Origins: Christian Perspectives on Creation, Evolution, and Intelligent Design

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September 16, 2013
Classis Lake Superior
Baldwin, WI
Imagine there was a controversy over what causes rain. You are offered two choices:

“Atheistic/scientific view”: No God. It’s just evaporation and condensation, warm fronts and cold fronts….

“Biblical view”: Rain comes from God’s storehouses….
A scientific explanation does *not* replace God.
“Science or God” fallacy

(The Bible, NIV: Psalm 104:19-21)

The moon marks off the seasons and the sun knows when to go down. You bring darkness, it becomes night, and all the beasts of the forest prowl. The lions roar for their prey and seek their food from God. The sun rises and they steal away; they return and lie down in their dens.

Note: the same events are described both in terms of natural events and divine action. God is just as much in charge of natural events as supernatural events.
A biblical understanding of God as creator and sustainer encourages us to try to understand God’s world scientifically.
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• God typically governs nature in consistent ways (“natural laws”).
• We can discover and understand these natural laws. **What a gift!**
• As part of God’s *common grace*, Christians and non-Christians can work together to discover those natural laws.
• Christians and non-Christians might agree about the science, but disagree about the religious interpretation of the science. (Christians look through the “lens of scripture.”)
Religious interpretations of science

• **Scientists agree**: The natural world usually follows regular patterns of “natural laws.”

• **Atheist interpretation**: There is no God, no miracles.

• **Christian interpretation**: Natural laws are how God usually governs, but God can miracles, too – unusual events at specific times for specific reasons.
Religious interpretations of science

- **Scientists agree**: There is “chance” or “randomness” in some natural events.
- **Atheist interpretation**: Random events are purposeless, undirected.
- **Christian interpretation**: God is in control of events which appear random to us.
Two very different meanings of “chance”

“chance” = scientific randomness, unpredictability. Even when scientists understand a system, some events cannot be exactly predicted.

Example: a coin flip has 50% chance of landing “heads”
Example: a 20% chance of rain tomorrow
Example: genetic mutations

“Chance” = lack of purpose, the absence of meaning and intent. A god to replace the God of the Bible.

When someone says

*The universe is too amazing to have come about by Chance.*

they mean

*The universe is too amazing to have come about without God.*
Humans use Purposeful Randomness

- Coin toss
- Video game
- Random art
God uses Purposeful Randomness

The regularity in natural laws makes each snowflake a beautiful six-sided crystal.

The randomness in their motion makes each flake unique.

“Chance or God” fallacy

God can create a system in which scientific randomness plays a role and the overall desired outcome is still achieved.

And God can select the outcome of particular events which seem random to us.

(The Bible: Proverbs 16:33)

“The lot is cast into the lap, but its every decision is from the Lord.”
• God’s natural laws use both regularity and randomness, producing both predictability and uniqueness.

• We can study creation and learn those natural laws!

• God can still do miracles – doing unusual things at unusual times for specific reasons.

• **Scientific explanations don’t replace God.**
But what if our science and our interpretation of scripture seem to be saying different things?

Theology and church history give us some guidance.
1609, Galileo views the heavens with a telescope
Galileo found strong scientific evidence in favor of the earth moving around the sun.

But what about Psalm 96:10 (and other scriptures): “The world is firmly established, it shall never be moved”? 
Galileo wrote in *The Letter to Grand Duchess Cristina*,

“To prohibit the whole science [of Copernicus] would be to but to censure a hundred passages of Holy Scripture which teach us that the glory and greatness of Almighty God are marvelously discerned in all His works and divinely read in the open book of Heaven.”

“Of astronomy; for instance, so little is found [in the Bible] that none of the planets except Venus are so much as mentioned … If the sacred scribes had had any intention of teaching people [astronomy] …, or had they wished us to derive such knowledge from the Bible, then in my opinion they would not have spoken of these matters so sparingly.”
Belgic Confession (1566)

Article 2: The Means by Which We Know God

We know him by two means:
First, by the creation, preservation, and government of the universe, since that universe is before our eyes like a beautiful book in which all creatures, great and small, are as letters to make us ponder the invisible things of God: his eternal power and his divinity…
Second, he makes himself known to us more openly by his holy and divine Word, as much as we need in this life, for his glory and for the salvation of his own.

Psalm 19
v. 1-6: The heavens declare the glory of God…. 
v. 7-11: The law of the Lord is perfect…. 
Two books: A tool for resolving conflicts between science & theology

Hope:
• **God is the authority.**
• Nature and Scripture are both from God and cannot conflict (all truth is God’s truth)

Strategy:
• don’t throw out one and keep the other (don’t ignore any of God’s revelation)
• keep pursuing both – using the right methods for each – until the underlying unity becomes clear.
Reliability in science: clues, clues clues

Like a good detective, scientists look for many independent lines of evidence that all point to the same story.

