

Coursera

Science & Religion 101

CLASS HANDOUTS

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NB

Audio-Slide Episode = Class Notes Page
Number Number

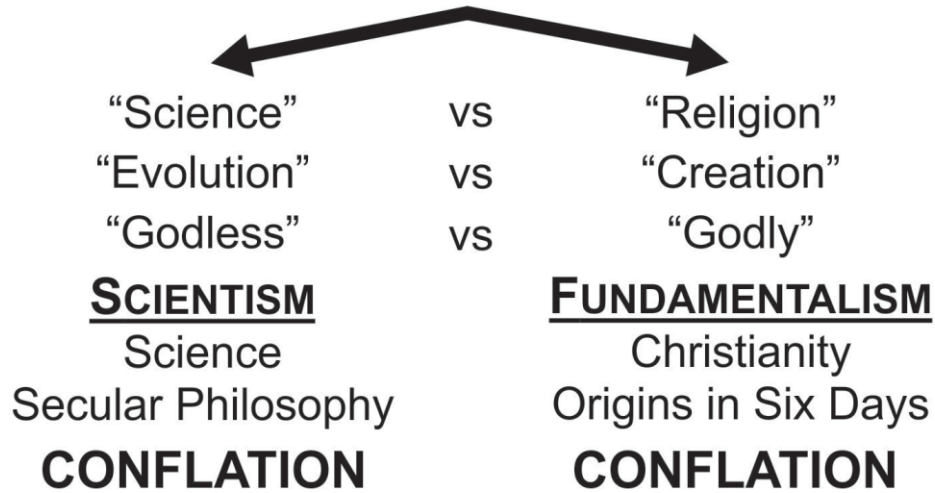
Abbreviations:

S: Audio-Slide Number

H: Class Handouts

SCIENCE & RELIGION WARFARE

DICHOTOMY



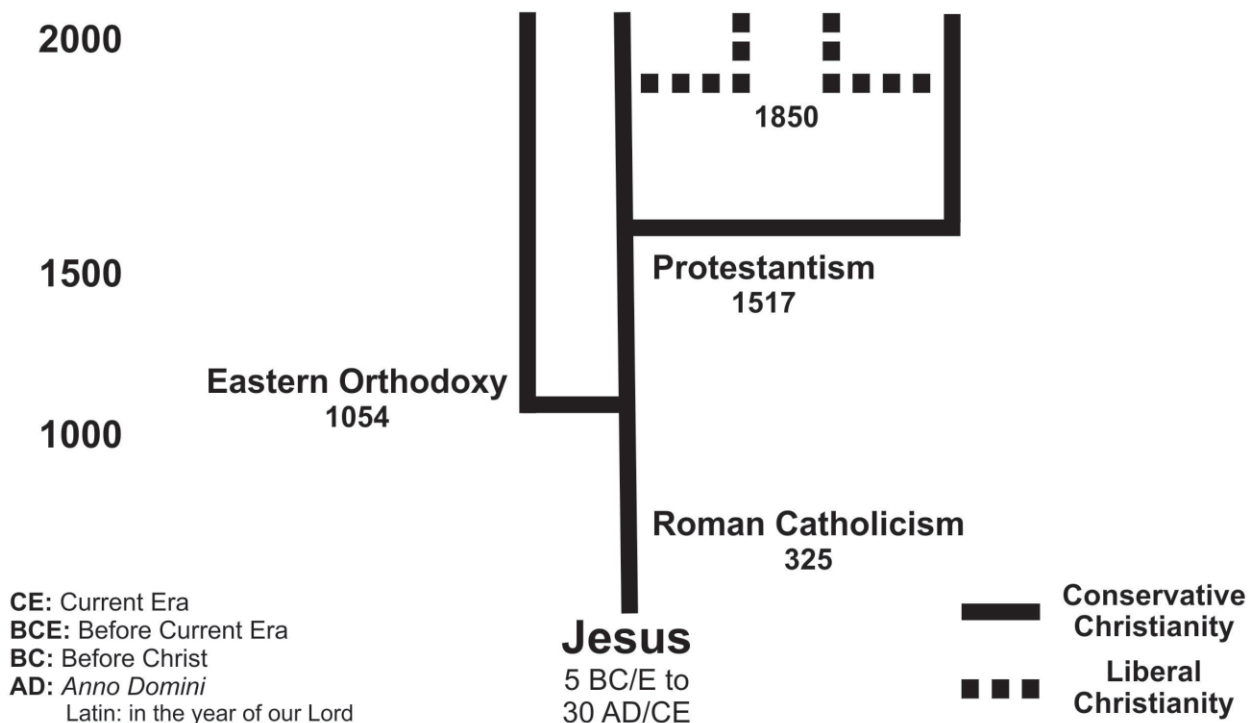
Scientific Community

Nature (1997) & *Science* (1997)

Religious Community

Pope John Paul II (1996) & Billy Graham (1997)

CHURCH HISTORY



CATEGORIES OF DIVINE REVELATION

Special

- Incarnation
God revealed himself through Jesus (John 1:1-3, 14)
- Biblical Revelation
God-breathed & the very words of God (2 Tim 3:16, Rom 3:2)
- Personal Revelation
Answered prayer, dreams, visions, signs & wonders

General

- Natural Revelation
Nature reflects God & his general attributes (Ps 19:1-4, Rom 1:19-20)
- Moral Revelation
Conscience & law written on the heart (Rom 2:14-15)

THE TWO DIVINE BOOKS

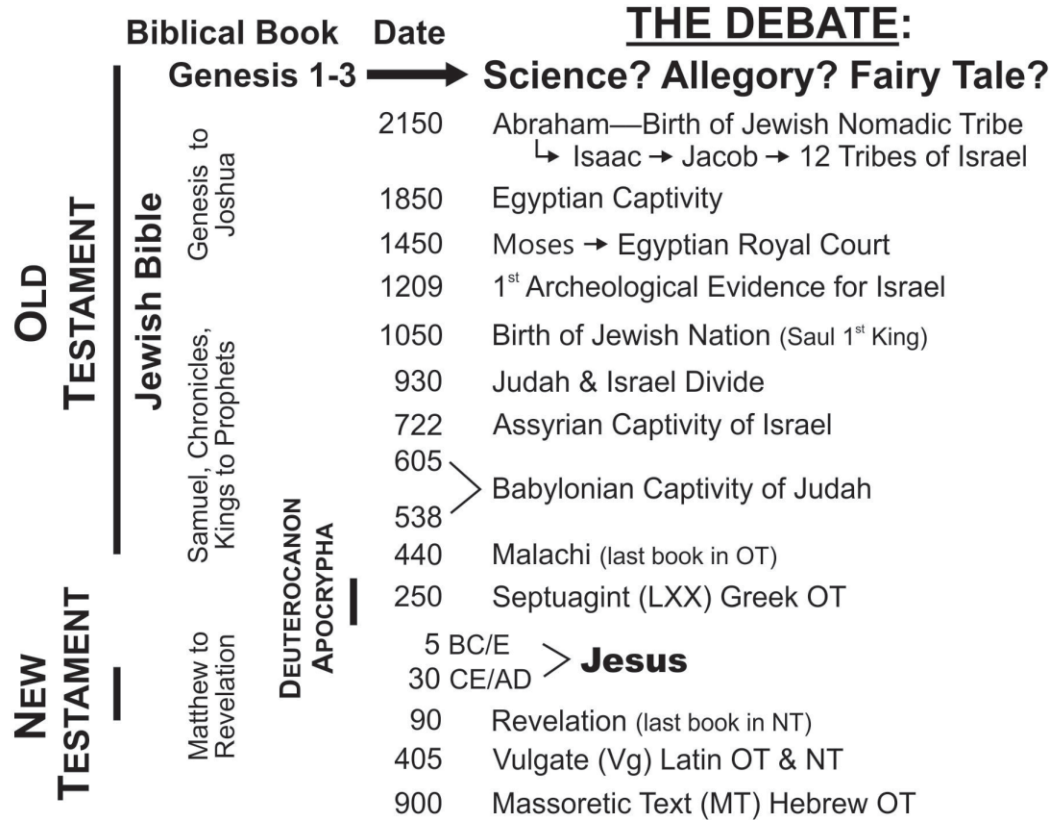
Book of God's Words

- Verbal Revelation
Uses Words
- Inspired Writings of the Bible
God-Breathed & Very Words of God (1 Tim 3:16, Rom 3:2)
- Specific Attributes of God
Holy (Rev 4:8, Rev 15:4) Love (1 Jn 4:8, 1 Jn 4:16)
Just (2 Th 1:6, Is 30:18) Merciful (Deut 4:31, Dan 9:9)
- Studied by Theology

Book of God's Works

- Non-Verbal Revelation
Does **NOT** Use Words
- Intelligent Design in Nature
Beauty, Complexity & Functionality
- General Attributes of God
Creator & Glorious (Ps 19:1)
Eternal Power & Divine Nature (Rom 1:19-20)
- Studied by Science

BIBLE OVERVIEW



CATEGORIES OF DIVINE ACTION

Personal

Interventionism

God raising a dead person to life

Providentialism

God working through “nudges” & “co-incidences”

Cosmological

Interventionism

Origins

God creating in 6 literal days

Operations

God moving planets off their normal course

Providentialism

Origins

God creating through evolution

Ordained & Sustained Natural Processes

Operations

God upholding the solar system

Ordained & Sustained Natural Processes

TEN COMMANDMENTS

- | | |
|----------------|--------------|
| 1. God #1 | 6. Murder |
| 2. Idols | 7. Adultery |
| 3. Name | 8. Stealing |
| 4. Day of Rest | 9. Lying |
| 5. Parents | 10. Coveting |

Exo 20:1-17
Deut 5:5-21

TWO COMMANDMENTS OF JESUS

LOVE the Lord your God with all your heart
and with all your soul and with all your mind.
This is the **FIRST** and greatest commandment.

