isn't used on the seventh day is to show God had ceased creating. Furthermore, no terminator is needed for the seventh day, like the others, since the terminator to this day is the *toledot* (*Gen 2:4*) as the next section of the narrative is about to begin. Collins's belief that the absence of the refrain on seventh day makes the other days non-literal is unwarranted. The Old Testament scholars Keil and Delitzsch comment:

> . . . the six creation-days, according to words of the text, were earthly days of ordinary duration, we must understand the seventh the same way because in every passage, in which it is mentioned as the foundation of the theocratic Sabbath, it is regarded as an ordinary day (Exodus 20:11; 31:17) (Keil and Delitzsch 1886, pp. 69–70).

Collins's use of *John 5:17* and *Hebrews 4* to show that the Sabbath day continues to the present day proves no such thing. John 5:17 says, "But Jesus answered them, 'My Father is working still, and I am working.'" In context, Jesus is referring to God's providential and redemptive work, not His creative work. The verse says nothing about the seventh day continuing. Hebrews 4:3 is referring to the spiritual rest that all believers enter into thru faith in Christ. Hebrews 4 quotes *Genesis 2:2* and *Psalm 95:7–11*, and these are used by the author as an argument to warn of the danger of unbelief. Again, the text does not say that the seventh day continues but rather that God's rest (from His creation work) continues.

Furthermore, if the seventh day is unending then this surely raises a serious theological problem: how could God curse the creation while at the same time blessing and sanctifying the seventh day (Whitcomb 1973, p. 68)?

Collins correctly points out that

> prior to the rise of the new geology in the eighteenth century, most Bible readers simply understood the creation period to be one ordinary week . . . and the creation took place somewhere in the vicinity of 4000 BC (Collins 2006, p. 123).

He thereby recognizes that the various attempts to harmonize Genesis with old-earth geology and old-universe cosmology are novel.

Collins also recognizes that scientific history suffers from philosophical problems, the main problem being neither scientists nor historians are not neutral (Collins 2006, p. 250). Regrettably, he does not see their non-neutrality when it comes to the age of the earth. He accepts the standard big bang cosmology stating:

> The Big Bang theory is an inference from empirical data . . . That it has survived serious scientific challenges so far is no guarantee that it will continue to do so. On the other hand, we can at least say that it is compatible with the reading of Genesis for which I have argued here (Collins 2006, pp. 256–257).

Collins's reliance upon the big bang is unfortunate as it is not only based upon philosophical naturalism (the belief that nature is all there is and that everything, including origins, can be explained by time, chance and the laws of nature), not empirical data, but it also contradicts the biblical account of creation in several ways. First, accepting the big bang model is to ignore what the Creator has revealed concerning how He created the universe. The Bible clearly teaches that God created everything in heaven and earth by His word within six days (*Psalm 33:6–9*; *Exodus 20:11*). This is in contrast to the big bang model, which explains the universe and earth as being created over billions of years by natural processes. Second, in the big bang theory the stars existed for billions of years before the earth while the Bible teaches that the stars were created (not "appeared") three days after the earth. Finally, the Bible also teaches that the earth was made from water & was completely covered with water (*Genesis 1:2–9*; *2 Peter 3:5*), whereas the big bang model teaches that the earth started out as molten rock and has never been completely covered with water.

Collins arguments for the analogical day view simply do not stand up under sound biblical exegesis of the text of Scripture. Hopefully Dr. Collins will change his mind concerning the days of creation since the evidence is clear that God created in six 24-hour days (*Genesis 1:1–2:3*; *Exodus 20:11*).

Conclusion

After surveying the arguments of the six evangelical scholars as to their reasons why the days of creation are not literal days of 24 hours that occurred a few thousand years ago, it is obvious that their arguments are not primarily textual but are driven by the claims of an evolutionary view of the world's history. It is interesting that most of the scholars recognize that Genesis is written as historical narrative and some even admit that the word *yom* in context refers to a day of 24 hours. However, it is unfortunate that many of the scholars caricature the young-earth position having not seriously considered arguments & evidences presented by that position.

Inferences based on "science" as to how and when the universe came to be have always changed with the times and the changing theories of science. The Scriptures, however, have not changed since God last spoke through His Son (*Hebrews 1:1–2*) and sound exegesis confirms young-earth creationism.

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Footnotes

1. Walter Kaiser believes in the day-age-theory but he does argue that Genesis 1 is history and chronological.
2. Mark Noll in his book *Scandal of the Evangelical Mind* also sees the young earth position as a modern invention. “Millions of evangelicals think they are defending the Bible by defending creation science, but in reality they are giving ultimate authority to the merely temporal, situated, and contextualized interpretations of the Bible that arose from the mania for science of the early nineteenth century” (Noll 1994, p. 199).
3. For the same usage of this word see *Genesis 2:17* and *Exodus 10:28*.
4. The Hebrew word *toledot* is translated as “these are the generations of” or “this is the account of” in *Genesis 2:4*; *5:1*; *6:9* and eight other times throughout Genesis, tying the whole book together as a unity. There are scholars who agree with Wiseman that the *toledots* are endings to their sections signifying who the author or custodian of that text was as it was passed on through the patriarchs to Moses. See Taylor 1994.
5. Harrison (2002) recognizes that: “Had it not been for the rise of the literal interpretation of the Bible and the subsequent appropriation of biblical narratives by early modern scientists, modern science may not have arisen at all. In sum, the Bible and its literal interpretation have played a vital role in the development of western science.”
6. See Pierce and Ham 2010 for a refutation of there being gaps in the Genesis genealogies.
7. Waltke and O’Connor (1990, p. 129) cite Genesis 1:2 as an example of this.
8. For other examples of such *waw* disjunctives describing a state of being rather than action, see *Genesis 2:10–14* (each verse starts this way), *Genesis 3:1a*; *Judges 8:10*; *1 Samuel 4:15* and *Zechariah 3:3*.
9. For a fuller treatment of this argument from *Mark 10:6* see Mortenson 2007a.
10. For example, *Genesis 1:26–27*, where it is used interchangeably with *bara* (create). See more evidence of the interchange of *asah* and *bara* in Mortenson 2007b.

Part_Four


No two ways about it – operational vs historical science
Creation Magazine LIVE!

Origins Theory Versus Operational Science

Origins vs. Operational Science. There is a fundamental distinction between the 'science' that deals with history and the science that deals with the operation of today's world. With operational science, you can do repeatable experiments, but you cannot with historical science, which deals with past events that are not repeatable. It does not matter much what your religious beliefs are, water still boils at a given temperature (unless of course you are a postmodernist who thinks that temperature is merely part of the meta-narrative of a Western Christian mindset; a mental construct and only 'true for you'). However, what you believe about spiritual matters profoundly affects what explanations of history and origins you will find acceptable. The late atheist paleontologist Stephen Jay Gould acknowledged this effect of philosophical bias, saying: "Facts are the world's data. Theories are structures of ideas that explain and interpret facts."

Biases drive this whole area. The 'facts' of history do not speak for themselves, as most philosophers today realize; they have to be interpreted. It happens to be the case at present that the interpretive framework is pure naturalism. In this paradigm, even 'god' and morals evolved; nothing is 'outside the box'—nature (matter, energy) is all there is. This is shown by the following admission: *"Even if all the data point to an intelligent designer, such an hypothesis is excluded from science because it is not naturalistic."*

James Conant, former president of Harvard University, said about historical 'science': "The sciences dealing with the past stand before the bar of common sense on a different footing. Therefore, a grotesque account of a period some thousands of years ago is taken seriously though it be built by piling special assumptions on special assumptions, ad hoc hypothesis on ad hoc hypothesis & tearing apart the fabric of science whenever it appears convenient. The result is a fantasia which is neither history nor science."

There is actually nothing in experimental science (the science that has given us so many modern technological benefits) that conflicts with the Bible. It is only the conjectures of historical science ("ad hoc hypothesis on ad hoc hypothesis") where conflict occurs. As God said to Job, "Where were you [i.e. were you there] when I laid the foundations of the earth?" (Job 38:4). No paleontologist or geologist was there; they have scraps and bits and pieces in the present, from which they try to construct a story about what happened in the past. *But only stories that fit the naturalistic paradigm are permitted.* Whether you believe in revelation or not has a profound effect.

Christians believe in revelation: God was there at Creation and no one else was. He has revealed how long He took to do the work and in what order He did it. He also revealed to us that it was Paradise; we can only know this by revelation. But the blight of sin spoiled it. Believers look forward to a coming Savior, the last Adam, who will restore Paradise (Revelation 21–22). Louis Berkhof, the respected systematic theologian, summed up the priority of Scripture when it comes to these matters: "Originally God revealed Himself in creation, but it was through the blight of sin that original revelation was obscured. Moreover, it was entirely insufficient in the condition of things that obtained after the fall. Only God's self-revelation in the Bible can now be considered adequate. It conveys a knowledge of God that is pure, that is free from error and superstition, and that answers to the spiritual needs of fallen man. Some are inclined to speak of God's general revelation as a second source; but this is hardly correct in view of the fact that nature can come into consideration as interpreted in light of Scripture."

Why this matters. Those who hold to the historicity of Genesis are often told, 'But it's divisive!' However, according to the Apostle Paul, the divisive ones are those that bring doctrines contrary to Scripture, and Jude included scoffers who deny the global Flood. Influential atheist philosopher Daniel Dennett described Darwinism in his book Darwin's Dangerous Idea as a "universal acid; and it eats through just about every traditional concept & leaves in its wake a revolutionized worldview." We only have to look at who and what (social) Darwinian ideas have inspired to see the truth of this statement: Karl Marx, Joe Stalin, Mao, Ceausescu, Kim Il-sung, Pol Pot, Hitler & the eugenics movement (founded by Francis Galton, Darwin's cousin). These offspring of Darwinism murdered over 150 million people and brought untold misery to many more. And we could mention the likes of the

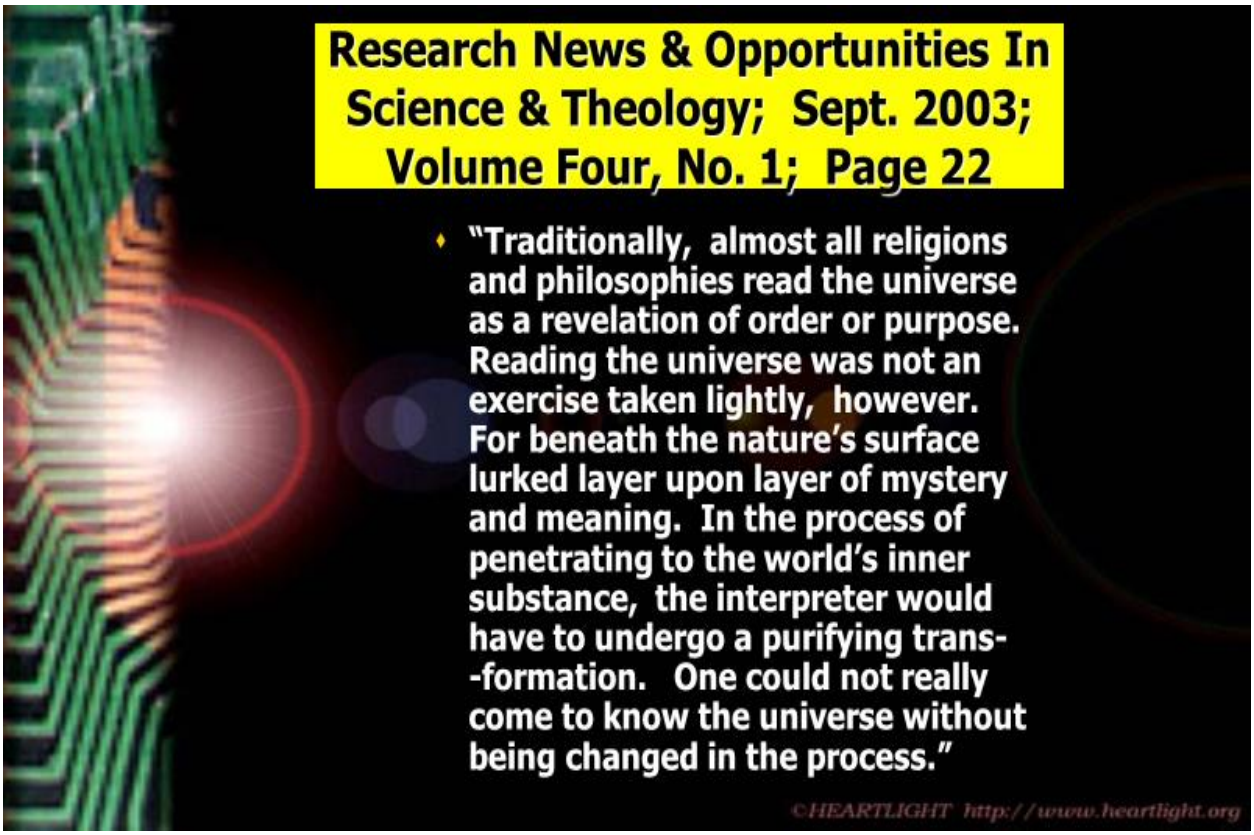
Australian Peter Singer (now at Princeton University in America where Hodge and Warfield once taught), who sometimes passes for a 'bioethicist', with his ideas of murdering children and the elderly whose lives are deemed to be not worthwhile, while also condoning bestiality. Atheists hate these connections being pointed out, but they are real. Of course, this does not prove evolutionary dogma wrong; but if the universe is as the evolutionists claim, then these views & their effects are logical outcomes. "By their fruit you shall know them." Jesus was speaking of people, but ideas bear fruit too. Note that our argument is not that atheists cannot live 'good' lives, but that there is no objective basis for their goodness if we are just rearranged pond scum.

Christians should never compromise with this worldview that brings so much death and misery; a worldview that is an explicit substitute for Christianity, that is anti-Christ and that can destroy their children, friends, or anyone. Christians should obtain their worldview from what the Creator of all has revealed. That is, they should emulate Martin Luther's famous, "Here I stand" on the authority of God's Word from Gen. 1:1ff; any other authority results in a world running away from its Creator, and in eternally wrecked lives.

1. Documented in Sarfati, J., The Authority of Scripture, Apologia 3(2):12–16 1994;creation.com/authority. Canon: the books that make up the Bible.

2. Livingston, D., Jesus Christ on the infallibility of Scripture, from 'A Critique of Dewey Beegle's book titled: Inspiration of Scripture', MA Thesis, 2003; creation.com/jesus_bible.

3. For a critical analysis of this and other faulty Jesus Seminar methodology, see Wright, N.T., Jesus and the Victory of God, ch. 2, SPCK, London.


Research News & Opportunities In Science & Theology; Sept. 2003; Volume Four, No. 1; Page 22
"Traditionally, almost all religions and philosophies read the universe as a revelation of order or purpose. Reading the universe was not an exercise taken lightly, however. For beneath the nature's surface lurked layer upon layer of mystery and meaning. In the process of penetrating to the world's inner substance, the interpreter would have to undergo a purifying trans--formation. One could not really come to know the universe without being changed in the process."
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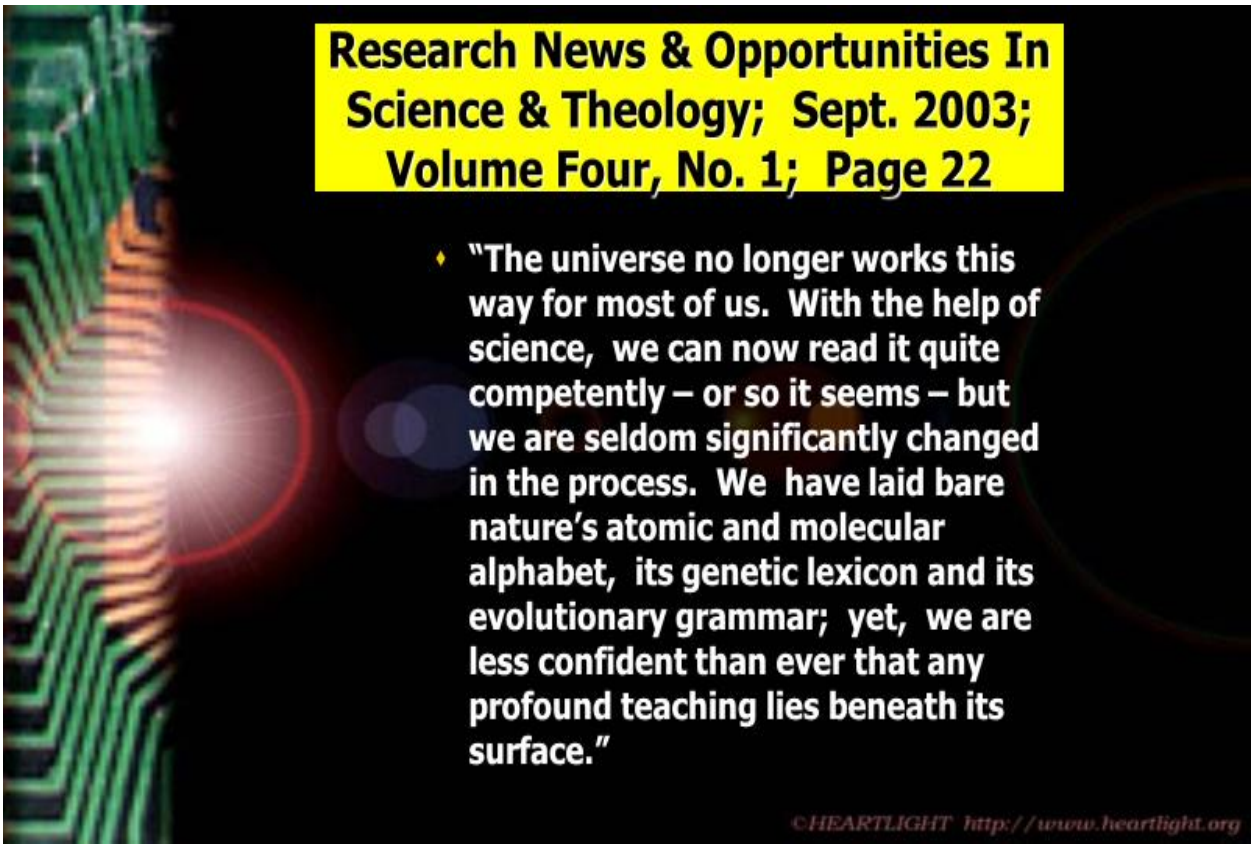
Research News & Opportunities In Science & Theology; Sept. 2003; Volume Four, No. 1; Page 22
"The universe no longer works this way for most of us. With the help of science, we can now read it quite competently – or so it seems – but we are seldom significantly changed in the process. We have laid bare nature's atomic and molecular alphabet, its genetic lexicon and its evolutionary grammar; yet, we are less confident than ever that any profound teaching lies beneath its surface."
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Research News & Opportunities In Science & Theology; Sept. 2003; Volume Four, No. 1; Page 22
"Scientifically educated people today, generally speaking, do not read the cosmos as a text bearing any deep meaning at all. To some, the universe is a swirl of meaningless matter on which a patina of life and mind now glimmers for a cosmic instant before fading out forever. To others, it is a blank tablet onto which we may inscribe our own human meanings. Today, 'cosmic purpose' is scarcely mentioned in learned circles – a hush not only tolerated but, at times, even celebrated in the academic world."
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Research News & Opportunities In Science & Theology; Sept. 2003; Volume Four, No. 1; Page 22
"What could it possibly mean to say that the universe has a purpose? 'Purpose' usually means the 'goal' or 'end' toward which a set of events is oriented. Deeper, purpose implies that something of great value is in the process of being realized."
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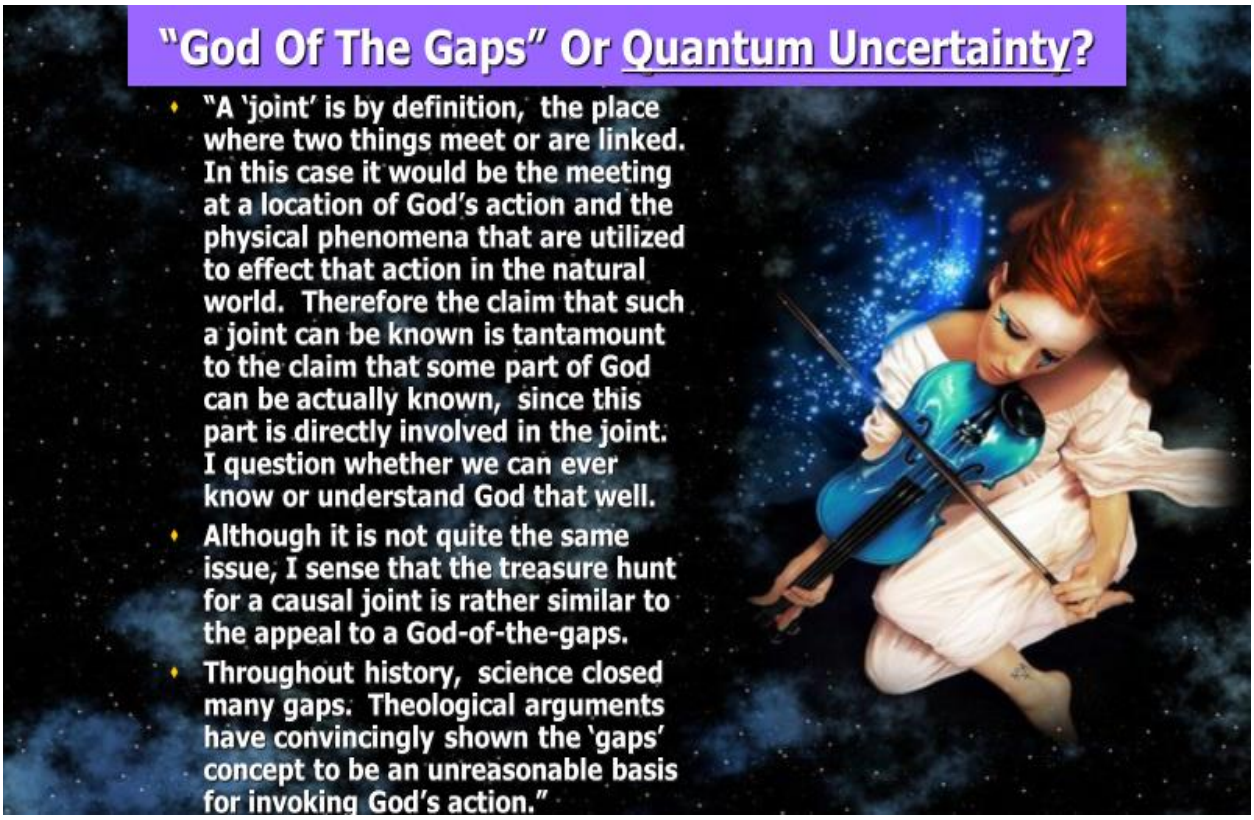
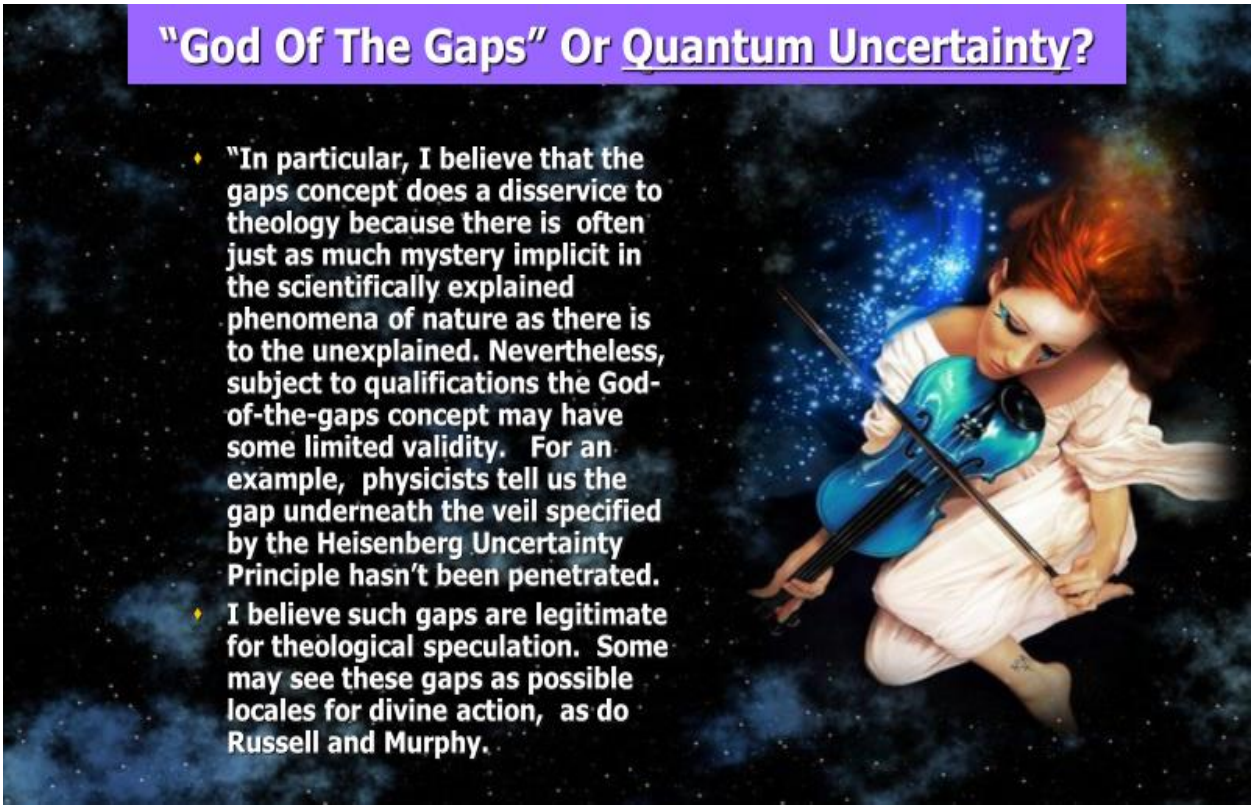
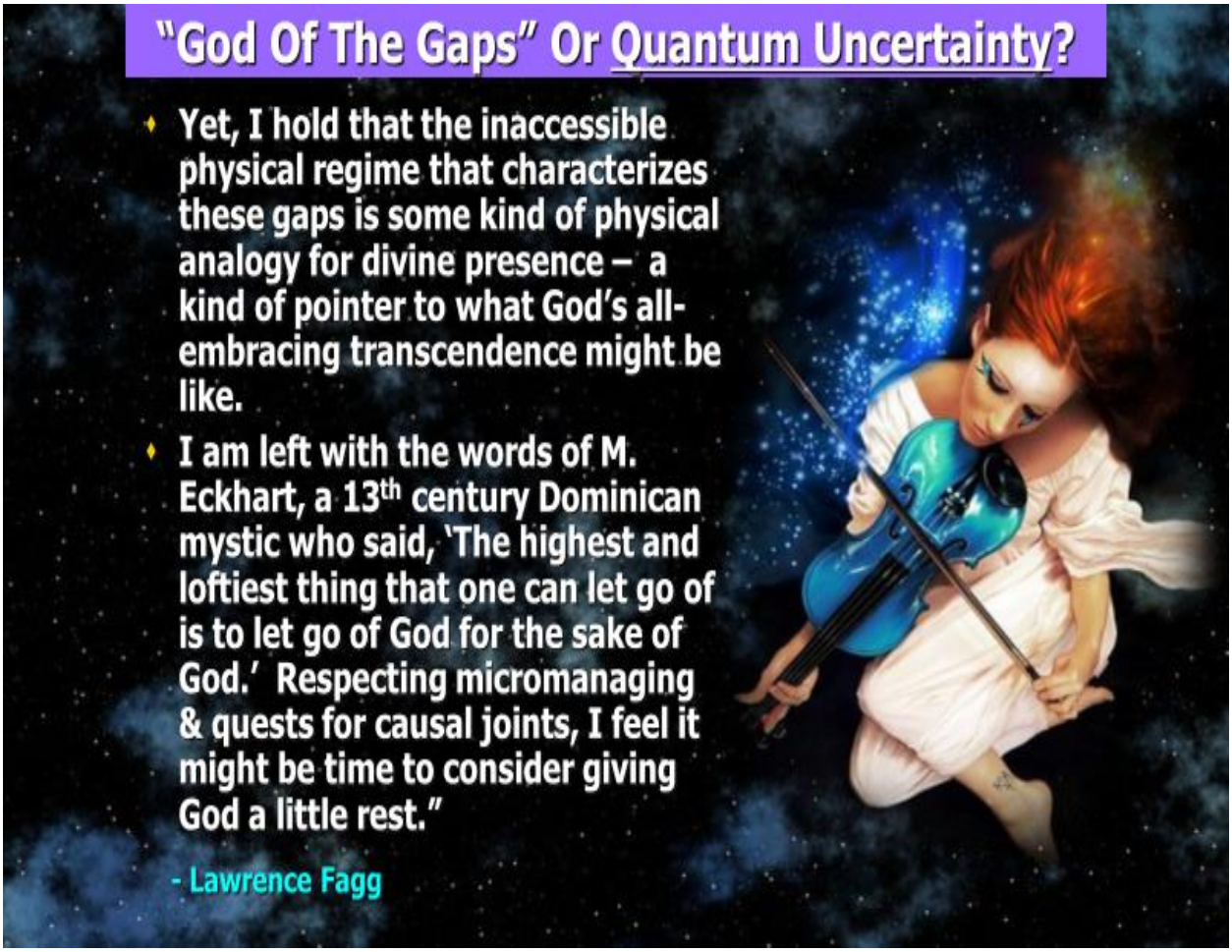
"God Of
The Gaps"
Vs.
The Cosmic
Micromanager
?


Darwinist
Search For
Missing Link
Versus
Creationist
Search For
The Causal
Joint!


"God Of The Gaps" Or Quantum Uncertainty?
"A 'joint' is by definition, the place where two things meet or are linked. In this case it would be the meeting at a location of God's action and the physical phenomena that are utilized to effect that action in the natural world. Therefore the claim that such a joint can be known is tantamount to the claim that some part of God can be actually known, since this part is directly involved in the joint. I question whether we can ever know or understand God that well.
Although it is not quite the same issue, I sense that the treasure hunt for a causal joint is rather similar to the appeal to a God-of-the-gaps.
Throughout history, science closed many gaps. Theological arguments have convincingly shown the 'gaps' concept to be an unreasonable basis for invoking God's action."


"God Of The Gaps" Or Quantum Uncertainty?
"In particular, I believe that the gaps concept does a disservice to theology because there is often just as much mystery implicit in the scientifically explained phenomena of nature as there is to the unexplained. Nevertheless, subject to qualifications the God-of-the-gaps concept may have some limited validity. For an example, physicists tell us the gap underneath the veil specified by the Heisenberg Uncertainty Principle hasn't been penetrated.
I believe such gaps are legitimate for theological speculation. Some may see these gaps as possible locales for divine action, as do Russell and Murphy.


"God Of The Gaps" Or Quantum Uncertainty?
Yet, I hold that the inaccessible physical regime that characterizes these gaps is some kind of physical analogy for divine presence – a kind of pointer to what God's all-embracing transcendence might be like.
I am left with the words of M. Eckhart, a 13th century Dominican mystic who said, 'The highest and loftiest thing that one can let go of is to let go of God for the sake of God.' Respecting micromanaging & quests for causal joints, I feel it might be time to consider giving God a little rest."
- Lawrence Fagg


And the earth was without form, and void;
and darkness was upon the face of the deep.
Genesis 1:2


www.CreationOnTheWeb.org/
mind

ON THE CO-EXISTENCE OF MEN AND DINOSAURS

by Paul Burris (my father)

Believers in the evolution hypothesis often ridicule those of us who believe that humans and dinosaurs existed at the same time. They believe that dinosaurs existed millions of years ago ad that humans existed much later.

Been there, done that: I once pursued a degree in Petroleum Engineering (Tyler Junior College, 1948). As required, I studied so-called "historical geology," which is "pure" evolution. At that time, I didn't just accept the premise – In a class size of about 75, my GPA was second from the top.

But Genesis 1:24-27 tells us that men and dinosaurs, and indeed all animal life on land, were created on the 6th day of this earth's existence. This was only a few thousand years ago.