Scientists keep testing theories by looking for more evidence to support theories, or improve them.
Reliability in understanding scripture: context, context, context

- Literary context of each passage
- Context of passage within the entire Bible ("scripture interprets scripture")
- Cultural and historical context of original author and audience
Historical and cultural context

First, consider what the passage meant to the inspired human author and original intended audience.

Second, apply that message to our lives and world today.

This leads to literal interpretations of some passages and non-literal of others.
Examples

Psalm 91:2-4
“I will say of the Lord, ‘He is my refuge and my fortress, my God, in whom I trust.’
Surely he will save you from the fowler’s snare and from the deadly pestilence.
He will cover you with his feathers; and under his wings you will find refuge.”

Luke 1:1-4
“Many have undertaken to draw up an account of the things that have been fulfilled among us, just as they were handed down to us by those who from the first were eyewitnesses and servants of the word. Therefore, since I myself have carefully investigated everything from the beginning, it seemed good also to me to write an orderly account for you, most excellent Theophilus, so that you may know the certainty of the things you have been taught.”
Psalm 96:10 -- “The world is firmly established, it shall never be moved.”

- **Literary context**: The purpose of this passage is to teach about God’s faithfulness.

- **Cultural & historical context**: The original author and audience naturally believed the world didn’t move – that was a “background belief” in the culture which God accommodated.
God’s Accommodation

“The Holy Spirit had no intention to teach astronomy; and in proposing instruction meant to be common to the simplest and most uneducated person, He made use by Moses and other prophets of the popular language that none might shelter himself under the pretext of obscurity.”

-- John Calvin *Commentary on the Psalms*
Today we see harmony

• Scientific study of God’s world tells us something about *how* God governs the motion of the earth and other planets. (Regular laws of nature.)

• Scripture tells us about the one *who* is in charge. (God is not distant. God is sovereign, faithful, continually sustaining.)
Modern analogy

- God’s Word and God’s World can be like the audio and visual tracks of a movie.
  - If you only have one, you make guesses about the other. Some guesses are good, some guesses are wrong.
  - *Science without scripture*: We might guess that God is distant, uninvolved in the motion of planets.
  - *Scripture without science*: We might guess scripture teaches that the earth doesn’t move.
  - When you have both together, they don’t conflict, they *tell a unified story*, and you can correct your guesses.
Astronomy, Geology, Biology … and Genesis

**THE TWO BOOKS OF REVELATION**

- **Author of Nature**: God
- **No Conflict**
- **Author of Scripture**: God

**Potential Conflict**

- **Human Interpretation of Science**
- **Human Interpretation of Biblical Interpretation**

**Influence**

- **Worldview, Politics**
- **Theology, Church Tradition**
When we apply the methods of tools of modern science to astronomy, we find:

The universe is filled with vast, distant, changing, astonishing things which we cannot see with unaided eyes.

With the methods and tools of science, we can not only detect them, but also mathematically model and understand them.

*What a glorious gift!*
The sun
from the Solar Dynamics Observatory

Visible wavelengths  X-rays
Supernova 1987A
168,000 light years away

Harvard Center for Astrophysics

Andromeda Galaxy
2.5 Million light years away

Galaxy cluster RXCJ0006
1.4 Billion light years away
Eagle Nebula. NASA Hubble space telescope.

New star systems are continually forming out of dust left over from previous systems – a process of billions of years.
There are many independent lines of evidence that our solar system, and the whole universe, has been around for billions of years, and the universe began $13.80 \pm 0.02$ billion years ago in an extremely hot, dense state.

- Stellar nebula expansion
- Asteroid family trajectories
- Gaps in the asteroid belt
- Craters on moons
- Radioactive isotope ratios
- Supernovas and supernova remnants
- Planetary formation at distant stars
- Galaxy collisions
- Light travel time to variable stars
- Changes in types of stars over time
- Gravitational lenses
- Globular clusters of stars
- Cooling of white dwarf stars
- Light travel time from galaxies
- Expansion of the universe
- Cosmic Microwave Background
- Abundances of elements
- Mass-energy density of the universe
When we apply the methods of tools of modern science to astronomy, we find:

The universe has a long history of galaxies, stars, planets, and nebulae, forming and changing over billions of years.

With the methods and tools of science, we can mathematically model and understand this history, and test our models with data.