The **SECOND** is like it: **LOVE** your neighbour
as yourself.

All the Law and the Prophets [Old Testament]
hang on these **TWO** commandments.

Matt 22:37-40
cf Deut 6:5, Lev 19:18

THE TWO FOUNDATIONAL PRINCIPLES OF SCIENCE & RELIGION

METAPHYSICS-PHYSICS PRINCIPLE



MESSAGE-INCIDENT PRINCIPLE



EPISTEMOLOGICAL CATEGORIES

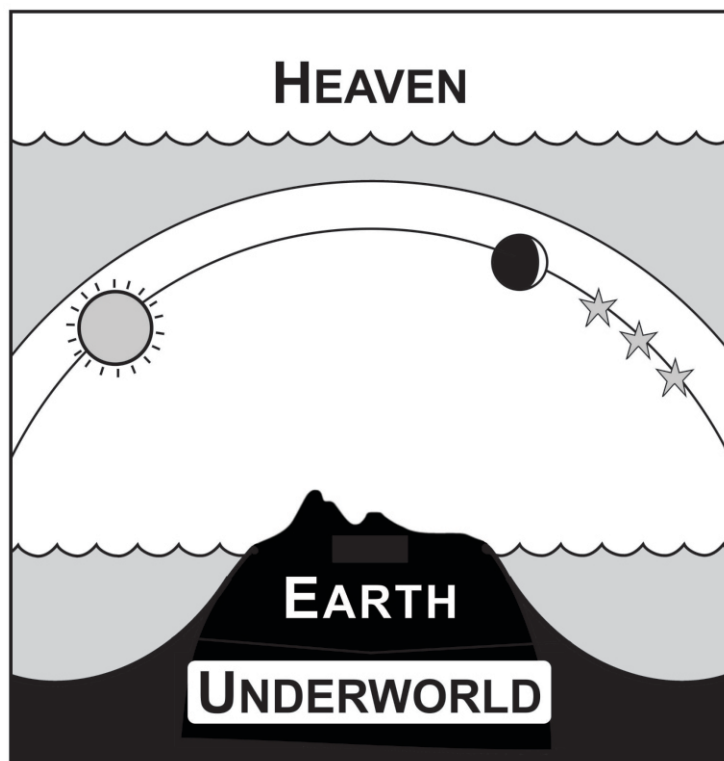
Foundational

- Correspondence
Knowledge matches with external reality
- Coherence
Knowledge is internally consistent & without contradictions
- Consilience
Knowledge interconnects into one encompassing theory

Religious

- Divine Foundation of Knowledge
Knowledge is ultimately rooted in God (Prov 1:7)
- Mystery
Knowledge that is beyond the human ability to know (1 Cor 13:12)
- Impact of Sin
Knowledge is influenced by the spiritual state of a person (Rom 1:21-23)

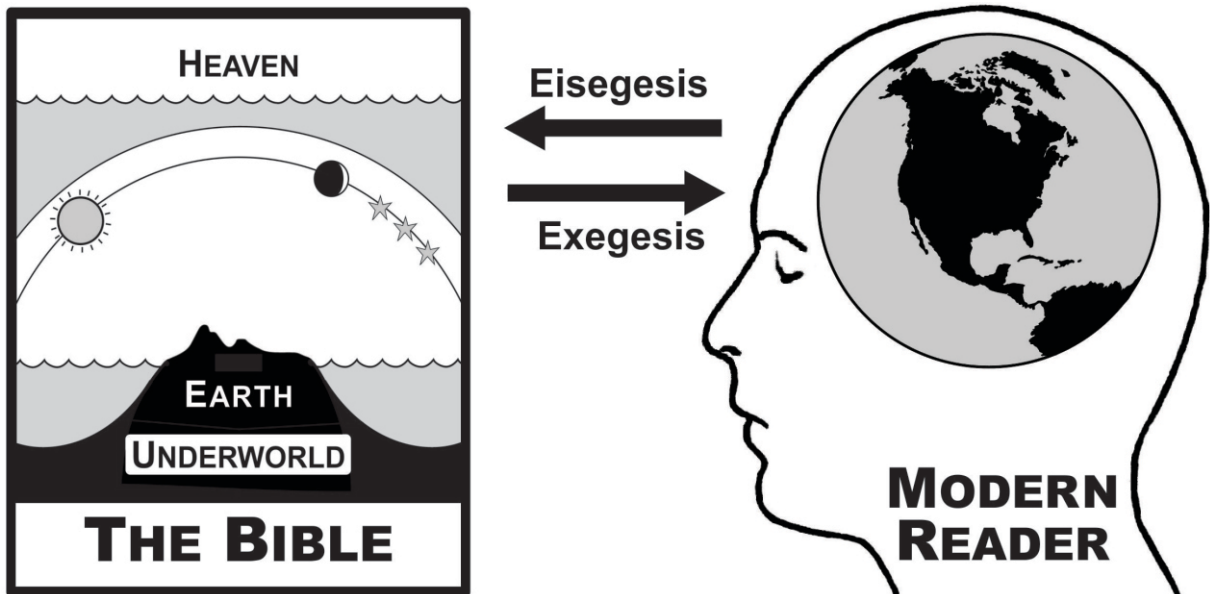
THE 3-TIER UNIVERSE



PHILIPPIANS 2:10-11

At the name of Jesus
every knee should bow,
[1] in **heaven** and,
[2] on **earth** and,
[3] in the **underworld**,
and every tongue confess
that Jesus Christ is Lord,
to the glory of God the
Father.

HERMENEUTICAL HORIZONS



PERSPECTIVES ON THE NATURAL WORLD

ANCIENT
Unaided
Physical Senses
Literal & Actual
Sun Rising/Setting

MODERN
Aided by
Scientific Instruments
Appearance of
Sun "Rising/Setting"

**PHENOMENOLOGICAL
PERSPECTIVES**

CATEGORIES OF BIBLICAL STATEMENTS

SPIRITUAL

- Character of God

God's words are true, perfect & flawless (Prov 30:5, 2 Sam 22:31) God does not lie (Tit 1:2, Heb 6:18)
Holy (Rev 4:8, Rev 15:4) Love (1 Jn 4:8, 1 Jn 4:16) Just (2 Th 1:6, Is 30:18) Merciful (Deut 4:31, Dan 9:9)

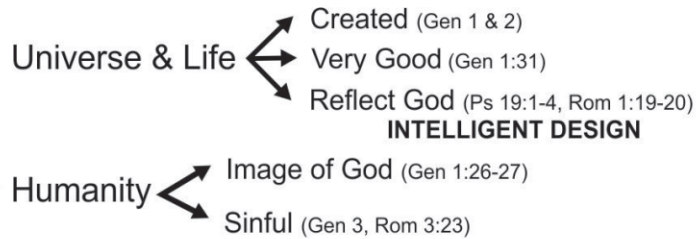
- Laws of God

10 Commandments (Exo 20:1-17, Deut 5:5-21)
2 Great Commandments (Matt 22:37-40)

- Acts of God



- Character of God's Creation



SCIENTIFIC

- Structures

- **3-Tiered Universe**

At the Name of Jesus every knee should bow
in heaven, and on earth and in the underworld (Phil 2:10)

- Operations

- **Immobility of the Earth**

The world is firmly established, it cannot move (1 Chr 16:30, Ps 93:1, Ps 96:10)

- **Mobility of the Sun**

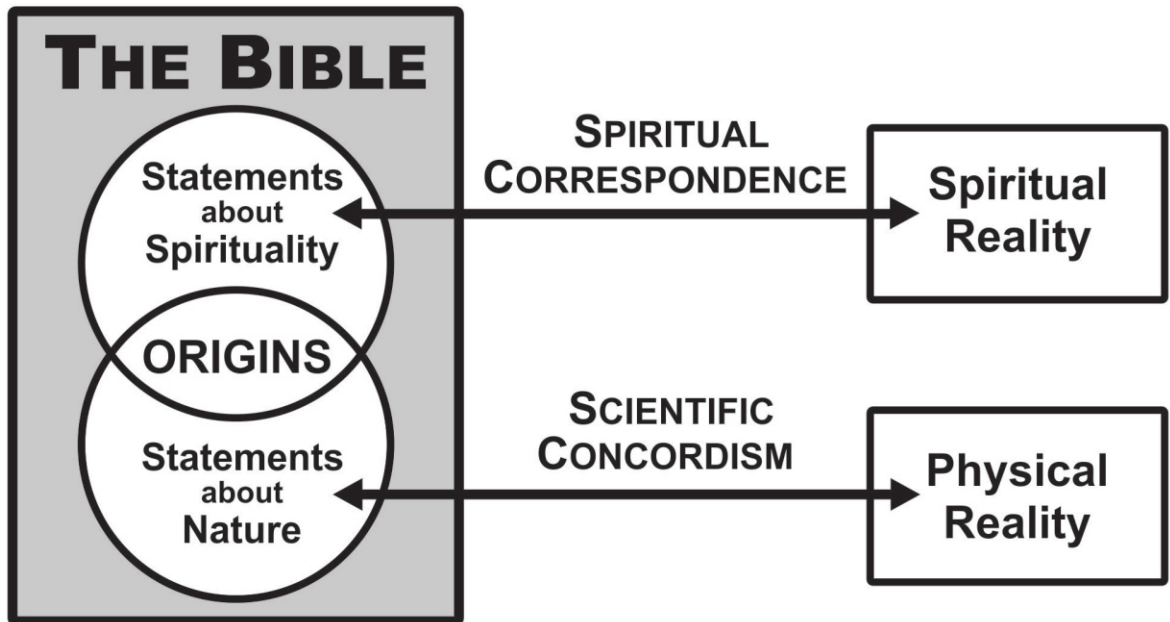
The sun rises and the sun goes down, and hurries to the place where it rises (Eccl 1:5)