Attempting to rectify the obvious contradiction, I later subscribed to the (erroneous) "gap theory." But that is another story.

But the "gap theory" is not needed. There are several evidences in addition to the Genesis record that tell us that men and dinosaurs existed concurrently: Petroglyphs, rock drawings of dinosaurs, Ica burial stones, and the writings of Herodatus.

At the Natural Bridges National Monument in Southwest Utah, at the Kachina Bridge, is a rock carving (an Indian Petroglyph depicting a dinosaur.

In 1924, archaeologist Samuel Hubbard found near the Grand Canyon (at Huvai Supai Canyon) on the canyon wall, pictures of an elephant, a wild goat and a dinosaur, which had been drawn by Ancient American Indians.

In 1944, a German businessman, Waldemar Julsrud, found carved stones and ceramic pieces, hundreds of dinosaur figurines. These included such dinosaurs as Triceratops, Stegosaurus, Iguanodon, Bracchiosaurus and Tyrannosaurus Rex. These were at the foot of the El Toro Mountains in Acambaro, Mexico, buried there.

A man named Javier Cabrera Darquia found Ica burial stones in Peru which depicted dinosaurs such as Triceratops and Stegosaurus and Pterosaurs dating from A.D. 500 to A.D. 1500. Ancient Ica people placed burial stones with their dead.

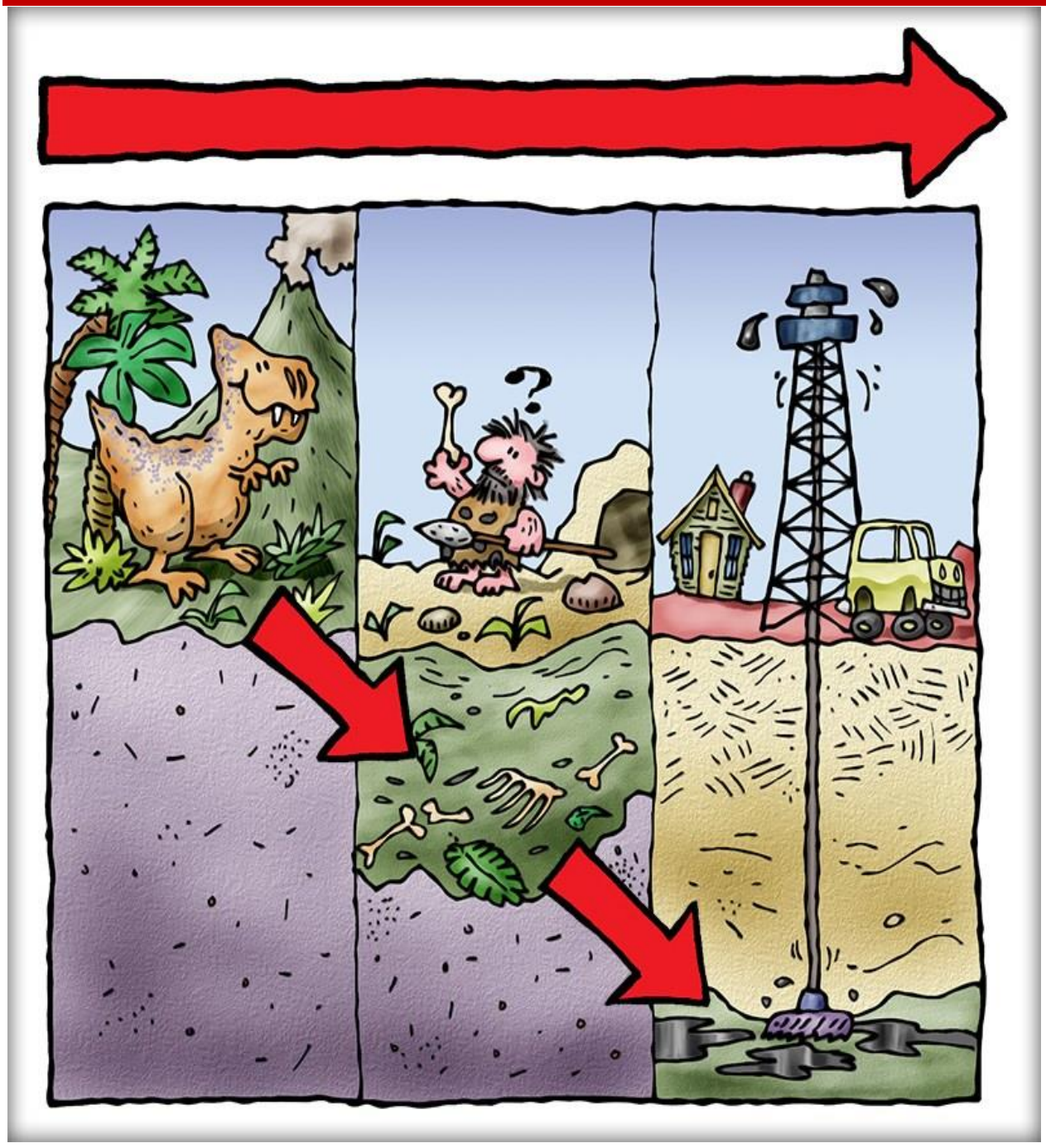
How could all these people have known what dinosaurs looked like it they had not seen them?

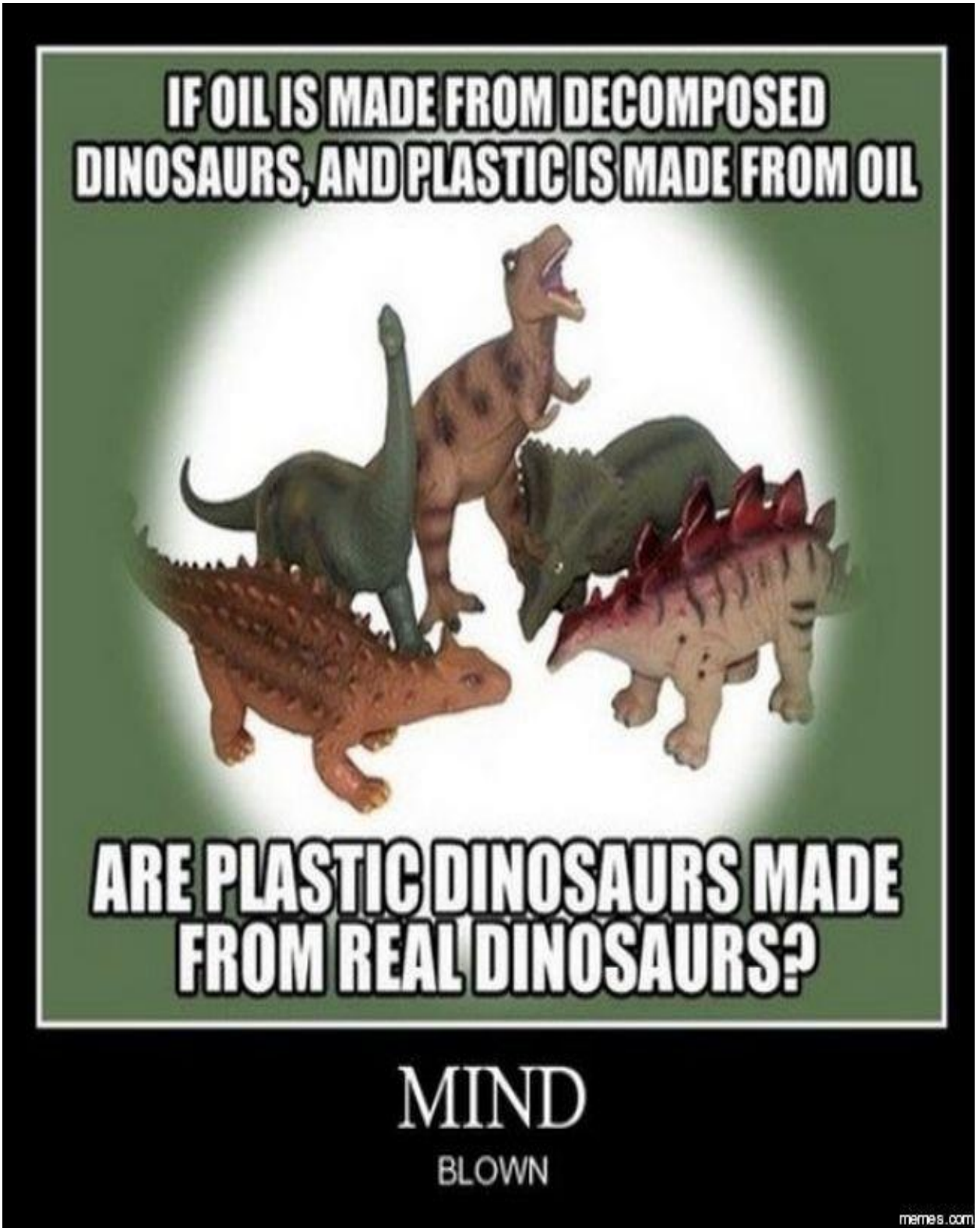
Herodotus, an ancient historian, in about B.C. 450 saw bones and spines of flying serpents, with wings similar to those of bats. This was in Arabia, and he wrote of these.

The above evidences that dinosaurs and men existed concurrently are in a publication of Apologetics Press, Inc. of Montgomery, Alabama.

GENESIS CHAPTER ONE & VERSE ONE

PRE-ADAMIC PROTOHISTORY




IF OIL IS MADE FROM DECOMPOSED DINOSAURS, AND PLASTIC IS MADE FROM OIL
ARE PLASTIC DINOSAURS MADE FROM REAL DINOSAURS?
MIND
BLOWN
memes.com

The Bible and the Age of the Earth— The Gap Theory

SUMMARY OF THE GAP THEORY

Those who advocate the Gap Theory base their views on several arguments, a summary of those arguments is given here:

1. **Gap theorists suggest that two Hebrew words in the creation account mean entirely different things. Gap theorists hold to the belief that *bara* (used in Genesis 1:1,21,27) means "to create" (i.e., *ex nihilo* creation). *Asah*, however, does not mean "to create," but instead means "to re-create" or "to make over." Therefore, we are told, the original creation was "created"; the creation of the six days was "made" (i.e., "made over").**
2. **Gap theorists suggest that the Hebrew verb *hayetha* (translated "was" in Genesis 1:2) should be rendered "became" or "had be-come"—a translation required in order to suggest a change of state from the original perfect creation to the chaotic conditions implied in verse 2.**
3. **Gap theorists believe that the "without form and void" of Genesis 1:2 (Hebrew *tohu wabohu*)can refer only to something once in a state of repair, but now ruined. Pember accepted these words as expressing "an outpouring of the wrath of God." Gap theorists believe the cataclysm that occurred was on the Earth, and was the direct result of Satan's rebellion against God. The cataclysm, of course, is absolutely essential to the Gap Theory. Isaiah 14:12-15 and Ezekiel 28:11-17 are used as proof-texts to bolster the theory.**
4. **Gap theorists believe that Isaiah 45:18 ("God created the earth not in vain"—Hebrew, *tohu*; same word as "without form" in Genesis 1:2) is a proof-text that God did not create the Earth *tohu*. Therefore, they suggest, Genesis 1:2 can refer only to a judgment brought upon the early Earth by God.**
5. **Gap theorists generally believe that there was a pre-Adamic creation of both non-human and human forms. Allegedly, Jeremiah 4:23-26 is the proof-text that requires such a position, which accounts for the fossils present in the Earth's strata.**

Several gap models have been proposed over the years for one reason—to add secular ideas of long ages to the Bible. Here are some of the various models:

1. Pre-time gap. This view adds long ages prior to God creating in *Genesis 1:1*. This falls short for a number of reasons. For example, how can one have millions of years of time prior to the creation of time?
2. Ruin-reconstruction gap. This is the most popular gap idea, which adds long ages between *Genesis 1:1* and *Genesis 1:2*. It was popularized by Scottish pastor Thomas Chalmers in the early 1800s. This idea is promoted in the Scofield and Dake study Bibles and is often associated with a Luciferian fall and flood. See the refutations here and here and in the book *Unformed and Unfilled*.
3. Modified gap/precreation chaos gap. This view adds long ages between *Genesis 1:2 and 1:3*, and is primarily addressed in this article. One refutation of this view is in the Proceedings of the Sixth International Conference on Creationism, 2008, by John Zoschke, *A Critique of the Precreation Chaos Gap Theory*, ed., Andrew Snelling.
4. Soft gap. This also includes a gap between *Genesis 1:2 and 1:3*, but unlike previous views, it has no catastrophic events or destruction of a previous state. It merely proposes that God created the world this way and left it for long periods of time in an effort to get starlight here. In essence, this view has a young earth and old universe. The problem is that stars were created after the proposed gap (Day Four), and it is unnecessary to make accommodations for long ages to solve the so-called starlight problem. See Anisotropic Synchrony Convention by Dr. Jason Lisle.
5. Late gap. This view has a gap between chapters 2 and 3 of Genesis. In other words, some believe that Adam and Eve lived in the Garden for long ages before sin. This view has problems too. For example, Adam and Eve were told by God to be "fruitful and multiply" in *Genesis 1:28*, and waiting long ages to do so would have been disobedience. In addition, there is the problem of Adam only living 930 years (*Genesis 5:5*). For a refutation see When Did Adam and Eve Rebel?.

This modified gap theory is inconsistent with God creating everything in six days, as Scripture states. The plain meaning of the text is that everything was created sequentially: the earth, light, plants, sun, moon, stars, birds and fish, beasts, and man. The modified gap suggests that Day One lasted for millions of years while the rest of the days were normal length.

Exodus 20:11 states, "For in six days the Lord made the heavens and earth, the sea, and all that is in them, and rested the seventh day. Therefore the Lord blessed the Sabbath day, and hallowed it." Thus, the creation of the heavens and the earth (*Genesis 1:1*) and the sea and all that is in them (the rest of the creation) was completed in six days. Is there any room for an alternative interpretation that truly honors Scripture, based on this clear passage?

Since the sun, moon, and stars were not created until Day Four, the modified gap theorist has to either accept billions of years with nothing in space but a lush earth, or rearrange the order of the Genesis 1 creation account without any hermeneutical basis.

USING SCRIPTURE AS OUR STARTING POINT, WE CAN SHOW THAT THE PHYSICAL EVIDENCE IS CONSISTENT WITH AN EARTH BEING A FEW THOUSAND YEARS IN AGE.

Using Scripture as our starting point, we can show that the physical evidence is consistent with an earth being a few thousand years in age. There is significant evidence that can be discussed—the decay and rapid reversals of the earth's magnetic field, the amount of salt in the oceans, the wind-up of spiral galaxies, helium in zircons, C-14 in diamonds, and much more.

The modified gap also calls into question the words of our Lord and Savior Jesus Christ. Consider that He said in *Mark 10:5–8* that mankind was made from the beginning of creation, not billions of years later:
And Jesus answered and said unto them, For the hardness of your heart he wrote you this precept. But from the beginning of the creation God made them male and female. For this cause shall a man leave his father and mother, and cleave to his wife; and the two shall be one flesh: so then they are no more two, but one flesh.

The modified gap attempts to blend secular long ages with the Bible, but there is no need for a gap. The modified gap does not "bridge the gap" (pun intended) between biblical creation and long ages. Instead, it is an arbitrary attempt to compromise with secular interpretations of the age of the earth and universe.

It also opens up a major theological problem of *death before sin*. This results in the idea of death being "very good" (*Genesis 1:31*) and undermines the reason for Christ's atonement to save us from sin and death. Death is the result of sin and did not occur millions of years before Adam. Please take some time to consider this with your Bible in hand.

What About the Gap & Ruin-Reconstruction Theories?

by Ken Ham on September 6, 2007
Also available in اُردُو and 中文

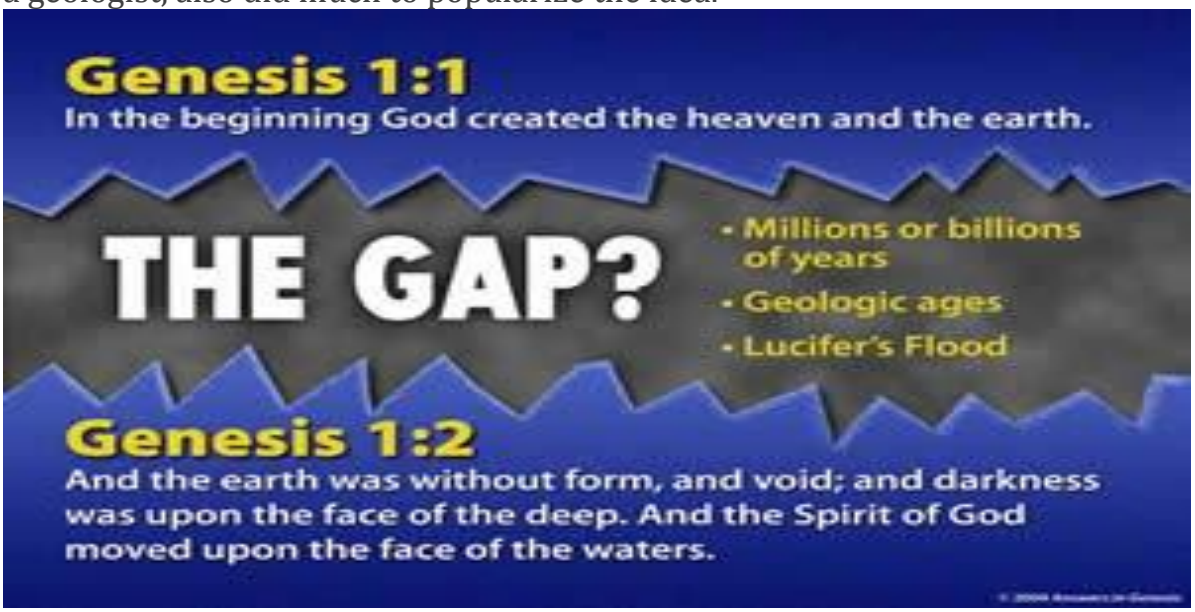
Because of the accepted teachings of evolution, many Christians have tried to place a gap of indeterminate time between the first two verses of Genesis 1. *Genesis 1:1–2* states: "In the beginning God created the heavens and the earth. The earth was without form, and void; and darkness was on the face of the deep. And the Spirit of God was hovering over the face of the waters."
There are many different versions as to what supposedly happened during this gap of time, but most versions of the gap theory place millions of years of geologic time (including billions of animal fossils) between the Bible's first two verses. **This version of the gap theory is sometimes called the ruin-reconstruction theory.** Most ruin-reconstruction theorists have allowed the fallible theories of secular scientists to determine the meaning of Scripture and have, therefore, accepted the millions-of-years dates for the fossil record.

Some theorists also put the fall of Satan in this supposed period. But any rebellion of Satan during this gap of time contradicts God's description of His completed creation on Day 6 as all being "very good" (*Genesis 1:31*). All versions of the gap theory impose outside ideas on Scripture & open the door for further compromise.

Where Did the Gap Theory Come From?

Christians have made many attempts over the years to harmonize the Genesis account of creation with accepted geology and its teaching of billions of years for the age of the earth. Examples of such attempts include the views of theistic evolution, progressive creation, and the gap theory.

This idea of the gap theory can be traced back to the rather obscure writings of the Dutchman Episcopius (1583–1643), but it was first recorded from one of the lectures of Thomas Chalmers.[1] Chalmers (1780–1847) was a notable Scottish theologian and the first moderator of the Free Church of Scotland, and he was perhaps the man most responsible for gap theory.[2] Reverend William Buckland, a geologist, also did much to popularize the idea.



Although Chalmers' writings give little information about the gap theory,[3] many of the details are obtained from other writers, such as the nineteenth century geologist Hugh Miller, who quoted from Chalmers' lectures on the subject.[4]

The most notably influential nineteenth century writer to popularize this view was G. H. Pember, in his book *Earth's Earliest Ages*,[5] first published in 1884. Numerous editions of this work were published, the 15th edition appeared 1942.[6] The 20th-century writer who published the most academic defense of the gap theory was Arthur C. Custance in his work *Without Form and Void*.[7]

Bible study aids such as the Scofield Reference Bible, Dake's Annotated Reference Bible, and The Newberry Reference Bible also include the gap theory and have influenced many to accept this teaching. The basic reason for developing and promoting this view can be seen from the following very telling quotes:

> Scofield Study Bible: "Relegate fossils to the primitive creation, and no conflict of science with the Genesis cosmogony remains."[8]

> Dake's Annotated Reference Bible: "When men finally agree on the age of the earth, then place the many years (over the historical 6,000) between Genesis 1:1 and 1:2, there will be no conflict between the Book of Genesis and science."[9]

These quotes are typical of the many compromise positions—accepting so-called "science"[10] and its long ages for the earth, and incorporating them into Scripture.

A Testimony of Struggle

G. H. Pember's struggle with long geologic ages, recounted in *Earth's Earliest Ages*, has been the struggle of many Christians ever since the idea of millions of years for the fossil record became popular in the early nineteenth century. Many respected Christian leaders of today wrestle with this same issue.
Reading Pember's struggle helps us understand the implications of the gap theory. Pember, like today's conservative Christians, defended the authority of Scripture. He was adamant that one had to start *from* Scripture alone and *not* bring preconceived ideas *to* Scripture. He boldly chastened people who came to the Bible "filled with myths, philosophies, and prejudices, which they could not altogether throw off, but retained, in part at least, and mingled—quite unwillingly, perhaps—with the truth of God" (p. 5). He describes how the church is weakened when man's philosophies are used to interpret God's Word: "For, by skillfully blending their own systems with the truths of Scripture, they so bewildered the minds of the multitude that but few retained the power of distinguishing the revelation of God from craftily interwoven teachings of men" (p. 7). Pember also said, "And the result is that inconsistent and unsound interpretations have been handed down from generation to generation, and received as if they were integral parts of the Scriptures themselves; while any texts which seemed violently opposed were allegorized, spiritualized, or explained away, till they ceased to be troublesome, or perchance, were made subservient."

He then warns Christians, "For, if we be observant & honest, we must ourselves feel the difficulty of approaching the sacred writings without bias, seeing that we bring with us a number of stereotyped ideas, which we've received as absolutely certain, and never think of testing, but only seek to confirm" (p. 8).

HE DID NOT WANT TO QUESTION SCRIPTURE . . . BUT HE DID NOT QUESTION THE LONG AGES, EITHER.

What happened to Pember should warn us that no matter how great a theologian we may be or how respected and knowledgeable a Christian leader, we, as finite, sinful human beings, cannot easily empty ourselves of preconceived ideas. Pember did exactly what he preached against, without realizing it. Such is the ingrained nature of the long-ages issue. He did not want to question Scripture (he accepted the six literal days of creation), but he did not question the long ages, either.

So Pember struggled with what to do. Many of today's respected Christian leaders show the same struggle in their commentary as they then capitulate to progressive creation or even theistic evolution.11
Pember said, "For, as the fossil remains clearly show not only were disease and death—inseparable companions of sin—then prevalent among the living creatures of the earth, but even ferocity and slaughter." He, therefore, recognized that a fossil record of death, decay, and disease before sin was totally inconsistent with the Bible's teaching. And he understood that there could be no carnivores before sin: "On the Sixth Day God pronounced every thing which He had made to be very good, a declaration which would seem altogether inconsistent with the present condition of the animal as well as the vegetable kingdom. Again: He gave the green herb alone for food 'to every beast of the field, and to every fowl of the air, and to everything that creepeth upon the earth.' There were, therefore, no carnivora in the sinless world" (p. 35).

Pember taught from Isaiah that the earth will be restored to what it was like at first—no more death, disease, or carnivorous activity. However, because he had accepted the long ages for the fossil record, what was he to do with all this death, disease, and destruction in the record? He responded, "Since, then, fossil remains are those of creatures anterior to Adam, and yet show evident tokens of disease, death & mutual destruction, they must have belonged to another world & have a sin-stained history of their own" (p. 35).
Thus, in trying to reconcile the long ages with Scripture, Pember justified the gap theory by saying, "There is room for any length of time between the first & second verses of the Bible. And again; … since we have no inspired account of geological formations, we are at liberty to believe that they were developed just in the order which we find them. The whole process took place in time pre-Adam, in connection, perhaps, with another race of beings and does not at present concern us" (p. 28).

With this background, let us consider this gap theory in detail. Basically, this theory incorporates three strands of thought:

1. A literal view of Genesis.
2. Belief in an extremely long but unidentified age for the earth.
3. An obligation to fit the origin of most of the geologic strata and other geologic evidence between Genesis 1:1 and 1:2. (Gap theorists oppose evolution but believe in an ancient origin of the universe.)

There are many variations of the gap theory. According to the author Weston Fields, the theory can be summarized as follows, "In the distant dateless past, God created a perfect heaven and perfect earth. Satan was ruler of the earth which was peopled by a race of 'men' without any souls. Eventually, Satan, who dwelled in a garden of Eden composed of minerals (*Ezekiel 28*), rebelled by desiring to become like God (*Isaiah 14*). Because of Satan's fall, sin entered the universe & brought on the earth God's judgment in the form of a flood (indicated by the water of 1:2), and then a global ice age when the light and heat from the sun were somehow removed. All the plant, animal, and human fossils upon the earth today date from this 'Lucifer's flood' and do not bear any genetic relationship with the plants, animals, and fossils living upon the earth today."[12]
Some versions of the gap theory state the fossil record (geologic column) formed over millions of years, and then God destroyed the earth with a catastrophe (i.e., Lucifer's flood) that left it "without form and void."

Western Bible commentaries written before the 18th century (before the belief in a long age for the earth became popular) knew nothing of any gap between Genesis 1:1 and 1:2. Certainly some commentaries proposed intervals of various lengths of time for reasons relating to Satan's fall,[13] but none proposed a ruin-reconstruction situation or a pre-Adamite world. In the nineteenth century, it became popular to believe that the geological changes occurred slowly and roughly at the present rate (uniformitarianism[14]). With increased acceptance of uniformitarianism, theologians urged reinterpretation of Genesis (with ideas such as day-age, progressive creation, theistic evolution, and days-of-revelation).

Problems with the Gap Theory

Believing in the gap theory presents a number of problems and inconsistencies, especially for a Christian.

1. It is inconsistent with God creating *everything* in six days, as Scripture states.
   Exodus 20:11 says, "For in six days the Lord made the heavens and earth, the sea, and all that is in them, and rested the seventh day. Therefore the Lord blessed the Sabbath day, and hallowed it." Thus the creation of the heavens and the earth (Genesis 1:1) and the sea and all that is in them (the rest of the creation) was completed in six days.[15] Is there any time for a gap?

2. It puts death, disease, and suffering before the Fall, contrary to Scripture.

   Romans 5:12 says, "Therefore, just as through one man [Adam] sin entered the world, and death through sin, and death spread to all men, because all sinned." From this we understand that there could not have been human sin or death before Adam. The Bible teaches in *1 Corinthians 15* that Adam was the first man, and as a result of his rebellion (sin), death & corruption (disease, bloodshed, and suffering) entered the universe. Before Adam sinned, there couldn't have been any animal (*nephesh*16) or human death. Note also that there could not have been a race of men before Adam that died in Lucifer's flood because 1 Corinthians 15:45 tells us that Adam was the first man.

   Genesis 1:29–30 teaches us that animals and man were originally created to eat plants, which is consistent with God's description of His creation as "very good." How could a fossil record, which gives evidence of disease, violence, death, and decay (fossils have been found of animals apparently fighting and certainly eating each other), be described as "very good"? For this to be true, the death of billions of animals (and many humans) as seen in the fossil record must have occurred *after* Adam's sin. The historical event of the global Flood, recorded in Genesis, explains the presence of huge numbers of dead animals buried in rock layers, laid down by water all over the earth.

   Romans 8:22 teaches that "the whole creation groans and travails in pain together until now." Clearly the whole of creation was, and is, subject to decay and corruption because of sin. When gap theorists believe disease, decay & death existed before Adam sinned, they ignore this contradicts the teaching of Scripture.17

   The version of the gap theory that puts Satan's fall at the end of geological ages, just before the supposed Lucifer's flood that destroyed all pre-Adam life, has a further problem—the death and suffering recorded in the fossils must have been God's fault. Since it happened before Satan's fall, Satan and sin cannot be blamed for it.18

3. The gap theory is logically inconsistent because it explains away what it is supposed to accommodate—supposed evidence for an old earth.

   Gap theorists accept that the earth is very old—a belief based on geologic evidence interpreted with the assumption that the present is the key to the past. This assumption implies that in the past sediments containing fossils formed at basically the same rate as they do today.

This process is also used by most geologists and biologists to justify belief that the geologic column represents billions of years of earth history. This geologic column has become the showcase of evolution because the fossils are claimed to show ascent from simple to complex life-forms. This places gap theorists in a dilemma. Committed to literal creation because of their acceptance of a literal view of Genesis, they cannot accept the conclusions of evolution based on the geologic column. Nor can they accept the days in the Genesis record correspond to geologic periods. So, they propose that God reshaped the earth & re-created life in six literal days after Lucifer's flood (which produced the fossils); hence the name "ruin-reconstruction." Satan's sin supposedly caused this flood & resulting judgment upon that sin reduced the previous world to a state of being "without form & void."

While the gap theorist may think Lucifer's flood solves the problem of life before God's creation recorded in Genesis 1:2 and following, this actually removes the reason for the theory in the first place. If all, or most, of the sediments and fossils were produced quickly in one massive worldwide Lucifer's flood, then the main evidence that the earth is extremely old no longer exists, because the age of the earth is based on the assumed slow formation of earth's sediments.

If the world was reduced to a shapeless, chaotic mess, as gap theorists propose, how could a reasonably ordered assemblage of fossils and sediments remain as evidence? Surely with such chaos the fossil record would have been severely disrupted, if not entirely destroyed. This argument also applies to those who say the fossil record formed over hundreds of millions of years before this so-called Lucifer's flood, which would have severely rearranged things.

4. The gap theory does away with the evidence for the historical event of the global Flood.

   If the fossil record was formed by Lucifer's flood, then what did the global Flood of Noah's day do? On this point, the gap theorist becomes forced to conclude that the global Flood must have left virtually no trace. To remain consistent, the gap theorist would also have to defend the global Flood as a local event. Custance, one of the major proponents of the gap theory, did just that, and he even published a paper defending a local flood.19 Genesis, however, depicts the global Flood as a judgment for man's sin (*Genesis 6*). Water flooded the earth for over a year (*Genesis 6:17, 7:19–24*)

and only eight people, along with two of every kind (and seven of some) of air-breathing, land-dwelling animal survived (*Genesis 7:23*). It is more consistent with the whole framework of Scripture to attribute most fossils to the global Flood of Noah's day rather than a strained interpretation of the fall of Satan20 and a totally speculative catastrophe that contributes nothing to biblical understanding or to science.

Sadly, in relegating the fossil record to the supposed gap, gappists have removed the evidence of God's judgment in the Flood, which is the basis for God's warning of judgment to come (*2 Peter 3:2–14*).

5. The gap theorist ignores the evidence for a young earth.
   The true gap theorist also ignores evidence consistent with an earth fewer than 10,000 years of age. There is much evidence for this—the decay and rapid reversals of the earth's magnetic field, the amount of salt oceans, the wind-up of spiral galaxies, and much more.21
6. The gap theory fails to accommodate standard uniformitarian geology with its long ages.

   Today's uniformitarian geologists allow for no worldwide flood of any kind—the imaginary Lucifer's flood or the historical Flood of Noah's day. They also recognize no break between the supposed former created world and the current recreated world.

7. Most importantly, the gap theory undermines the gospel at its foundations.

   By accepting an ancient earth age (based on the standard uniformitarian interpretation of the geologic column), gap theorists leave evolutionary systems intact (which by their own assumptions they oppose).

