

Science and the Bible – Part 1

"Religion without science is blind. Science without religion is lame... I want to know God's thoughts; the rest are details."

– Albert Einstein

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Introduction

- As an adult, it has always been very important to me that my faith makes sense with the rest of my life experience.
- Science, reason, and logic have always been a large part of my way of interacting with and learning about the universe we all live in.
- For me, it is important to look at the evidence we have in the world around us, and see what conclusions can be drawn.
- With a small group of 3 or 4 people, discuss this question:
 - How do you view the Genesis account of creation in the Bible?
 - Literal 6 days?
 - Judeo-Christian creation myth?
 - Unscientific historical account?
 - Poetic account?
- In this presentation, I hope to give you a view of Genesis 1 from a scientific standpoint.

Science and Theology: an Oxymoron?

- Humankind's search for order and purpose takes different forms.
- Both ask the BIG existential questions: what, when, where, how?
- Both consider "why?"

"There can never be any real opposition between religion and science, for one is the complement of the other."

- 1900s, Max Planck, noted atomic physicist.

... *an Oxymoron?*

- Many people might think that to include science and theology in the same sentence is oxymoronic, but I don't think so!
- Both science and theology are ways that we search for order and purpose in life.
- Both consider the big questions, including "how" and "why".
 - Science is concerned with the study and interpretation of the facts of nature.
 - Theology is concerned with source, purpose, and meaning, and with the study and interpretations of the words of the Bible.

... an Oxymoron?

"Study astronomy and physics if you desire to comprehend the relation between the world and God's management of it."

-The Guide for the Perplexed, 1190 AD, Moses Maimonides.

- I Thessalonians 5:21 – "Test everything...Hold onto the good."
- Psalm 19: 1-2 – "The heavens declare the glory of God; and the firmament shows His handiwork. Day unto day utters speech and night unto night reveals knowledge."
- Psalm 97:6 – "The heavens declare His righteousness, and all the peoples see His glory."
- Romans 1: 19-20 – "Because what may be known of God is manifest in them, for God has shown it to them. For since the creation of the world His invisible attributes are clearly seen, being understood by the things that are made, even His eternal power and Godhead, so that they are without excuse..."

... *an Oxymoron?*

- The Bible is the only "holy book" of the various world religions that encourages testing.
- Various scriptures in the Old and New Testaments speak of God's glory and righteousness being proclaimed by the heavens to all peoples
- In other words, everyone around the world has access to the record of nature

Science and Theology

can enlighten and inform each other as we seek to know ultimate TRUTH



- "For now we see through a glass, darkly, but then we shall see face to face; now I know in part; but then shall I know even as also I am known." I Corinthians 13:12

Science and Theology can enlighten and inform each other ...

I believe that science and theology complement, rather than contradict each other. A lack of understanding about either science or theology can make people feel that they must choose one or the other, but a deeper, more complete understanding of each enables us to embrace both without contradiction.

If we can agree that absolute truth EXISTS about both God and Nature then we have to agree that those absolute truths cannot logically contradict each other. So, the more we correctly know and understand about each one will give us a better understanding of the whole picture.

Science and Theology *can enlighten and inform each other ...*

Our paths as individuals and as a society as a whole to truth about God and truth about nature are iterative – we might take 3 steps forward and 2 steps back.

The Scientific Method holds truth tentatively, with the understanding that new evidence can make previous scientific theories or even scientific laws invalid. Take for example the early Greek view of the sun moving around the earth. Copernicus postulated and later Galileo showed that in fact the earth revolves around the sun. It was a matter of broadening our perspective, looking at traditionally held ideas from a larger frame of reference, and working with more information. A similar thought revolution occurred in moving from Newtonian Physics to Relativity Theory.

Similarly, I would hope that no theologian nor layperson would claim to have God or all of Christianity completely figured out. Personally, as I go through life and gather more information, I revise my interpretations of various passages of Scripture.

As Galileo said, "God is the author of two books: Scripture and Creation."

"It seems reasonable to expect that God's creation and God's scripture would agree with each other." – Hugh Ross

A Look at Genesis 1

- some terminology

- As we begin to look at Genesis 1, let's go over some terminology:
- First, the Hebrew word translated "day" in our Bibles is "Yowm": which can be literally translated, "day" OR "non-specific period of time", OR "era".
- Then there are several creative verbs used:
- *Bara*: which means brand-new creation
 - implies "*ex nihilo*": creation out of nothing
- *Asa*: which means to fabricate
- *Dasha*: which means produce; bring forth
- *Haya*: which means let there appear
- So in Genesis 1:1, the creative word used is *bara*, referring to brand new creation of the whole cosmos out of nothing!
- Creation by fiat miracle of the entire physical universe (space-time dimensions, matter, energy, galaxies, stars, planets, etc.) – Hugh

A Look at Genesis 1



- **Genesis 1:1 - "In the beginning God created the heavens and the earth."**
 - John.1:3 - Through him all things were made; without him nothing was made that has been made.
 - Colossians 1:16 - For by him all things were created: things in heaven and on earth, visible and invisible, whether thrones or powers or rulers or authorities; all things were created by him and for him.
 - Hebrews 1:2 - but in these last days he has spoken to us by his Son, whom he appointed heir of all things, and through whom he made the universe.