- **ORIGINS**

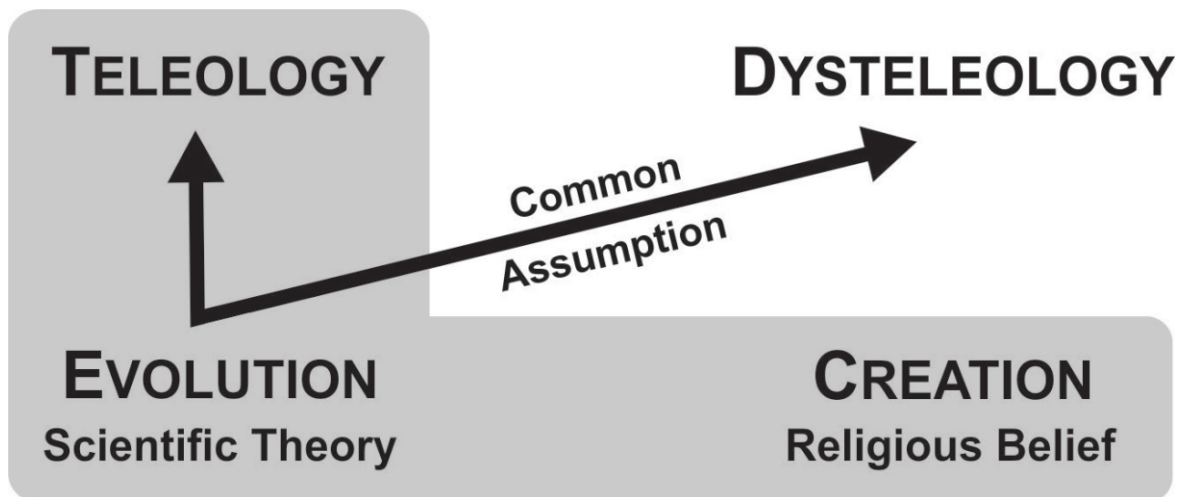
- **Heavens, Earth & Living Organisms**

Creation of World in 6 Days (Gen 1)
Creation of Adam & Eve (Gen 2)

CATEGORIES OF BIBLICAL CORRESPONDENCE & CONCORDISM



RE-CATEGORIZING THE ORIGINS DEBATE

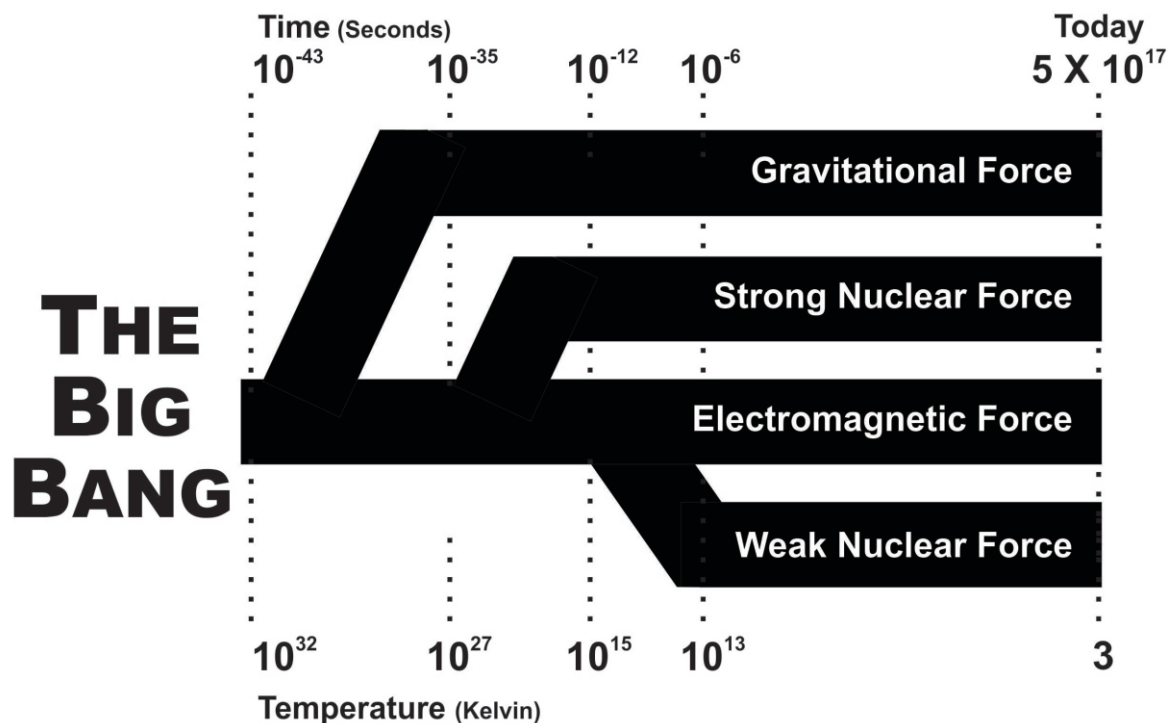


SUMMARY:

HERMENEUTICS & THE ORIGINS DEBATE

	Cosmological Evolution	Geological Evolution	Biological Evolution	Concordism & Genesis 1
Young Earth Creation Gen 1 Days = 24 hrs Universe is 6000 yrs old	X	X	X	✓
Progressive Creation Gen 1 Days = millions of yrs Universe is 14 billion yrs old	✓	✓	X	✓
Evolutionary Creation Gen 1 has Ancient Science Universe is 14 billion yrs old	✓	✓	✓	X
Deistic Evolution Rejects the Bible Universe is 14 billion yrs old	✓	✓	✓	X
Dysteleological Evolution Rejects the Bible Universe is 14 billion yrs old	✓	✓	✓	X

THE BIG BANG & EMERGENCE OF FOUR FORCES OF NATURE



EVIDENCE FOR FINE-TUNING OF THE UNIVERSE

Hugh Ross, *The Creator & The Cosmos*

(Colorado Springs, CO: NavPress, 1993), 111-114.

More than two dozen parameters for the universe must have values falling within narrowly defined ranges for life of any kind to exist.

Gravitational Force Constant

if larger: stars would be too hot and would burn up too quickly and too unevenly

if smaller: stars would remain so cool that nuclear fusion would never ignite, hence no heavy element production

Strong Nuclear Force Constant

if larger: no hydrogen; nuclei essential for life would be unstable

if smaller: no elements other than hydrogen

Weak Nuclear Force Constant

if larger: too much hydrogen converted to helium in big bang, hence too much heavy element material made by star burning; no expulsion of heavy elements from stars

if smaller: too little helium produced from big bang, hence too little heavy element material made by star burning; no expulsion of heavy elements from stars

Electromagnetic Force Constant

if larger: insufficient chemical bonding; elements more massive than boron would be too unstable for fission

if smaller: insufficient chemical bonding

Ratio of Electromagnetic Force Constant to Gravitational Force Constant

if larger: no stars less than 1.4 solar masses, hence short stellar life spans and uneven stellar luminosities

if smaller: no stars more than 0.8 solar masses, hence no heavy element production

Ratio of Electron to Proton Mass

if larger: insufficient chemical bonding

if smaller: insufficient chemical bonding

Ratio of Protons to Electrons

if larger: electromagnetism would dominate gravity, preventing galaxy, star, and planet formation

if smaller: electromagnetism would dominate gravity, preventing galaxy, star, and planet formation

Expansion Rate of the Universe

if larger: no galaxy formation

if smaller: universe would collapse prior to star formation

Entropy Level of the Universe

if smaller: no proto-galaxy formation

if larger: no star condensation within the proto-galaxies

Mass Density of the Universe

if larger: too much deuterium from big bang, hence stars burn too rapidly

if smaller: insufficient helium from big bang, hence too few heavy elements forming

Velocity of Light

if faster: stars would be too luminous

if slower: stars would not be luminous enough

Age of the Universe

if older: no solar-type stars in a stable burning phase in the right part of the galaxy

if younger: solar-type stars in a stable burning phase would not yet have formed

Initial Uniformity of Radiation

if smoother: stars, star clusters, and galaxies would not have formed

if coarser: universe by now would be mostly black holes and empty space

Fine Structure Constant

if larger: no stars more than 0.7 solar masses

if smaller: no stars less than 1.8 solar masses

Average Distance between Stars

if larger: heavy element density too thin for rocky planets to form

if smaller: planetary orbits would become destabilized

Decay Rate of the Proton

if greater: life would be exterminated by the release of radiation

if smaller: insufficient matter in the universe for life

Carbon (^{12}C) to Oxygen (^{16}O) Energy Level Ratio

if larger: insufficient oxygen

if smaller: insufficient carbon

Ground State Energy Level for Helium (^4He)

if larger: insufficient carbon and oxygen

if smaller: insufficient carbon and oxygen

Decay Rate of Beryllium (^9Be)

if slower: heavy element fusion would generate catastrophic explosions in all the stars

if faster: no element production beyond beryllium and, hence, no life chemistry possible