   Even worse, they must also theorize that *Romans 5:12* & *Genesis 3:3* refer only to spiritual death. But this contradicts other scriptures, such as *1 Corinthians 15* and *Genesis 3:22–23*. These passages tell us that Adam's sin led to *physical* death, as well as spiritual death. In 1 Corinthians 15 the death of the Last Adam (the Lord Jesus Christ) is compared with the death of the first Adam. Jesus suffered physical death for man's sin, because of Adam, the first man, who died physically because of sin.
   In cursing man with physical death, God provided a way to redeem man through the person of His Son Jesus Christ, who suffered the curse of

death on the Cross for us. Jesus tasted "death for everyone" according to *Hebrews 2:9*. He took the penalty that should rightly have been ours at the hands of the Righteous Judge, and bore it in His own body on the Cross. Jesus Christ tasted death for all mankind, and He defeated death when He rose from the grave three days later. Men can be free from eternal death in hell if they believe in Jesus Christ as Lord and Savior. They then are received back to God to spend eternity with Him. That is the message of Christianity.

To believe there was death before Adam's sin destroys the basis of the Christian message. The Bible states that man's rebellious actions led to death and the corruption of the universe, but the gap theory undermines the reason that man needs a Savior.

A Closer Look at Genesis 1:1–2

The earliest available manuscript of *Genesis 1:1–2* is found in the Greek translation of the Old Testament, called the Septuagint (LXX), which was prepared about 250–200 B.C. The LXX does not permit the reading of any ruin-reconstruction scenario into these verses, as even Custance admitted. A closer look at these verses reveals that the gap theory imposes an interpretation upon Genesis 1:1–2 that is unnatural and grammatically unsound. Like many of the attempts to harmonize the Bible with uniformitarian geology, the gap theory involves well-meant but misguided twisting of Scripture.

Below are the five major challenges to the gap theory in interpreting Scripture. For a much fuller analysis, we recommend the book *Unformed and Unfilled* by Weston Fields, published by Burgener Enterprises, 1997.

Creating and Making (Hebrew: *Bara* and *Asah*)

It is generally acknowledged that the Hebrew word *bara*, used with "God" as its subject, means "to create"—in the sense of the production of something which did not exist before. However, according to *Exodus 20:11*, God "made" (*asah*) the heavens and the earth and everything in them in six days. If God made everything in six days, then there is clearly no room for a gap. To avoid this clear scriptural testimony against any gap, gap theorists have alleged that *asah* does not mean "to create," but "to form" or even "re-form." They claim that Exodus 20:11 refers not to six days of creation but to six days of re-forming a ruined world.

Is there such a difference between *bara* and *asah* in biblical usage? A number of verses show that, while *asah* may mean "to do" or "to make," it can also mean "to create," which is the same as *bara*. For example, *Nehemiah 9:6* states that God made (*asah*) "heaven, the heaven of heavens, with all their host, the earth and everything on it, the seas and all that is in them." This reference is obviously to the original *ex nihilo* (out of nothing) creation, but the word *asah* is used. (We may safely assume that no gappist will say that Nehemiah 9:6 refers to the supposed reconstruction, because if the passage did, the gappist would have to include the geological strata in the reconstruction, thereby depriving the whole theory of any power to explain away the fossil record.)
The fact is that the words *bara* and *asah* are often used interchangeably in the Old Testament; indeed, in some places they are even used in synonymous parallelism (e.g., *Genesis 1:26–27, 2:4*; *Exodus 34:10*; *Isaiah 41:20, 43:7*).
Applying this conclusion to Exodus 20:11, 31:17, and Nehemiah 9:6, we see that Scripture teaches that God created the universe (everything) in six days, just as outlined in Genesis 1.

The Grammar of Genesis 1:1–2

Many adherents of the gap theory claim that the grammar of Genesis 1:1–2 allows, and even requires, a time-gap between the events in verse 1 and the events in verse 2. Into this gap—believed by many to be billions of years—they want to place all the major geological phenomena that have shaped the world.
This is an unnatural interpretation, not suggested by the plain meaning of the text. The most straightforward reading of the verses sees verse 1 as a subject-and-verb clause, with verse 2 containing three circumstantial clauses (three statements that further describe the circumstances introduced by the principal clause in verse 1).

This conclusion is reinforced by the grammarian Gesenius. He says that the Hebrew conjunction *waw*, meaning "and" at the beginning of verse 2, is a "*waw* copulative," which compares with the old English expression "to wit." This grammatical connect between verses 1 and 2 thus rules out the gap theory. Verse 2 is in fact a description of the state of the originally created earth: "*And* the earth was without form and void" (Genesis 1:2a).[22]

"Was" or "Became"?

Gappists translate "the earth *was* without form and void" to be "the earth *became* (or, *had become*) without form and void." At stake is the translation of the Hebrew word *hayetah* (a form of the Hebrew verb, *hayah*, meaning "to be"). Custance, a supporter of the gap theory, claims that out of 1,320 occurrences of the verb *hayah*

in the Old Testament, only 24 can certainly be said to bear the meaning "to be." He concludes that in Genesis 1:2 *hayetah* must mean "became" and not simply "was." However, we must note that the meaning of a word is controlled by its context, and that verse 2 is circumstantial to verse 1. Thus "was" is the natural and appropriate translation for *hayetah*. It is rendered this way in most English versions (as well as in the LXX). Furthermore, in Genesis 1:2 *hayetah* is not followed by the preposition *le*, which would have removed ambiguity in the Hebrew & required the translation "became."

Tohu and *Bohu*

The words *tohu* and *bohu*, usually translated "formless and void," are used in Gen. 1:2. They imply that the original universe was created unformed and unfilled and was, during six days, formed and filled by God's creative actions.

Gappists claim that these words imply a process of judgmental destruction and that they indicate a sinful, and therefore not an original, state of the earth. However, this brings in interpretations from other parts of the Old Testament with very different contexts (namely, *Isaiah 34:11* and *Jeremiah 4:23*) and imports them into Genesis 1. *Tohu* and *bohu* appear together only in the three above-mentioned places in the Old Testament. However, *tohu* appears alone in a number of other places and in all cases simply means "formless." The word itself does not tell us about the cause of the formlessness; this has to be gleaned from the context. *Isaiah 45:18* (often quoted by gappists) is rendered in the KJV "he created it not in vain [*tohu*], he formed it to be inhabited." In the context, Isaiah is speaking about Israel, God's people & His grace in restoring them. He did not choose His people in order to destroy them, but to be their God and for them to be His people. Isaiah draws an analogy with God's purpose in creation: He did not create the world for it to be empty. No, He created it to be formed & filled, a suitable abode for His creation. Gappists miss the point altogether when they argue that because Isaiah says God did not create the world *tohu*, it must have *become tohu* at a later time. Isaiah 45:18 is about God's purpose in creating, not about the original state of the creation.

Though the expression "*tohu* and *bohu*" in *Isaiah 34:11* and *Jeremiah 4:23* speaks of a formlessness and emptiness resulting from divine judgment for sin, this meaning is not implicit in the expression itself but is gained from the particular contexts in which it occurs. It is not valid therefore to infer that same meaning from Genesis 1:2, where the context does not suggest any judgment. As an analogy, we might think of a word like "blank" in reference to a computer screen. It can be said to be blank because nothing has been typed on the keyboard, or it can be blank because the screen has been erased. The word "blank" does not suggest, in itself, the reason why the screen is blank. Likewise with "formless and void"—the earth began that way simply because it was not yet formed and filled, or it was that way because of judgment.

Theologians call the form of use of *tohu* and/or *bohu* in Isaiah 34:11 and Jeremiah 4:23 a "verbal allusion." These passages on judgment allude to the formless and empty earth at the beginning of creation to suggest the extent of God's judgment to come. God's judgment will be so complete that the result will be like the earth before it was formed and filled—formless and empty. This does not imply that the state of the creation in Genesis 1:2 was arrived at by some sort of judgment or destruction as imagined by gappists. As theologian Robert Chisholm, Jr. wrote, "By the way, allusion only works one way. It is unwarranted to assume that Jeremiah's use of the phrase in a context of judgment implies some sort of judgment in the context of Genesis 1:2. Jeremiah is not interpreting the meaning of Genesis 1:2."[23]

"Replenish"

Many gappists have used the word "replenish" in the KJV translation of Genesis 1:28 to justify the gap theory on the basis that this word means "refill." Thus, they claim that God told Adam and Eve to refill the earth, implying it was once before filled with people (the pre-Adamites). However, this is wrong. The Hebrew word translated "replenish," *male*,[24] simply means "fill" (or "fulfill" or "be filled"). The English word "replenish" meant "fill" from the thirteenth to the seventeenth centuries; then it changed to mean "refill." When the KJV was published in 1611, the translators used the English word "replenish," which at that time meant only "fill," not "refill."[25]

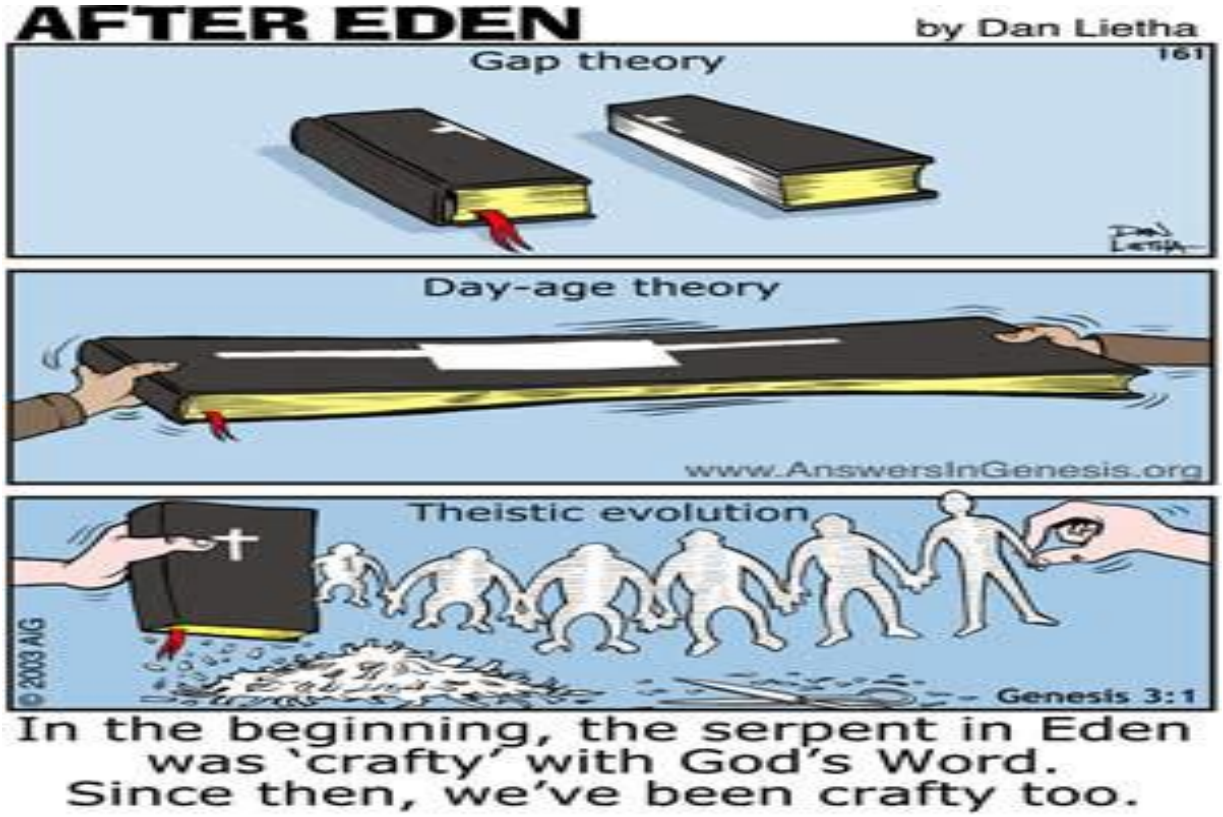
The Straightforward Meaning of Genesis 1:1–2

The gap (or ruin-reconstruction) theory is based on a very tenuous interpretation of Scripture. The simple, straightforward meaning of Genesis 1:1–2 is that, when God created the earth at the beginning, it was initially formless, empty, and dark, and God's Spirit was there above the waters. It was through His creative energy that the world was then progressively formed and filled during the six days of creation.

Consider the analogy of a potter making a vase. The first thing he does is gather a ball of clay. What he has is good, but it is unformed. Next, he shapes it into a vase, using his potter's wheel. Now the ball of clay is no longer formless. He then dries it, applies glaze, and fires it. Now it is ready to be filled—with flowers and water. At no time could one of the stages be considered evil or bad. It was just unfinished—unformed and unfilled. When the vase was finally formed and filled, it could be described as "very good."

Warning

Many sincere Christians have invented reinterpretations of Scripture to avoid intellectual conflicts with popular scientific ideas. The gap theory was one such reinterpretation designed to fit in with scientific concepts that arose in the early 1800s and are still popular today.



In reality, though, the gap theory was an effective anesthetic that put the church to sleep for over 100 years. When the children who learned this compromise position went on to higher education, they were shocked to discover this theory explained nothing. Many of them then accepted the only remaining "respectable" theory—evolution—which went hand-in-hand with millions of years. The results were usually disastrous for their faith.

Today, other compromise positions, such as progressive creation and/or theistic evolution, have mostly replaced the gap theory.[26] The gappists, by attempting to maintain a literal Genesis but adhering to the long ages (millions of years), opened the door for greater compromise in the next generation—the reinterpretation of the days, God using evolution, etc.

But whether it is the gap theory, day-age/progressive creation, or theistic evolution, the results are the same. These positions may be acceptable in some churches, but the learned in the secular world will, with some justification, mock those who hold them because they see the inconsistencies.

In Martin Luther's day the church compromised what the Bible clearly taught, and he nailed his *Ninety-Five Theses* to the door of the church to call them back to the authority of God's Word. In the same way, the church today has, by and large, neglected what the Bible clearly says in Genesis 1–11. It's time to call the church back to the authority of God's Word beginning with Genesis.

Origin of the classical Gap Theory. The idea of a gap of millions of years between Genesis 1:1 and 1:2 was virtually unknown until Thomas Chalmers (1780–1847), founder of the Free Church of Scotland and popular evangelical preacher, started promoting it. As a very young pastor in 1804 (seven years before he became an evangelical) he startled his congregation by telling them that millions of years was compatible with Scripture. *In response to Cuvier's catastrophist theory in 1813, Chalmers began to argue against the day-age view and for the gap theory and persuaded many Christians.*

The idea of a gap was 'canonized' for some Christians when American theologian C.I. Scofield (1843–1921) included it in the footnotes of the 1909 Scofield Bible. The notes in The Dake Annotated Reference Bible (1963), by U.S. Pentecostal minister Finis Jennings Dake (1902–1987) supported gap theory. Arthur Custance (1910–1985) later defended the theory in detail in "Without Form and Void," and Fields' "Unformed and Unfilled" was largely a refutation of this. But many gap theorists explicitly admit that their motivation (as it was for Chalmers) is to find a place in the Bible to fit millions of years. For example, the Scofield Reference Bible claims, with incredible wishful thinking: Relegate fossils to the primitive creation, and no conflict of science with the Genesis cosmogony remains.

PROBLEMS WITH THE CLASSICAL GAP THEORY

The classical gap or ruin-reconstruction theory postulates a catastrophe between Genesis 1:1 and 1:2—the 'ruin'—followed by the 'reconstruction' of the six-day creation. God originally created a perfect world, but then, during this gap, the anointed cherub fell to become Satan (meaning 'adversary'), and God judged the world by a catastrophe, which formed most of the fossils. Thus, gappists translate Genesis 1:2 as 'the earth became formless and void'. Then the 6 Days of Creation are said to be a re-creation of this fallen world. But this fails on several grounds: Although the gap theory originated out of a desire to accommodate the millions of years of supposed geological time, only the most naïve would think it does.

Uniformitarian geologists reject the idea of any global Flood, whether the biblical Noah's Flood, or the imagined 'Lucifer's Flood' of the gap theory. So, students from Christian homes went to secular universities and found that the 'gap theory' made no sense with secular geology anyway, so they saw it for what it is—an ill-informed attempt to fit the Bible into secular science. And since their Christian leaders had effectively made 'science' authoritative over Scripture in creation issues, these students took the next logical step: since 'science' says that dead men don't rise, virgins don't conceive, and homosexual behavior is natural, then … It postulates the fall of Satan in a world God declared "very good" in Genesis 1:31. Also, the versions that place the fossil record in this gap are placing death and disease before Adam's sin...

It contradicts the Sabbath command of Exodus 20:8–11, which is based on the creation of the 'heavens, earth, sea and everything in them' in six ordinary days. As explained earlier, 'heavens and earth' is a merism meaning 'universe', and the Exodus passage spells the totality out even further. 'Waw' is the name of the Hebrew letter which is used as a conjunction. It can mean 'and', 'but', 'now', 'then' and several other things depending upon the context and type of waw involved. It occurs at the beginning of Genesis 1:2 and is translated in the KJV, "And [waw] the earth was without form, and void." Gappists use this translation to support gap theory. However, the most straightforward reading of the text sees verse 1 of Genesis 1 as the principal subject-and-verb clause, with verse 2 containing three 'circumstantial clauses'. Hebrew grammarian Gesenius called this a "waw explicativum", and compares it to the English 'to wit'. Other terms are called waw copulative or waw disjunctive or explanatory waw. Septuagint translators, c. 250 BC, saw it this way, because they rendered this passage, "hē de gē ēn aoratos kai akataskeuastos (ἡ δ γ ῆν ρατος καὶ κατασκεύαστος)," and de (δ) is often used as a transitional particle. A waw-consecutive, as in the next verse, describes the next sequence of a historical narrative; it is just not there in v. 2. Such a waw-disjunctive is easy to tell from the Hebrew, because it is formed by waw followed by a non-verb.

It introduces a parenthetic statement; that is, it's alerting the reader to put the passage following in brackets, as it were—a descriptive phrase about the previous noun. It does not indicate something following in a time sequence—this would have been indicated by a different Hebrew construction that is called the waw-consecutive, where waw is followed by an imperfect verb. (The waw-consecutive is in fact used at the beginning of every day of creation. This is strong evidence that it is historical narrative. While it is true that waw + x + qatal, where x = the subject, normally denotes a pause or a turning point in a text, in the beginning of a text it would just show that the next wayyiqtol will begin forward movement of the narrative. It is simply grammatically impossible to translate the verb hāytāh as 'became' when it is combined with a waw disjunctive—in the rest of the Old Testament, waw + a noun + hāyāh (qal perfect, 3rd person) is always translated, 'was' or 'came', but never 'became'. Moreover the qal form of hāyāh does not normally mean 'became', especially in the beginning of a text, where it usually gives the setting. There are further grammatical parallels with Genesis 1:1–2 that demonstrate the point: Judges 8:11 says that Gideon attacked a Midianite army that "felt secure", which in Hebrew is hāyāh betah, literally translated as 'was unsuspecting'. But if gap theorists were consistent, they would need to interpret this verse to mean that the camp 'became' unsuspecting after Gideon attacked. Jonah 3:3 reads, "So Jonah arose and went to Nineveh. Now Nineveh was [hāytāh] an exceedingly great city." Gap theorist interpretation would tell us that it was only after Jonah arrived that Nineveh 'became' exceedingly great. Both of these passages comprise a reductio ad absurdum of this eisegesis. Even in other parts of Genesis, we can see the same pattern. Genesis 13:1–3 reads: So Abram went up from Egypt, he and his wife and all that he had, and Lot with him, into the Negeb. Now Abram was [waw disjunctive] very rich in livestock, in silver, and in gold. And he journeyed on [waw consecutive] from the Negeb as far as Bethel to the place where his tent had been at the beginning, between Bethel and Ai, … Like 1:2, 13:2 is a parenthetical statement introduced by a waw disjunctive, this time describing Abraham's condition when he left Egypt after an encounter with the Pharaoh. Clearly Abraham had already acquired great wealth from the Pharaoh (12:16), not after he had left. And 13:3, like 1:3, resumes the narrative sequence.

The Hebrew phrase tohu wa-bohu, translated ‘without form and void’ in Genesis 1:2, is claimed by gap theorists to indicate a judgmental destruction rather than something in the process of being built. But tohu occurs several times in the Bible in which it is used in a morally neutral state, describing something unfinished, and confused, but not necessarily evil. Hebrew scholars and the church have for centuries taken the view that Genesis 1:2 is not a scene of judgment or an evil state created by the fall of angels, but a description of the original undeveloped state of the universe. The plain and simple meaning of what Moses says is that on the first day there was a mass covered by water, with no dry land involving features (tohu = ‘unformed’), and no inhabitants yet (bohu = ‘unfilled’), bārā’ and ‘āsāh (create and make). Gap theorists overdraw the distinction between these words, because while hardly exact synonyms, they have a considerable overlap in semantic range, just as they do in English. This is an exegetical fallacy that Canadian evangelical New Testament scholar Don Carson (b. 1946) called ‘Unwarranted semantic disjunction or restriction’. Certainly, bārā’ is only ever used of God, but is not restricted to creatio ex nihilo. And ‘āsāh is sometimes used to mean ‘create ex nihilo’. Here are biblical examples demonstrating their substantial semantic overlap (using lemma or basic form of the Hebrew verbs found in lexicon): Genesis 2:4: “These are the generations of the heavens and of the earth when they were created (bārā’) in the day the LORD God made (‘āsāh) the earth and the heavens.” Isaiah 43:7: “Everyone who is called by my name, whom I created (bārā’) for my glory, whom I formed (yātsār) and made (‘āsāh).” If they really meant exactly the same thing there would be no reason to have multiple terms. Even English synonyms, such as ‘break’ & ‘fracture’ are not identical—every English speaker knows that hearts break, they don’t fracture.

Some have attempted to use Jeremiah 4:23 to teach the gap theory, because it uses the same phrase tohu va bohu to describe the results of a judgment. Leading gap theorists like Arthur Custance used this fact to assert that ‘without form and void’ must mean ‘laid waste by a judgment’. But this is fallacious—there’s nothing in the Hebrew words tohu va bohu themselves to suggest that. The only reason they refer to being ‘laid waste’ is due to the context in which the phrase is found. The words simply mean ‘unformed and unfilled’. This state can be due either to nothing else having been created, or some created things having been removed. The context of Jeremiah 4 is a prophecy of the Babylonian sacking of Jerusalem,

not creation. In fact, Jeremiah 4:23 is known as a literary allusion to Genesis 1:1, the judgment would be so severe that it would leave the final state as empty as the earth before God created anything.

An analogy might help here. When I open my word processor, my document screen is blank. But if I delete an entire document the screen would likewise be blank. So 'blank' means 'free from any text'. In some contexts, the lack of text is because I haven't written anything, in others it is due to a deletion of text. You would need to know the context to tell which—you couldn't tell from the word 'blank' itself. A gappist-type analysis of the word might conclude, '"Blank" can refer to a screen with all the text deleted, so the word "blank" itself signifies a text deletion event, even when none is stated.' This is in line with the common biblical principle where a judgment is a reversal of creation. Jeremiah 4:23 is taking the land back to its unformed state, unfit for man to live in.

Similarly, the Flood took the world back to its condition on Day 2, before the land and water had separated. Furthermore, using this to support gap theory violates the principle of God's progressive revelation in Scripture. Later texts presuppose the prior revelation of earlier texts, not vice versa. Therefore, Jeremiah 4:23 can't be used to interpret Genesis 1:2 as a judgment—that would be completely back-to-front, because an allusion works only one way. "Replenish the earth" in some older translations of 1:28. But documenting that the Hebrew word meant simply 'fill', not 're-fill'—and that a few centuries ago, 'replenish' likewise meant more like 'fill completely' rather than 're-fill'. So, gap theorists who rely on the old translations are failing to understand the way the English word 'replenish' has changed meaning over time. Actually, Fruchtenbaum supports a version of the gap theory. But he makes it clear that it's not for the usual reason, which he calls "for dinosaur space". Fruchtenbaum rightly rejects that because it would entail physical death before Adam. Instead, he wants this gap for a reign of Satan in Eden and places the fall of Satan & his demons in this gap. But Fruchtenbaum's conception does not attribute the fossil record to this fall. Fruchtenbaum's gap version is not vulnerable to the strongest argument against the gap theory — and indeed all long-age views: placing death before sin. But it is vulnerable to most of the other objections, especially the second: how can a universe where Satan has already fallen be described as "very good"?

Soft Gap problems. While the soft gap avoids some of the problems involving death and suffering before sin, it leaves many problems still unsolved, including those it claims to solve. The important problem with it is authority, as previously pointed out. Any gap in the timeline comes not from Scripture but from ‘science’. Also, any ‘old earth but young life’ view fails to solve the very problem it was concocted to solve. The very rock layers that soft-gappers use as evidence for ‘age’ contain fossils, or are above fossil-containing rocks. In other words, the geological ‘dating’ methods they accept place life at the same age as the rocks. Thus, it fails to avoid physical death before sin.

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Linguistic Traits of Hebrew Relator Nouns and Their Implications for Translating Genesis 1:1

by Dr. Joshua D. Wilson on February 28, 2018

Abstract

In the debate over the proper translation of Genesis 1:1, one of the key issues is whether the first word of the verse, בְּרֵאשִׁית, is in the absolute or construct state. If בְּרֵאשִׁית is in the construct state, then it is in construct with the verb בָּרָא and the ensuing clause of Genesis 1:1, and the verse should be rendered with a dependent clause. This rendering is known as the dependent-clause translation of Genesis 1:1 found in such versions as the NRSV, NJV, and NAB. If בְּרֵאשִׁית is in the absolute state, then it is not in construct with with בָּרָא and the ensuing clause, and the verse should be rendered with an independent main clause.

This rendering is known as the traditional translation of Genesis 1:1 found in such versions as the KJV, NAS, NIV, and ESV. In this article, the author defends traditional translation of Genesis 1:1 by arguing that בְּרֵאשִׁית, properly understood, is a Hebrew relator noun. According to the author, since בְּרֵאשִׁית is a Hebrew relator noun, it will have a relative meaning at the lexical level, but will, however, still function as a noun in the absolute state at the grammatical level. This trait of being lexically relative yet grammatically absolute, which is possible with Hebrew relator nouns, also explains why בְּרֵאשִׁית is not pointed with a definite article in Hebrew even though it is rendered with one in the traditional translation.

Introduction

For many centuries and almost a couple millennia, a traditional translation and interpretation of Genesis 1:1 have led Christian and Jewish scholars to conclude that God created the world out of nothing.1 According to this tradition, Genesis 1:1 introduces God's first creative act with an independent main clause. Genesis 1:2 then describes this first creative act as being in an incomplete state. The rest of the Genesis narrative then describes how God shaped, filled, and added to that initial creation. Since Genesis 1:1 does not describe anything as being in existence before the initial creation other than God, interpreters have logically concluded that God created the world from nothing. Although it is not explicitly stated, the doctrine of *creatio ex nihilo* is a logical & theological conclusion of the traditional translation and interpretation of Genesis 1:1 (Matthews 1996, 141; Sarna 1989, 5; Skinner 1951, 13; Waltke 1975, 217).2 Again, translation renders Genesis 1:1 as an independent main clause, and the interpretation makes Genesis 1:1 the first creative act. This traditional translation, however, is not always utilized. For near a thousand years a small group of proponents have argued for different translation of Genesis 1:1- 3. According to this view, Genesis 1: 1, 3 should be rendered with a dependent clause and should be subordinate to either Genesis 1:2a or Genesis 1:3.4 Furthermore, within this last century, this dependent-clause translation of Genesis 1:1 has gained a larger following & some translational traditions have even updated older versions to reflect it. Consider the following examples:

Protestant Translational Tradition

[1]In the beginning God created the heavens and the earth. [2]The earth was without form and void, and darkness was upon the face of the deep; and the Spirit of God was moving over the face of the waters. [3]And God said, "Let there be light" (RSV, 1952)

[1]In the beginning when God created the heavens and the earth, [2]the earth was a formless void and darkness covered the face of the deep, while a wind from God swept over the face of the waters. [3]Then God said, "Let there be light" (NRSV, 1989)

Jewish Translational Tradition

[1]IN THE beginning God created the heaven and the earth. [2]Now the earth was unformed and void, and darkness was upon the face of the deep; and the spirit of God hovered over the face of the waters. [3]And God said: 'Let there be light.' (JPS, 1917)

[1]When God began to create heaven and earth—[2]the earth being unformed and void, with darkness over the surface of the deep and a wind from God sweeping over the water—[3]God said, "Let there be light" (NJV, 1985)

Catholic Translational Tradition

[1]In the beginning God created heaven, and earth. [2]And the earth was void and empty, and darkness was upon the face of the deep; and the spirit of God moved over the waters. [3]And God said: Be light made. (DRA, 1899)[5]

[1]In the beginning, when God created the heavens and the earth, [2]the earth was a formless wasteland, and darkness covered the abyss, while a mighty wind swept over the waters. [3] Then God said, "Let there be light," (NAB, 1970)

This change in translation produces a change in interpretation. No longer is Genesis 1:1 the first act of creation. Rather, Genesis 1:1, along with 1:2, describe the context in which the first act of creation takes place: the creation of light passage in Genesis 1:3.[6] According to this interpretation then, the needed elements of Genesis 1:2 were already present before God began creating. One can logically conclude that since these elements, which God utilized in his later work of creation, were in existence before God's first act of creation, the doctrine of *creatio ex nihilo* is *not* implicit in the text. Orlinsky, a proponent of the dependent-clause translation and a translator of the NJV, states,

The implications of the new, correct rendering [of Genesis 1:1 as a dependent clause] are clear. The Hebrew text tells us nothing about "creation out of nothing" (*creatio ex nihilo*), or about the beginning of time; it has nothing to say about the order of creation, so far as heaven, earth, darkness, deep, wind, or water are concerned. Indeed, the last four elements are not even described as having been created by God; the text merely asserts that these elements were present when God began to create the universe. What, then, constituted the first act of creation, if it wasn't any of heaven, earth, darkness, etc.? The text, once again gives us the answer directly, in verse 3: "(when God began to create the heaven and the earth . . .) God said, 'Let there be light'; and there was light." In other words, the first thing God did when he created the world was to create light. . . . Naturally, there are those who are upset by this old-new interpretation. "When did time begin?" they ask. "What existed in the beginning? Who created the darkness and the water and the deep? And is there no longer any beginning? And what happens to the theological concept of *creatio ex nihilo*?" And so on. Now every scholar or committee of scholars that assumes the responsibility of producing an authorized translation of the Bible for members of a religious group is aware of the difficulties that arise as a consequence of the translation achieved for such "delicate" passages as Genesis 1:1–3. But the reply by the biblical scholar to such questions can only be: We know only what the Hebrew text of the Bible tells us. If the ancient Hebrew writer did not think about these things, or if he did, did not care to bother his readers with them, it is not for us to read into his text what he did not put into it; and anyone who does this is simply not being faithful to his biblical Hebraic source. (Orlinsky 1966, xv)

As is clear in the case of Genesis 1:1, translation affects interpretation, and interpretation affects theology; yet, what is the reasoning for this alternate translation?

Thesis

In the debate over the proper translation of Genesis 1:1, the major issue is whether the word בְּרֵאשִׁית is in the absolute or construct state. If בְּרֵאשִׁית is a construct, then it is in construct with the verb בָּרָא and the ensuing clause of Genesis 1:1,7 and the verse should be rendered with a dependent clause. Naturally, this is the argument of the dependent-clause translation. If בְּרֵאשִׁית is an absolute, then it is not in the construct with בָּרָא and the ensuing clause, and the verse should be rendered with an independent main clause. This is the argument of the traditional translation.8 However, proponents of the dependent-clause translation raise two main linguistic challenges to the possibility of the traditional translation: one at the lexical level, the other at the grammatical level.9 First, at the lexical level, they challenge that the word רֵאשִׁית always has a relative meaning, the beginning *of*. Since its meaning is always relative, its rendering in Genesis 1:1 cannot be in the absolute state, but must be in the construct state.10 Second, at the grammatical level, they challenge that if בְּרֵאשִׁית in Genesis 1:1 were in the absolute state and also definite, in *the* beginning, the word be pointed with an articular *qamets*, בָּרֵאשִׁית, rather than with a vocal *shewa*.11 Since, however, בְּרֵאשִׁית is pointed with a vocal *shewa*, it is further evidence that the word is in the construct state.12 Both of these two linguistics challenges do raise serious objections to the traditional translation. This article, however, contends that the traditional translation of Genesis 1:1 is linguistically possible because בְּרֵאשִׁית in Genesis 1:1 is functioning as a lexically relative yet grammatically absolute Hebrew relator noun.