What a glorious gift!
Geology: Multiple independent lines of evidence for an old Earth

720 thousand years
When we apply the methods of tools of modern science to geology, we find many lines of evidence that:

The earth has a long history of oceans, continents, mountains, forming and changing over billions of years.

With the methods and tools of science, we can mathematically model and understand this history, and test our models with data.

What a glorious gift!
Many independent lines of evidence
Does the science exclude God?
“Self-assembly OR Design” fallacy
Self-assembly **AND** Design

Designed for self-assembly
Scientific explanations don’t replace God
What do Biblical scholars say?
Possible interpretations of Genesis 1

Concordist:
Young earth
six 24-hour days
Gap interpretation
long gap between Gen 1:1 and 1:2
Day/Age
Hebrew for day can mean age
Appearance of Age
God created it to look old

Non-concordist:
Proclamation day
days happen outside Earth’s time
Creation hymn/poem
literary factors determine order
Temple Interpretation
days establish function, not formation
Kingdom/Covenant
land grant to humanity
Ancient Near East cosmology
firmament
one God, not pantheon
### Literary context:

**structure of Genesis 1**

<table>
<thead>
<tr>
<th>Days of forming</th>
<th>Days of filling</th>
</tr>
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<tbody>
<tr>
<td>1. light (v.3)</td>
<td>4. lights &amp; stars (v.14)</td>
</tr>
<tr>
<td>2. air &amp; water (v.6)</td>
<td>5. birds &amp; fish (v.20)</td>
</tr>
<tr>
<td>3. land (v.9)</td>
<td>6. animals (v.24)</td>
</tr>
<tr>
<td>plants (v.11)</td>
<td>humans (v.26)</td>
</tr>
</tbody>
</table>

**Earth no longer …(v.2)**

- Dark
- Without form
- Covered with primeval ocean
ANCIENT NEAR EAST COSMOLOGY

waters above

firmament

sun
floodgate

Storehouses of rain

moon

mountains

sea
earth

sheol

pillars of the earth

waters below
Egyptian cosmology

- Sky goddess Nut
- Sun god Re
- Air god Shu
- Earth god Geb
- Osiris, god of the dead

Ancient Near East Cosmology interpretation of Genesis 1

- Structures and events match those of ancient cultures surrounding the Hebrews (Egyptian, Babylonian), by God’s accommodation.
- Theology is very different from those cultures, must have been striking (primary message) to original Hebrew author & audience.
- Thus, theological message should be primary message for us, rather than structures & events.
Benefits of God using Ancient Near East Cosmology to teach theological (not scientific) truths

• Divine accommodation & progressive revelation
• Not confuse the author and original audience about the primary message
• Aid in communication to surrounding cultures
• All future generations can hear the message regardless of scientific advancement.
• To show that God is willing to meet us where we’re at, and can work through us despite our limitations.
What about plant & animal evolution?
1859, Charles Darwin publishes “On the Origin of Species”
What do you mean by "evolution"?
Definition #1: **Evolutionism.**

Not a scientific definition, but a religious or worldview definition: *Science has all the answers. No God. No higher purpose. Evolution replaces belief in God.*
Examples of evolutionism

““No intervening spirit watches lovingly over the affairs of nature.... And whatever we think of God, his existence is not manifest in the products of nature.”

Steven Jay Gould “In Praise of Darwin” (Discover, February 1982)

Many scientists agree with the scientific theory of evolution, but disagree with evolutionism.
Definition #2: **Microevolution.** Species adapt to new or changing environments through mutation and reproductive success.
Microevolution:

- Mutations increase **diversity** in species.
- Reproductive success → adaptation and new species
Definition #3: Pattern of change in life forms over a long history

Modern whales: open ocean

Shallow ocean

Swamp dweller

Ancient land mammals

Balaena (Modern)

Dorudon
(Extinct Whale Ancestor - about 40 million years ago)

Rodhocetus

Ambulocetus

Pakicetus
(Extinct Whale Ancestor - about 52 million years ago)

Indohyus
(Extinct Whale "Cousin" - about 48 million years ago)

50 million years ago

40 million years ago

20 million years ago to present
Definition #4: **Common ancestry.** Modern species are descended from common ancestral species.
Definition #5: Theory of Evolution.