Mass excess of the Neutron over the Proton

if greater: neutron decay would leave too few neutrons to form the heavy elements essential for life

if smaller: proton decay would cause all stars to collapse rapidly into neutron stars or black holes

Initial Excess of Nucleons over Anti-Nucleons

if greater: too much radiation for planets to form

if smaller: not enough matter for galaxies or stars to form

Polarity of the Water Molecule

if greater: heat of fusion and vaporization would be too great for life to exist

if smaller: heat of fusion and vaporization would be too small for life's existence; liquid water would become too inferior a solvent for life chemistry to proceed; ice would not float, leading to a runaway freeze-up

Supernovae Eruptions

if too close: radiation would exterminate life on the planet

if too far: not enough heavy element ashes for the formation of rocky planets

if too frequent: life on the planet would be exterminated

if too infrequent: not enough heavy element ashes for the formation of rocky planets

if too late: life on the planet would be exterminated by radiation

if too soon: not enough heavy element ashes for the formation of rocky planets

White Dwarf Binaries

if too few: insufficient fluorine produced for life chemistry to proceed

if too many: disruption of planetary orbits from stellar density; life on the planet would be exterminated

if too soon: not enough heavy elements made for efficient fluorine production

if too late: fluorine made too late for incorporation in protoplanet

Ratio of Exotic to Ordinary Matter

if smaller: galaxies would not form

if larger: universe would collapse before solar type stars could form

EVIDENCE FOR DESIGN IN THE GALAXY-SUN- EARTH-MOON SYSTEM FOR LIFE SUPPORT

Hugh Ross, *The Creator & The Cosmos*

(Colorado Springs, CO: NavPress, 1993), 129-132.

The following parameters must have values that fall within a narrowly defined ranges for life to exist.

Galaxy Type

if too elliptical: star formation would cease before sufficient heavy element build-up for life chemistry

if too irregular: radiation exposure on occasion would be too severe and heavy elements for life chemistry would not be available

Supernova Eruptions

if too close: life on the planet would be exterminated by radiation

if too far: not enough heavy element ashes would exist for the formation of rocky planets

if too frequent: life on the planet would be exterminated

if too infrequent: not enough heavy element ashes would be present for the formation of rocky planets

if too late: life on the planet would be exterminated by radiation

if too soon: not enough heavy element ashes would exist for the formation of rocky planets

White Dwarf Binaries

if too few: insufficient fluorine would be produced for life chemistry to proceed

if too many: planetary orbits would be disrupted by stellar density; life on the planet would be exterminated

if too soon: not enough heavy elements would be made for efficient fluorine production

if too late: fluorine would be made too late for incorporation into protoplanet

Parent Star Distance from Centre of Galaxy

if farther: quantity of heavy elements would be insufficient to make rocky planets

if closer: galactic radiation would be too great; stellar density would disturb planetary orbits out of life support zones

Number of Stars in the Planetary System

if more than one: tidal interactions would disrupt planetary orbits

if less than one: heat produced would be insufficient for life

Parent Star Birth Date

if more recent: star would not yet have reached stable burning phase; stellar system would contain too many heavy elements

if less recent: stellar system would not contain enough heavy elements

Parent Star Age

if older: luminosity of star would change too quickly

if younger: luminosity of star would change too quickly

Parent Star Mass

if greater: luminosity of star would change too quickly; star would burn too rapidly

if less: range of distances appropriate for life would be too narrow; tidal forces would disrupt the rotational period for a planet of the right distance; uv radiation would be inadequate for plants to make sugars and oxygen

Parent Star Color

if redder: photosynthetic response would be insufficient

if bluer: photosynthetic response would be insufficient

Parent Star Luminosity Relative to Speciation

if increases too soon: would develop runaway greenhouse

if increases too late: would develop runaway glaciation

Age

if too young: planet would rotate too rapidly

if too old: planet would rotate too slowly

Magnetic Field

if stronger: electromagnetic storms would be too severe

if weaker: ozone shield and life on land would be inadequately protected from hard stellar and solar radiation

Inclination of Orbit

if too great: temperature differences would be too extreme

Distance from Parent Star

if farther: planet would be too cool for a stable water cycle

if closer: planet would be too warm for a stable water cycle

Orbital Eccentricity

if too great: seasonal temperature differences would be too extreme

Axial Tilt

if greater: surface temperature differences would be too great

if less: surface temperature differences would be too great

Rotation Period

if longer: diurnal temperature differences would be too great

if shorter: atmospheric wind velocities would be too great

Thickness of Crust

if thicker: too much oxygen would be transferred from the atmosphere to the crust

if thinner: volcanic and tectonic activity would be too great

Albedo (reflected light to total amount falling on surface)

if greater: runaway glaciation would develop

if less: runaway greenhouse effect would develop

Collision Rate with Asteroids & Comets

if greater: too many species would become extinct

if less: crust would be too depleted of materials for life

Surface Gravity (Escape Velocity)

if stronger: planet's atmosphere would retain too much ammonia and methane

if weaker: planet's atmosphere would lose too much water

Oxygen to Nitrogen Ratio in Atmosphere

if larger: advanced life functions would proceed too quickly

if smaller: advanced life functions would proceed too slowly

Carbon Dioxide Level in Atmosphere

if greater: runaway greenhouse effect would develop

if less: plants would be unable to maintain efficient photosynthesis

Water Vapor Level in Atmosphere

if greater: runaway greenhouse effect would develop

if less: rainfall would be too meager for advanced life

Atmospheric Electric Discharge Rate

if greater: too much fire destruction would occur

if less: too little nitrogen would be fixed in the atmosphere

Ozone Level in Atmosphere

if greater: surface temperatures would be too low

if less: surface temperatures would be too high; there would be too much uv radiation at the surface

Oxygen Quantity in Atmosphere

if greater: plants and hydrocarbons would burn up too easily

if less: advanced animals would have too little to breathe

Seismic Activity

if greater: too many life forms would be destroyed

if less: nutrients on ocean floors (from river runoff) would not be recycled to the continents through tectonic uplift

Oceans-to-Continents Ratio

if greater: diversity & complexity of life forms would be limited

if smaller: diversity & complexity of life forms would be limited

Global Distribution of Continents

if too many in the southern hemisphere: seasonal temperature differences would be too severe for advanced life

Gravitational Interaction with the Moon

if greater: tidal effects on the oceans, atmosphere, and rotational period would be too severe

if less: orbital obliquity changes would cause climatic instabilities; movement of nutrients and life from the oceans to the continents and continents to the oceans would be insufficient; magnetic field would be too weak

CONVERGENT EVOLUTION INDEX

Simon Conway Morris *Life's Solution: Inevitable Humans in a Lonely Universe*

NY: Cambridge U Press, 2003. 455-461

- | | | | | |
|---------------------|-------------------------|----------------------------|-----------------------------|-----------------------------|
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| Afrotheria | chemosensory | separation | menopause | seismic communication |
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| bladders | electroreception | leaf-eating | precision grip | vangids |
| blood-brain barrier | elephants | leaves | prc-pollex | vermivores |
| blood rete | Elvis taxa | lekking | (Panda's thumb) | vertebrates |
| blue vision | encephalization | lens | proteases | vestibulo-oculomotor reflex |
| blue-sensitive | endosymbiosis | light-harvesting proteins | proteinase inhibitors | vision |
| vision, loss | endothermy | lilies | proteins | visual stimuli |
| Bombardier beetle | enzyme | limb loss | push-rod | visual streak |
| bone | Ernanodon | limbs | mechanoreceptors | visual systems |
| bottlenose dolphins | euphasiids | lizards | quorum sensing | visual tracking |
| brain structure | Eurotamandua | locomotion | raptorial | viviparity |
| brains | eusociality | ons | red vision | vocal control systems |
| brain-size increase | expressions of surprise | luminescence | red-green vision | vocal learning |
| brittle-stars | extra-embryonic | lysozyme | reflective structures | vocalizations |
| bryophytes | membranes | malignant hyperthermia | Rensch's rule | walking |
| bryozoans | extra-ocular muscles | 'mammal-ness' | reproduction | walrus |
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NATURE & INTELLIGENT DESIGN

A COMPLEMENTARY RELATIONSHIP

INTELLIGENT DESIGN

Religion & Philosophy

Ultimate Beliefs



NATURE

Scientific Discoveries

Beauty, Complexity & Functionality

ARGUMENT FROM DESIGN TO NATURE

Presupposition Approach

Downward Arrows

- assumes ID is true
- views nature through this Metaphysical “Set of Glasses”