The Lexical Level

The Relative Meaning of בְּרֵאשִׁית

Before exploring the linguistic traits of the Hebrew relator nouns, one must first understand the lexical dilemma that proponents of the dependent-clause translation charge against the traditional translation. When they argue that רֵאשִׁית has a relative meaning, they are describing its tendency to be semantically related to another word or concept. Skinner states, “The [independent-clause] construction seems to me, however, opposed to the essentially relative idea of [רֵאשִׁית], — its express reference to *that of which* it is the beginning” (Skinner 1951, 13, n.1). Simpson also states, “But the Hebrew bᵉrêshîth seems to mean ‘in the beginning of’ rather than in the beginning, and this requires that vs. 1 should be taken with vs. 3—on vs. 2 see below—and rendered, ‘In the beginning of God’s creating the heavens and the earth, God said, etc.’” (Simpson and Bowie, 1952, 466). Finally, Orlinsky adds, “The very first word, bᵉreshith, as every student of the biblical Hebrew knows, means ‘In the beginning of,’ with the word or phrase that follows indicating the object (as in ‘In the beginning of the reign of Jehoiakim the son of Josiah king of Judah’ (Orlinsky 1983).

Thus, according to these scholars, if בְּרֵאשִׁית has a relative meaning then it should be rendered as "In the beginning of," which would make the word a grammatical construct. In order to defend the absolute rendering of בְּרֵאשִׁית as "In the beginning," many proponents of the traditional translation argue that in Genesis 1:1 the word has an absolute meaning (Childs 1960; Eichrodt 1962, 1–10; Hasel 1971, 158; Ridderbos 1958, 218; Westermann 1990, 98).13 They often cite Isaiah 46:10a as evidence of this claim.14 It states the following:

גֵּיד מֵרֵאשִׁיתׄ אַחֲרִית וּמִקֶּדֶם אֲשֶׁר לֹא־נַעֲשׂוּ

declaring from the beginning, the end, and from before, that which has not been done,

In this verse, the word מֵרֵאשִׁית is in the absolute state and seems to be both lexically & grammatically comparable to the use of בְּרֵאשִׁית in Genesis 1:1. In addition, many modern bible translations render the word מֵרֵאשִׁית in Isaiah 46:10a as "from the beginning," not "from the beginning of."15 Thus, Isaiah 46:10a seems to demonstrate that the word can have an absolute meaning.16 However, scholars of the dependent-clause translation argue that even though the several occurrences of רֵאשִׁית in Isaiah 46:10a and Genesis 1:1 may appear to be grammatically parallel, מֵרֵאשִׁית in Isaiah 46:10a has a lexically relative meaning. Therefore, it cannot function as a lexical parallel to the alleged absolute meaning of בְּרֵאשִׁית in Genesis 1:1. According to Humbert the word מֵרֵאשִׁית in Isaiah 46:10a refers to the beginning *of* something; which makes it relative in meaning.18

The strength of Humbert's argument is that because מֵרֵאשִׁית in Isaiah 46:10a has a relative meaning, there is no parallel evidence that בְּרֵאשִׁית in Genesis 1:1 has an absolute meaning. Thus, based upon the weight of the evidence, the word should have a relative meaning in Genesis 1:1 as well. If בְּרֵאשִׁית is lexically relative, then according to proponents of the dependent-clause translation, it should be rendered as "In the beginning of," and should be in construct with the verb בָּרָא & the ensuing clause of Genesis 1:1. If the word is in construct with the verb בָּרָא and the ensuing clause, then Genesis 1:1 should be rendered as a dependent clause. If this line of reasoning is sound, then the evidence as a whole seems to support the dependent-clause translation.

However, there seems to be faulty reasoning from proponents of both translational positions. Proponents of the traditional translation who argue that רֵאשִׁית in Genesis 1:1 has an absolute meaning, in hoping to sustain their argument that the word is grammatically absolute, have done themselves such a disservice. How can a word like רֵאשִׁית, if it is rendered as "beginning," have an absolute meaning? How can it refer to a beginning that is unrelated to anything? The very nature of the word requires that it refer to the beginning of something. If it refers to the beginning of something, then its meaning is relative to that something.

A beginning that is unrelated to anything is the beginning of nothing, and it is thus not a beginning. On the other hand, proponents of the dependent-clause translation, arguing that the relative meaning of רֵאשִׁית requires the word to be in grammatical construct, have also done themselves a great disservice because the evidence only demonstrates that רֵאשִׁית has a relative meaning. It does not demonstrate that a relative meaning requires the word to be rendered as "the beginning of." In fact, the Isaiah 46:10a passage is still a strong parallel to Genesis 1:1 since the verse demonstrates that the word רֵאשִׁית can be relative in meaning yet grammatically absolute. As stated previously in the article thesis, the word רֵאשִׁית is actually one of several types of Hebrew relator nouns, and when its usage is compared to that of other relator nouns, the evidence demonstrates that it is common for a relator noun like רֵאשִׁית to be both lexically relative and grammatically absolute.

Defining and Identifying Relator Nouns

Before demonstrating that relator nouns can be lexically relative and grammatically absolute, one must first define what a relator noun is and identify examples of them. In an article dealing with adpositions, DeLancey describes relator nouns in the following manner:

> Relator noun categories are frequently the topic of discussion, and sometimes extended controversy, as to whether they are nouns or adpositions. For all the confusions that they seem to engender, relator nouns are not an unfamiliar phenomenon to anyone, being easily recognized in such unexotic languages as French and English. Since each of these languages has a robust & thriving adposition category, relator nouns constitute a relatively marginal category, but a number of them are quite frequent in occurrence and encode fairly basic concepts: *à* ***côté*** *de*, *on* ***top*** *of*, *in* ***front/back*** *of*, etc. Such constructions can be a source of new prepositions, e.g. English *atop* < *on top of, beside* < *by side of*. In languages which invest less in a lexical category of adpositions, relator nouns may constitute a substantial and important category. (DeLancey 2005, 190)

In general, relator nouns are nouns that are semantically dependent upon other words to complete their meanings. They can also be grammatically dependent upon those words—usually by means of the preposition "of" in English or the construct state in Hebrew. This dependency explains why relator nouns, by nature, have a relative meaning.

Once relator nouns are defined, they are easy to identify. English words, such as front, back, middle, side, end, and beginning are all relator nouns because their meanings are relative to other words or concepts in a sentence. For instance, if the word "book" is lexically and grammatically related to these English relator nouns, then their meanings become relative to and dependent upon that word: the front of the book, the back of the book, the middle of the book, the side of the book, the end of the book, the beginning of the book. Without the word "book" these relator nouns

would be empty of meaning: The front of what? The back of what? The middle of what? The side of what? The end of what? The beginning of what?

Relator nouns are easily identifiable in Hebrew as well. They include such words as פָּנֶה, אָחוֹר, חוּץ, בַּיִת, שְׂמאל, יָמִין, רֹאשׁ, אַחֲרִית, and רֵאשִׁית. They exhibit the common traits of relator nouns in that they are also lexically relative to other words and/or concepts to complete their meanings.[19] Again, because of their relative nature, these nouns are those most commonly found in grammatical construct with other words.[20] The following analysis demonstrates these traits in the Hebrew relator nouns.[21]

The relator nouns פָּנֶה and אָחוֹר.

The relator nouns פָּנֶה and אָחוֹר describe spatial relationships between themselves and the things to which they are semantically related, referring to the front, פָּנֶה, or the back, אָחוֹר, of the related word or concept. In the following examples they are lexically and grammatically relative to such words as מִשְׁכָּן, אֹהֶל, פָּרֹכֶת, קֹדֶשׁ, and בַּיִת.

Exodus 26:12

הַמִּשְׁכָּן: **אַחֹרֵי** וְסֹרַח הָעֹדֵף בִּירִיעֹת הָאֹהֶל חֲצִי הַיְרִיעָה הָעֹדֶפֶת תִּסְרַח עַל

*And the leftover excess in the curtains of the tent, the half of the curtain that is left over, will run over the **back of** the tabernacle.*

Exodus 26:9b

הָאֹהֶל: **פְּנֵי** וְכָפַלְתָּ אֶת־הַיְרִיעָה הַשִּׁשִּׁית אֶל־מוּל

*And you shall double over the sixth curtain to the opposite of the **front of** the tent.*

Leviticus 4:6

פָּרֹכֶת הַקֹּדֶשׁ: **פְּנֵי** וְטָבַל הַכֹּהֵן אֶת־אֶצְבָּעוֹ בַּדָּם וְהִזָּה מִן־הַדָּם שֶׁבַע פְּעָמִים לִפְנֵי יְהוָה אֶת־

*And the priest shall dip his finger into the blood, and seven times he shall sprinkle the **front of** the veil of the sanctuary before the LORD.*

Ezekiel 41:21

הַקֹּדֶשׁ הַמַּרְאֶה כַּמַּרְאֶה: **וּפְנֵי** הֵהֵיכָל מְזוּזַת רְבֵעָה

*The door frames of the temple and the **front of** the sanctuary were square, the appearance of one being like the appearance of the other.*

Ezekiel 47:1a

הַבַּיִת קֳדֵם **פְּנֵי** וַיְשִׁבֵנִי אֶל־פֶּתַח הַבַּיִת וְהִנֵּה־מַיִם יֹצְאִים מִתַּחַת מִפְתַּן הַבַּיִת קָדִימָה כִּי־

*And he returned me to the opening of the temple, and behold, waters were coming out from under the threshold of the temple toward the east because the **front of** the temple was facing eastward.*

In his description of relator nouns, DeLancey states there's sometimes controversy over whether relator nouns should be categorized as prepositions. With respect to אָחוֹר and פָּנֶה, one may ask whether these words should also be categorized as prepositions. The question, however, would fail for two reasons. First, there are already lexically similar prepositions, אַחֲרֵי and לִפְנֵי, that probably developed from these relator nouns. Second, although the relator nouns אָחוֹר and פָּנֶה and the prepositions אַחֲרֵי and לִפְנֵי have very similar, almost interchangeable, meanings, the relator nouns can also be used in instances in which they do not need to be related *grammatically* related to another word.[22] The prepositions do not function in this manner.

The relator nouns חוּץ and בַּיִת.

The relator nouns חוּץ & בַּיִת also describe spatial relationships between themselves and the things to which they are semantically related, referring to the outside, חוּץ, or the inside, בַּיִת, of the related word or concept. In the following examples they are lexically and grammatically relative to such things as מַחֲנֶה, עִיר, פָּרֹכֶת, and כֹּתֶרֶת.

Exodus 33:7b[23]

לַמַּחֲנֶה: **מִחוּץ** וְהָיָה כָּל־מְבַקֵּשׁ יְהוָה יֵצֵא אֶל־אֹהֶל מוֹעֵד אֲשֶׁר

*And it will be that everyone who seeks the LORD shall come out to the tent of meeting, which is **outside of** the camp.*

2 Chronicles 32:3[24]

מִחוּץ לָעִיר וַיַּעְזְרוּהוּ: וַיִּוָּעַץ עִם־שָׂרָיו וְגִבֹּרָיו לִסְתֹּם אֶת־מֵימֵי הָעֲיָנֹת אֲשֶׁר

*And he consulted with his princes and mighty men to shut up the waters of the springs which were **outside of** the city, and they helped him.*

Exodus 26:35a[25]

לַפֹּרֶכֶת **מִחוּץ** וְשַׁמְתָּ אֶת־הַשֻּׁלְחָן

*And you shall place the table **outside of** the veil.*

Exodus 26:33a[26]

לַפֹּרֶכֶת אֶת אֲרוֹן הָעֵדֻת **מִבֵּית** וְנָתַתָּה אֶת־הַפָּרֹכֶת תַּחַת הַקְּרָסִים וְהֵבֵאתָ שָׁמָּה

1 Kings 7:31a
וּפִיהוּ֙ לַכֹּתֶ֔רֶת וְלַֽמַּעְלָ֖ה בָּאַמָּ֑ה **מִבַּ֣ית**

*And its opening **inside of** the capital and above was a cubit.*

As a relator noun, בַּיִת is not used much compared to its counterpart חוּץ. The preposition בְּ is more frequently used in its place because the relator noun & the preposition share a similar meaning.[27] However, the relator nouns חוּץ and בַּיִת can also be used in instances in which they are not grammatically related to another word in the sentence. The preposition בְּ cannot function in this manner, which again demonstrates one main difference between relator nouns & prepositions.[28]

The relator nouns שְׂמאל and יָמִין.

The relator nouns שְׂמאל and יָמִין also describe the spatial relationships between themselves and the things to which they are semantically related, referring to the left side, שְׂמאל, or the right side, יָמִין, of the related word/concept. In the following examples they are lexically and grammatically relative to such things or people as אִישׁ, עֶזְרָא, גְּבֻלָה, הֵימָן, or עֲשָׂהאֵל.[29]

2 Kings 23:8b
שְׂמֹאול אִ֖ישׁ בְּשַׁ֣עַר הָעִ֑יר וְנָתַ֗ץ אֶת־בָּמֹות֙ הַשְּׂעִרִ֔ים אֲשֶׁר־פֶּ֥תַח שַׁ֖עַר יְהוֹשֻׁ֣עַ שַׂר־הָעִ֑יר אֲשֶׁר־עַל־

*And he pulled down the heights of the gates which were at the entrance of the gate of Joshua, the leader of the city, which is upon the **left side of** a man in the gate of the city.*

Nehemiah 8:4b[30]
פְּדָיָ֣ה וּמִישָׁאֵ֔ל וּמַלְכִּיָּ֖ה **יְמִינֹ֑ו וּמִשְּׂמֹאלֹ֗ו** וַיַּעֲמֹ֤ד אֶצְלֹו֙ מַתִּתְיָ֣ה וְשֶׁמַ֔ע וַֽעֲנָיָ֖ה וְאוּרִיָּ֥ה וְחִלְקִיָּ֖ה וּמַעֲשֵׂיָ֑ה עַל־
וְחָשֻׁ֣ם וְחַשְׁבַּדָּנָ֔ה זְכַרְיָ֖ה מְשֻׁלָּֽם׃

*And at his side stood Mattithiah, Shema, Anaiah, Uriah, and Maaseiah on the **right side of** him and on the **left side of** him Pedaiah, Mishael, Malchijah, Hashum, Hashbaddanah, Zechariah, and Meshullam.*

Zechariah 4:3[31]
שְׂמֹאלָ֔הּ הַגֻּלָּ֖ה וְאֶחָ֣ד עַל־ **מִימִ֑ין** וּשְׁנַ֥יִם זֵיתִ֖ים עָלֶ֥יהָ אֶחָֽד׃

*And there were two olive trees beside it, one on the **right side of** the bowl and the other on the **left side of** it.*

1 Chronicles 6:24

וְאָחִ֥יו אָסָ֖ף הָעֹמֵ֣ד עַל־**יְמִינ֑וֹ** אָסָ֥ף בֶּן־בֶּרֶכְיָ֖הוּ בֶּן־שִׁמְעָֽא׃

*And his brother, Asaph, was standing by the **right side of** him, Asaph the son of Berechiah son of Shimea.*

2 Samuel 2:21a

וַיֹּ֨אמֶר ל֜וֹ אַבְנֵ֗ר נְטֵ֤ה לְךָ֙ עַל־**יְמִֽינְךָ֙** א֣וֹ עַל־**שְׂמֹאלֶ֔ךָ** וֶֽאֱחֹ֣ז לְךָ֔ אֶחָ֖ד מֵֽהַנְּעָרִ֑ים

*And Abner said to him, "Turn yourself to the **right side of** you or to the **left side of** you and I take one of the young men for you."*

The words **שְׂמֹאל** and **יָמִין** do not always act as relator nouns. They can also refer to the actual left hand or the actual right hand of a person,32 in which instances they are regular nouns. The previous verses, however, demonstrate that the nouns also act relationally, referring to the right side or left side of a thing or person.33 Unlike prepositions, these relator nouns can also be used in sentences in which they are not grammatically related to another word.

The relator nouns רֹאשׁ and אַחֲרִית.

The relator nouns רֹאשׁ and אַחֲרִית describe the temporal relationships between themselves & the things to which they are semantically related, usually referring to the beginning, רֹאשׁ, or the end אַחֲרִית, of the related word or concept. In the following examples, they are lexically and grammatically relative to such things as הָאַשְׁמֹרֶת הַתִּיכוֹנָה, שָׁנָה, דָּבָר, and ־ָהּ.34

Judges 7:19a

וַיָּבֹ֣א גִ֠דְעוֹן וּמֵאָה־אִ֨ישׁ אֲשֶׁר־אִתּ֜וֹ בִּקְצֵ֣ה הַֽמַּחֲנֶ֗ה **רֹ֚אשׁ** הָאַשְׁמֹ֣רֶת הַתִּֽיכוֹנָ֔ה

*And Gideon, and the one hundred men with him, came into the outskirts of the camp at the **beginning of** the middle watch.*

Ezekiel 40:1a

בְּעֶשְׂרִ֨ים וְחָמֵ֜שׁ שָׁנָ֣ה לְגָלוּתֵ֗נוּ **בְּרֹ֨אשׁ** הַשָּׁנָ֜ה בֶּעָשׂ֣וֹר לַחֹ֗דֶשׁ

*In the twenty-fifth year of our exile, in the **beginning of** the year on the tenth day of the month,*

Deuteronomy 11:12[35]

שָׁנָה: **אַחֲרִית** אֶ֖רֶץ אֲשֶׁר־יְהוָ֣ה אֱלֹהֶ֑יךָ דֹּרֶ֨שׁ אֹתָ֜הּ תָּמִ֣יד עֵינֵ֗י יְהוָה֙ אֱלֹהֶ֔יךָ בָּ֖הּ מֵרֵשִׁ֣ית הַשָּׁנָ֔ה וְעַד

*a land for which the LORD your God cares, the eyes of the LORD your God are continually upon it; from the beginning of the year until the **end of** the year*

Ecclesiastes 7:8[36]

דָּבָר֙ מֵרֵאשִׁיתֹ֔ו טֹ֖וב אֶ֣רֶךְ־רֽוּחַ֔ מִגְּבַהּ־רֽוּחַ׃ **אַחֲרִית** טֹ֥וב

*The **end of** a matter is better than the beginning of it, and patience of spirit is better than pride of spirit.*

Amos 8:10

וְהָפַכְתִּ֤י חַגֵּיכֶם֙ לְאֵ֔בֶל וְכָל־שִׁירֵיכֶ֖ם לְקִינָ֑ה וְהַעֲלֵיתִ֤י עַל־כָּל־מָתְנַ֙יִם֙ שָׂ֔ק וְעַל־כָּל־רֹ֖אשׁ קָרְחָ֑ה וְשַׂמְתִּ֤יהוּ כְּאֵ֙בֶל֙ יְחִ֣יד וְ כְּיֹ֖ום מָ֥ר׃ **אַחֲרִיתָ֔הּ**

*And I will turn your festivals into mourning and all your songs to dirges, and I will put sack cloth upon all loins and baldness upon all heads, and I will make it as the mourning of an only child, and the **end of** it will be as a day of bitterness.*

These verses demonstrate that temporal relator nouns are less restrictive in their lexical relationships than spatial relator nouns. For instance, in Ecclesiastes 7:8, the word to which אַחֲרִית is semantically and grammatically related, דָּבָר, [37] does not have a specific meaning. Thus, the meaning to which אַחֲרִית is actually related is communicated in the context of the passage instead of by the word to which it is grammatically linked.[38] Also in Amos 8:10, the pronominal suffix ־הָ of the relator noun אַחֲרִית seems to be an inclusive reference to the end of the events described in Amos 8:8–10. Thus, even though אַחֲרִית is grammatically related to the suffix, it is semantically related to the series of events expressed in the context.[39] Since אַחֲרִית can be semantically related to a series of events, it seems plausible that רֵאשִׁית may function in a similar manner in Genesis 1:1.[40]

The relator noun רֵאשִׁית.

The relator noun רֵאשִׁית also describes temporal relationships between itself and the things to which it is semantically related, usually referring to the beginning of the related word or concept. In can be lexically and grammatically relative to such things or people as שָׁנָה (Deuteronomy 11:12), אִיּוֹב (Job 8:7; 42:12), חָכְמָה (Psalm 111:10; Proverbs 4:7), דַּעַת (Proverbs 1:17), דֶּרֶךְ (Proverbs 8:22), מָדוֹן (Proverbs

17:14), דָּבָר (Ecclesiates 7:8), מַמְלָכוּת (Jeremiah 26:1; 27:1; 28:1; 49:34), and חַטָּאת (Micah 1:13).[41]
Thus, רֵאשִׁית is a relator noun, and it most likely has a relative meaning, even in Genesis 1:1.

The semantic dependence of the words פָּנֶה, אָחוֹר, חוּץ, בַּיִת, שְׂמאל, יָמִין, רֹאשׁ, אַחֲרִית, and רֵאשִׁית is what makes them relator nouns & all the cited examples demonstrate this trait. In most contexts these relator nouns would be empty of meaning if they were not semantically related to another word or concept. For example, if relator noun רֹאשׁ, "beginning," is not semantically related to the phrase הָאַשְׁמֹרֶת הַתִּיכוֹנָה, "the middle watch," in Judges 7:19a, then no reader would be able to determine what רֹאשׁ is the beginning *of*. However, the main question to be asked now is since relator nouns are lexically relative, do they always have to be in the grammatical construct? In other words, do relator nouns always have to be translated with the preposition "of"?

Grammatically Absolute Relator Nouns

Although relator nouns in general are both lexically and grammatically relative to another word, or in the case of some temporal relator nouns another concept, they can also be lexically relative to another word while functioning as a grammatical absolute. Even in English, relator nouns do not have to be grammatically linked to another word. The most notable English example is the use of the relator noun "end" at the conclusion of a story. No English speaker argues that because the word "end" is relative in meaning, the phrase "The End" must be relative in form as well and changed to "The End of." Furthermore, when reading the phrase "The End" at the completion of a book or movie, the English speaker does not ask, "The end of what?" The meaning to which the relator noun "end" is semantically related is implicit in context of the event. Thus, in English, relator nouns can be both lexically relative and grammatically absolute. Similarly, relator nouns in Hebrew can also be both lexically relative and grammatically absolute. In other words, these Hebrew relator nouns, even though they are relative, can stand alone and are not required to be rendered with the preposition "of."

The relator nouns פָּנֶה and אָחוֹר.

The relator nouns פָּנֶה and אָחוֹר can be relative in meaning and grammatically absolute, while still referring to the front, פָּנֶה, or the back, אָחוֹר, of a related word or concept. In the following examples they are lexically, but not grammatically, relative to such things or people as יוֹאָב, יְהוּדָה, and מְגִלַּת–סֵפֶר.

2 Samuel 10:9a
מִפָּנִים **וּמֵאָחוֹר** וַיַּרְא יוֹאָב כִּי־הָיְתָה אֵלָיו פְּנֵי הַמִּלְחָמָה

*And Joab saw that the front of the battle was against him from the **front** and from the **back**.*

1 Chronicles 19:10a
פָּנִים וְאָחוֹר וַיַּרְא יוֹאָב כִּי־הָיְתָה פְּנֵי־הַמִּלְחָמָה אֵלָיו

*And Joab saw that the front of the battle was against him **front** and **back**.*

2 Chronicles 13:14a
פָּנִים וְאָחוֹר וַיִּפְנוּ יְהוּדָה וְהִנֵּה לָהֶם הַמִּלְחָמָה

*And Judah turned, and behold the battle was against him **front** and **back**.*

Ezekiel 2:10a42
פָּנִים וְאָחוֹר וַיִּפְרֹשׂ אוֹתָהּ לְפָנַי וְהִיא כְתוּבָה

*And he spread it out before him, and it was inscribed on the **front** and the **back**.*

In 2 Chronicles 13:14 both nouns are clearly acting in place of the grammatical prepositions אַחֲרֵי and לִפְנֵי, which are also in relation to יְהוּדָה in 13:13. However, even though the two nouns are relative in meaning to יְהוּדָה they are grammatically absolute. In other words, they have a relative meaning, but are not rendered with the preposition "of."

The relator nouns חוּץ and בַּיִת.

The relator nouns חוּץ and בַּיִת can be relative in meaning and in the grammatically absolute, while still referring to the outside, חוּץ, or the inside, בַּיִת, of a related word or concept. In the following examples they are lexically, but not grammatically, relative to such things as מַחֲנֶה, עִיר, תֵּבָה, and אֶרֶץ.

Deuteronomy 23:13–14a
חוּץ וְיָד֙ תִּהְיֶ֣ה לְךָ֔ מִח֖וּץ לַֽמַּחֲנֶ֑ה וְיָצָ֥אתָ שָּׁ֖מָּה :
וְחָפַרְתָּ֣ בָּ֔הּ **חֽוּץ** וְיָ֣שַׁבְתָּ֔ תִּהְיֶ֥ה לְךָ֖ עַל־אֱזֵנֶ֑ךָ וְהָיָ֗ה בְּשִׁבְתְּךָ֙

*And there shall be a place for you outside of the camp, and you will go out to there on the **outside**, and there will be a spade for you among your tools, and it will be, when you sit down **outside,** that you will dig with it,*

Genesis 19:16b–17a

וַיִּנִּחֵהוּ מִחוּץ לָעִיר׃ **וַיְהִי** אִם־הוֹצִיאָם אֹתָם
וַיֹּאמֶר הִמָּלֵט עַל־נַפְשֶׁךָ **הַחוּצָה** וַיְהִי כְהוֹצִיאָם אֹתָם

*And they brought him out and put him outside of the city, and it came about, when they brought them to the **outside**, that one said, "Flee for your life,*

Ezekiel 7:15[43]

אֶשֶׁר בַּשָּׂדֶה בַּחֶרֶב יָמוּת וַאֲשֶׁר בָּעִיר רָעָב וָדֶבֶר יֹאכְלֻנּוּ׃ **מִבַּיִת** וְהַדֶּבֶר וְהָרָעָב **בַּחוּץ** הַחֶרֶב

*The sword is on the **outside** and the plague and famine are on the **inside** so that in the field, one will die by the sword, and in the city another will be devoured by famine and plague.*

Genesis 6:14b

בַּקִּנִּים תַּעֲשֶׂה אֶת־הַתֵּבָה וְכָפַרְתָּ אֹתָהּ **מִבַּיִת וּמִחוּץ** בַּכֹּפֶר׃ קִנִּים תַּעֲשֶׂה אֶת־הַתֵּבָה וְכָפַרְתָּ אֹתָהּ

*You will make the ark with cells, and you will cover it from the **inside** and the **outside** with pitch.*

Exodus 37:2a[44]

מִבַּיִת וּמִחוּץ וַיְצַפֵּהוּ זָהָב טָהוֹר

*And he overlayed it with pure gold from the **inside** and the **outside**.*

In Deuteronomy 23:13–14a the relator noun חוּץ is used three times and has the exact same meaning in all three instances. However, in two of the instances the noun is grammatically absolute, but lexically relative to the word מַחֲנֶה.[45] Also, in Ezekiel 7:15 חוּץ and בַּיִת are semantically, not grammatically, related to the word עִיר. The preposition בְּ is also semantically related to עִיר. Again, however, the preposition cannot be grammatically independent. Thus, the grammatically absolute and lexically relative בַּיִת is used in its place and does not need to be translated with the preposition "of."

The relator nouns שְׂמאל and יָמִין.

The relator nouns שְׂמאל and יָמִין can be relative in meaning and grammatically absolute, while still referring to the left side, שְׂמאל, or the right side, יָמִין, of a related word or concept. In the following examples they are lexically, but not grammatically, relative to such things and people as מִזְבֵּחַ, הֵיכָל, הֵימָן, and עֲשָׂהאֵל.

2 Kings 12:10a

בְּבֹוא־אִישׁ בֵּית יְהוָֹה **מִימָֽין** וַיִּקַּח יְהוֹיָדָע הַכֹּהֵן אֲרֹון אֶחָד וַיִּקֹּב חֹר בִּדַלְתֹּו וַיִּתֵּן אֹתֹו אֵצֶל הַמִּזְבֵּחַ

*And Jehoida the priest took a chest and bore a hole into its door and placed it on the side of the altar, on the **right side**, as one is coming into the house of the LORD.*

2 Chronicles 3:17a

מֶֽהַשְּׂמְאֹול וְאֶחָד **בַּיְמִין** וַיָּקֶם אֶת־הָעַמּוּדִים עַל־פְּנֵי הַהֵיכָל אֶחָד

*And he placed the pillars in front of the temple, one on the **right side** and one on the **left side**.*

1 Chronicles 6:29

אֵיתָן בֶּן־קִישִׁי בֶּן־עַבְדִּי בֶּן־מַלּוּךְ: **הַשְּׂמְאוֹל** וּבְנֵי מְרָרִי אֲחֵיהֶם עַל־

*And the sons of Merari, their brothers, were upon the **left side**, Ethan son of Kishi, son of Abdi, son of Malluch,*

2 Samuel 2:19

מֵאַחֲרֵי אַבְנֵר: **הַשְּׂמֹאול הַיָּמִין** וְעַל־ וַיִּרְדֹּף עֲשָׂהאֵל אַחֲרֵי אַבְנֵר וְלֹא־נָטָה לָלֶכֶת עַל־

*And Asahel pursued after Abner and he did not turn to go to the **right side** or the **left side** from going after Abner.*

In 2 Kings 12:10a the relator nouns שְׂמאל and יָמִין further define the less specific relator noun אֵצֶל, just as they do in Nehemiah 8:4. However, in 2 Kings 12:10a the relator nouns are grammatically absolute; whereas, in Nehemiah 8:4 they are in grammatical construct.[46] Also in 2 Chronicles 3:17 the phrase in which the relator nouns שְׂמאל and יָמִין are used is nearly identical to the phrase in Zechariah 4:3. However, in 2 Chronicles 3:17 the relator nouns are grammatically absolute; whereas, in Zechariah 4:3 they are in grammatical construct. Finally, in 1 Chron. 6:29 the grammatically absolute relator noun שְׂמאל is seen semantically related to הֵימָן in 1 Chronicles 6:18, but in 1 Chronicles 6:24 its antonym יָמִין is in the grammatical construct with the pronoun whose antecedent is also הֵימָן. Thus, rendering the relator nouns in 2 Kings 12:10a; 2 Chronicles 3:14; and 1 Chronicles 6:29 with the preposition "of" would be grammatically incorrect.

The relator nouns ראשׁ and אַחֲרִית.

The relator nouns ראשׁ and אַחֲרִית can be relative in meaning and grammatically absolute, while still referring to the beginning, ראשׁ,[47] or the end, אַחֲרִית, of a related word or concept. However, the things to which they are semantically related are not always explicitly stated in the context of the passage.