A Look at Genesis 1

- Genesis 1:2 - "The earth was without form and void, darkness was over the surface of the deep, and the Spirit of God was brooding over the waters."
- Here, Earth is specially selected for a series of creation miracles. At the beginning, Earth is formless and void (Hebrew: *tohu* and *bohu*); empty and not fit for life; interplanetary debris and its thick primordial atmosphere keep the surface dark.
- Remember, the heavens and the earth are already created at this point, so the sun already exists.
- This verse gives the frame of reference for what's going on: God is on the surface of the water - the point of view is from the surface of Earth.
- "the Spirit of God was brooding over the waters." *Raca*: to brood over, cherish, vivify, as an eagle on its eggs, moments before they hatch.
- In Hebrew culture, the water figuratively refers to chaos.

Genesis 1 – Day One

- Genesis 1:3-5 – "Let there be light," and there was light. God saw that the light was good, and he separated the light from the darkness. God called the light "day," and the darkness he called "night." And there was evening, and there was morning—the first day.
- The creative verb used here is *haya* – "let there appear (not necessarily a new creation)... light."
- During the planetary formation process, the interplanetary debris clears as the earth coalesces and warms and the light gases methane (CH_4 – molecular wt=16) and ammonia (NH_3 – molecular wt=17) escape, making the previously opaque atmosphere translucent to light passing through!
- Specific design of Earth-Sun system to accomplish this:
 - Earth's distance from sun → giving the right temperature
 - Size of Earth → giving the right gravity

Genesis 1 – Day Two

- Genesis 1:6-8 - "Let there be an expanse between the waters to separate water from water." So God made the expanse and separated the water under the expanse from the water above it. And it was so. God called the expanse "sky." And there was evening, and there was morning—the second day.
- On Day 2: God says "Let there be (*haya*) an expanse or firmament..."
 - Waters are separated into the liquid surface waters and the clouds of water vapor, establishing the water cycle necessary to water the earth. Remember that methane CH_4 and ammonia NH_3 have molecular weights of 16 and 17g/mole respectively, and are too light to stay in our atmosphere. Well, water's (H_2O) molecular weight is 18g/mole, so earth's gravity can retain it!
 - There's a one in a trillion chance that two celestial bodies (Sun and Earth) would have this relationship (distance \rightarrow temperatures, mass \rightarrow gravity) so that we can retain H_2O but not CH_4 and NH_3 in our atmosphere.
- Another interesting note about our atmosphere is that Oxygen's (O_2) molecular weight is 32 g/mole. But it's a good thing that oxygen exists in our atmosphere as a diatomic molecule (two atoms together), because otherwise it would be half that weight (16g/mole), and not heavy enough to stay in our atmosphere...

Genesis 1 – Day Three

■ Genesis 1:9-12 – ..."Let the water under the sky be gathered to one place, and let dry ground appear." And it was so. God called the dry ground "land," and the gathered waters he called "seas." And God saw that it was good. Then God said, "Let the land produce vegetation: seed-bearing plants and trees on the land that bear fruit with seed in it, according to their various kinds." And it was so. The land produced vegetation: plants bearing seed according to their kinds and trees bearing fruit with seed in it according to their kinds. And God saw that it was good. And there was evening, and there was morning – the third day.

■ **Biological life is first mentioned. In this passage, dry continental land masses and ocean basins are formed, and plants appear. The creative verb used is *dasha* – produce, bring forth.**

■ In photosynthesis, plants use CO_2 (<), and produce O_2 (>)

■ The drastic increase in O_2 produces the ozone layer (O_3), to protect life from harmful solar radiation, specifically ultraviolet.

■ This gets Earth's atmosphere ready for animals and humans.

■ Keep in mind that at this point the atmosphere is translucent but still has heavy cloud cover...

Genesis 1 – Day Four

■ Genesis 1:14-19 – ..."Let there be lights in the expanse of the sky to separate the day from the night, and let them serve as signs to mark seasons and days and years, and let them be lights in the expanse of the sky to give light on the earth." And it was so. God made two great lights—the greater light to govern the day and the lesser light to govern the night. He also made the stars. God set them in the expanse of the sky to give light on the earth, to govern the day and the night, and to separate light from darkness. And God saw that it was good. And there was evening, and there was morning—the fourth day.

■ **The events of Day 4 have confused many earnest believers as to why Genesis would record the creation of the sun, moon, and stars, AFTER the appearance of light on Day 1.**

■ Well, remember on Day 3, the plants drastically reduce the amount of CO₂ in the atmosphere, which -> clears the clouds so... the atmosphere becomes transparent! The word *haya* is used here: "let there appear (not a brand new creation) lights in the heavens."

■ So, on Day 4, with the clearing of the clouds, the sun, moon, and stars can be seen!

■ Earth is prepared for the Cambrian explosion.