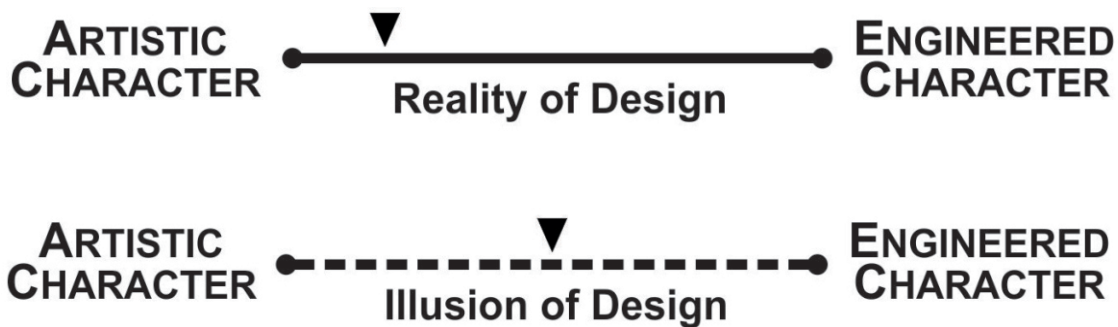
ARGUMENT FROM NATURE TO DESIGN

Evidence Approach

Upward Arrows

- uses scientific evidence to argue for the belief in ID & an Intelligent Designer
- aka: Argument of Design for God’s Existence

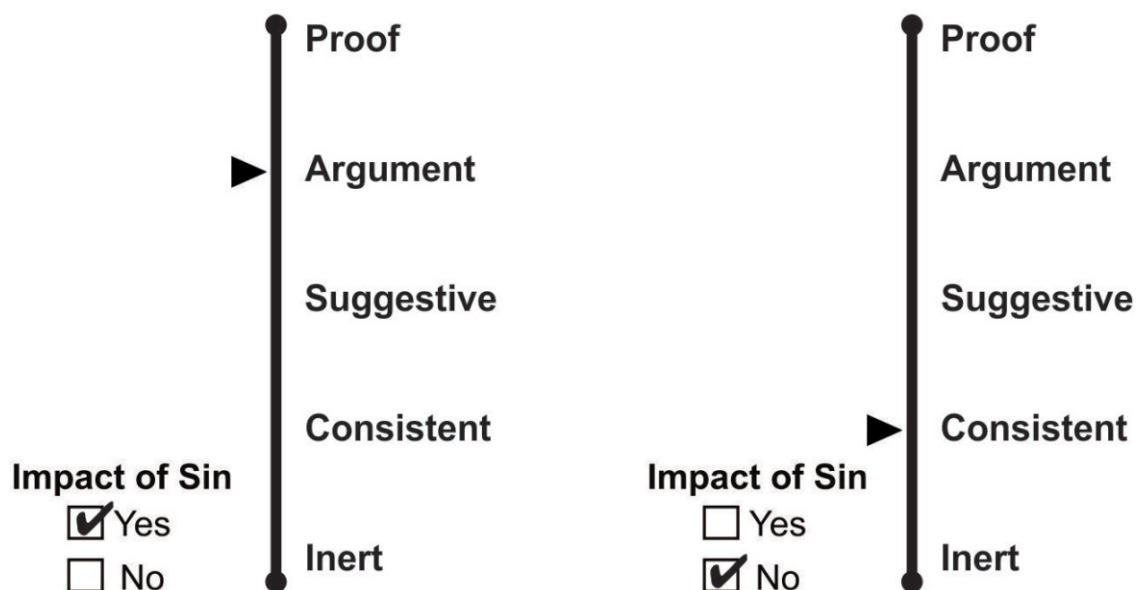
ONTOLOGICAL PARAMETER OF INTELLIGENT DESIGN



TOP: The solid line signifies that design in nature is real. The triangle above the line exemplifies a view of design that is more artistic in character than engineered.

BOTTOM: The dashed line indicates that intelligent design in the world is not real but only an illusion. The position of the triangle above the line in the middle between the artistic and engineered poles means that the illusory experience of design includes both of these characteristics.

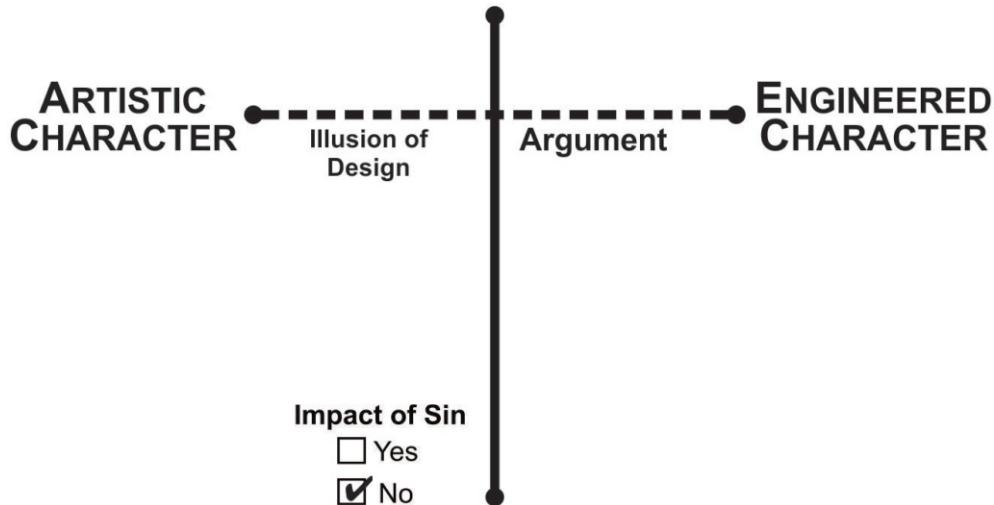
EPISTEMOLOGICAL PARAMETER OF INTELLIGENT DESIGN



LEFT: The position of the triangle signifies that the level of certainty for design is similar to that of a reasonable argument. To use a legal term, design in nature is **BEYOND A REASONABLE DOUBT**. The checked box acknowledges that sin is a factor in dealing with intelligent design.

RIGHT: The triangle at a low level on the epistemological parameter indicates that the experience of beauty, complexity & functionality in nature is not that powerful or compelling. In this case, the natural world is only consistent with the belief in ID. The checked box signifies that sin plays no part with ID.

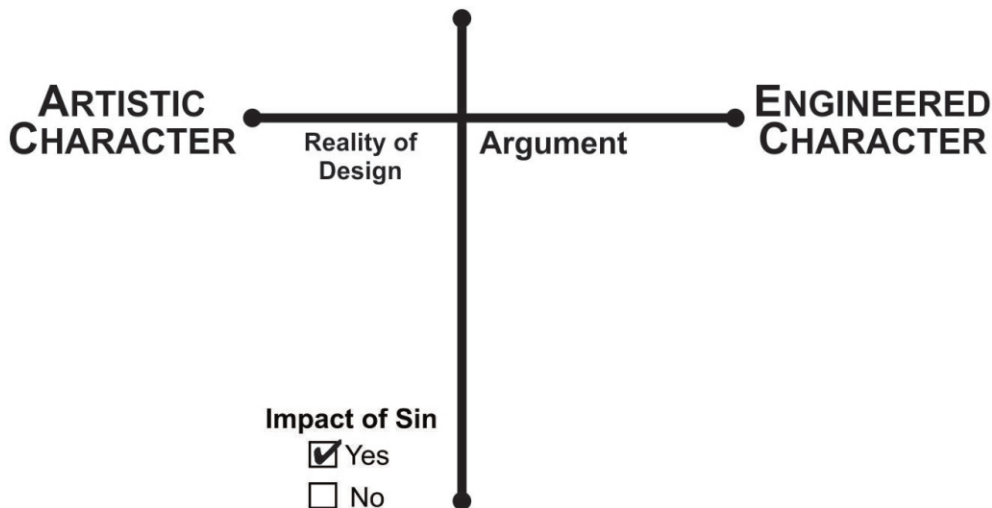
ID POSITION OF RICHARD DAWKINS



Dawkins believes that intelligent design is merely “apparent” and nothing but an **illusion**, as indicated by the dashed line on the ontological parameter. He acknowledges that this illusion is similar to “works of art” and “feats of engineering,” and that both of these characteristics appear in nature in a balanced way, as reflected by his terms “elegant efficiency” and “complex elegance.” This balance is depicted by the intersection in the middle of the ontological parameter.

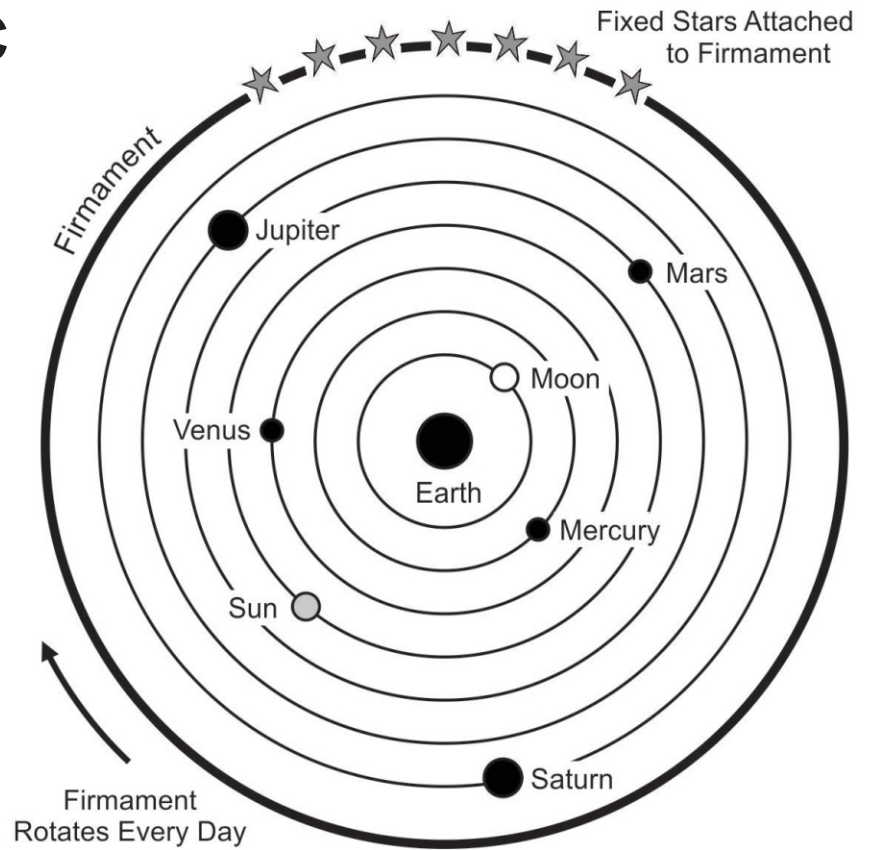
Dawkins acknowledges that nature strikes everyone forcefully, and he contends that this is the “most powerful reason” why most people have believed in a “supernatural deity.” This level of certainty is depicted by the intersection at the level of an **argument** on the epistemological parameter. Dawkins does not believe in sin and it is not a factor in his position on ID.