A scientific theory: microevolution over a long time through common ancestry explains how species go extinct and new species arise over time.
Multiple lines of evidence for Common Ancestry and the Theory of Evolution

Darwin’s time:
- Fossils
- Anatomical similarities across species
- Geographic distribution of species

Modern:
- Developmental biology
- Genetic diversity within species
- Genetic similarities across species.
  - Protein sequences, DNA sequences, genome organization, pseudogenes….
A TREE OF COMMON ANCESTRY

- Mammals
- Reptiles
- Fish
- Vertebrates
- Plants
- Flowers
- Ferns
- Moss
- Clams
- Beetles
- Butterflies
- Flies
- Trout
- Catfish
- Snakes
- Eagles
- Sparrows
- Wolves
- Dogs
- Housecats
- Lions
- Tigers
- Bats
- Mice
- Rats
## Range of views in the church

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<thead>
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<th>Old Earth Creationism</th>
<th>Evolutionary Creationism</th>
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<td><strong>Microevolution</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Pattern of change over long</strong></td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>history of life</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Common ancestry</strong></td>
<td>No</td>
<td>Maybe</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Theory of Evolution</strong></td>
<td>No</td>
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   days establish function, not formation
Kingdom/Covenant
   land grant to humanity
Ancient Near East
   cosmology
   firmament
   one God, not pantheon
We don’t all agree on the science or the best interpretation of Genesis 1. Church leaders can:

• Know a few of the strengths and weaknesses of different views.
• Be charitable. “Speak the truth in love.”
• Let Christians, especially young people, know there is a range of views in the church.
• Know what all of the views agree on.
At the Reformed colleges, we should

• Teach good science.
• Teach good biblical hermeneutics.
• Teach about the range of views in the church and their pros and cons.
• Keep investigating, looking for the underlying harmony.
Discussion
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What about human origins?
Human origins raises issues directly addressed by the Reformed Confessions

- The Confessions, like scripture, were written in a particular historical and cultural place, but intend to teach timeless truths.
- The Confessions derive authority from scripture; scripture derives its authority from God.
- For a confessional tradition, the Confessions:
  - provide a central point from which to start scholarly work,
  - mark out borders which define the tradition.
- The community together, guided by the Holy Spirit, decides what is a “faithful reading” of scripture and the confessions.
Historically, the Holy Spirit has guided us to re-examine our assumptions in various ways

- Seeing the suffering caused by social evils (slavery; racism)
- Seeing good come from social innovations (democracy instead of monarchy; banks allowed to make loans with controlled interest)
- Science (Galileo; lightning rods)
- Personal experiences in the lives of many Christians as they mature in faith
Reformed theology stresses God’s sovereignty in all areas.

“… In both creation and Scripture God addresses us with full authority.”
---(CRC Synod, 1972 statement on biblical authority)

The underlying harmony is not yet obvious. This is the source of the pressures felt by Reformed theologians, biblical scholars, and scientists.
THE TWO BOOKS OF REVELATION

Author of God

Nature

No Conflict

Scripture

Potential Conflict

Human Interpretation of

Science

Influence

Worldview, Politics

Biblical Interpretation

Influence

Theology, Church Tradition
Biblical issues of human origins

• Two creation accounts (Genesis 1, 2) use different names for God, different order of events, written at different times.
• Symbolic elements in Genesis 2-3 (talking snake, two miraculous trees).
• Genesis 2-3 (like Genesis 1) has important similarities with – and important differences from – similar stories from surrounding cultures.
• Creation declared “very good”, but also in need of “subduing” (and Genesis 2-3 set in a “garden”).
• Some readings of Genesis 4-5 imply Adam’s family interacting with other people in Genesis 4 (Cain’s wife; building cities.)
Biblical issues of human origins

- Genesis 4-11 tell a very “compressed history”
  - music, agriculture, iron smelting within a few generations
  - all languages of earth in a single event

- Romans 5 talks about sin entering the world “through one man” Adam
  - Adam as historical and Adam as archetype of Israel and Adam as a way to bring Gentiles into the story of the Messiah.
  - Adam and Eve (2 individuals, at least 2 acts of disobedience)
Theological issues of human origins

- Humans created in God’s image
- The soul
- Sin and death
- Original sin
3 views on the Image of God

1. God gave us *mental and social abilities* far above animals.

2. God chose to have a *personal relationship* with us.

3. God *commissioned* humans to be his *representatives and stewards* in this world.

All three are compatible with God creating humans miraculously or through natural processes. God could give us our abilities through natural processes; establish relationships and commission us through *divine personal revelation*. 
3 theories about the soul

1. Immaterial souls are joined to material body. Souls miraculously created.

2. The soul is not an “entity,” but the organizing principle/power of the material body.

3. The soul is our mental and relational abilities (arising from our bodies) in relationship to God — a relationship established by divine personal revelation and divine promises.