Proverbs 8:23[48]
מִקֶּדֶמֵי־אֶרֶץ: **מֵרֹאשׁ** מֵעוֹלָם נְסַכְתִּי

*From everlasting I have been established, from the **beginning**, from before the earth*

Ecclesiastes 3:11b[49]
וְעַד־סוֹף: **מֵרֹאשׁ** גַּם אֶת־הָעֹלָם נָתַן בְּלִבָּם מִבְּלִי אֲשֶׁר לֹא־יִמְצָא הָאָדָם אֶת־הַמַּעֲשֶׂה אֲשֶׁר־עָשָׂה הָאֱלֹהִים

*Moreover, he has set eternity in their heart so that man will not find out the work which God does from **beginning** to end.*

Isaiah 40:21[50]
לָכֶם הֲלוֹא הֻבַּינֹתֶם מוֹסְדוֹת הָאָרֶץ: **מֵרֹאשׁ** הֲלוֹא תֵדְעוּ הֲלוֹא תִשְׁמָעוּ הֻגַּד

*Have you not known? Have you not heard? Has it not been declared to you from the **beginning**? Have you not understood from the foundations of the earth?*

Isaiah 41:4[51]
אֲנִי יְהוָה רִאשׁוֹן וְאֶת־אַחֲרֹנִים אֲנִי־הוּא: **מֵרֹאשׁ** מִי־פָעַל וְעָשָׂה קֹרֵא הַדֹּרוֹת

*Who has done and made this, calling the generations from the **beginning**? It is I, the LORD, the first and the last. I am He.*

Isaiah 41:26a[52]
וְנֵדָעָה וּמִלְפָנִים וְנֹאמַר צַדִּיק **מֵרֹאשׁ** מִי־הִגִּיד

*Who has declared it from the **beginning** that we might know and that we might say from former times, "You are righteous."*

Isaiah 48:16a[53]
בַּסֵּתֶר דִּבַּרְתִּי מֵעֵת הֱיוֹתָהּ שָׁם אֲנִי **מֵרֹאשׁ** קְרָבוּ אֵלַי שִׁמְעוּ־זֹאת לְא

*Draw near to me, listen to this, for from the **beginning** I have not spoken in secret. From the time of its being there, I am.*

Isaiah 46:10a[54]
וּמִקֶּדֶם אֲשֶׁר לֹא־נַעֲשׂוּ **אַחֲרִית** מַגִּיד מֵרֵאשִׁית

*declaring from the beginning, the **end**, and from before, that which has not been done,*

Ecclesiastes 10:13[55]
פִּיהוּ הוֹלֵלוּת רָעָה: **וְאַחֲרִית** תְּחִלַּת דִּבְרֵי־פִיהוּ סִכְלוּת

*The beginning of the words of his mouth are folly and the **end** of the words of his mouth are evil madness.*

These verses demonstrate that even temporal relator nouns can also be in the grammatically absolute even though they are lexically relative. However, even the meanings to which they are semantically related do not have to be explicitly stated in the verse; rather, the context of the passage as a whole does supply the general concept to which these nouns are semantically related.

The relator noun רֵאשִׁית.

In Isaiah 46:10, the relator nouns רֵאשִׁית and אַחֲרִית are grammatically absolute, but semantically related to a meaning that is implicit in the passage. As Humbert notes, the meanings of the words are semantically related to an unspecified *laps de temps* (lapse of time).[56] Like the English phrase "The End," where the meaning of the relator noun is relative to a meaning implicit in the context of the event, the relator nouns רֵאשִׁית and אַחֲרִית are relative to a meaning implicit in the context of Isaiah 46:10a. This implicit relationship in meaning is not lost on the Hebrew speakers. Ramban, a Medieval Jewish rabbi, states, "But there is the verse [Isa 46:10] 'Declaring the end from the beginning' (mê-rê'shîth), and if he constructs (the word mê-rê'shîth) with dâbhâr (thing) understood, here too [in Gen 1:1] it can be constructed (with a word understood) in the same way" (Newman 1960, 33).[57] Thus, the passage of Isaiah 46:10a demonstrates that the noun רֵאשִׁית can be grammatically absolute and lexically relative to a meaning that is implicit in the context of the passage.[58] It is a perfect parallel to the traditional translation of רֵאשִׁית in Genesis 1:1.

Lexical Conclusion

The preceding evidences demonstrate two things concerning relator nouns as a whole. First, contrary to the views of some scholars, a relative meaning for a relator noun does not require a "relative" construction or translation—i.e. "in the beginning of." Relator nouns can be lexically relative yet grammatically absolute.[59] This type phenomenon is typical of relator nouns and is neither a lexical nor a grammatical anomaly. Second, with respect to temporal relator nouns, the words or concepts to which they are semantically related do not have to be explicitly stated in the context of the passage. Like the English phrase "The End," the relator noun's context can supply the relational meaning implicitly. In the case of Genesis 1:1, the context tells the reader that the concept to which בְּרֵאשִׁית is semantically related may be the

universe, time, or the event of creation ("In the beginning of all things," "In the beginning of time," or "In the beginning of the creation event").[60] It may be that the related concept is not specified because Genesis 1:1 describes, all at the same time, the beginning of the universe, time, and the creation event. Readers of the Hebrew and the traditional English translation of Genesis 1:1 can easily understand the "beginning" to be semantically related to such implicit concepts in the text.

The Grammatical Level

The absence of the definite article

Before returning to the linguistic traits of Hebrew relator nouns, one must also understand the grammatical dilemma that proponents of the dependent-clause translation charge against traditional translation. As stated earlier, if בְּרֵאשִׁית is grammatically absolute and definite in meaning,[61] one would expect the word to be pointed with an articular *qamets*, בָּרֵאשִׁית, rather than with a vocal shewa.[62] However, if בְּרֵאשִׁית is in construct with בָּרָא and the ensuing clause of Genesis 1:1, then one would expect בְּרֵאשִׁית to be anarthrous and pointed as it is: with the vocal *shewa*.[63]

To cite further evidence for this charge, proponents of the dependent clause translation frequently use Hosea 1:2a as a grammatical parallel, where the anarthrous noun תְּחִלָּה is in construct with the verb דִּבֶּר & the ensuing clause.[64] The passages states,

תְּחִלַּת דִּבֶּר־יְהוָה בְּהוֹשֵׁעַ וַיֹּאמֶר יְהוָה אֶל־הוֹשֵׁעַ לֵךְ קַח־לְךָ אֵשֶׁת זְנוּנִים

When the LORD first spoke to Hosea, the LORD said to Hosea, "Go, get yourself a wife of whoredom," (NJPS)

The strength of this example is that the structure of the passage is very similar to Genesis 1:1, and the *nomen regens* of the construct chain, תְּחִלָּה, is nearly identical to רֵאשִׁית in meaning.[66] Furthermore, almost all modern translations render Hosea 1:2a with a dependent temporal clause,[67] and some are nearly identical in structure to the dependent-clause translation of Genesis 1:1. For example the NIV Version renders Hosea 1:2a as "When the LORD began to speak through Hosea;"[68] the NJV Version renders Genesis 1:1 as "When God began to create heaven and earth."

In order to show that an anarthrous בְּרֵאשִׁית in Genesis 1:1 can be grammatically absolute & definite in meaning proponents of the traditional translation frequently use König's argument (König 1919. 130 n. 1),[69] that רֵאשִׁית is a type of temporal noun that is often anarthrous when functioning as an adverbial expression of time, like רֹאשׁ, קֶדֶם, and עוֹלָם.[70] Thus, if בְּרֵאשִׁית is functioning in this manner in Genesis 1:1, then it wouldn't have to be pointed with articular *qamets*. König's argument, however, should be rejected for two reasons. First, it is fraught with many problems and doesn't necessarily explain why these types of words are frequently anarthrous.

Second, there is a better explanation for why בְּרֵאשִׁית is pointed with a vocal *shewa* that is more reflective of the relator noun classification.

The complications of König's argument.

As König argues, the word בְּרֵאשִׁית can certainly be classified as a temporal noun; however, many problems arise when he classifies it with other types of temporal nouns. First, the temporal nouns like רֵאשִׁית and רֹאשׁ are not lexically analogous to קֶדֶם and עוֹלָם. The former nouns frequently refer to specific moments or periods in time: the beginning of something. The latter refer to indefinite periods of time. For instance, the temporal noun קֶדֶם almost always refers to a period unspecified and immeasurable of past time, and the temporal noun עוֹלָם is so unspecific that it can refer to an indefinite period of past *or* future time.[71]

Thus, a possible explanation for why both קֶדֶם and עוֹלָם can be both anarthrous and grammatically absolute is that they are lexically indefinite; an article would seem to imply a lexically definite meaning.[72] Thus, these nouns cannot be used as examples to explain why a definite בְּרֵאשִׁית in Genesis 1:1 can be both anarthrous and in the grammatically absolute.

König and the proponents of his argument might then counter that רֵאשִׁית in Genesis 1:1 also has a lexically indefinite meaning like that of קֶדֶם and עוֹלָם,[73] but in all its temporal uses, whether in construct or absolute (Isaiah 46:10), רֵאשִׁית always has a definite meaning, קֶדֶם & עוֹלָם never do. Furthermore, as a relator noun, the meaning of רֵאשִׁית is always semantically related to another word or concept, which makes the word naturally definite even if not considered grammatically related to another word.[74] Anyone who might argue that רֵאשִׁית has an indefinite meaning in Genesis 1:1 would have to argue that it has a non-relative meaning, which seems antithetical to the relator noun concept.

Second, proponents of the dependent-clause translation will also challenge König's argument. They counter that the examples with which he compares בְּרֵאשִׁית are all taken from poetic texts which do not frequently use the definite article. Brown states,

> In addition, all the examples of related words used absolutely but without the article (mērō'š in Isa 40:21; 41:4, 26; 48:16; *miqqedem* in Isa 46:10; *mēvôlām* in Isa 46:9) are culled from poetic texts, which by nature tend to "omit" the articles for nouns considered definite. Thus, on methodological grounds alone comparison of poetic texts with Genesis 1 is problematic when used to argue for the absolute function of bĕrē'šît in Genesis 1:1. **Indeed, the absence of the article still supports the interpretation of bĕrē'šît as a construct.** [emphasis mine] (Brown 1993, 64)[75]

Even though opponents raise this objection, proponents of König's argument rarely cite these type prose examples, even though they do exist and are a counter to this challenge.[76]

However, if רֵאשִׁית and רֹאשׁ are not semantically analogous to קֶדֶם and עוֹלָם, then there are no other prose examples with which to compare רֵאשִׁית. Isaiah 46:10 is a great parallel verse in which רֵאשִׁית is grammatically absolute, definite in meaning, and anarthrous, but a proponent of the dependent-clause translation can easily argue that the word would have a definite article if it were not in a poetic passage. Third, since the temporal nouns רֵאשִׁית & רֹאשׁ almost always refer to the beginning of something, they are much more comparable to the temporal relator noun תְּחִלָּה, which at times is semantically interchangeable with רֵאשִׁית.[77] The word's semantic proximity to רֵאשִׁית and רֹאשׁ makes it better as a methodological candidate for such grammatical comparison. However, this is a problem for König and the proponents of his argument because even though תְּחִלָּה is often grammatically absolute, it always functions in this manner with the article, not without.[78] Thus, according to this evidence, the lexically comparable רֵאשִׁית should also have the article when it is grammatically absolute. The evidence as a whole demonstrates the weakness of König's argument, which makes the plausibility of the traditional translation weak as well. However, there is an even better explanation for why a lexically definite and grammatically absolute בְּרֵאשִׁית is not pointed an articular *qamets*.

Relator Nouns and the Hebrew Definite Article

The previous lexical discussion has already established that רֵאשִׁית is a relator noun. As shown earlier, the relator noun classification demonstrates that relator nouns, like רֵאשִׁית, can be grammatically absolute even though they are relative in meaning. This word classification, however, can also explain why בְּרֵאשִׁית is pointed with a vocal *shewa* instead of an articular *qamets*.

Because relator nouns are relative in meaning to another word or concept, they are definite in meaning by nature.[79] The following verses will demonstrate, however, that when they function as grammatical absolutes they can frequently be found with *or* without the article in passages of both prose and poetry.

Consider the use of the relator nouns חוּץ and בַּיִת:

Ezekiel 7:15

אֶשֶׁר בַּשָּׂדֶה בַּחֶרֶב יָמוּת וַאֲשֶׁר בָּעִיר רָעָב וָדֶבֶר יֹאכְלֻנּוּ: **מִבָּיִת** וְהַדֶּבֶר וְהָרָעָב **בַּחוּץ** הַחֶרֶב

*The sword is on the **outside** and the plague and famine are on the **inside** so that in the field, one will die by the sword, and in the city another will be devoured by famine and plague.*

Lamentations 1:20b[80]

כַּמָּוֶת׃ **בַּבַּיִת** שִׁכְלָה־חֶרֶב **מִחוּץ** מֵעַי חָמַרְמָרוּ נֶהְפַּךְ לִבִּי בְקִרְבִּי כִּי מָרֹו מָרִיתִי

*my organs are in turmoil, my heart is turned within me for I have certainly rebelled. On the **outside** the sword makes childless, on the **inside** it is like death.*

In these verses חוּץ and בַּיִת are paired together, like they are in several other passages,[81] and both are semantically related to the word עִיר. However, in both instances one relator noun is pointed with the article, but the other is not, even though both nouns are grammatically absolute and definite in meaning. Thus, the grammar of the passages demonstrates that a relator noun can be grammatically absolute and definite in meaning, but still be anarthrous.

Deuteronomy 23:13–14a[82]

לַמַּחֲנֶה וְיָצָאתָ שָּׁמָּה חוּץ׃ **מִחוּץ** וְיֵד תִּהְיֶה לְךָ
וְחָפַרְתָּה בָּהּ **חוּץ** וְיָתַדְתָּ תִּהְיֶה לְךָ עַל־אֲזֵנֶךָ וְהָיָה בְּשִׁבְתְּךָ

*And there shall be a place for you **outside** of the camp, and you will go out to there on the **outside**, and there will be a spade for you among your tools, and it will be when you sit down on the **outside**, you will dig with it,*

In this example the relator noun חוּץ in the first clause of *verse 13* is semantically and grammatically related to מַחֲנֶה and is clearly definite in meaning. However, in the latter half of *verses 13 and 14*, חוּץ is grammatically absolute, but still relative in meaning to מַחֲנֶה. However, in its grammatically absolute form, חוּץ is anarthrous even though it is definite in meaning. Again, the evidence demonstrates that an anarthrous relator noun can be grammatically absolute and definite in meaning. The relator nouns שְׂמֹאל & יָמִין can also function in the same manner. Consider the following uses.

2 Samuel 2:21a

וֶאֱחֹז לְךָ אֶחָד מֵהַנְּעָרִים **שְׂמֹאלֶךָ** אֹו עַל־ **יְמִינֶךָ** וַיֹּאמֶר לֹו אַבְנֵר נְטֵה לְךָ עַל־

*And Abner said to him, "Turn yourself to the **right side** of you or to the **left side** of you and I will take one of the young men for you."*

2 Samuel 2:19

מֵאַחֲרֵי אַבְנֵר׃ **הַשְּׂמֹאול** וְעַל־ **הַיָּמִין** וַיִּרְדֹּף עֲשָׂהאֵל אַחֲרֵי אַבְנֵר וְלֹא־נָטָה לָלֶכֶת עַל־

*And Asahel pursued after Abner and he did not turn to go to the **right side** or the **left side** from going after Abner*

Numbers 20:17b

עַד אֲשֶׁר־נַעֲבֹר גְּבוּלֶךָ׃ **יָמִין וּשְׂמֹאול** דֶּרֶךְ הַמֶּלֶךְ נֵלֵךְ לֹא נִטֶּה

*We will go the way of the king; we will not turn to the **right side** or the **left side** until we cross your territory.*

Numbers 22:26

׃ **יָמִין וּשְׂמֹאול** וַיּוֹסֶף מַלְאַךְ־יְהוָה עֲבֹר וַיַּעֲמֹד בִּמְקוֹם צָר אֲשֶׁר אֵין־דֶּרֶךְ לִנְטוֹת

*And the messenger of the LORD passed on further, and stood in the narrow place in which there is not a way to turn to the **right side** or the **left side**.*

In these examples, the relator nouns שְׂמאל and יָמִין are used with the verb נָטָה to describe turning from the path either to the right side or the left side of oneself (cf. 2 Samuel 2:21). The Numbers passages, however, demonstrate that this word pair, when used in the same way with the same verb, can be in the grammatically absolute and definite in meaning even though both words are anarthrous.[83]

1 Kings 7:39a

מִשְּׂמאלֹו וְחָמֵשׁ עַל־כֶּתֶף הַבַּיִת **מִיָּמִין** וַיִּתֵּן אֶת־הַמְּכֹנוֹת חָמֵשׁ עַל־כֶּתֶף הַבַּיִת

*And he placed the stands, five on the side of the temple on the **right side** and five upon the side of the temple on its **left side**.*

2 Chronicles 3:17a

מֵהַשְּׂמֹאול וְאֶחָד **מִיָּמִין** וַיָּקֶם אֶת־הָעַמּוּדִים עַל־פְּנֵי הַהֵיכָל אֶחָד

*And he placed the pillars in front of the temple, one on the **right side** and one on the **left side**.*

Finally, both of these examples demonstrate that even though שְׂמאל and יָמִין are used in exactly the same manner, שְׂמאל is grammatically definite and יָמִין is not. Both, however, are definite in meaning, which again suggests that relator nouns can be both grammatically absolute & definite in meaning, yet anarthrous in form. In addition to these passages, there are a number of verses in which a definite and grammatically absolute relator noun can be either articulated or anarthrous. The relator nouns אָחוֹר and פְּנֶה are always anarthrous when they are grammatically absolute (2 Samuel 10:9; 1 Chronicles 19:10; 2 Chronicles 13:14; Psalm 139:5; and Ezekiel 2:10). The relator nouns חוּץ and בַּיִת can be pointed with the article when they are grammatically absolute (Genesis 9:22; 19:17; 24:31; 39:11; Exodus 21:19; Leviticus 18:9; Deuteronomy 24:11; 25:5; Judges 12:9; 19:25; 2 Samuel 13:18; 2 Kings 4:3; 2 Kings 10:24 Ezra 10:13 Job 31:32; Psalm 41:7; Proverbs

22:13; 24:27 Song of Solomon 8:1; Ezekiel 41:9, 17, 25; Hosea 7:1), but, however, there are other passages in which they are anarthrous (Genesis 6:14; Exodus 12:46; 25:11; 37:2; Leviticus 14:41; Deuteronomy 23:13, 14; 32:25; 1 Kings 6:6, 15, 16; 7:9; Isaiah 33:7; Lamentations 1:20; Ezekiel 7:15; 40:5, 19; 46:2; 47:2). The relator nouns שְׂמֹאל and יָמִין can also be pointed with an article when they are grammatically absolute (Genesis 13:9; 2 Samuel 2:19; 1 Chronicles 6:29; 2 Chronicles 3:17; Nehemiah 12:31; Ezekiel 1:10), but mostly they are anarthrous (Genesis 24:49; Numbers 20:17; 22:26; Deuteronomy 2:27; 5:32; 17:11, 20; 28:14; Joshua 1:7; 17:7 19:27; 23:6; 1 Samuel 6:12; 1 Kings 7:39, 49; 2 Kings 12:10; 22:2; 2 Chronicles 3:17; 4:6, 7, 8; 34:2; Job 23:9; 30:12; Psalm 142:5; Proverbs 4:27; Isaiah 54:3).

Grammatical Conclusion

The preceding evidences demonstrate that relator nouns can be anarthrous when they are grammatically absolute. The reason for this is because that they are in a grammatical state of flux. On the one hand, they are in an implicit grammatical construction with a related thing/concept,[85] yet on the other hand, they are also grammatically absolute with a definite meaning. Because these nouns are lexically dependent on another word or concept to complete their meaning, like a noun in grammatical construct, one would expect grammatically absolute relator nouns to be anarthrous. However, because they have a definite meaning when they are grammatically absolute, one would also expect them to have the definite article. Thus, it is not surprising that grammatically absolute relator nouns can occur with or without the article. With respect to the relator noun בְּרֵאשִׁית in Genesis 1:1, if it is grammatically absolute, it does not have to be pointed with an articular *qamets*, even though it could be. Such is the nature of relator nouns in this grammatical state of flux.

Conclusion

Once בְּרֵאשִׁית is correctly identified as a relator noun, a better methodology can be used for collecting and analyzing the lexical and grammatical data. This article has shown that when the word בְּרֵאשִׁית is compared with other types of relator nouns, the lexical evidence demonstrates that it can be grammatically absolute even if it is lexically relative. Thus, the challenge put forth by opponents that because רֵאשִׁית is lexically relative, it must be rendered in the construct state in Genesis 1:1, does not stand up to scrutiny.

Furthermore, this article has shown that when בְּרֵאשִׁית is again compared with the other types of relator nouns, the grammatical evidence demonstrates that it can be anarthrous even though it is grammatically absolute. Thus, the challenge put forth by opponents that because בְּרֵאשִׁית is not pointed with an articular *qamets*, the word is in the construct state, also does not stand up to scrutiny.

Both the lexical and grammatical evidences of Hebrew relator nouns demonstrate that בְּרֵאשִׁית can be in the absolute state in Genesis 1:1, which would render the verse as an independent clause. This is the traditional translation of the passage, which allows Genesis 1:1 to be interpreted as the first act of creation. However, the grammatical and lexical evidences only demonstrate that the traditional translation is itself linguistically possible. Syntactical evidence presented in a forthcoming article will demonstrate that the traditional translation of Genesis 1:1 is not only linguistically possible, it is the only reasonable translation of the first verse of the Bible.

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Footnotes

1. All biblical citations from the original languages, including the passages from the Apocrypha and Pseudepigripha, are provided by *BibleWorks 6.0*. [CD ROM] (2003).
2. Many scholars of varying positions refer to this reading of the passage as the traditional translation and interpretation. Westermann, however, contends that this interpretation is not traditional. See Westermann (1990, 95).

3. The Medieval Jewish scholars Rashi (d. 1105) and Ibn Ezra (d. 1164) are the first known proponents of this alternate translation.

4. If the dependent clause of Genesis 1:1 is subordinate to Genesis 1:3, then Genesis 1:2 is usually treated parenthetically. Cf. the NJV.
5. This is the Douay-Rheims American Edition (DRA). Unlike the later NAB, the DRA is translated mostly from the Vg rather than Hebrew and Greek manuscripts. See Bruce (1970, 113).

6. For an early modern treatment of this view, see Skinner (1951).

7. This would make the ensuing clause of Genesis 1:1 a genitive substantival clause with בְּרֵאשִׁית functioning as its *nomen regens*. See Joüon and Muraoka (2008.§ 129p.)
8. Lane also states, "The question whether verse 1 is a complete sentence or only a dependent clause is centered in the syntactical interpretation of the first word, bərē(ʿ)šît. If the noun rē(ʿ)šît is in the absolute state, verse 1 contains a complete thought and is an independent clause or sentence. If, on the other hand, it is in the construct state, verse 1 is not a complete thought and forms a temporal clause which must be completed by either verse 2 or 3." Lane (1963, 66).
9. The term "grammar" can have several meanings that are both narrow and broad. This article uses the term "grammar" in its narrow sense according to following definition given by Miriam Webster's online dictionary: "The study of classes of words, their inflections, and their functions and relations in the sentence."

10. Thus, it is in construct with בָּרָא and the ensuing clause of Genesis 1:1, which again creates a dependent clause.
11. Since there is no morphological difference between the construct and absolute forms of רֵאשִׁית, one must use the pointing of the preposition בְּ to determine whether בְּרֵאשִׁית may be absolute or construct. (Cf. Neh 12:44 where the absolute form of רֵאשִׁית is pointed with an articular *qamets*. Unfortunately this example can only be a morphological parallel to רִאשִׁיתand not a lexical or grammatical parallel since it is not a temporal use of the word.)
12. The *rectum* of the alleged construct chain, בָּרָא and the ensuing clause of Genesis 1:1, would, through context, already make the *regens*, בְּרֵאשִׁית, definite, so no article would be needed to indicate definiteness. Thus, if בְּרֵאשִׁית is in the construct state, the lack of the articular *qamets* is expected.

13. This article, which defends the traditional translation, rejects the notion that בְּרֵאשִׁית has an absolute meaning. As will be seen further on, it is not necessary for תִּישְׁאֵרֵבְּ to be absolute in meaning in order to be grammatically absolute.
14. König states, "Denn auch andere Adverbia stehen im absoluten Sinne, wie ich durch eine eingehendere Untersuchung festgestellt habe. Man vergleiche nur mêrêschîth (Jes. 46 10) im absoluten Sinne = „von Uranfang an“." (For other adverbs, without the article, are in the absolute sense as I have found through a more thorough investigation. One need only compare mêrêschîth [Isa 46:10] in the absolute sense = "From the very beginning.") (König 1919, 130). Wenham also states, "Nor can it be shown that ראשית may not have an absolute sense. It may well have an absolute sense in Isaiah 46:10, and the analogous expression מראש in Prov 8:23 certainly refers to the beginning of all creation. The context of בראשית standing at the start of the account of world history makes an absolute sense highly appropriate here" (Wenham 1987, 12). See also Matthews (1996, 137 n. 99, 138 n. 103).
15. Cf. NASB, NIV, NJPS, NAV, NRSV.

16. This is the only other passage in the Bible in which the temporal use of רֵאשִׁית is grammatically absolute.
17. The translation is, "We note therefore that in the strictly temporal sense, the substantive rēšīt only appears one time in the absolute state: Isaiah. 46:10. The theoretic possibility of constructing a temporal rēšīt in an absolute manner exists therefore, but this passage merits closer consideration. First of all, guided by instinct, the LXX translate mērēšīt by ἀναγγέλλων πρότερον τὰ ἔσχατα, that is to say that they understood mērēšīt adverbially ['from before'] and, at the end, relatively [= from before in relation to another thing], and not at all in the absolute sense of "in the beginning." Then, in the MT itself, there is a correlation connection evident between mērēšīt and aḥarīt that indicates a terminus a quo and a terminus ad quem of a certain lapse of time [cf. also the pair rēšīt . . . aḥarīt in Job 8:7; 42:12; Eccl. 7:8], time conceived in a fairly concrete fashion as seen elsewhere in parallelism to aḥarīt with ašèr lô' na'asû. Now what says correlation says relation, all the less implicit: consequently, the sense even of rēšīt in Isaiah 46:10 is relative in the end, even if the construction is not relative and even if rēšīt is in the absolute state. The passage Isaiah 46:10 cannot be therefore legitimately called upon in favor of the absolute temporal sense of berēšīt in Genesis 1:1, which remains, therefore, without example." Lane goes so far as to argue that the translation "declaring the end from the beginning" in Isa 46:10a is inaccurate. See Lane 1963, 67.
18. Even Ridderbos, a proponent of the traditional translation, grants Humbert this claim; however, he still argues that רֵאשִׁית has an absolute meaning in Genesis 1:1. See Ridderbos 1958, 218.
19. This trait explains why proponents of the dependent-clause translation argue that רֵאשִׁית has a relative meaning and should be translated with the preposition "of," making it relative to the word בָּרָא and the ensuing clause of Genesis 1:1.
20. Although Hebrew relator nouns are usually in construct with the words to which they are semantically related, some are grammatically linked to their related words by the preposition לְ. Cf. 2 Kings 23:13; Ezekiel 10:3; Joshua 15:21; Nahum 2:10; 3:3.

21. The following examples of relator nouns have been translated as literally as possible to bring out their relative meanings.

22. Cf. 2 Chronicles 13:13–14.
23. For more examples of חוּץ related to מַחֲנֶה, see Exodus 29:14; 33:7 (2×); Leviticus 4:12, 21; 6:4; 8:17; 9:11; 10:4, 5; 13:46; 14:3; 16:27; 17:3; 24:14, 23; Numbers 5:3, 4; 12:14, 15; 15:35, 36; 19:3, 9; 31:13, 19; Deuteronomy 23:11, 13.
24. For more examples of חוּץ related to עִיר, see Genesis 19:16; 24:11; Leviticus 14:40, 41, 45, 53; Numbers 35:5; 1 Kings 21:13; 2 Chronicles 33:15.
25. For more examples of חוּץ related to פְּרֹכֶת, see Exodus 27:21; 40:22.
26. For more examples of בַּיִת related to פְּרֹכֶת, see Leviticus 16:2, 12, 15; Numbers 18:7.
27. The relator noun חוּץ does not share a similar lexical meaning with any preposition; hence, it is more frequently used than בַּיִת. Cf. Lev 17:3, where the preposition בְּ is used to refer to the inside of the מַחֲנֶה; whereas, the relator noun חוּץ is used to refer to the outside of the מַחֲנֶה.
28. Cf. Ezekiel 7:15 where both the relator noun בַּיִת and the preposition בְּ refer to the inside of the עִיר, with the exception being that בַּיִת, as a relator noun, is not grammatically linked to עִיר, but בְּ, as a preposition, is.
29. For more examples of שְׂמֹאל and יָמִין referring to the leftside or rightside of a thing or person, see Genesis 48:17; Exodus 14:22, 29; Judges 3:15, 16, 21; 7:20; 20:16; 2 Samuel 16:6; 20:9; 1 Kings 2:19; 7:39; 22:19; 2 Chronicles 18:18; Psalm 109:6, 31; Ecclesiastes 10:2; Jeremiah 22:24; Ezekiel 10:3; 39:3; Zechariah 3:1; 4:11; 11:17.
30. Although שְׂמֹאל and יָמִין are grammatically constructed to a pronoun, the antecedent of the pronoun is עֶזְרָא (cf. also 1 Chronicles 6:24; 2 Samuel 2:21).
31. This verse and the previous seem to show that the prepositions מִן and עַל are interchangeable in meaning when used with שְׂמֹאל and יָמִין.
32. Cf. Genesis 48:14; Judges 5:26; Psalms 21:9; 26:10; 74:11; 89:14, 26; 138:7; 139:10; 144:11; Song of Solomon 2:6; 8:3; Isaiah 48:13; Daniel 12:7, but also cf. Genesis 48:17; Judges 3:15, 21; 7:20; 20:16; 2 Samuel 20:9; Psalm 73:23; 121:5; Jeremiah 22:24 Ezekiel 39:3 where the nouns שְׂמֹאל and יָמִין are actually in construct with the word יַד.
33. N.b. especially how the two relator nouns further define the less-specific relator noun אֵצֶל in Nehemiah 8:4. Cf. also 1 Kings 7:39 where the relator nouns further define the less-specific relator noun כָּתֵף.
34. For more examples of רֹאשׁ referring to the beginning of something, see Exodus 12:2; Numbers 10:10; 28:11; Lamentations 2:19. For more examples of אַחֲרִית referring to the end of something see Genesis 49:1; Numbers 23:10; 24:14; Deuteronomy 4:30; 32:20; Psalms 37:38; 73:17; Proverbs 14:12; 16:25; Isaiah 2:2; 47:7; Jeremiah 5:31; 23:20; Lamentations 1:9; Ezekiel 23:25; 38:16; Daniel 8:19; 11:4; Hosea 3:5; Amos 4:2; 9:1; Micah 4:1. N.b. especially Numbers 24:20; Job 8:7; 42:12, where אַחֲרִית and רֵאשִׁית occur together as an antonymic, relator noun pair.
35. N.b. the use of רֵאשִׁית in this sentence.
36. N.b. the use of רֵאשִׁית in this sentence as well.

37. The relator nouns אַחֲרִית, אשֶׁרֵית, and רֹאשׁ may be semantically and implicitly related to this word when no other concept is specified in the context of their passages (cf. Genesis 1:1; Isaiah 41:4, 26; 46:10; 48:16).
38. N.b. that the same applies to the relator noun רֵאשִׁית.
39. Cf. also Isaiah 47:7; Jeremiah 5:31.
40. That is, of course, without the pronominal suffix ־הּ.
41. רֵאשִׁית is also paired with the relator noun אַחֲרִית in Job 42:12; Ecclesiastes 7:8; Isaiah 46:10.
42. פָּנֶה and אָחוֹר are semantically relative to מְגִלַּת־סֵפֶר in Ezekiel 2:9.
43. חוּץ and בַּיִת are both semantically related to the word עִיר.
44. חוּץ and בַּיִת are semantically related to אֶרֶז in Exodus 37:1.
45. Cf. also the two uses of חוּץ in Genesis 19:16b–17.
46. Cf. also 1 Kings 7:39 where the relator nouns further define the less-specific relator noun כָּתֵף even though they are grammatically absolute.
47. In all of the example passages in which a temporal רֹאשׁ is used in the absolute grammatical state, the LXX translates the word with the Greek equivalent ἀρχὴ.
48. רֹאשׁ may be semantically related to מִפְעָלָיו in Proverbs 8:22. In general רֹאשׁ may be semantically related to such implicit concepts as עֵת, “time,” or הַכֹּל, “everything,” which is used to refer to all of creation in Jeremiah 10:16. The text is not specific about the meaning to which רֹאשׁ is semantically related; nevertheless, the meaning communicated by the verse as a whole is clear.
49. רֹאשׁ may be semantically related to the words הַכֹּל or בְּעִתּוֹ in Ecclesiastes 3:11a. In general רֹאשׁ may be semantically related to such an implicit concept as דָּבָר, “thing or matter” (cf. Ecclesiastes 7:8).
50. רֹאשׁ may be semantically related to the events described in Isaiah 41:2, 3, and/or 25. In general רֹאשׁ may be semantically related to such an implicit concept as דָּבָר, “thing or matter.”
51. The text gives no specifics about the thing to which רֹאשׁ is semantically related; however, in general it may be semantically related to such implicit concepts as עֵת, “time,” הַכֹּל, “everything,” or דָּבָר, “thing or matter.”
52. רֹאשׁ may be semantically related to the events described in Isaiah 41:2, 3, and/or 25. In general רֹאשׁ may be semantically related to such an implicit concept as דָּבָר, “thing or matter.”
53. רֹאשׁ may be semantically related to the events described in Isaiah 48:14. In general רֹאשׁ may be semantically related to such an implicit concept as דָּבָר, “thing or matter.”
54. The text is not specific about the concept to which אַחֲרִית is semantically related. In general אַחֲרִית may be semantically related to דָּבָר, “thing or matter.”
55. אַחֲרִית seems to be semantically related to the word דִּבְרֵי. The parallelism suggests that דִּבְרֵי has been elided in the second colon.
56. Cf. Ecclesiastes 7:8 where the two relator nouns are in grammatical construct, but are still lexically relative to something that is unspecified.
57. Rashi, one of the first proponents of the dependent clause translation, also understands Isaiah 46:10a in the same sense (Rashi 1946, 2). Even the old Karaite scholars ʻAli ben Suleimân and Ibn Janâḥ contemplate the relative nature

of רֵאשִׁית and the implicit meaning to which it is semantically related in Genesis 1:1 (Skoss 1928, 93 n. 1.2).