Genesis 1 – Day Five

■ Genesis 1:20-23 – ..."Let the water teem with living creatures, and let birds fly above the earth across the expanse of the sky." ²¹ So God created the great creatures of the sea and every living and moving thing with which the water teems, according to their kinds, and every winged bird according to its kind. And God saw that it was good. ²² God blessed them and said, "Be fruitful and increase in number and fill the water in the seas, and let the birds increase on the earth." ²³ And there was evening, and there was morning—the fifth day.

■ On Day 5, the creative verb used is *dasha* for the appearance of swarms of small sea creatures, and *asa* and *bara* for the creation of sea mammals and birds.

- Both the fossil record and Genesis 1 indicate that primitive life existed prior to advanced life.
- The Cambrian Period, which occurred about 540-500 million years ago, is the time when most of the major groups of animals (about 70 phyla, or body types) first appear in the fossil record. This event is sometimes called the "Cambrian Explosion", or the "Biological Big Bang" because of the relatively short time over which this diversity of forms appears. No additional phyla have shown up in over 500 million years. In fact, extinction has decreased the total number of phyla from the 70 which appeared in the Cambrian era to the 30 that exist today.

*Materialistic evolutionists cannot explain:
abiogenesis (the origin of life from non-life);
abrupt appearance of diverse & complex forms in fossil record;
transition between forms.*

- "One has only to contemplate the magnitude of this task to concede that the spontaneous generation of a living organism is impossible. Yet, here we are as a result, I believe, of spontaneous generation." – *George Wald, Harvard professor, Nobel Prizewinner, evolutionist.*
- "Evolution itself is accepted by zoologists, not because it has been observed to occur... or can be proved by logical, coherent evidence, but because the only alternative is special creation, and that is clearly incredible." – *James Watson, Nobel Prize winner, physiology/medicine.*
- "This regular absence of transitional forms is not confined to mammals, but it an almost universal phenomenon, as has long been noted by paleontologists." – *G.G. Simpson, Tempo and Mode of Evolution.*
- " ..the gap remains unbridged and the best place to start the evolution of the vertebrates is in the imagination." – *H. Smith, New York University, From Fish to Philosopher.*

Genesis 1 - Day Six

Genesis 1:24-31 - ..."Let the land produce living creatures according to their kinds: livestock, creatures that move along the ground, and wild animals, each according to its kind." And it was so. God made the wild animals according to their kinds, the livestock according to their kinds, and all the creatures that move along the ground according to their kinds. And God saw that it was good. Then God said, "Let us make man in our image, in our likeness, and let them rule over the fish of the sea and the birds of the air, over the livestock, over all the earth, and over all the creatures that move along the ground." So God created man in his own image, in the image of God he created him; male and female he created them. God blessed them and said to them, "Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground." Then God said, "I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food. And to all the beasts of the earth and all the birds of the air and all the creatures that move on the ground—everything that has the breath of life in it—I give every green plant for food." And it was so. God saw all that he had made, and it was very good. And there was evening, and there was morning—the sixth day.

...Day Six..

- Wild animals, livestock, short-legged animals, and finally humans are introduced
- Creative verb for the animals is *dasha*, and for humans *asa* and *bara*: brand new creation.
- The Genesis 1 order of 11 created items is correct with the fossil record! There is a 1 in 6 billion chance of randomly getting this order correct.

God rested from his creative work after Eve's creation
some tens of thousands of years ago...

No new species have appeared since that time.

More quotes from prominent evolutionists on lack of evidence for natural materialistic evolution...

- ~ "There are no detailed Darwinian accounts for the evolution of any fundamental biochemical or cellular system, only a variety of wishful speculations. It is remarkable that Darwinism is accepted as a satisfactory explanation for such a vast subject - evolution - with so little rigorous examination of how well its basic theses work in illuminating specific instances of biological adaptation or diversity." - *James Shapiro, molecular biologist at Univ. of Chicago, committed evolutionist.*
- ~ "No wonder paleontologists shied away from evolution for so long. It never seems to happen. Assiduous collecting up cliff faces yield zigzags, minor oscillations, and the very occasional slight accumulation of change - over millions of years, at a rate too slow to account for all the prodigious change that has occurred in evolutionary history. When we do see the introduction of evolutionary novelty, it usually shows up with a bang, and often with no firm evidence that the fossils did not evolve somewhere else. Yet that's how the fossil record has struck many a forlorn paleontologist looking to learn something about evolution." - *Niles Eldridge, one of the world's leading experts in vertebrate fossils, and proponent of Punctuated Equilibrium.*

Closing challenge...

Observe the world around you this week, and take note of the places and the ways you see God's handiwork.

Resources

- Hugh Ross, *Reasons to Believe*, Glendora, CA; www.reasons.org
- Greg Koukl, *Stand to Reason*, Long Beach, CA; www.str.org
- University of California at Berkeley, Museum of Paleontology, www.ucmp.berkeley.edu
- Intelligent Design, William Dembski, Discovery Institute; www.origins.org
- The Case for Faith, Lee Strobel, www.gegrapha.org