All three are compatible with God creating us miraculously or through natural processes.
Human mortality before the Fall

Do scripture passages which talk about death as a consequence of sin refer only to spiritual death (separation from God)?

Or does scripture imply physical immortality was a possibility via God’s grace (the “Tree of Life”) if humanity had not sinned?
The doctrine of Original Sin

The situation: No one can be righteous apart from Christ.

Three theories about “transmission”: (1) biological; (2) social learning; (3) spiritual status.

Historical origin: Single or multiple acts? How intellectually and morally advanced where the first humans who sinned – childlike, adultlike?

In what sense was the Fall, and the Redemption through Christ, God’s plan “from the beginning”?
Scientific issues on human origins

• Archeology shows humans living all over the globe by about 15,000 years ago.
• The oldest human fossils are found in Africa about 200,000 years old.
• Hominid fossils develop over a few million years.
Hominid Fossils
Scientific issues on human origins

• Archeology shows humans living all over the globe by about 15,000 years ago.
• The oldest human fossils are found in Africa about 200,000 years old.
• Hominid fossils develop over a few million years.
• Genetic similarities between humans and animals also indicate common ancestry.
• Genetic diversity in the human population today shows an early bottleneck of a few thousand individuals.
The underlying harmony is not yet obvious to us.

- Five types of scenarios proposed to bring these together. (Some pros and cons of each.)
Genesis 2-3: Adam & Eve as...

Recent Ancestors of all human beings (miraculous creation about 6,000 years ago)

**Biblical issues:**
- Adam’s family interact with other people in Genesis 4.
- Talking snake and special trees seem symbolic.

**Scientific issues:**
- Archeology shows humans all over the world by 15,000 years ago.
- First human fossils 200,000 years ago.

**Theological issues:**
- Inconsistency of God’s two revelations
Genesis 2-3: Adam & Eve as...

Recent Ancestors

Ancient Ancestors

6,000 years ago

Miraculous creation about 200,000 years ago

Biblical issues:
- Adam’s family interact with other people in Genesis 4
- Middle eastern farmers vs African hunter-gatherers

Scientific issues:
- Hominid fossil sequence
- Genetic similarity to animals
- Genetic diversity of humans shows bottleneck of thousands of individuals

Theological issues:
- Still some inconsistency between God’s two revelations
Genesis 2-3: Adam & Eve as…

1) Recent Ancestors
2) Ancient Ancestors
3) Group of Ancient Ancestors

Biblical issues:
- Historical Adam
- Middle eastern farmers vs African hunter-gatherers

Theological issues:
- Image of God
- Spread of original sin

Scientific issues:
Genesis 2-3: Adam & Eve as…

**Biblical issues:**
- Adam as progenitor of all humans (Gen 1 vs. Gen 2)

**Theological issues:**
- Representation
- Spread of original sin
- Spiritual status of humans before Adam
- Death and suffering before Adam

**Scientific issues:**
-
Genesis 2-3: Adam & Eve as…

**Biblical issues:**
- Historical Adam

**Theological issues:**
- Image of God
- Historical fall
- Original righteousness

**Scientific issues:**
-
Genesis 2-3: Adam & Eve as...

1) Recent Ancestors
2) Ancient Ancestors
3) Group of Ancient Ancestors
4) Recent Representatives
5) Symbolic

Diagram: (Visual representation of trees and branching patterns, indicating different interpretations of Adam and Eve's lineage.)
Lutheran theologian and scientist George Murphy wrote,

“The Christian claim is that a savior is needed because all people are sinners. That is simple. Why all people are sinners is an important question, but an answer to it is not required in order to recognize the need for salvation. None of the gospels uses the story in Genesis 3 to speak of Christ’s significance. In Romans, Paul develops an indictment of the human race as sinful and then presents Christ as God’s solution to this problem in chapters 1-3 before mentioning Adam’s sin in chapter 5.”

All these views on creation, evolution, and human origins agree that

• God created and governs the universe. No part of the universe is a divine power in itself. The natural world testifies to God’s glory, power, creativity, and faithfulness.
• Scripture is inspired by God and authoritative.
• Our significance is not based on the biological means by which God created us, or on our size in the universe, but on God’s relationship with us.
• God created humans as his image bearers and invites us into special relationship with him.
• But all humans have sinned and need a Savior. Jesus Christ died to save us and restore that relationship.
• The Holy Spirit guides our work.
• In times of dissonance, scholars are called by the church to examine the issues and propose answers.
• The community together decides what is a “faithful extension” of the tradition. This might take some time.
• We keep looking for the underlying harmony, because we trust God’s character and sovereignty.
Discussion