58. Wenham also seems to recognize the word's relationship to a meaning implicit in the context. He states, "In temporal phrases [רֵאשִׁית] is most often used relatively, i.e., it specifies the beginning of a particular period, e.g., 'From the beginning of the year' (Deut 11:12) or 'At the beginning of the reign of' (Jer 26:1). More rarely, as [in Genesis 1:1], it is used absolutely, with the period of time left unspecified; only the context shows precisely when is meant, e.g., Isa 46:10. 'Declaring the end from the beginning and from ancient times (מִקֶּדֶם) things not yet done' (cf. Prov 8:22)" (Wenham 1987, 13–14).
59. Skinner states, "But [the traditional translation] is not in accordance with the usage of ראשׁית" (Skinner 1951, 13.) The cited examples of relator nouns demonstrate this statement to be incorrect.
60. Even if רֵאשִׁית refers to the beginning of the world, or the cosmological first cause of the world, its meaning is still relative to that event. As a relator noun,רֵאשִׁית is empty of meaning until it is semantically related to something in the sentence or context, whether that thing is explicitly or implicitly stated.
61. As a relator noun, בְּרֵאשִׁית must be semantically related to another word or concept. This semantic relationship makes relator nouns naturally definite, like the natural definiteness of cardinal numbers (see GKC § 134l). Even if, on the rare occasion, the word or concept to which the relator noun is related is itself indefinite, the relator noun would still be definite because of its inherent semantic dependency. Consider Eccl 7:8, where the relator nouns אַחֲרִית and רֵאשִׁיתָ are in construct with and semantically related to the indefinite word דָּבָר. Even though דָּבָר is indefinite, modern translations still render the relator nouns in this passage with definite articles. Thus, if בְּרֵאשִׁית is a relator noun, it must be definite in meaning."
62. Fn 11.

63. Fn 12.

64. N.b. the construct form of the noun תְּחִלַּת in this passage.
65. Both words seem to be virtually interchangeable. Cf. Proverbs 4:7 with 9:10; Jerermiah 26:1 with Ezra 4:6; Isaiah 46:10 with Ecclesiastes 10:13.
66. Cf. ESV, JPS, NASB, NIV, NKJV, NRSV, et al., but n.b. NAB, which seems to follow the rendering of the Vg.

67. In Genesis 1:1 the NIV follows the traditional translation.
68. Scholars who use König's argument are the following: Heidel (1951, 92); Hasel (1971, 158–159); Westermann (1990, 96); Waltke(1975).

69. Cf. רֹאשׁ (Isaiah 40:21; 41:4, 26; 48:16; Proverbs 8:23, Ecclesiastes 3:11); קֶדֶם (Micah 5:1; Habakukk 1:12); עוֹלָם (Genesis 3:22; 6:3, 4; Psalm 90:2; Proverbs 8:23).
70. See Brown, Driver, and Briggs (1907) and Koehler, Baumgartner, and Stamm (1994–1999), s.v. "עוֹלָם."
71. Even when it has the definite article, the word עוֹלָם has an indefinite meaning (cf. 1 Chronicles 16:36; Nehemiah 9:5; Psalms 41:14; 106:48).

72. Although most modern scholars do not make this argument for the traditional translation, this may have been the view of the targumic translators of Genesis 1:1 and the LXX translators of Isaiah 46:10.
73. See fn 62.

74. In order to counter this charge, Heidel suggests that the text of Genesis 1 may itself be more poetic than prosaic (Heidel 1951, 92 n. 41. However, no other proponents of the traditional translation seem to make this argument.

75. f. קֶדֶם Nehemiah 12:46; עוֹלָם Genesis 3:22; 6:4; 13:15; Exodus 3:15; et al.
76. Cf. Proverbs 4:7 with 9:10; Jeremiah 26:1 with Ezra 4:6; Isaiah 46:10 with Ecclesiastes 10:13.
77. Genesis 13:3; 41:21; 43:18, 20; Judges 1:1; 20:18; 2 Samuel 17:9; Nehemiah 11:17; Isaiah 1:26; Daniel 8:1; 9:21.
78. See fn 62.

79. There are a couple of reasons to translate the verse in this manner. First, Lamentations 1:19 suggests that the speaker of this passage is referring to the inside and the outside of a city during a siege, not the inside of a house. Second, the parallel language of Ezekiel 7:15 (cf. also Deuteronomy 32:25) matches the situation described in Lamentations 1:19–20 exactly. There are those who die by the sword outside of the city and those who perish of famine inside. Although Lamentations 2:21 does describe death by the sword in the streets, the more technical form חוּצוֹת is used in the passage rather than simply חוּץ.
80. Genesis 6:14; Exodus 25:11; 37:2; 1 Kings 7:9.
81. The words "on the" are added to the translation to bring out the definiteness of the word חוּץ.
82. Numbers 20:17 and Deuteronomy 2:27 describe very similar happenings where the Israelites request a nation's permission to travel through their land, and they swear not to deviate to their left or to their right from the path. However, Numbers 20:17 uses the verb נָטָה to describe not turning to one's left or right, and Deuteronomy 2:27 uses the verb סוּר. These parallel verses suggest that the act of turning, or not turning, to one's left or right can be described by both verbs. The examples from 2 Samuel suggest that the relator nouns שְׂמֹאל and יָמִין when used either with נָטָה or סוּר are definite in meaning even though they are anarthrous.
83. One could argue that in some cases, in which אַחֲרִית is grammatically absolute, it should be rendered as "future" rather than "end," which would mean that the word is not being used as a relator noun (cf. Psalm 37:37; Proverbs 23:18; 24:14, 20; Jerermiah 29:11). However, אַחֲרִית is often semantically related to a person and is used as a reference to the latter days of that person's life (Numbers 23:10; Job 8:7; 42:12; Proverbs 5:11; 19:20; Jeremiah 17:11). Thus, in the cases where אַחֲרִית is grammatically absolute, but implicitly related to a person, it still functions as a relator noun even though it could be rendered as "future."
84. This is Brown, Driver, and Brigg's (1907) description of אַחֲרִית in Isaiah 46:10. It is absolute, but implicitly it is the end of a phase of history. See Brown, Driver, and Brigg's (1907), s.v. "אַחֲרִית."

Syntactical Features of Hebrew Genitive Clauses and Their Implications for Translating Genesis 1:1

by Dr. Joshua D. Wilson on December 19, 2018

Abstract

In the debate over the proper translation of Genesis 1:1, one of the key issues is whether the first word of the verse, בְּרֵאשִׁית, is in the absolute or construct state. If בְּרֵאשִׁית is in the construct state, then it is in construct with the verb בָּרָא and the ensuing clause of Genesis 1:1, and the verse should be rendered with a dependent clause. This rendering is known as the dependent-clause translation of Genesis 1:1 found in such versions as the NRSV, NJV, and NAB. If בְּרֵאשִׁית is in the absolute state, then it is not in the construct with בָּרָא and the ensuing clause, and the verse should be rendered with an independent main clause. This rendering is known as the traditional translation of Genesis 1:1 found in such versions as the KJV, NAS, NIV, and ESV. Building off his previous article (Wilson 2018), the author in this article defends the traditional translation of Genesis 1:1 by grammatically arguing that at the clause level of investigation, בְּרֵאשִׁית cannot be in construct with the verb בָּרָא and the ensuing clause of Genesis 1:1. According to the author, such a construction would be a Hebrew genitive clause governed by a nomen regens. According to the author, Hebrew genitive clauses in general have certain syntactical features that delimit how they relate to their main clauses. When a genitive clause construction for Genesis 1:1 is analyzed in its relation to the main clause—whether that be Genesis 1:2a or 1:3—the data shows that it lacks the syntactical features characteristic of genitive clauses in general. Thus, it is highly improbable that Genesis 1:1 contains a genitive clause, and as a consequence, it is equally improbable that the verse could be rendered with a dependent clause.

Introduction

In the previous article (Wilson 2018), issues related to the translation of Genesis 1:1 were examined at the lexical and grammatical levels.[1] That article identified the word רֵאשִׁית in Genesis 1:1 as a Hebrew relator noun and demonstrated that it could function in the verse as a definite, grammatically absolute noun even though it is both anarthrous & lexically relative.[2] Such a grammatical state for the relator noun makes it possible for Genesis 1:1 to be rendered as an independent clause: "In the beginning God created the heavens and the earth." This rendering of text would then support Genesis 1:1 being interpreted as the first act of creation. This interpretation would then also support the longstanding doctrine of *creatio ex nihilo*.[3] Translation affects interpretation & interpretation affects theology. This translation, called the traditional translation, and its interpretive and theological conclusions, have been held by Jews and Christians for millennia; however, today this translation is not always utilized.

As also explained in the previous article, a growing group of Biblical scholars argue that Genesis 1:1 should not be rendered with an independent clause, but rather with a dependent clause. This translation, called the dependent-clause translation, is now even used in updated versions of translational traditions. Consider the following examples with the traditional independent clause version placed first and its later revision to the dependent clause second:

Protestant Translational Tradition

[1]In the beginning God created the heavens and the earth. [2] The earth was without form and void, and darkness was upon the face of the deep; and the Spirit of God was moving over the face of the waters. [3]And God said, "Let there be light." (RSV 1952)

[1]In the beginning when God created the heavens and the earth, [2]the earth was a formless void and darkness covered the face of the deep, while a wind from God swept over the face of the waters. [3]Then God said, "Let there be light." (NRSV 1989)

Jewish Translational Tradition

[1]IN THE beginning God created the heaven and the earth. [2]Now the earth was unformed and void, and darkness was upon the face of the deep; and the spirit of God hovered over the face of the waters. [3]And God said: 'Let there be light.' (JPS 1917)

[1]When God began to create heaven and earth—[2]the earth being unformed and void, with darkness over the surface of the deep and a wind from God sweeping over the water—[3]God said, "Let there be light." (NJV 1985)

Catholic Translational Tradition

[1]In the beginning God created heaven, and earth. [2]And the earth was void and empty, and darkness was upon the face of the deep; and the spirit of God moved over the waters. [3]And God said: Be light made. (DRA 1899)[4]

[1]In the beginning, when God created the heavens & the earth, [2]the earth was a formless wasteland, and darkness covered the abyss, while a mighty wind swept over the waters. [3]Then God said, "Let there be light," (NAB 1970)

This change in translation clearly causes a change in interpretation: Genesis 1:1 is no longer the first act of creation. This interpretation can then also cause a change in theology making this foundational verse no longer supportive of the doctrine of *creation ex nihilo*. Baasten, proponent of the dependent clause translation states,

> Armed with grammatical knowledge [about the dependent-clause translation] we might now be in a position to say that God's 'creating the heavens and the earth' consists of bringing order into an unformed chaos, which was there already, and that the first creational act consists of creating light. That is what is actually described in Gen 1:1–3. But what about this unformed lump of earth, which apparently was there already when God 'began to create the heavens and the earth'? Was it created by God? The answer to that question is surprisingly simple: we do not know, since nothing is said about that in the first chapter of the Book of Genesis. That may come as a true surprise: Genesis 1 does not explain who created the earth that was still chaos. (Baasten 2007; Orlinsky 1966)

Wilson (2018) analyzed evidences at the lexical and grammatical levels in order to demonstrate that the traditional translation is linguistically possible. However, it did not demonstrate whether the traditional translation of Genesis 1:1 is preferable to the dependent-clause translation. This present article will thus analyze evidences at the clausal level[5] in order to demonstrate the traditional translation of Genesis 1:1 is not only more preferable, but also more probable.

Thesis

The focus of the debate between the traditional translation and dependent-clause translation of Genesis 1:1 is on whether the relator noun רֵאשִׁית is in the absolute state, the position of the traditional translation, or the construct state, the position of the dependent-clause translation. If רֵאשִׁית is in absolute state, then the relator noun stands on its own, and the verse is easily rendered as an independent clause. This rendering poses no problems at the clausal level.[6] However, if רֵאשִׁית is not in the absolute state, but rather the construct state, the relator noun is immediately in construct with the finite verb בָּרָא,creating a dependent clause out of the verse. But how probable is this *seemingly* uncommon construction?

In order to show that such a construction is possible, proponents of the dependent-clause translation often cite other examples of nouns immediately in construct with finite verbs. One of the most often cited examples is from Hosea 1:2a, where the noun תְּחִלַּת is immediately in construct with the verb דִּבֶּר.[7]

תְּחִלַּת דִּבֶּר־יְהוָה בְּהוֹשֵׁעַ וַיֹּאמֶר יְהוָה אֶל־הוֹשֵׁעַ לֵךְ קַח־לְךָ אֵשֶׁת זְנוּנִים[8]

> When the LORD first spoke to Hosea, the LORD said to Hosea, "Go, get yourself a wife of whoredom, . ." (NJV)

The strength of this example is that the structure of the passage is very similar to Genesis 1:1, and the *regens* תְּחִלַּת is nearly identical to רֵאשִׁית in translated meaning.[9] Furthermore, almost all modern translations render Hosea 1:2a with a dependent clause,[10] & some are nearly identical in structure to the dependent-clause translation of Genesis 1:1. For example the NIV renders Hosea 1:2a as "When the LORD began to speak through Hosea;"[11] and the NJV renders Genesis 1:1 as "When God began to create heaven and earth." Thus, if תְּחִלַּת can be immediately in construct with the finite, perfect verb דִּבֶּר in Hosea 1:2a, then it would seem that it is also possible for בְּרֵאשִׁית to be immediately in construct with the finite, perfect verb בָּרָא in Genesis 1:1.

In addition to the similarly structured passage of Hosea 1:2a, there are several passages in which a noun is immediately in construct with a finite verb.[12] For instance the noun יָד is immediately in construct with a finite verb in Exodus 4:13 and Lamentations 1:14.[13] The noun עֵת is immediately in construct with a finite verb in Job 6:17; Jeremiah 6:15; 49:8; and 50:31.

Finally, the noun יוֹם is immediately in construct with a finite verb in Exodus 6:28; Leviticus 14:46; Numbers 3:1; Deuteronomy 4:15; 1 Samuel 25:15; Psalms 18:1; 56:10; 138:3; and Jeremiah 36:2. A noun immediately in construct with a finite verb may at first seem out of place, but such a construction is not so rare in biblical Hebrew.[14]

More recent proponents of the dependent-clause translation have also explained that the possible construction of the dependent-clause translation is not simply the case of a noun being in construct with just a finite verb; rather, it is the case of a noun being in construct with an entire clause (Baasten 2007; Holmstedt 2008).[15] Thus, in Genesis 1:1, if בְּרֵאשִׁית is in the construct state, it would not simply govern the verb בָּרָא,even though it would be immediately in construct with the verb, it would govern the clause בָּרָא אֱלֹהִים אֵת הַשָּׁמַיִם וְאֵת הָאָרֶץ. In the broadest sense then, the ensuing clause of Genesis 1:1 could be labeled in terms of a substantival clause, or rather a whole clause that is functioning as a single substantive. Concerning such clauses, Joüon and Muraoka state,

> A nominal or verbal clause may form a unit which can be considered and treated as a substantive. Thus, "*I know that you arrived*" is equivalent to "I know (of) *your arrival*"; the clause *that you arrived* is a substantival clause equivalent to the substantival phrase *your arrival*, and just as the phrase is an object, *that you arrived* may be analysed as an object clause. Like a substantive, a substantival clause can function as the subject or predicate of a sentence, and as the complement of a preposition or genitive, and occur in apposition. But it is mainly as an object that it is commonly used. (Joüon and Muraoka 2008 §157a)[16]

Thus, if the dependent-clause translation were to be correct, בָּרָא אֱלֹהִים אֵת הַשָּׁמַיִם וְאֵת הָאָרֶץ would then be labeled as a substantival clause.

There are, however, various types of substantival clauses. The three main types are the subject, object, and genitive clauses. Because בָּרָא אֱלֹהִים אֵת הַשָּׁמַיִם וְאֵת הָאָרֶץ would be in construct with the relator noun רֵאשִׁית, if the dependent-clause translation were correct, it can be labeled as a genitive-type substantival clause. Joüon and Muraoka add,

> A clause, whether verbal or nominal forms a block which may, in some cases, be regarded as a substantive; it will therefore be possible to consider it as a genitive in relation to a preceding noun, which will act as its *nomen regens*. In fact the following are found used as *nomen regens* in this position: 1) mainly nouns which have become prepositions; 2) some nouns used in an almost prepositional fashion; 3) (rather rarely) pure substantives keeping their full nominal value. (Joüon and Muraoka 2008 §129p)

The previous citations of a noun in construct with a finite verb are actually all examples of this genitive-type substantival clause, which hereinafter is referred to as a genitive clause. Thus, if בְּרֵאשִׁית is in the construct state, then בָּרָא אֱלֹהִים אֵת הַשָּׁמַיִם וְאֵת הָאָרֶץ is a genitive clause.[17]

This article grants that it is possible for the word בְּרֵאשִׁית to be in construct with the clause בָּרָא אֱלֹהִים אֵת הַשָּׁמַיִם וְאֵת הָאָרֶץ. These kinds of constructions, genitive clauses, are actually not so uncommon in biblical Hebrew.[18]

However, when such a construction for Genesis 1:1 is analyzed in its relationship to Genesis 1:2 and 1:3, then there are serious syntactical complications for the verse being rendered in this way. Thus, this article contends that the dependent-clause translation of Genesis 1:1 is syntactically improbable, nearly impossible, because it lacks the pertinent syntactical features common to genitive clauses in their relation to other clauses.

The Clausal Level

Is Genesis 1:1 Subordinate to Genesis 1:2a or 1:3?

Before exploring the syntactical features of genitive clauses at the clausal level and determining the probability of Genesis 1:1 being this type of dependent clause, one must first determine which dependent-clause translation of Genesis 1:1 to analyze. If Genesis 1:1 truly is a dependent clause, then it is syntactically subordinate to a main clause, but to which main clause? There are two options. Some proponents of the dependent-clause translation argue that Genesis 1:1 is syntactically subordinate to the first clause of Genesis 1:2a. Yet, most argue that Genesis 1:1 is syntactically subordinate to Genesis 1:3, with Genesis 1:2 being a parenthetical comment.[19]

Genesis 1:2a as the main clause. Arguing that Genesis 1:1 is grammatically subordinate to Genesis 1:2a is the more difficult of the two options, which explains why so few scholars support this translation.[20]

It has serious syntactical complications. On the one hand, Keil & Delitzsch argue that if Genesis 1:2a is the main clause, then it would necessarily have to start with the construction וּתֹהוּ הָאָרֶץ (Keil and Delitzsch 1872, 46).[21] Waltke argues that 1:2a would have to start with the construction הָיְתָה הָאָרֶץ, like the main clauses in Jeremiah 26:1; 27:1; and 28:1 (Waltke 1975, 222; see also Cassuto 1961, 19). On the other hand, Ross and Wenham argue that the manner in which Genesis 1:2a actually begins, וְהָאָרֶץ הָיְתָה, demonstrates that it is a circumstantial clause, (Ross 1988, 719; Wenham 1987, 12) which would also mak e Genesis 1:2a a dependent clause and thus not the main clause of Genesis 1:1. These syntactical arguments suggest that the subordination of Genesis 1:1 to 1:2a is unlikely.
Other scholars, however, argue that the subordination of Genesis 1:1 to 1:2a is still possible. Both Skinner and Gross, who are not proponents of this translational option, note that although Genesis 1:2a has the structure of a circumstantial clause, there is no absolute rule against a main clause having a similar structure when it is the apodosis of a temporal clause (Brown 1993, 72; Skinner 1951, 14–15). Skinner cites Genesis 7:10; 22:1 and Leviticus 7:16b as examples of such a construction, and Gross cites Isaiah 6:1. However, at least two of the examples are not precise parallels,[22] and the small sampling of evidence suggests that the translation is still unlikely. Nevertheless, the later syntactical conclusions of this article will also be applicable to this difficult translational option.

Genesis 1:3 as the main clause. Scholars who argue Genesis 1:1 is subordinate to Genesis 1:3 maintain that Genesis 1:2 is a parenthetical comment.[23] The main argument being that the word order of Genesis 1:2 is typical of a parenthetical construction (subject-verb-object) (Brown 1993, 73; Lane 1963, 70–71; Orlinsky 1966, xv; Speiser 1964, 12.) Furthermore, Genesis 1:3 begins with the more appropriate *waw*-consecutive.[24] Subordination of a dependent clause, especially a temporal clause, to a main clause that begins with a *waw*-consecutive is a common feature of biblical Hebrew making the syntactical relationship between Genesis 1:1 and 1:3 entirely probable.
Some scholars challenge the idea that Genesis 1:2 be considered a parenthetical construction. Cassuto, a proponent of the traditional translation, argues that if Genesis 1:2 were a parenthetical clause, it would not contain the verb הָיָה.Thus, since Genesis 1:2a is not parenthetical and since it is not the main clause of Genesis 1:1, the dependent-clause translation of Genesis 1:1 is impossible on syntactical grounds (Cassuto 1961, 19–20).[25] However, Waltke, another proponent of the traditional translation argues that the copula הָיָה is often present in parenthetical clauses that, like Genesis 1:2, have the pattern *waw* + noun + verb (cf. Jonah 3:3; Zechariah 3:2–3) (Waltke 1975, 225). Thus, even major proponents of the contrary traditional translation, such as Waltke and Westermann, (Westermann 1990, 96) argue that the dependent-clause translation, in which Genesis 1:2 is a parenthetical comment, should not be rejected on syntactical grounds.

With respect to the dependent-clause translation in general, several modern scholars render Genesis 1:1 as a temporal clause and then make syntactical comparisons with other types of temporal clauses. Orlinsky states,

> Scholars have long recognized the fact that the first vowel in the first word in Hebrew, *bᵉ(reshíth)*, in the place of expected *ba(reshíth)*—indeed the very word itself (as distinct from *barishonáh*)—points to the meaning "In the beginning of (God's creating . . .)," that is, "When God began (to create)." Secondly, when the story of creation is resumed later, in 2.4, it is again the temporal ("when") construction that is employed: "When the LORD God made earth and heaven." The best known parallel is the Babylonian account of the rise of Marduk and creation, *Enuma Elish*, and it likewise begins with the "when" sentence structure. (Orlinsky 1966, xiv)[26]

Thus, it is not surprising that opponents of the dependent-clause translation, like Waltke and Westermann, would defend its syntactical viability. Since temporal clauses are frequently subordinate to their main clauses by the means of a *waw*-consecutive, and since Genesis 1:2 can function as a parenthetical clause, there seems to be no syntactical issues, at the clausal level, with rendering Genesis 1:1 as a dependent temporal clause. However, the problem with comparing the syntactical relationship between Genesis 1:1 and 1:3 with the syntactical relationship between temporal clauses and the *waw*-consecutive clauses is that if רֵאשִׁית is in construct with בָּרָא אֱלֹהִים אֵת הַשָּׁמַיִם וְאֵת הָאָרֶץ, then the construction does not create a simple temporal clause, but rather genitive clause. Thus, from methodological perspective, any syntactical comparisons should be made with genitive clauses, not syntactically unrelated temporal clauses.

A Syntactical Analysis of the Genitive Clause

In order to best determine syntactical viability of the dependent-clause translation, with its particular genitive clause construction, one must analyze the syntactical features of genitive clauses in general. Fortunately, the Hebrew Old Testament has a large pool of evidence in which genitive clauses occur in both prose and poetry. Using this author's own searches in *BibleWorks 6* and the examples in Joüon and Muraoka (2008) & Gesenius, Kautzsch, and Cowley (1909), this author has pooled together a total 209 examples of the genitive clauses (see appendix).[27] However, unlike Genesis 1:1, some of these examples do not have the noun immediately in construct with the finite verb & some do not have a noun as the governing element, the *regens*, —some are governed by a pronoun, preposition, or an implied *regens*. Nevertheless, since these clauses as a whole are all in construct with some type of *regens*, they are all genitive clauses, and a simple analysis of all of them demonstrates that they have two main syntactical features.

First syntactical feature. In nearly every one of the 209 examples, the genitive clause is not separated from the main clause by either a clause-level *waw*[28] or a verse-ending *soph passuq*. Since the genitive clause functions as the *rectum* of a governing element, the *regens*, it is actually an embedded participant in the main clause. For instance, in 1 Samuel 25:15b the genitive clause הִתְהַלַּכְנוּ אִתָּם בִּהְיוֹתֵנוּ בַּשָּׂדֶה is an embedded participant in the main clause וְלֹא־פָקַדְנוּ מְאוּמָה כָּל־יְמֵי. It functions as the *rectum* of the governing noun יְמֵי. Thus, genitive clauses are not separated from the main clause by either a clause-level *waw* or verse-ending *soph passuq* because they are embedded participants in it. A clause-level *waw* or verse-ending *soph passuq* would signal separation, not participation. If בָּרָא אֱלֹהִים אֵת הַשָּׁמַיִם וְאֵת הָאָרֶץ in Genesis 1:1 is a genitive clause, then it is separated from its main clause—whether that be Genesis 1:2a or 1:3—by both a clause-level *waw* & a verse-ending *soph passuq*. Such significant separation of the genitive clause from its main clause would antithetical to this syntactical feature of genitive clauses.

Second syntactical feature. In nearly every of the two hundred nine examples, the *regens* that governs the genitive clause is also not separated from the main clause by either a clause-level *waw* or a verse-ending *soph passuq*.
The *regens* actually has a dual function. It is both the governing element of the genitive clause & grammatical participant in the main clause (hereafter referred to as the participatory clause). For instance, in Exodus 18:20b the noun דֶּרֶךְ, the *regens*, governs the genitive clause יֵלְכוּ בָהּ. Yet, the governing noun דֶּרֶךְ also functions as the direct object of the participatory clause וְהוֹדַעְתָּ לָהֶם אֶת־הַדֶּרֶךְ.
Thus, the *regentes* of genitive clauses are not separated from the participatory clause by either a clause-level *waw* or verse-ending *soph passuq* because they're grammatical participants in it. Again, a clause-level waw or verse-ending *soph passuq* would signal separation, not participation. If בְּרֵאשִׁית in Genesis 1:1 is the *regens* of the genitive clause בָּרָא אֱלֹהִים אֵת הַשָּׁמַיִם וְאֵת הָאָרֶץ, then separated from the participatory clause—whether that be Genesis 1:2a or 1:3—by *both* a clause-level *waw* and a verse-ending *soph passuq*. Making such a separation of the *regens* from its participatory clause would be antithetical to this syntactical feature of genitive clauses. There are, however, a small number of exceptions to these syntactical features that require examination.

Exceptions to the Syntactical Characteristics

Even though the genitive clause בָּרָא אֱלֹהִים אֵת הַשָּׁמַיִם וְאֵת הָאָרֶץ in Genesis 1:1 and its *regens* בְּרֵאשִׁית lack these two syntactical features, there are a few other genitive clauses and their *regentes* that also lack them. Of all the 209 examples of genitive clauses, there are a total of nine in which the genitive clause and its *regens* seem to be separated from the participatory clause by either a clause-level *waw* or verse-ending *soph passuq*, though none of them by both.

These nine exceptions, cited in Joüon and Muraoka 2008 and Gesenius, Kautzsch, and Cowley 1909 as genitive-type clauses, are found in Numbers 23:3; 2 Chronicles 30:19; Job 3:15; 7:2 (2×); Psalms 83:15 (2×); 138:3; and Hosea 1:2.[29]

Genitive clauses separated by a verse-ending *soph passuq*. Genitive clauses in 2 Chronicles 30:19 (Gesenius, Kautzsch, and Cowley 1909 §155n; Joüon and Muraoka 2008, §129q); Job 3:15 (Gesenius, Kautzsch, and Cowley, 1909 §155e (Joüon and Muraoka 2008, §158b); Job 7:2 (2×) (Gesenius, Kautzsch, and Cowley 1909, §155g); and Psalm 83:15 (2×) (Gesenius, Kautzsch, and Cowley 1909, §155g) are all examples in which the *soph passuq* grammatically separates the genitive clause & its *regens* from the participatory clause. One may argue that in each case the genitive clause & the *regens* are outside the bounds of the *soph passuq* because the sentence as a whole is too long. Genesis 1:1–3 would then become a perfectly matching example. However, the genitive clause and its *regens* can just as well be found at the end of long sentences in which the limits of the *soph passuq* stretch quite far (cf. 2 Kings 8:6; 1 Chronicles 15:12; 2 Chronicles 31:19; Jeremiah 2:6; 17:4; 52:12), and the verses of Job 3:15; 7:2 and Psalm 83:15 are short. Thus, sentence length may not be an adequate explanation for these exceptions, since as a general rule, they did not usually allow the soph passuq to separate the elements of a clause from the clause itself.

With respect to the poetic literary verses of Job 3:17; 7:2 & Psalm 83:15, the *soph passuq* seems to separate genitive clauses & their *regentes* from the participatory clause because they are part of a different poetic colon, not because the sentence is too long.[30] Thus, they cannot be syntactical parallels to the prose verses of Genesis 1:1–3. With respect to 2 Chronicles 30:19, sentence length does seem to be the only explanation for why the *soph passuq* separates the genitive clause & its *regens* from the participatory clause in 2 Chronicles 30:18.[31] However, 2 Chronicles 30:19 would then be the only true syntactical parallel to Genesis 1:1–3. Only one parallel example out of 209 strongly suggests that Genesis 1:1 is not a genitive clause.

Genitive clauses separated by a clause-level *waw*. Genitive clauses in Numbers 23:3 (Gesenius, Kautzsch, & Cowley 1909, §130d); Psalm 138:3 (Gesenius, Kautzsch, & Cowley 1909, §130d); and Hosea 1:2 (Gesenius, Kautzsch, & Cowley 1909, §130d; Joüon and Muraoka 2008, §129p) are all excellent examples in which a clause-level *waw* separates genitive clause and its *regens* from the participatory clause.[32] These examples are the closest syntactical parallels to Genesis 1:1, but even they are not without problems. As previously noted, the syntactical structure of Hosea 1:2 is a commonly used parallel to the syntactical structure of Genesis 1:1 and 1:3. First, in Hosea 1:2, the genitive clause and its *regens* are separated from the participatory clause by a *waw*-consecutive, just like Genesis 1:1 is separated from 1:3. Second, in both verses the verb of the genitive clause is in the perfect conjugation.