ID POSITION OF LAMOUREUX

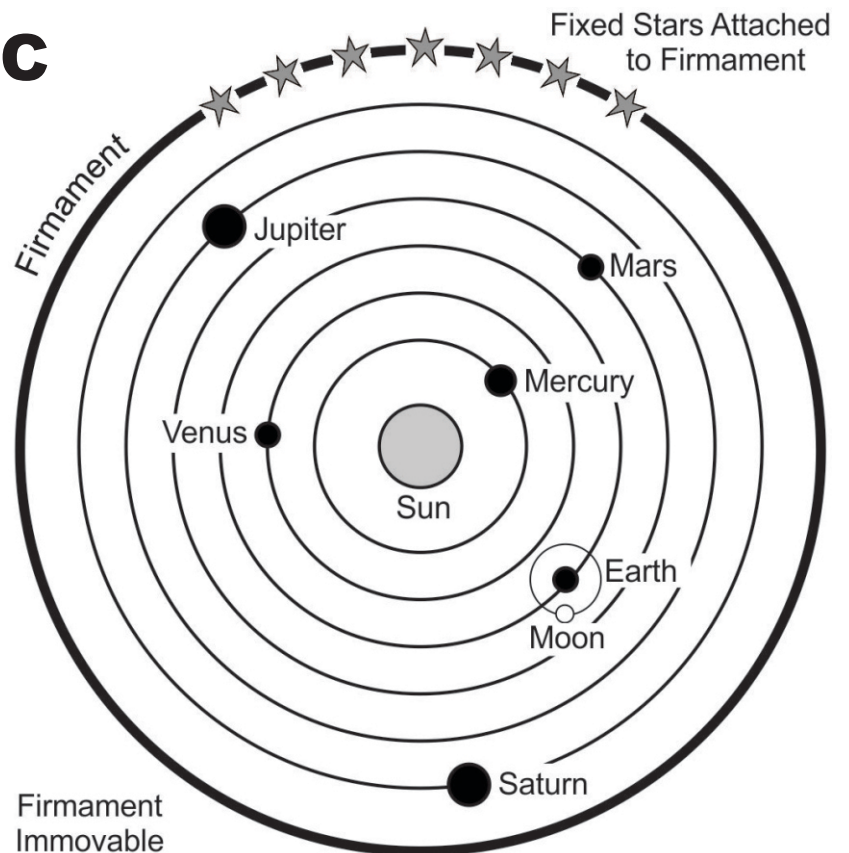


I believe that intelligent design is **real**, as indicated by the solid line on the ontological parameter. Though I appreciate both the artistic and engineered aspects in the world, beauty in nature strikes me a bit harder than complexity and functionality. Thus, the intersection is shifted to the left on the ontological parameter. The intersection at the level of an **argument** on the epistemological parameter recognizes that design in nature is clearly seen by everyone, so much so that we are accountable with regard to the implications of this divine revelation. Therefore, we are “without excuse” if we disregard or dismiss design (Rom 1:20). To use a legal term, I believe that intelligent design in nature is **Beyond a Reasonable Doubt**. I also believe that human sin is a critical factor that influences positions on intelligent design; in particular, the 1st Commandment and our relationship or lack of a relationship with God.

GEOCENTRIC UNIVERSE



HELIOCENTRIC UNIVERSE



JAMES DANA'S DAY-AGE THEORY

Manual of Geology (1863)

The order of events in the Scripture cosmogony corresponds essentially with that which has been given. There was first a void and formless earth: this was literally true of the "heavens and the earth," if they were in the condition of a gaseous fluid. The succession is as follows:—

- (1.) Light.
- (2.) The dividing of the waters below from the waters above the earth (the word translated *waters* may mean *fluid*).
- (3.) The dividing of the land and water on the earth.
- (4.) Vegetation; which Moses, appreciating the philosophical characteristic of the new creation distinguishing it from previous inorganic substances, defines as that "which has seed in itself."
- (5.) The sun, moon, and stars.
- (6.) The lower animals, those that swarm in the waters, and the creeping and flying species of the land.
- (7.) Beasts of prey ("creeping" here meaning "prowling").
- (8.) Man.

In this succession, we observe not merely an order of events, like that deduced from science; there is a system in the arrangement, and a far-reaching prophecy, to which philosophy could not have attained, however instructed.

The account recognizes in creation two great eras of three days each,—an *Inorganic* and an *Organic*.

Each of these eras opens with the appearance of *light*: the *first*, light cosmical; the *second*, light from the sun for the special uses of the earth.

The arrangement is, then, as follows:—

1. *The Inorganic Era.*

1st Day.—LIGHT cosmical.

2d Day.—The earth divided from the fluid around it, or individualized.

3d Day.— { 1. Outlining of the land and water.
 { 2. Creation of vegetation.

2. *The Organic Era.*

4th Day.—LIGHT from the sun.

5th Day.—Creation of the lower orders of animals.

6th Day.— { 1. Creation of Mammals.
 { 2. Creation of Man.

DARWIN'S HMS BEAGLE VOYAGE

27 December 1831 to 2 October 1836

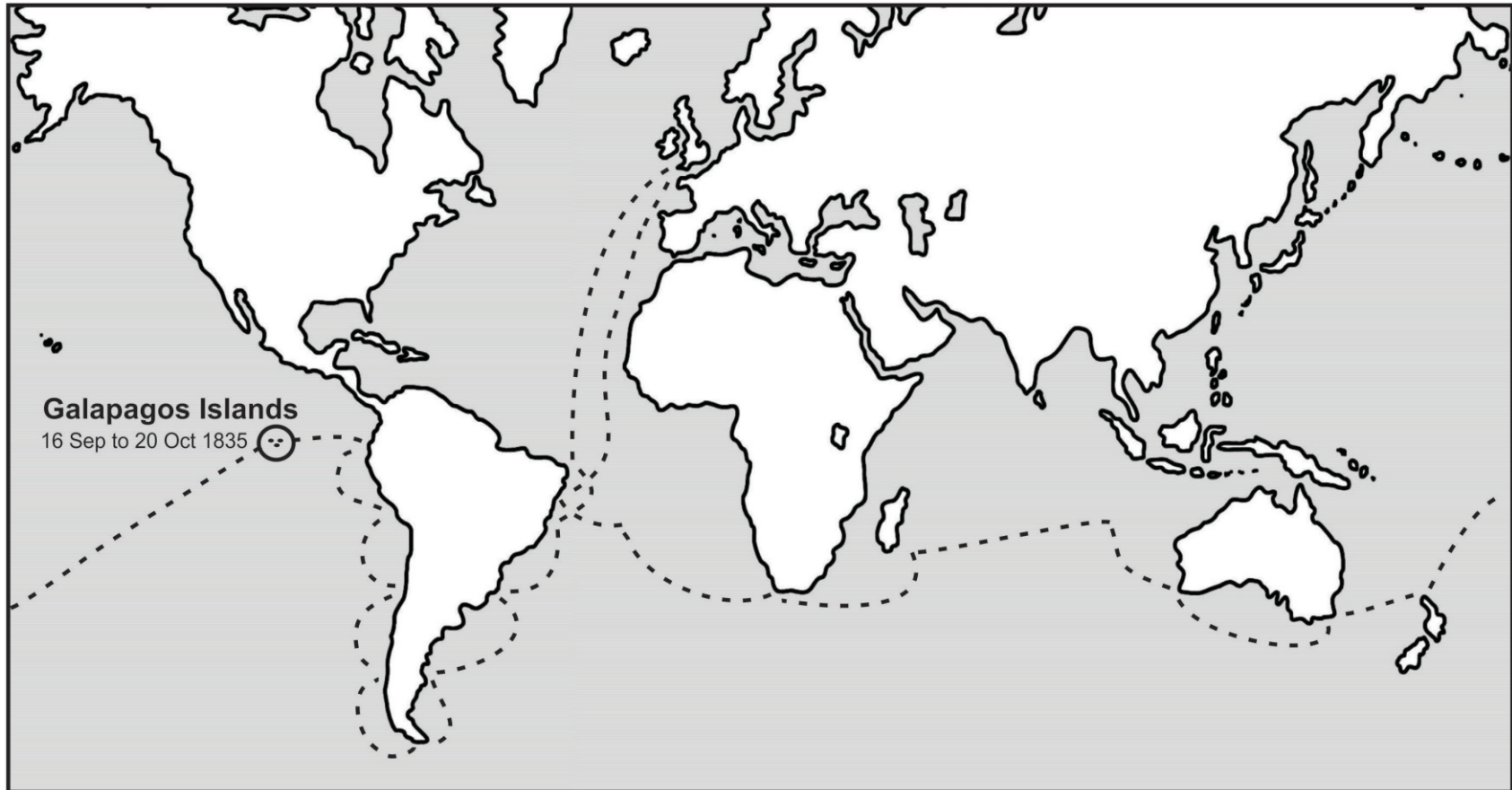


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DARWIN'S 1879 LETTER TO FORDYCE