Finally, in both verses nouns of nearly identical semantic meaning, רֵאשִׁית and תְּחִלַּת, are the *regens*. However, in ancient translations and older codices the syntactical structure of Hosea 1:2 is much different from many of the modern translations. Current and ancient evidences suggest that in Hosea 1:2, the finite verb of the genitive clause, דִּבֶּר, may actually be a noun. First, Brown, Driver, and Briggs (1907) suggest that הַדִּבֶּר in Jeremiah 5:13 is a noun,[33] which would take the language form דִּבֶּר in Hosea 1:2, and Collins notes that דִּבֶּר functions as a noun in Rabbinic and Modern Hebrew (Collins 2006, 51).

Second, in both the Leningrad and Aleppo codices, a paragraph break separates the alleged genitive clause and its *regens*, תְּחִלַּת דִּבֶּר־יְהוָה בְּהוֹשֵׁעַ, from the participatory clause, וַיֹּאמֶר יְהוָה אֶל־הוֹשֵׁעַ (Freedman, Beck, and Zuckerman 1998, 619; Goshen-Gottstein, 1976, שעט). This break creates such separation that the communities that produced these codices probably did not think that Hosea 1:2 contained a genitive clause, nor did they think that the two clauses were even syntactically related.

Finally, both the LXX and the Targumim render the word דִּבֶּר as a regular noun, λόγος and פתגם, and the Vulgate renders it as a gerund, *loquendi*.[34] The evidence from these sources suggests that the phrase תְּחִלַּת דִּבֶּר־יְהוָה בְּהוֹשֵׁעַ could very well have been read by earlier Jews as a simple, clauseless introduction to the book. Thus, Hosea 1:2 may not even contain a genitive clause.

The examples from Psalm 138:3 and Numbers 23:3, however, appear to be true parallels to the syntactical relationship between Genesis 1:1 and 1:3. In Psalm 138:3 the genitive clause קָרָאתִי and its regens בְּיוֹם are clearly separated from the participatory clause, וַתַּעֲנֵנִי, by a *waw*-consecutive. However, not only is this very example seemingly irregular for genitive clauses, it is irregular for most sentences that begin with the construction בְּיוֹם or בַּיּוֹם. When these words begin a sentence they are rarely separated from their participatory clause, by a *waw*-consecutive.[35] Nevertheless, there is no denying the syntactical structure of Psalm 138:3. It also parallels the syntactical structure of Genesis 1:1 and 1:3. Numbers 23:3 acts the same way. The genitive clause מַה־יֵּרָאֵנִי and its *regens* וּדְבַר are also separated from the participatory clause וְהִגַּדְתִּי לָךְ by a *waw*-consecutive, making the syntactical structure of the verse also a close parallel to the syntactical structure of Genesis 1:1 and 1:3. However, even though Psalm 138:3 & Numbers 23:3, & possibly Hosea 1:2, may be close syntactical parallels, the case that Genesis 1:1 is a genitive clause is less convincing when the evidence of these verses is placed in the overall context of the data.

Final Assessment

Substantival clauses in general and genitive clauses in particular are a unique type of clause in that they are embedded participants in the clauses to which they are subordinate. Moreover, with respect to genitive clauses, even their *regentes* are participants in the subordinating clauses. Thus, it is not surprising that nearly all of the 209 examples of genitive clauses do not have a clause-level *waw* or a verse-ending soph passuq, markers that usually separate elements of one clause from another, separating the genitive clause and its *regens* from the participatory clause. Thus, the syntactical evidence as a whole strongly suggests that Genesis 1:1 does not contain a genitive clause. Consider also the following data: More than 97% of genitive clauses & their *regentes* are not separated from their participatory clauses by a verse-ending soph passuq; Genesis 1:1 is.[36] More than 98% of genitive clauses and their *regentes* are not separated from their participatory clauses by a clauses-level *waw*; Genesis 1:1 also is.[37] In all 209 examples, 100% of them, the genitive clauses & their *regentes* are not separated from their participatory clauses by both a clause-level *waw* & a verse-ending *soph passuq*; Genesis 1:1 is. In all 209 examples, 100% of them, the genitive clauses and their *regentes* are not even separated from their participatory clauses by any kind of intervening clause; Genesis 1:1 also is with the intervening parenthetical comment of Genesis 1:2.[38] If בָּרָא אֱלֹהִים אֵת הַשָּׁמַיִם וְאֵת הָאָרֶץ is a genitive clause governed by the *regens* בְּרֵאשִׁית, then it truly has no syntactical parallel with the other two hundred nine genitive clauses and their *regentes* because the verse is separated from the participatory clause by not just a clause-level *waw*, a verse-ending *soph passuq*, or intervening clause, but by all three.

Conclusion

Having broadly categorized the dependent-clause translation of Genesis 1:1 as a genitive clause, this author has collected a pool of data that can better determine the syntactical viability of the dependent clause translation. This article has shown that when this translation is compared with the other genitive clauses, it lacks the pertinent syntactical features common to the genitive clauses in their relation to participatory clauses. Though the dependent-clause translation may be possible or even probable at the lexical and grammatical levels, this article has shown that it does not & cannot work at the clausal level. With respect to traditional translation, however, there is and never has been any debate about its viability at the clausal level, and the analysis of the previous article has already demonstrated its viability at the lexical and grammatical levels (Wilson 2018). Thus, between the traditional translation and the dependent-clause translation of Genesis 1:1, the traditional

translation is the only logical and probable rendering of the passage. And if the traditional translation is the only logical passage rendering, then interpretation of it as the first act of creation is still valid. If the interpretation of Genesis 1:1 as the first act of creation is still valid, then this passage still logically and theologically communicates to the reader that God created the heavens and the earth ex nihilo.

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Appendix
Genitive Clauses

The Compilation of the Data

The following is a list of various references that in total contain 209 genitive clauses. This list is compiled from the examples found by this author and from those presented in GKC and Joüon. They are the following: Genesis 15:13; 24:22; 39:4; 43:3; 49:27; Exodus 4:13; 6:28; 9:4; 15:17; 18:20; Leviticus 7:9, 35; 14:16, 46; 25:48; Numbers 3:1; 7:13; 23:3; Deuteronomy 4:15; 32:11 (2×), 17, 35; Joshua 7:21; 14:10; Judges 8:1; 20:15; 1 Samuel 5:9; 6:9; 17:4; 25:15; 26:14; 2 Samuel 12:22; 20:21; 22:1, 44; 1 Kings 13:2, 12; 2 Kings 3:8; 8:6; 1 Chronicles 9:22; 12:23; 15:12; 17:13; 18:8; 29:1, 3; 2 Chronicles 1:4; 15:11; 16:9; 18:23; 20:22; 24:11; 28:9; 29:27; 30:17, 19; 31:19; Ezra 1:5; Nehemiah 8:10; 13:23; Job 1:1; 3:3 (2×), 15; 6:17; 7:2 (2×); 9:26; 11:16; 13:28 (2×); 15:3 (2×); 18:21; 21:27; 24:19; 28:1; 29:2, 12, 16; 30:13; 31:12 (2×); 38:19, 24, 26; Psalms 4:8; 7:16; 11:4; 16:3, 4; 18:1, 3, 44; 25:12; 32:2, 8; 33:12; 34:9; 38:14; 42:2; 49:13, 14, 21; 51:10; 56:4, 10; 58:5, 9; 59:17; 65:5; 68:31; 71:18; 74:3; 78:6; 81:6; 83:15 (2×); 90:5, 15 (2×); 102:3; 104:9; 119:136; 125:1; 138:3; 141:9; Proverbs 8:32; 17:14; 22:11; 26:17; 30:17 (2×); Ecclesiastes 10:5; Isaiah 6:6; 15:1, 7; 28:16; 29:1, 14; 38:5; 40:20 (2×); 41:2, 10, 24; 42:1, 16 (3×); 44:1, 2 (2×); 48:17; 51:1 (2×), 2, 7, 12; 53:7; 54:1 (2×), 5; 55:13; 56:2; 61:10, 11; 62:1; 63:19; 64:2; 65:1; 66:1; Jeremiah 2:6, 8, 11; 5:21; 6:15; 13:20; 14:18; 15:14; 17:4; 20:8; 23:9, 29; 32:18; 36:2; 48:36; 49:8; 50:31, 46; 52:12; Lamentations 1:10, 14, 21; 3:1; Ezekiel 13:3; 22:24; 25:7; Hosea 1:2; 4:14; 6:3; Micah 5:2; Habakkuk 1:6; 2:14; Zephaniah 2:1, 12; Zechariah 6:12; Malachi 2:16.

The Sources of the Data

The data has been compiled from this author's own research and the grammars of Gesenius, Kautzsch, Cowley 1909 and Joüon and Muraoka 2008.[39] The following information displays the source locations from which the data has been collected.

Personal Research

These examples were found using the search features of BibleWorks 6.[40] Leviticus 7:9; Job 24:19; Psalms 32:2; 38:14; 58:9; 74:3; 104:9; Proverbs 17:14; Isaiah 15:1; 41:10; 44:1, 2; 51:2;[41] Jeremiah 5:21; 17:4; 20:8; 32:18; Lamentations 3:1; Ezekiel 22:24; Zephaniah 2:1, 12.

Gesenius, Kautzsch, and Cowley (1909)

These examples are divided according to the sections in which they are cited. Some examples are cited more than once in Gesenius, Kautsch, and Cowley (1909), but the multiple citations are only counted once in the total list of genitive clauses cited at the beginning of this appendix.

Gesenius, Kautzsch, and Cowley 1909, §130d. Genesis 39:4; Exodus 4:13; 6:28; 9:4; Leviticus 14:46; 25:48; Numbers 3:1; 23:3; Deuteronomy 4:15; 1 Samuel 5:9; 25:15; 2 Samuel 22:1; Job 6:17; 18:21; 29:2, 16; Psalms 16:3; 18:1; 56:9; 59:16; 65:4; 81:5; 90:15; 102:2; 138:3; Proverbs 8:32; Isaiah 29:1; Jeremiah 6:15; 36:2; 48:36; 49:8; 50:31; Lamentations 1:14; Hosea 1:2.
Gesenius, Kautzsch, and Cowley 1909, §155d. Genesis 39:4; Judges 8:1; 20:15; 1 Samuel 6:9; 1 Kings 13:12; 2 Kings 3:8; 1 Chronicles 9:22; 12:22; 29:1, 3; 2 Chronicles 15:11; 18:23; 30:17; 31:19; Ezra 1:5; Nehemiah 13:23; Jeremiah 52:12.
Gesenius, Kautzsch, and Cowley 1909, §155e. Genesis 15:13; Deuteronomy 32:17; 2 Samuel 20:21; Job 1:1; 3:15; 38:26; Psalm 11:4; 49:13; Proverbs 22:11; 26:17; Habakkuk 1:6; Zechariah 6:12.
Gesenius, Kautzsch, and Cowley 1909, §155f. Genesis 49:27; Deuteronomy 32:17; 1 Samuel 6:9; 2 Chronicles 28:9; Job 3:3; 31:12; Psalm 16:4; 34:8; 68:30; 71:18; 78:6; Proverbs 30:17; Isaiah 28:16; 29:14; 38:5; 40:20; 51:12; 54:1; 55:13; 56:2; Lamentations 1:10; Ezekiel 25:7; Hosea 4:14.
Gesenius, Kautzsch, and Cowley 1909, §155g. Deuteronomy 32:11; Job 7:2; 9:26; 11:16; Psalms 42:1; 49:12, 20; 58:4; 83:14; 90:5; 125:1; Isaiah 53:7; 61:10, 11; 62:1; Jeremiah 23:29; Hosea 6:3; Habakkuk 2:14.
Gesenius, Kautzsch, and Cowley 1909, §155h. Exodus 15:17; Deuteronomy 32:17; Judges 8:1; Job 13:28; 28:1; Psalms 7:15; 25:12; 32:8; 33:12; 51:8; Ecclesiastes 10:5; Isaiah 6:6; 15:7; 42:16; 48:17; 64:3; Jeremiah 14:18; 23:9; 48:36; Lamentations 1:21.
Gesenius, Kautzsch, and Cowley 1909, §155i. Exodus 18:20; Job 3:3; Psalms 18:2; 32:2; Isaiah 42:1; Jeremiah 2:6.
Gesenius, Kautzsch, and Cowley 1909, §155k. Job 21:17; 38:19, 24; Isaiah 51:1.
Gesenius, Kautzsch, and Cowley 1909, §155l. Leviticus 7:35; Deuteronomy 32:35; 2 Chronicles 20:22; 24:11; 29:27; Job 6:17; Psalms 4:8; 56:4, 10; Jeremiah 36:2; Micah 5:2.
Gesenius, Kautzsch, and Cowley 1909, §155m. 1 Samuel 26:14; Isaiah 63:19.
Gesenius, Kautzsch, and Cowley 1909 §155n. Genesis 39:4; Exodus 4:13; 9:4; 1 Chronicles 15:12; 29:3; 2 Chronicles 1:4; 16:9; 30:19; 31:19; Ezra 1:5; Nehemiah 8:10; Job 29:12, 16; 30:13; Psalms 65:5; 81:6; 119:136; 141:9; Proverbs 8:32; Isaiah 41:2, 24; 65:1; Jeremiah 2:8, 11; Lamentations 1:14; Ezekiel 13:3; Malachi 2:16.

Joüon and Muraoka (2008)

These examples are divided according to the sections in which they are cited. There is considerable overlap between the examples of this grammar and those of Gesenius, Kautzsch, and Cowley (1909), but the overlapping examples are only counted once in the total list of genitive clauses cited at the beginning of this appendix.

Joüon and Muraoka 2008, §129p. Genesis 1:1;42 43:3; Exodus 6:28; Leviticus 14:16; 25:48; Joshua 14:10; 1 Samuel 25:15; 2 Samuel 12:22; 2 Kings 8:6; Job 29:2; Psalms 56:4; 102:3; Isaiah 29:1; Jeremiah 6:15; 50:46; Hosea 1:2.
Joüon and Muraoka 2008, §129q. Genesis 39:4; Exodus 4:13; 9:4; 2 Chronicles 30:19; Job 18:21; 29:16; Psalms 81:6; Jeremiah 2:8.
Joüon and Muraoka 2008, §158a. Genesis 49:27; Deuteronomy 32:17; 1 Samuel 6:9; Job 3:3; 31:12; Psalms 16:4; 34:9; 71:18; 78:6; Proverbs 30:17; Isaiah 51:12; 55:13; 56:2; Jeremiah 13:20; 15:14; Lamentations 1:10.
Joüon and Muraoka 2008, §158b. Genesis 24:22; Numbers 7:13; Joshua 7:21; 1 Samuel 17:4; 2 Samuel 20:21; 1 Kings 13:2; Job 1:1; 3:15; Isaiah 51:7; 54:5; 66:1; Zechariah 6:12.
Joüon and Muraoka 2008, §158c. Exodus 15:17; Judges 8:1; 2 Samuel 22:44; Psalms 18:44; 33:12; 90:15; Isaiah 42:16; 51:1.
Joüon and Muraoka 2008, §158d. Genesis 39:4; 1 Chronicles 15:12; 17:13; 2 Chronicles 16:9; Nehemiah 8:10; Job 18:21; Proverbs 8:32; Isaiah 41:24; 54:1; 63:19; 65:1; Jeremiah 2:8, 11.
Joüon and Muraoka 2008, §158db. 1 Chronicles 18:8; Job 3:3; 15:3; Jeremiah 2:6; 23:9.

Philosophical naturalism and the age of the earth: are they related?

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Contemporary concern over the negative impact of theories of biological evolution is justified, but many Christians do not understand the stranglehold that philosophical naturalism has on geology and astronomy. The historical roots of philosophical naturalism reach back into the sixteenth century in the works of Galileo Galilei and Francis Bacon. Evolutionary and naturalistic theories of the earth's creation based on uniformitarian assumptions and advocating old-earth theories emerged in the late eighteenth century. In the early nineteenth century, many Christians sought to harmonize biblical teaching with old-earth geological theories such as the gap theory and a tranquil or local Noachian flood. However, many evangelicals & High Churchmen still held to the literal view of Genesis 1–11. Two Enlightenment-generated philosophical movements in the eighteenth century, deism and atheism, elevated human reason to a place of supreme authority and took an anti-supernaturalistic view of the Bible, holding it to be just another human book. The two movements, with their advocacy of an old-earth and their effect on astronomy and geology, preceded Darwin and supplied him with millions of years needed for his naturalistic theory of the origin of living things. From this lineage it is clear that geology is not an unbiased, objective science and that old-earth theories, naturalism and uniformitarianism are inseparable. Intelligent-design arguments usually used to combat evolution fail to account for the Curse imposed by God in Genesis 3 and are therefore only partially effective. Intelligent-design advocates should recognize that the naturalism represented in evolutionary theories began much earlier than Darwin. A return to the Scriptures and their teaching of a young earth is the great need of the day. Many are concerned about the negative impact of evolution on today's world. Some see the consequences in terms of moral and spiritual chaos in society and the church. Others see the damage that the brainwashing of evolution is causing in academic and intellectual arenas. They correctly argue that neo-Darwinism is not pure science, but largely philosophical naturalism masquerading as scientific fact.

I strongly agree with and appreciate a great deal of what leaders in the ID movement are writing, not only about the scientific problems with all theories of biological evolution, but especially about the stranglehold that philosophical naturalism (hereafter simply 'naturalism') has on science.

However, from my reading of ID books and articles and listening to lectures by some of those leaders, I do not think that they see clearly enough the extent to which science is dominated by naturalism. The reason for this observation is that many ID leaders have made oral or written statements something like this: 'We are not going to deal with the question of the age of the earth because it is a divisive side issue. Instead we want to address the main issue, which is the control of science by naturalism.'[2] The implication of such statements is that the Earth's age is unrelated to naturalism. Many Christians have not even considered the arguments for young-earth creationism because they think that the ID movement has the right view and is dealing with evolution correctly. But this disjunction of naturalism & the age of the earth is incorrect, as I hope to show.

As I read their writings, the ID people do not seem to understand the historical roots of the philosophical control of science. Or, perhaps, they do not appear to have gone back far enough in their historical investigations. A closer look at history, especially the history of the idea of an old earth, provides abundant evidence that the originators of the idea of an old earth and old universe interpreted the physical evidence by using essentially naturalistic assumptions. Similarly, a closer look at the way modern old-earth geologists and old-universe cosmologists reason shows that both geology and astronomy are controlled by the same naturalism dominating the biological sciences, and indeed nearly all of academia. I submit, therefore, that the age of the earth strikes at the very heart of naturalism's control of science and that fighting naturalism only in the biological sciences amounts to fighting only one-third of the battle. Worse still, many of the people involved at the highest levels in the ID movement (Hugh Ross, Robert Newman, Walter Bradley) are not neutral regarding the age of the earth (as the recognized leader of the ID movement, Phillip Johnson, attempts to be), but are actively and strongly opposed to the young-earth view.

Although the ID movement is fighting naturalism in biology, it is actually tolerating or even promoting naturalism in geology and astronomy—which is not a consistent strategy—thus undermining its potential effectiveness.

I. Historical roots

The idea of an old earth really began to take hold in science in the late eighteenth and early nineteenth centuries, before Darwin's controversial theory appeared on the scene. Prior to this, in Europe and North America (where science was born and developed under the influence of Christianity and assumptions about physical reality were rooted firmly in the Bible), the dominant, majority view was that God created the world in six literal days about 6,000 years earlier and judged it with a global, catastrophic Flood. How, then, did the old-earth idea arise?

Two important people in the sixteenth century greatly influenced the development of old-earth thinking at the end of the eighteenth and beginning of the nineteenth centuries. Those two were Galileo Galilei and Sir Francis Bacon. As is well known, Galileo (1564–1642) was a proponent of Copernicus's theory that the earth revolves around the sun, not vice versa. Initially the Roman Catholic Church leadership had no problem with this idea, but for various academic, political and ecclesiastical reasons, in 1633 the pope changed his mind and forced Galileo to recant his belief in heliocentricity on threat of excommunication. But eventually heliocentricity became generally accepted and with that many Christians absorbed two lessons from the so-called 'Galileo affair.' One was from a statement of Galileo himself. He wrote, 'The intention of the Holy Ghost is to teach us how to go to heaven, not how heaven goes.'[3] In other words, the Bible teaches theology and morality, but not astronomy or science. The other closely related lesson was that the church will make big mistakes if it tries to tell scientists what to believe about the world.[4]

Galileo's contemporary in England, Francis Bacon (1561–1626), was a politician and philosopher who significantly influenced the development of modern science. He emphasized observation and experimentation as the best method for gaining true knowledge about the world. He also insisted that theory should be built only on the foundation of a wealth of carefully collected data. But although Bacon wrote explicitly of his belief in a recent, literal six-day creation,[5] he like Galileo insisted on not mixing the study of what he called the two books of God: creation & the Scriptures. He stated,

> But some of the moderns, however, have indulged in this folly, with such consummate carelessness, as to have endeavoured to found a natural philosophy on the first chapter of Genesis, the book of Job, and other passages of holy Scripture—'seeking the dead among the living.' And this folly is the more to be prevented and restrained, because, from the unsound admixture of things divine and human, there arises not merely a fantastic philosophy, but also a heretical religion.[6]

As a result of the powerful influence of Galileo and Bacon, a strong bifurcation developed between the interpretation of creation (which became the task of scientists) and the interpretation of Scripture (which is the work of theologians and pastors). With the advent of the nineteenth century, the old-earth geologists, whether Christian or not, often referred to Bacon and Galileo's dictums to silence the objections of the 'scriptural geologists,' a group of Christian clergy and scientists writing from about 1820 to 1850 who raised biblical, geological and philosophical arguments against old-earth theories and for the literal truth of Genesis—a literal six-day creation about 6,000 years ago and a global catastrophic Flood at the time of Noah, which they believed was responsible for most of the geological record.[7] The warning of the old-earth proponents was powerful in its effect on the minds of the public. The message was that defenders of a literal interpretation of Genesis regarding Creation, Noah's Flood and the age of the earth were repeating the same mistake the Roman Catholic Church made three centuries earlier in relation to the nature of the solar system. And just look at how that retarded the progress of science and exposed the church to ridicule, said the old-earth advocates.

II. New theories about the history of creation

In contrast to the long-standing young-earth creationist view, different histories of the earth began to be developed in the late eighteenth century, which were evolutionary and naturalistic in character. Three prominent French scientists were very influential in this regard. In 1778 Georges-Louis Comte de Buffon (1708–1788) postulated that the earth was the result of a collision between a comet and the sun and had gradually cooled from a molten lava state over at least 75,000 years (a figure based on his study of cooling metals).[8] Buffon was probably a deist or possibly a secret atheist.[9] Pierre Laplace (1749–1827), an open atheist, published his nebular hypothesis in 1796.[10] He imagined that the solar system had naturally and gradually condensed from a gas cloud during a very long period of time. In his *Zoological Philosophy* of 1809, Jean Lamarck (1744-1829), who straddled the fence between deism and atheism,[11] proposed a theory of biological evolution over long ages, with a mechanism known as the inheritance of acquired characteristics.

New theories in geology were also being advocated at the turn of the nineteenth century as geology began to develop into a disciplined field of scientific study. Abraham Werner (1749–1817) was a German mineralogist and probably a deist.[12] Although he published very little, his impact on geology was enormous, because many of the 19th century's greatest geologists had been his students. He theorized that the strata of the earth had

been precipitated chemically and mechanically from a slowly receding universal ocean. According to Werner's unpublished writings, the earth was at least one million years old.[13] His elegantly simple, oceanic theory was quickly rejected (because it just did not fit the facts), but the idea of an old earth remained with his students.

The Scotsman, James Hutton (1726–1797), was trained in medicine but turned to farming for many years before eventually devoting his time to geology. In his *Theory of the Earth*, published in 1795, he proposed that the continents were gradually and continually being eroded into the ocean basins. These sediments were then gradually hardened and raised by the internal heat of the earth to form new continents, which would be eroded into the ocean again. With this slow cyclical process in mind, Hutton could see no evidence of a beginning to the earth, a view that precipitated the charge of atheism by many of his contemporaries, though he too was most likely a deist.[14]

Neither Werner nor Hutton paid attention to the fossils in rocks. But another key person in the development of old-earth geological theories who did, was the Englishman, Will Smith (1769–1839). He was a drainage engineer and surveyor and helped build canals all over England and Wales, which gave him much exposure to the strata and fossils. He is now called the 'Father of English Stratigraphy' because he produced the first geological maps of England and Wales and developed the method of using fossils to assign relative dates to the strata.[15] As a vague sort of theist[16] he believed in many supernatural creation events & supernaturally induced floods over the course of much more time than indicated in the Bible.[17]

The Frenchman, Georges Cuvier (1768–1832), was a famous comparative anatomist and paleontologist. Although he was a nominal Lutheran, recent research has shown that he was an irreverent deist.[18] Because of his scientific stature, he was the most influential in popularizing the catastrophist theory of earth history. By studying fossils found largely in the Paris Basin he believed that over the course of untold ages there had been at least four regional or nearly global catastrophic floods, the last of which probably was about 5,000 years ago.[19] This obviously coincided with the date of Noah's Flood, and some who endorsed Cuvier's theory made this connection. However, in his published theory, Cuvier himself never explicitly equated his last catastrophe with Noah's Flood.[20]

Finally, Charles Lyell (1797–1875), a trained lawyer turned geologist and probably a deist (or Unitarian, which is essentially the same),[21] began publishing his three-volume *Principles of Geology* in 1830. Building on Hutton's uniformitarian ideas, Lyell insisted that the geological features of the earth can, and must, be explained by slow gradual processes of erosion, sedimentation, earthquakes, volcanism, etc., operating at essentially the same average rate and power as observed today.

By the 1840s his view became the ruling paradigm in geology. So, at the time of the scriptural geologists (ca. 1820–50), there were 3 views of earth history (see the chart the at end of this article for a graphical comparison).
It should be noted that two influential geologists in England (and in the world) at this time were William Buckland (1784–1856) and Adam Sedgwick (1785–1873). Buckland became the head professor of geology at Oxford University in 1813 and Sedgwick gained the same position at Cambridge in 1818. Both were ordained Anglican clergy & both initially promoted old-earth catastrophism. But under the influence of Lyell they both converted to uniformitarianism with public recantations of their catastrophist views in the early 1830s. Buckland is often viewed as a defender of Noah's Flood because of his 1823 book, *Reliquiae Diluvianae*. But this apparent defense of the Great Flood was actually a subtle attack on it, as scriptural geologists accurately perceived. Because of their powerful positions in academia and in the church, Sedgwick and Buckland led many Christians in the 1820s to accept the new geological theories about the history of the earth and to abandon their faith in the literal interpretation of Genesis and in the unique and geologically significant Noachian Flood.

One more fact about geology at this time deserves mention. The world's first scientific society devoted exclusively to geology was the London Geological Society, founded in 1807. From its inception, which was at a time when very little was known about the geological formations of the earth and the fossils in them, the LGS was controlled by the assumption that earth history is much older than and different from that presented in Genesis. And a few of its most powerful members were Anglican clergy. Not only was very little known about the geological features of the earth, but at that time there were no university degrees in geology & no professional geologists. Neither was seen until the 1830s & 1840s, which was long after the naturalistic idea of an old earth was firmly entrenched in the minds of those who controlled geological societies, journals and university geology departments.

III. Christian compromises with old-earth geological theories

During the early nineteenth century many Christians made attempts to harmonize these old-earth geological theories with the Bible. In 1804, the gap theory began to be propounded by the 24-year-old pastor, Thomas Chalmers (1780–1847), who after his conversion to evangelicalism in 1811 became one of the leading Scottish evangelicals.[22] It should be noted that Chalmers began teaching gap theory before

the world's first geological society was formed (in London in 1807), and before Cuvier's catastrophist theory appeared in French (1812) or in English (1813) and over two decades before Lyell's theory was promoted (beginning in 1830). In part because of Chalmers' powerful preaching and writing skills, the gap theory quickly became the most popular reinterpretation of Genesis among Christians for about the next half-century. However, the respected Anglican clergyman, George Stanley Faber (1773–1854), began advocating the day-age theory in 1823.[23] This was not widely accepted by Christians, especially geologists, because of the obvious discord between the order of events in Genesis 1 and the order according to old-earth theory. The day-age view began to be more popular after Hugh Miller (1802–1856), the prominent Scottish geologist and evangelical friend of Chalmers, embraced and promoted it in the 1850s after abandoning the gap theory.[24]

Also in the 1820s the evangelical Scottish zoologist, Rev. John Fleming (1785–1857), began arguing for a tranquil Noachian deluge[25] (a view which Lyell also advocated, under Fleming's influence). In the late 1830s the prominent evangelical Congregationalist theologian, John Pye Smith (1774–1851), advocated that Genesis 1–11 was describing a local creation and a local flood, both of which supposedly occurred in Mesopotamia.[26] Then, as German liberal theology was beginning to spread in Britain in the 1830s, the view that Genesis is a myth, which conveys only theological and moral truths, started to become popular.

So from all this it should be clear that by 1830, when Lyell published his uniformitarian theory, most geologists and much of the church already believed that the earth was much older than 6,000 years and that the Noachian Flood was *not* the cause of most of the geological record. Lyell is often given too much credit (or blame) for the church's loss of faith in Genesis. In reality, most of the damage was done before Lyell, often by Christians who were otherwise quite biblical, and this compromise was made at a time when geologists knew very little about the rocks and fossils of the earth.

Nevertheless, many evangelicals and High Churchmen still clung to the literal view of Genesis because it was exegetically the soundest interpretation. In fact, until about 1845 the majority of Bible commentaries on Genesis taught a recent six-day creation and a global catastrophic Flood.[27] So in the early nineteenth century competing old-earth geological theories and competing old-earth interpretations of the early chapters of Genesis existed, and the scriptural geologists fought against all these theories and interpretations.

IV. Philosophical developments

As a prelude to this Genesis-geology controversy, the eighteenth century witnessed the spread of two competing but largely similar worldviews: deism and atheism. These two worldviews flowed out of the Enlightenment, in which human reason was elevated to the place of supreme authority for determining truth. This enthroning of human reason not only challenged the authority of the church in society, but also led to all kinds of anti-supernatural attacks on the Bible, undermining its authority as a source of historical, as well as moral and theological truth. Deism and atheism were slightly different ways of packaging an anti-supernatural view of history.

Apart from the deists' belief in a rather vaguely defined Creator God & a supernatural beginning to the creation, they were indistinguishable from atheists in their views of Scripture and the physical reality. In deism, as in atheism, the Bible is merely a human book, containing errors, and not the inspired Word of God, and the history and function of the creation can be totally explained by the properties of matter & the 'inviolable laws of nature' in operation over a long period of time. Deists and atheists often disguised their true views, especially in England where they were not culturally acceptable. Many of them gained influential positions in the scientific establishment of Europe & America, where they subtly and effectively promoted what is today called naturalism. Brooke comments on the subtle influence of deistic forms of naturalism when he writes,

Without additional clarification, it is not always clear to the historian & was not always clear to contemporaries, whether proponents of design were arguing a Christian or deistic thesis. The ambiguity itself could be useful. By cloaking potentially subversive discoveries in the language of natural theology, scientists could appear more orthodox than they were, but without the discomfort of duplicity if their inclinations were more in line with deism.[28]

But the effects of deistic and atheistic philosophy on biblical studies and Christian theology also became widespread on the European continent in the late eighteenth century and in Britain and America by the middle of the 19th century. As Reventlow concluded in his massive study,

We cannot overestimate the influence exercised by Deistic thought, and by the principles of the Humanist world-view which the Deists made the criterion of their biblical criticism, on the historical-critical exegesis of the nineteenth century; the

consequences extend right down to the present. At that time a series of almost unshakeable presuppositions were decisively shifted in a different direction.[29]

So the biblical worldview, which had dominated the Western nations for centuries, was rapidly being replaced by a naturalistic worldview. And it was into the midst of these revolutions in worldview and the reinterpretation of the phenomena of nature and the Bible that the scriptural geologists expressed their opposition to old-earth geology in the first half of the nineteenth century.