Private DAR. 270.1:25
Down Beckenham
Kent
May 7th 1879

Dear Sir

It seems to me absurd to doubt that a man may be an ardent Theist & an evolutionist. — You are right about Kingsley. Asa Gray, the eminent botanist, is another case in point. — What my own views may be is a question of no consequence to any one except myself. —

But as you ask, I may state that my judgment often fluctuates. Moreover whether a man deserves to be called a theist depends on the definition of the term, which is much too large a subject for a note. In my most extreme fluctuations I have never been an atheist in the sense of denying the existence of a God. — I think that generally (& more and more so as I grow older) but not always, that an agnostic would be the most correct description of my state of mind.

Dear Sir
Yours faithfully
Ch. Darwin

Down Beckenham | Kent May 7th 1879

Dear Sir

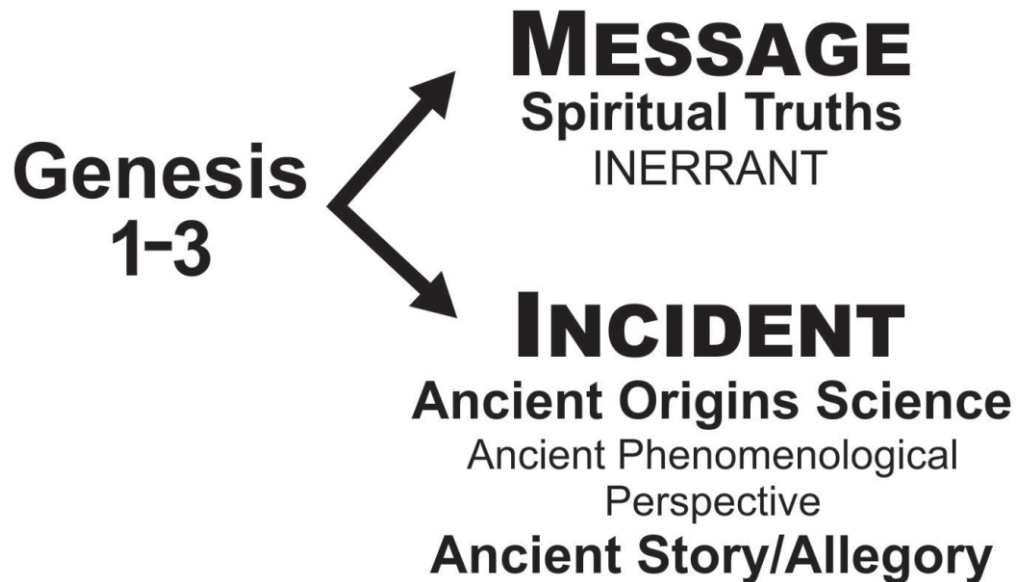
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Dear Sir | Yours faithfully | **Ch. Darwin**

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MESSAGE-INCIDENT PRINCIPLE

1ST NEW APPLICATION FOR GENESIS 1-3



MESSAGE-INCIDENT PRINCIPLE

2ND NEW APPLICATION FOR GENESIS 1-3



GENESIS 1

THE PARALLEL PANELS

In the beginning God created the heavens and the earth. Now the earth was **FORMLESS** and **EMPTY**, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters.

Genesis 1:1-2

1ST PANEL

Formless

Day 1
Separate
Light
Darkness

Day 2
Separate
Waters Above
Waters Below

Day 3
Separate
Water
Land

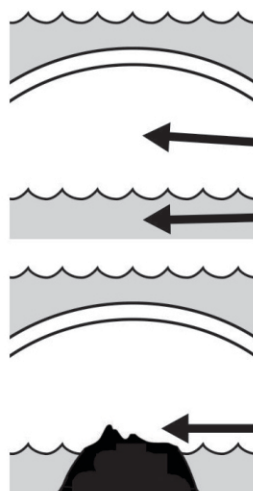
2ND PANEL

Empty

Day 4
Fill with
Sun
Moon & Stars

Day 5
Fill with
Birds
Sea Creatures

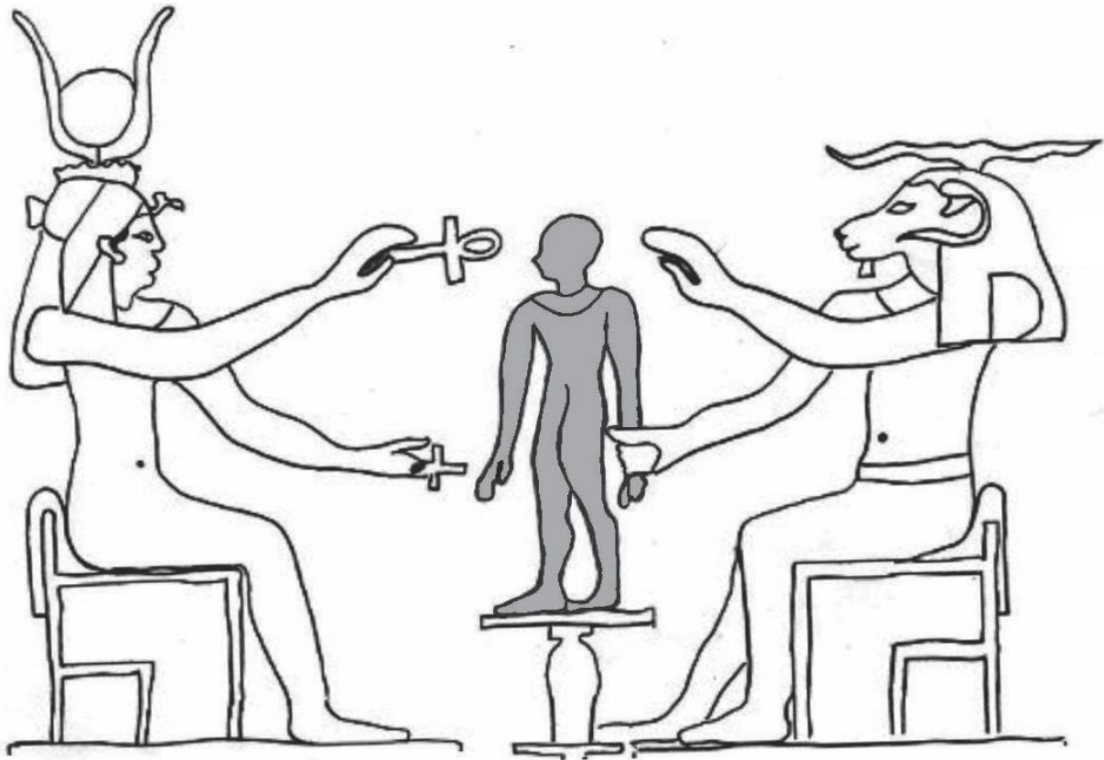
Day 6
Fill with
Land Animals
Humans



Day 7
The Sabbath
God Rests

Egyptian Creation of Humans

Craftsman-Like Mechanism



Isis

Khnum

Biblical Creation of Humans

Craftsman-Like Mechanism

Genesis 2:7

“The Lord God formed [*yatsar*] the man from the **dust of the ground** and breathed into his nostrils the breath of life, and the man [Adam] became a living being.”

Isaiah 64:8

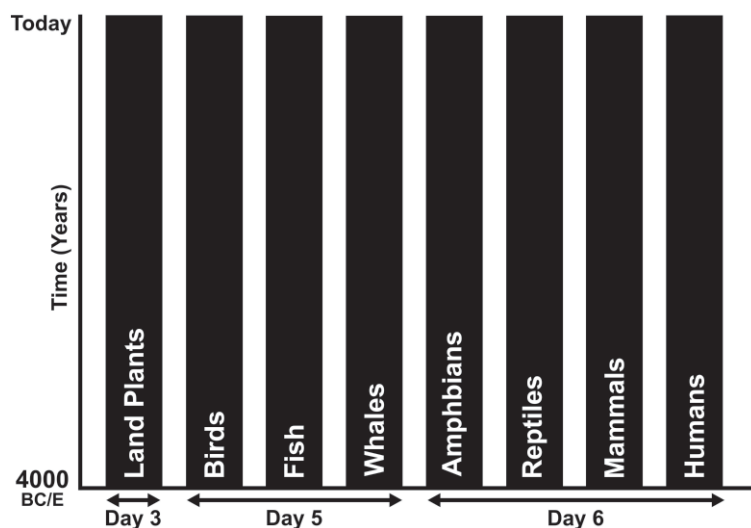
“We [humans] are the clay, you [God] are **the Potter**, we are all the work of your hand.”