In summary, deism (which is a slightly theologized form of naturalism) flourished briefly in the early eighteenth century and then went underground as it spread into liberal biblical scholarship & in the nineteenth century into science. Atheism (naked naturalism) became increasingly popular & aggressive in the eighteenth & nineteenth centuries, especially on the European continent. So, naturalism first affected astronomy and geology and then only later did it gain control of biology. Many old-earth geologists (e.g., Sedgwick) vigorously opposed Darwin's theory in 1859. But they failed to realize that Darwin simply applied the same naturalistic thinking to his theory of the origin of living creatures that the geologists had applied to their theories about the origin of the earth and geological record of strata and fossils. Their naturalistic geological theories laid the foundation for naturalistic biology.

Clearly, Buffon's theory that the earth was the result of a collision of a comet and the sun and then cooled from a molten state over at least 75,000 years was a naturalistic theory. His deism led him to try to separate science from religious and metaphysical ideas & to reject teleological reasoning & the idea of supernatural, divine intervention in nature. It is therefore no surprise that he firmly rejected the biblical Flood (along with its implications for the history and age of the earth).[30] Laplace's nebular hypothesis for the origin of the solar system over much more than 75,000 years (which became the seedbed of the big bang theory) was atheistic & thus naturalistic. So was Werner's deistic geological theory of a slowly receding ocean producing the geological record over one million years. So were Hutton's and Lyell's deistic uniformitarian theories. William Smith's and Georges Cuvier's deistic catastrophist theories were also quite naturalistic in that they too ignored Scripture and considered only natural causes for the geological record (though they had a supernaturalistic view of the origin of biological life).

V. Geology—an objective science?

These developers of old-earth theory were hardly objective, unbiased, let-the-facts-speak-for-themselves interpreters of the physical evidence, as is so often supposed. Regarding early nineteenth-century geology, a respected historian of science has noted,

Most significantly, recent work in cultural anthropology & the sociology of knowledge has shown the conceptual framework that brings the natural world into comprehensible form becomes especially evident when a scientist constructs a classification [of rock strata]. Previous experience, early training, institutional loyalties, personal temperament, and theoretical outlook are all brought to bear in defining particular boundaries as 'natural.'[31]

It would be misleading to think that all these factors influenced all scientists to the same degree. Furthermore, a major component of anyone's theoretical outlook is his religious worldview (which include atheism or agnosticism). Worldview had a far more significant influence on origin of old-earth geology than has often been acknowledged. A person's worldview not only affects the interpretation of the facts but also the observation of the facts. Another prominent historian of science rightly comments about scientists, and non-scientists, '[M]en often perceive what they expect, and overlook what they do not wish to see.'[32]

In his enlightening description of the late-1830s controversy over the identification of the Devonian formation in the geology of Britain, Rudwick wrote,

Furthermore, most of their recorded field observations that related to the Devonian controversy were not only more or less 'theory laden,' in the straightforward sense that most scientists as well as historians & philosophers of science now accept as a matter of course, but also 'controversy laden.' The particular observations made & their immediate ordering in the field, were often manifestly directed toward finding empirical evidence that would be not merely relevant to the controversy but also *persuasive*. Many of the most innocently 'factual' observations can be seen from their context to have been sought, selected, and recorded in order to reinforce the observer's interpretation and to undermine the plausibility of that of his opponents.[33]

In his covert promotion of Scrope's uniformitarian interpretations of the geology of central France, Lyell had similarly said in 1827, 'It is almost superfluous to remind the reader that they who have a theory to establish, may easily overlook facts which bear against them, and, unconscious of their own partiality, dwell exclusively on what tends to support their opinions.'[34] However, many geologists, then and now, would say that Lyell was blind to this fact in his own geological interpretations. So, the influence of worldview on the observation, selection and interpretation of the geological facts was significant, especially given limited knowledge of people individually and collectively in the still infant stage of early nineteenth-century geology. As the philosopher of science, Thomas Kuhn, has noted,

> Philosophers of science have repeatedly demonstrated that more than one theoretical construction can always be placed upon a given collection of data. History of science indicates that, particularly in the early developmental stages of a new paradigm, it is not even very difficult to invent such alternatives.[35]

Just as the catastrophist felt irresistibly driven by the 'obvious' evidence to believe in great regional or global catastrophes, so the uniformitarian 'saw' equally undeniable evidence that they had never happened. In the same way, scriptural geologists, like Rev. Henry Cole (with virtually no geological knowledge) or Rev. George Young (with excellent geological competence), felt that all the opposing geologists were 'blind' to the plain evidence for a recent supernatural creation and a unique global Flood.[36]
Not only did various influences bias the developers of old-earth theory, they were in fact either blatantly or subtly hostile toward Scripture. We get a glimpse of the anti-scriptural attitudes of old-earth geologists from the writings of Charles Lyell. Writing to Roderick Murchison (fellow old-earth geologist) in a private letter dated August 11, 1829, just months before the publication of the first volume of his uniformitarian *Principles of Geology* (1830), Lyell reflected,

> I trust I shall make my sketch of the progress of geology popular. Old [Rev. John] Fleming is frightened and thinks the age will not stand my anti-Mosaical conclusions and at least that the subject will for a time become unpopular and awkward for the clergy, but I am not afraid. I shall out with the whole but in as conciliatory a manner as possible.[37]

About the same time Lyell corresponded with his friend, George P. Scrope (another old-earth geologist and MP of British Parliament), saying, 'If ever the Mosaic geology could be set down without giving offense, it would be in an historical sketch.'[38] Why would Lyell want to rid geology of the historically accurate (inspired) record of the Flood?

Because as a Unitarian he was living in rebellion against his Creator, Jesus Christ, and he wanted geology to function with naturalistic presuppositions, like his uniformitarian forefather, James Hutton, who wrote,

> The past history of our globe must be explained by what can be seen to be happening now. ... No powers are to be employed that are not natural to the globe, no action to be admitted except those of which we know the principle.[39]

So contrary to what people in the ID movement and many Christians influenced by the ID movement seem to think, naturalism (with its attendant anti-Bible, especially anti-Genesis, attitude) took hold of geology and astronomy in the late 18th and early 19th nineteenth centuries. And this spread of the infection of naturalism in science was concurrent with the development of the same critical naturalistic approach to Genesis in biblical scholarship. In other words, it was reasoned, Moses did not write Genesis under divine inspiration. Rather, Genesis is no different from any other fallible human book and was in fact the purely natural product of many human authors and redactors working many centuries after Moses.

Although some of the catastrophists and uniformitarians believed in a Creator & some even professed to be Christians, the old-earth theories were developed by applying naturalistic philosophical assumptions in both their interpretations of geological and astronomical evidence. Many old-earthers were *not* 100% philosophical naturalists. But all of them were operating largely with naturalistic assumptions, whether they realized it or not. In other words, they reconstructed their histories of the earth and solar system by appealing *only* to the presently observed laws and processes of nature plus time and chance (i.e., excluding the supernatural interventions of God at the Fall and the Flood, which disrupted or altered at least some of the laws and processes of nature).

It was on the basis of this anti-biblical naturalistic thinking that, fifty years later, Darwin promoted his naturalistic uniformitarian theory in biology to explain the incredible design in living things. Old-earth geological theories and old-universe astronomical theories are nothing but naturalistic philosophy (or really religion) masquerading as scientific fact, just like the evolutionary biological theories of neo-Darwinism and punctuated equilibrium are.

VI. Naturalism and uniformitarianism

Much more needs to be explored regarding this specific subject of naturalism and uniformitarianism. There has been some shallow and even incorrect thinking and writing on this subject by YECs as well as by their old-earth Christian and non-Christian critics. John Reed has written two very helpful articles.[40]
I want to state clearly that naturalistic assumptions do not *necessarily* mean that a scientific conclusion is wrong. For example, a person with naturalistic assumptions as his starting point could conceivably deduce the law of inertia from his observations. Or, in the matter of actualities, Francis Crick, who is an atheist, was a co-discoverer of the structure of the DNA molecule. But these examples have to do with what I like to call *operation* science. This research uses the 'scientific method' of observation of repeatable experiments in a controlled environment to determine how the present creation, or an individual entity in the creation, operates. For example, medical research, engineering research, and much research in biology, chemistry and physics fall into the category of operation science. This is the kind of science which put a man on the moon, a refrigerator in almost every kitchen, and finds cures for diseases. But operation science does not have any significant bearing on any doctrine of Scripture, and it is rarely affected by a scientist's religious worldview.

However, the matter of the *origin* of the law of inertia or of the DNA molecule or of the origin, age and history of the earth and universe (and everything in them) is a distinctly different question. These questions fall into the domain of what is often called *origin* science. This kind of research does not use the 'scientific method' of experimentation (except sometimes to propose *possible* causes of past events). Rather, to determine the *actual* past cause for some present effect that was produced in the unobservable past (e.g., a fossil or Grand Canyon), origin scientists use the legal-historical method of consideration of any relevant eyewitness testimony of the past event and careful investigation of the existing circumstantial evidence of the past event. Sciences such as archeology, paleontology and historical geology fit into this category of origin science. Origin science is like criminal investigation—by studying the evidence which exists in the present, researchers are trying to 'discover the past.' Origin scientists, then, are reconstructing history, which has direct and significant bearing on many important doctrines of Scripture. Here, naturalistic and uniformitarian assumptions strongly influence the observation, selection and interpretation of the physical data and can lead to very erroneous conclusions. In this case, Jesus' warning that bad trees cannot produce good fruit (Matt. 7:18) and Paul's warnings about deceptive philosophy (Col.

2:8) and ‘arguments of what is falsely called “knowledge”’ (1 Tim. 6:20) are very relevant. Old-earth geological theories were theories about *history*. Since they started with anti-biblical presuppositions, it is no surprise that they ended up concluding that the history in the Bible was wrong.

Naturalistic, and even uniformitarian, thinking of sorts is not to be totally excluded from Christian thinking. From roughly the end of the post-Flood, Ice-Age period (about 500–700 years after the Flood)[41] to the present time, physical processes (e.g., volcanoes, earthquakes, wind and water erosion and sedimentation, meteor impacts, etc.) have been operating essentially as they do today and at the same average rate and intensity presently observed. Furthermore, although some different starting conditions for the processes and laws of nature prevailed in the interval between Creation Week and the Flood, there was a uniformity of natural processes then, too. Some of the laws of nature started functioning during Creation Week after God made particular things (e.g., laws governing the growth and reproduction of plants did not commence until God supernaturally made the first kinds of plants on Day 3, laws related to the movements of the heavenly bodies commenced when God made those bodies on Day 4, and certain laws affecting animal life began to take effect on Day 5 when God made the first birds and sea creatures). Certainly, by the time God made Adam all the laws of nature were operational.

But it is likely that some of the laws of nature were altered in some way by God’s Curse on the whole creation in Genesis 3, resulting in the bondage to corruption that Paul speaks of in Rom. 8:19–23. This present world is similar to, but significantly different from, the perfect world that God originally created during the six literal days of Creation Week. We now live in, and scientists study, a creation damaged by human sin and divine judgment. Today all old-earth geologists and astronomers (whether professing Christians or not) deny the cosmic impact of the Fall, just as their predecessors did in the early nineteenth century. Such a denial is an obvious implication of a non-Christian’s worldview. Many old-earth Christians explicitly deny this cosmic impact of the Fall. Others unconsciously reject it. That is, they explicitly affirm that the Fall affected the whole creation, but because they accept the evolutionary view of history (even if they reject Darwinism to explain the origin of the various kinds of life), they unwittingly imply that the Curse of Genesis 3 had no discernable impact on the non-human creation.

Furthermore, although many laws continued to operate during the Flood (e.g., water still flowed downhill and with sufficient speed could erode and carry silt, sand, rocks and boulders but with reduced speed would drop and sort its load, as it does today), there was a significant divinely induced disruption in the ‘normal’ course of nature during that year-long event, due to several supernatural acts of God (e.g., the Flood

began exactly seven days after God said it would, God brought the animals to Noah in the Ark, the floodgates of heaven and fountains of the deep broke open simultaneously on a global scale, etc.).

In light of these considerations, biblically informed students of God's creation should invoke supernatural explanations only when there is an explicit biblical indication that God has done supernatural things (e.g., Creation Week, the Fall, the Flood and the Tower of Babel). Otherwise, Christians should seek to explain what they see in creation by the processes and laws of nature. The laws of nature describe not what God *must* do, but what He *normally does* to uphold his creation providentially. God does not have to obey the laws of nature. Rather, nature must obey God. Put another way, the laws of nature reflect the customs of God as He works in creation, and miracles are simply God acting in His creation in an uncustomary manner for a special purpose.

What all YECs (both the scriptural geologists in the early nineteenth century and the YECs in the last 50 years) have always argued is that Genesis 1–11 is inspired, inerrant history given to us by the Creator. One cannot correctly interpret the physical evidence of His acts in creation (either the customary 'natural' acts or uncustomary supernatural acts) if he ignores His written revelation about those acts. Even more problematic is the use of *naturalistic* interpretations of the present physical evidence to reinterpret the plain meaning of God's Word. But that is what the ID movement and most Christian leaders and Bible scholars have been doing and advocating in varying degrees (explicitly or implicitly, consciously or unconsciously) for almost the past 200 years, as they have tried to accommodate millions of years (and sometimes Darwinian evolution) in their interpretation of Scripture.

VII. 'Intelligent design' arguments of an earlier time

One more observation about the early nineteenth century is necessary. As atheism was advancing in the late eighteenth century, Christians and others expended much effort to defend the existence of a Creator God. To do this they developed arguments from design, especially in living creatures. The most famous design argument at this time was developed by the Anglican minister, Rev. William Paley (1743–1806), in his *Natural Theology: Evidence of the Existence of and Attributes of the Deity Collected from the Appearances of Nature* (1802). It was very popular, going through 20 editions by 1820

and continuing in use as a set text at Cambridge University into the early twentieth century. Darwin and all his old-earth mentors studied and knew the book well.

But there were other such writings, including a work by one of the scriptural geologists and a fellow Anglican clergyman, Rev. Thomas Gisborne (1758–1846), who in 1818 published *Testimony of Natural Theology to Christianity*. Gisborne said that Paley's work was very good as far as it went, but it was weak because of its omissions. Paley's argument only vindicated God's so-called positive attributes, such as goodness, wisdom, eternity and omnipotence. But it failed to point to God's holiness and justice as well as his mercy, as witnessed in nature. Paley, in other words, had ignored the cosmic impact of sin and God's Judgment on His once perfect creation. Gisborne sought to rectify this weakness by illuminating the witness of nature to these neglected divine attributes.

Then in the 1830s the celebrated 8-part series of 'Bridgewater Treatises' appeared. These presented design arguments from (1) the moral and intellectual nature of man, (2) the physical nature of man, (3) astronomy and physics, (4) animal and plant physiology, (5) the human hand, (6) chemistry, meteorology and digestion, (7) geology (written by the old-earth geologist, William Buckland), (8) the history, habits and instincts of animals (the only one of the eight treatises written by a young-earth creationist). Robson correctly identifies two important weaknesses of these efforts to defend the existence of God. First, because they largely divorced themselves from divine revelation (the Bible), the natural theology that was produced failed to deal with one of the greatest difficulties in theology, namely the existence of evil.[42] To put it simply, by arguing for a Designer without incorporating the Fall, they raised the obvious question of what sort of Designer would create some of the pathological features of this world. Second, argued Robson, contrary to the intent of the authors of the 'Bridgewater Treatises,' their arguments had an inherent tendency toward either deism or even pantheism.[43] Regarding impact of the Fall, a consideration of the following subsequent criticisms of the design argument is necessary. The famous atheist, Bertrand Russell, told why he was an atheist. One reason was that

> When you come to look into this argument from design, it is a most astonishing thing that people believe that this world, with all the things that are in it, with all its defects, should be the best that omnipotence and omniscience have been able to produce in millions of years. I really cannot believe it.[44]

More recently, the evolutionist philosopher, David Hull, argued in a similar way in his review of Phillip Johnson's *Darwin on Trial* (InterVarsity, 1991), which essentially launched the ID movement. Hull wrote,

The problem that biological evolution poses for natural theologians is the sort of God that a darwinian [*sic*] version of evolution implies…The evolutionary process is rife with happenstance, contingency, incredible waste, death, pain and horror… Whatever the God implied by evolutionary theory and the data of natural history may be like, He is not the Protestant God of waste not, want not. He is also not a loving God who cares about His productions. He is not even the awful God portrayed in the book of Job. The God of the Galápagos is careless, wasteful, indifferent, almost diabolical. He is certainly not the sort of God to whom anyone would be inclined to pray.[45]

This line of reasoning applies even if one rejects neo-Darwinian evolution and instead believes that God supernaturally created new forms of life occasionally over the course of millions of years of death, bloodshed, and extinction.

The early nineteenth-century design arguments, while enthusiastically received by the already 'converted' of that day, failed to stem the rising tide of atheism and other forms of anti-biblical (and therefore anti-God) skepticism. In fact, history shows that the unrecognized assumptions of naturalism, which were buried in the foundations of the old-earth, 'the-age-of-the-earth-doesn't-matter' design arguments, actually paved the way for Darwin's theory, which would demolish the force of those design arguments in most people's minds.

VIII. Modern compromise with old-earth naturalism

Phillip Johnson and the other old-earthers in the ID movement have not gone back far enough in their historical studies. Johnson appears to think that naturalism took control of science only after Darwin, or maybe even at the time of the 100th anniversary of Darwin's book. Speaking about a famous international celebration of about 2,000 scientists in Chicago in 1959, Johnson writes,

What happened in that great triumphal celebration of 1959 is that science embraced a religious dogma called naturalism or materialism. Science declared that nature is all there is and that matter created everything that exists. The scientific community had a common interest in believing this creed because it affirmed that in principle there is nothing beyond the understanding and control of science. What went wrong in the wake of the Darwinian triumph was that the authority of science was captured by an ideology, and the evolutionary scientists thereafter believed what they wanted to believe rather than what the fossil data, the genetic data, the embryological data and the molecular data were showing them.[46]

Nancy Pearcey likewise seems historically short-sighted. In her excellent discussion of the victory of Darwin's theory, she speaks of the Christians who tried to make peace with Darwinian evolution. She states, 'Those who reformulated Darwin to accommodate design were hoping to prevent the takeover of the idea of evolution by philosophical naturalism. They sought to extract the scientific theory from the philosophy in which it was imbedded.'[47] But those Christians and many before them had for over 50 years allowed and even advocated (albeit unknowingly) the takeover of geology and astronomy by naturalism, and then advocated the day-age theory or gap theory and local-flood theory to save old-earth theory. I attended the ID movement conference in 1996, where Pearcey originally gave this paper. When in the comment period after the presentation I remarked about philosophical naturalism taking control of science decades before Darwin through old-earth geology and referred to my just-completed Ph.D. work on this matter, I had no response from anyone, either publicly or privately. It seemed that the old-earthers did not want to know about naturalism's involvement in the development of the idea of millions and billions of years of history.

The above-mentioned conference was sponsored by the Christian Leadership Ministry (hereafter CLM), a ministry of Campus Crusade for Christ which is focused on university professors and is very supportive of the ID movement and of such old-earth proponents at Hugh Ross and Walter Bradley. Through its link to the Origins website, CLM targets 'top scientists and philosophers on issues concerning intelligent design & theism.'[48] That site linked to CLM states confidently,

> For Christians, the date of creation is not a primary issue of faith and should not be regarded as such, because the Bible does not specifically state a date of creation. This fact can be easily confirmed by reviewing sources such as The NIV Study Bible, The Believers Study Bible, The New Geneva Study Bible and evangelical commentaries. ... Therefore, *we believe Christians are free to follow the scientific evidence, minus hostile philosophical assumptions like naturalism.*[49]

For starters, what most Christian scholars believe *today* on this issue is no confirmation of the correct interpretation of Scripture, because popular scholarly vote does not determine truth. If it does, then the Protestant Reformation was wrong (which is not the case), for the Refomers were definitely in the minority for many decades. But note the emphatic statement in italics. These old-earth proponents do not understand that the 'scientific evidence' for billions of years is really only a *naturalistic* interpretation of the observed geological and astronomical evidence. Remove the 'hostile philosophical assumptions' of naturalism from geology and astronomy, and there is *no* scientific evidence for millions and billions of years.

Another example of people who say they are fighting naturalism's stranglehold on science, while at the same time promoting naturalistic 'scientific' theories in the church, is the new book by Hugh Ross and Fazale Rana, *Origins of Life* (2004). Their Reasons To Believe website advertisement for the book says, 'For years naturalistic theories have monopolized academia as the only possible scientific explanation for the origin of life. ... Rana and Ross explode the myth that scientific evidence supports naturalistic theories. ... '[50] The subtle implication is that the origin of life is the only topic in which naturalism reigns. But it also reigns in billions-of-years theories of geology and astronomy, which Ross and Rana effectively persuade Christian laymen, pastors and scholars to accept and use as they interpret their Bibles. So Ross and Rana are deceiving themselves and other Christians by this opposition to naturalism in the area of the origin of life while they simultaneously promote the big bang and billions of years. Even a few young-earth creationists do not seem to see things very clearly. Nelson and Reynolds state in their debate with old-earthers, 'Our advice, therefore, is to leave the issues of biblical chronology and history to a saner period. Christians should unite in rooting out the tedious and unfruitful grip of naturalism, methodological and otherwise, on learning.'[51] But there never will be a saner period, because sin will continue to darken the minds of people who do not want to submit to their Creator and His Word. Nelson and Reynolds are mistaken when they say that 'the key thing is to oppose any sort of attempt to accommodate theism and naturalism.'[52] No, the key is to oppose the accommodation of biblical revelation with naturalistic interpretations of the creation, which is what all old-earth reinterpretations of Genesis are. The issue is not a vaguely defined *theism's* marriage with naturalism but rather the adulterous union of *biblical teaching* and naturalism.

Thus, fighting naturalism only in biology will not work. Ignoring the Bible—especially Genesis—and its testimony to the cosmic impact of sin and God's judgments at the Fall, the Flood and the Tower of Babel, even though arguing for design in living things (and even *God's* designing activity), will not lead people to the true and living God, but rather away from Him and His holy Word. Nor will fighting naturalism only in biology, while tolerating or even promoting naturalism in geology & astronomy, break the stranglehold of naturalism on science. So the 'wedge' of the ID movement is not a wedge (leading to more truth) at all. It is simply a nail, which will not split the log open. It will not lead the scientific establishment to embrace the biblical view of creation, nor will it lead most people to the true God, the Creator who has spoken in only one book, the Bible.

In his book about his ‘wedge strategy,’ Johnson explains how Christians should proceed in what he thinks is the coming public dialogue between religion and science (actually, it has been going on for years before the ID movement was born, as a result of the efforts of young-earth creationists & others). He says, ‘The place to begin is with the Biblical passage that is most relevant to the evolution controversy. It is not in Genesis; rather, it is the opening of the Gospel of John.’[53] Johnson then quotes & discusses John 1:1–3 followed by Rom. 1:18–20. Though those passages are certainly relevant, they do not directly address the creation-evolution and age-of-the-earth debates as Genesis does. Furthermore, John and Paul clearly believed Genesis was literal history and based their teaching on Genesis, as Jesus did. More recently, in a 2001 interview, Johnson also stated,

> I think that one of the secondary issues [in the creation-evolution debate] concerns the details of the chronology in Genesis. ... So I say, in terms of biblical importance, that we should move from the Genesis chronology to the most important fact about creation, which is John 1:1. ... It’s important not to be side-tracked into questions of biblical detail, where you just wind up in a morass of shifting issues.[54]

On what basis does Johnson assert the most important fact about creation is John 1:1? He has never provided a theological or biblical argument to defend this assertion. It is difficult to see how his comments indicate anything but a very low view of & indifference to the inspired inerrant text of Genesis 1–11. I suggest that Johnson’s failure to see (or to explain to his listeners, if he does see) that the idea of billions of years of geological and cosmic history is nothing but philosophical naturalism masquerading as scientific fact, is the reason that he avoids the text of Genesis.

This failure to see the influence of naturalism, even by a person warning about the danger of naturalism, is further illustrated in a paper by one of America’s greatest evangelical philosophers, Norman Geisler. In 1998 Geisler was president of the Evangelical Theological Society and gave the presidential address at the November annual meeting of the ETS.[55] In it he warned of a number of dangerous philosophies that are assaulting the church and having considerable influence. The first one he discusses is naturalism (both methodological and philosophical naturalism), which he says has been one of the most destructive philosophies. Therefore, he devotes more space to it than any of the other dangerous philosophies that he discusses. As far as it goes, it is a very helpful warning about the dangers of naturalism. He even says that ‘James Hutton (1726–1797) applied [David] Hume’s anti-supernatualism to geology, inaugurating nearly two centuries of naturalism in science.’[56]

What is terribly ironic and very disappointing is that Geisler has endorsed the writings of Hugh Ross, who aggressively but subtly (whether consciously or not) promotes naturalistic assumptions and thinking in the church by persuading Christians to accept billions of years and the big bang as scientific fact. Also, in Geisler's own *Encyclopedia of Christian Apologetics*, published the year *after* his ETS presidential address, he tells his readers, 'Most scientific evidence sets the age of the world at billions of years.'[57] But as I have shown, it was not the *evidence* that set the age at billions of years, but rather the naturalistic *interpretation* of the evidence. Because of the confusion of evidence and interpretation of evidence, Geisler rejects the literal-day interpretation of Genesis 1 and believes that the genealogies of Genesis 5 and 11 have gaps of thousands of years, even though he says that '*prima facie* evidence' in Genesis supports literal days and no genealogical gaps in Genesis.[58] After laying out the various old-earth reinterpretations of Genesis (all of which are based on naturalistic interpretations of the scientific evidence, have serious exegetical problems and have been refuted by YECs), he mistakenly concludes, 'There is no necessary conflict between Genesis and the belief that the universe is millions or even billions of years old.'[59]
But Geisler is not the only evangelical philosopher who is trained to spot philosophical naturalism and yet has missed it in the issue of the earth's age. I am not aware of any leading evangelical philosopher who is a convinced YEC. If our greatest Bible-believing and Bible-defending philosophers cannot see naturalism's control of geology and astronomy, how will the rest of the church see it?

Herein is the bewitching influence of old-earth thinking. The fact is that we all (from the intellectually lowest to the most brilliant) have been brainwashed. 'Brainwashed' is a strong word, so let me explain. As we saw earlier, soon after Lyell published his *Principles of Geology* (1830–33), geology came under the control of the dogma of uniformitarianism, and catastrophism essentially passed off the scene. Reflecting this fact, in 1972 the following definition of 'catastrophism' appeared in a geological dictionary written by leading geologists and academics of the day: '*Catastrophism*: The hypothesis, now more or less completely discarded, that changes in the earth occur as result of isolated giant catastrophes of relatively short duration, as opposed to the idea, implicit in *Uniformitarianism*, that small changes are taking place continuously.'[60]

However, at about the same time a very unexpected thing was occurring in geology—the birth of 'neo-catastrophism.' All the neo-catastrophists were evolutionists and believed in the billions of years of earth history. But they believed that much of the geological record was formed quickly and catastrophically, as the early nineteenth-century catastrophists had believed. One of the leading neo-catastrophists was Derek Ager, a British geologist who had conducted geological investigations in about fifty countries of the world. In one of his books he reviewed the early nineteenth-century development of catastrophism and uniformitarianism and made this revealing comment:

> My excuse for this lengthy and amateur digression into history is that I have been trying to show how I think geology got into the hands of the theoreticians [i.e., uniformitarians, in Ager's view] who were conditioned by the social and political history of their day more than by observations in the field … . In other words, we have allowed ourselves to be brain-washed into avoiding any interpretation of the past that involves extreme and what might be termed 'catastrophic' processes.[61]

Ager admits that he was brainwashed through his geological education and early years in geological work, so that he could not see the evidence for catastrophe. The evidence was staring him in the face, but a mind-controlling set of assumptions made him blind to it. However, what he failed to see was that he had not only been brainwashed with assumptions coming from nineteenth-century social and political philosophy; he had been blinded by a whole philosophical-religious worldview called naturalism (he was a willing victim, however, for his writings give sufficient indication that he was a sinner in rebellion against God and his Word). So, as far as I am aware, until the day of his death a few years ago he was blinded (by naturalism) from seeing the overwhelming evidence in the rocks and fossils for Noah's Flood. If the geologists themselves were (and most geologists, even most Christian geologists, still are) brainwashed with the assumptions of philosophical naturalism, think of other Christians (including most brilliant evangelical philosophers and OT Bible scholars), who through education, museums, national-park tours, TV science programs, etc., have been led to believe that the geologists have proven that the earth is billions of years old and that the global, catastrophic, year-long Flood never happened.

IX. Conclusion

The source of naturalism's control of science goes further back than Darwin, back to the old-earth and old-universe theories of the late eighteenth and early nineteenth centuries and even back to the writings of Galileo and Bacon (to whose dictums about Scripture and science the early nineteenth-century old-earth geologists frequently referred), who drove the first wedge between Scripture and science.

The age of the earth matters enormously if one wants to fight naturalism in science effectively and if he wants to be faithful to the inspired, inerrant Word of the Creator of heaven and earth, who was there at the beginning of creation and at the Flood, and has faithfully and clearly told us what happened.

But the ID movement is such a mixture of agnostics and theists of great theological variety that it can never be concerned about faithfulness to the true God and His Word. As noted, there really is no wedge in Johnson's strategy. It is rather a nail strategy that will not split the log. A vaguely defined intelligent designer (not even necessarily divine) is as far as a Scripture-less approach can reach. Having deliberately ignored the biblical teaching given by the Creator—especially in Genesis—the ID arguments will not open the door to the true God.

If Johnson and the other Christian ID participants want eventually to bring Genesis into the origins debate, I predict:

- they will be accused of having been deceptive (a suspicion that many evolutionists have already expressed) during all the years that they have distanced themselves from YEC and ignored Genesis, and

- they will scare away most of their old-earth bedfellows in the ID movement who for various reasons do not want to live under the authoritative Word of God.

The lack of faithfulness to Scripture in the ID movement should be a concern to every Bible-believing Christian. Christians do not help God or help the evolutionized world by ignoring His holy Word.

This is a call to my Christian brothers in the ID movement to return to the Word of God, especially to the book of Genesis, which opens eyes to see the naturalism that controls geology and astronomy and leads people to think mistakenly that science has proven that the creation is billions of years old. I urge them to use their considerable mental powers and speaking and writing abilities to expose the lie of naturalistic interpretations of old-earth geology & old-universe astronomy and to defend the clear truth of Genesis, both in the church and in the secular world.

The evidence is abundant & clear. The enemy has invaded the holy citadel. **Naturalistic (atheistic) ways of thinking have increasingly polluted the church over the last 200 years through old-earth 'scientific' theories and through liberal theology. Who will take up the sword of the Spirit (Eph. 6:17)—especially Genesis 1–11—and help expel the enemy of naturalism? The only alternative is to ignore the invasion & pollution and further abet it by compromise with the evolutionary belief in millions of years.**

Early 19th Century Views of Earth History

Biblical view (scriptural geologists)

SC---F----------P----------SE

(Time to Present: ca. 6,000 years)

God supernaturally created the world and all the basic 'kinds' of life in six literal days (SC) and then judged the world with a global Flood (F) at the time of Noah, which produced most of the geological/fossil record, and all present-day (P) processes have continued essentially since the Flood. This will continue until God supernaturally brings the world to an end (SE).

Catastrophist view (e.g., Cuvier, Smith)

SB----------C----------C----------C----------C ----------P -------C?---NE?

(Time to Present: 'untold ages')

During the earth's long history (millions of years at least) since God supernaturally began a primitive earth (SB), there have been many natural regional or global catastrophic floods, which produced most of the geological/fossil record and current geography of the earth. After each catastrophe (C) God supernaturally created some new forms of life. Since the past catastrophes were natural events, there may be another in the future on earth, which may also have a natural (or supernatural) end (NE).

Uniformitarian view (e.g., Hutton, Lyell)

SB?---------- ----------P ----------
NE?

(Time to Present: 'untold ages')

All geological processes on the earth (perhaps) had a beginning (SB) millions of years ago on a primitive earth. These processes (e.g., erosion, sedimentation, volcanoes and earthquakes) continued into the present and will continue into the future at the *same* rate and intensity as observed today (P). No one knows whether there will be an end to the current natural processes (NE?).