CATEGORIES ON THE ORIGIN OF THE UNIVERSE & LIFE

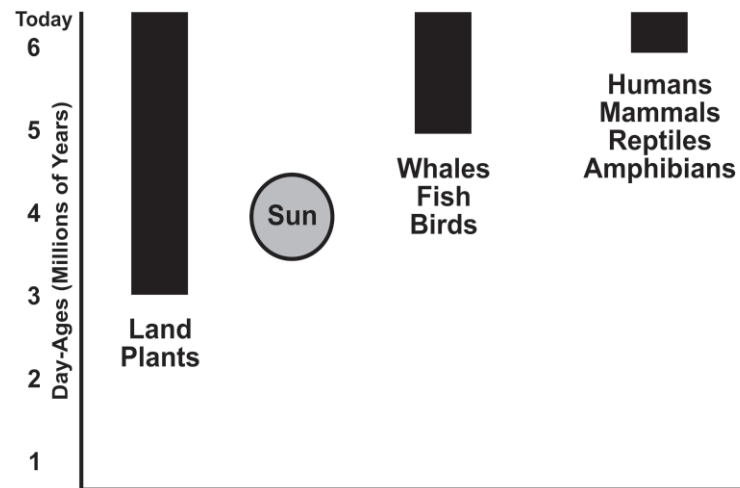
	YOUNG EARTH CREATION	PROGRESSIVE CREATION	EVOLUTIONARY CREATION	DEISTIC EVOLUTION	DYSTELEOLOGICAL EVOLUTION
Teleology	Yes	Yes	Yes	Yes	No Plan & purpose an illusion
Intelligent Design	Yes Points to a Designer	Yes Points to a Designer	Yes Points to a Designer	Yes Points to a Designer	No Design an illusion
Age of the Universe	Young 6000 yrs	Old 14 billion yrs	Old 14 billion yrs	Old 14 billion yrs	Old 14 billion yrs
Evolution of Life	No	No	Yes	Yes	Yes
God's Activity in the Origin of the Universe & Life	Yes Direct God-of-the Gaps interventions over 6 days	Yes 1. Direct for "kinds" of living organisms God-of-the-Gaps interventions over billions of yrs 2. Indirect for inanimate universe <i>Ordained & Sustained natural processes</i>	Yes Indirect Self-Assembly thru <i>Ordained & Sustained natural processes</i>	Yes Indirect Self-Assembly thru ordained natural processes God never enters the world	No No God Self-Assembly thru natural processes driven by blind chance
God's Activity in the Lives of Men & Women	Yes Personal God Dramatic & subtle	Yes Personal God Dramatic & subtle	Yes Personal God Dramatic & subtle	No Impersonal God God never enters the world	No No God
The Bible	Word of God	Word of God	Word of God	No divine revelation God never enters the world	No divine revelation No God
Genesis 1-3 Spiritual Correspondence Scientific Concordism	Yes Yes	Yes Yes	Yes No	No No	No No
Interpretation of Genesis 1-3	Strict literalism Creation days = 24 hr days	General literalism Creation days = millions of yrs	1. Spiritual Truths 2. Ancient science 3. Ancient story/allegory	Irrelevant myth	Irrelevant myth
Human Spirituality Image of God Sinfulness	Yes Yes	Yes Yes	Yes Yes	No No	No No
Human Evolution	No	No	Yes	Yes	Yes
Theology or Philosophy	Conservative Christianity	Conservative Christianity	Conservative Christianity	Deism	Atheism

FOSSIL PATTERN PREDICTIONS OF CHRISTIAN VIEWS OF ORIGINS & THE FOSSIL RECORD

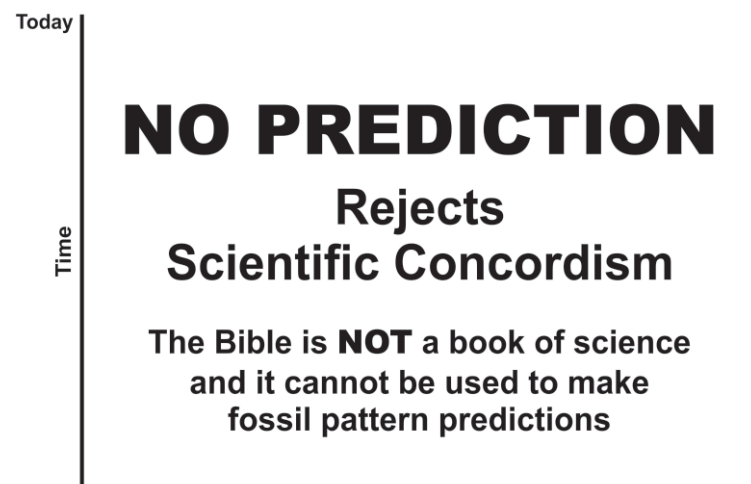
Young Earth Creation



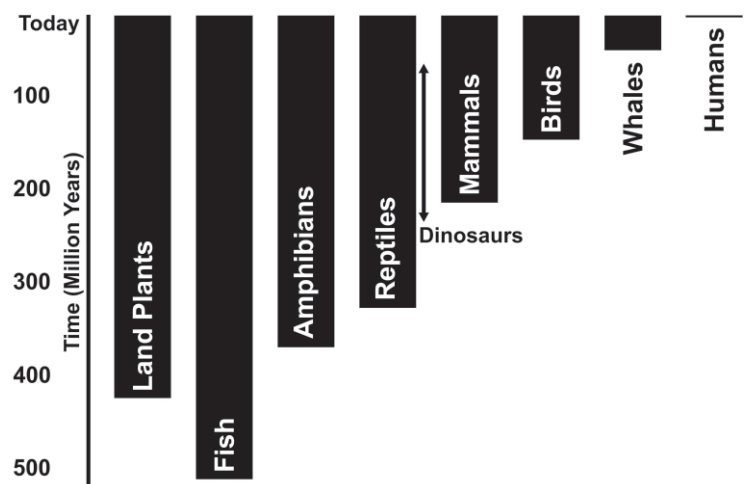
Progressive Creation



Evolutionary Creation



The Fossil Record



THE FAILURE OF CONCORDISM IN THE BIBLE

The Heavens & the Earth

Structures

	Reality
Firmament overhead in heaven & set on foundations	No
Sun, moon & stars placed in firmament	No
Sea of waters above in heaven held up by firmament	No
Beams of divine dwelling set in waters above	No
Flat circular earth with ends, foundations & underworld	No
Flat circumferential sea around earth & bordered by horizon	No

Operations

Earth is immovable	No
Sun moves daily across sky	No
Sun, moon & stars move through firmament	No
Stars occasionally fall to earth	No

Origins

<i>De Novo</i> creation of heavens	No
<i>De Novo</i> creation of firmament	No
<i>De Novo</i> creation of heavenly waters above	No
<i>De Novo</i> creation of sun, moon, stars & placement in firmament	No
Divine dwelling set in waters above	No
<i>De novo</i> creation of earth	No
<i>De novo</i> raising of earth out of waters below (seas)	No
<i>De novo</i> placement of waters below (seas) in one place	No

The Living Organisms

Structures

Mustard seed is the smallest seed	No
Bats are birds	No
Rabbits are ruminants (chew the cud)	No
Male reproductive seed contains a miniature person	No
Female does not have reproductive seed	No

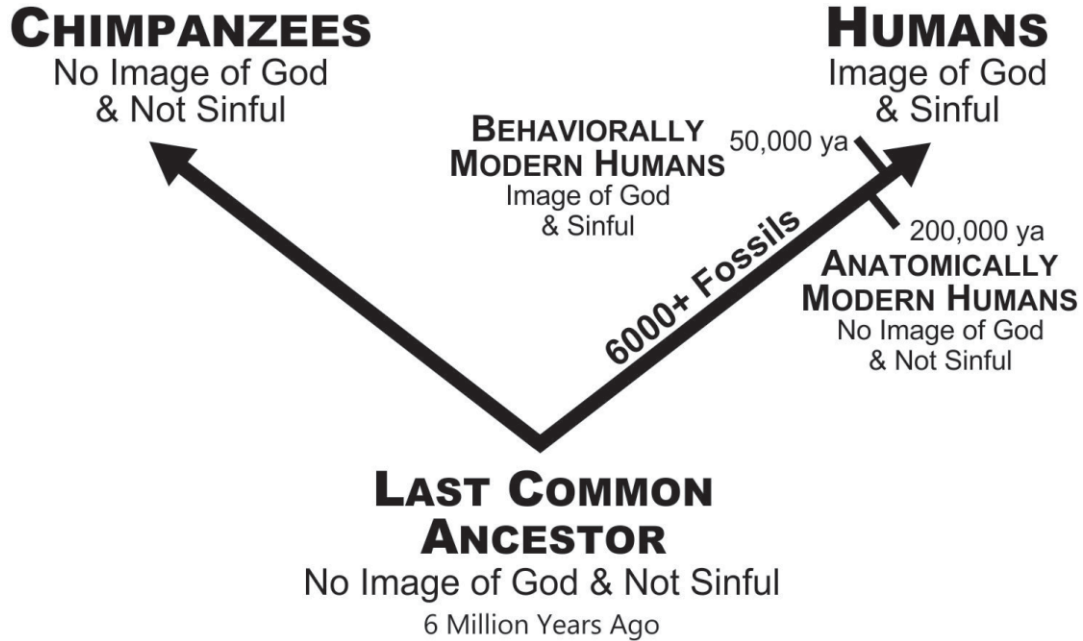
Operations

Seeds die before germination	No
Male seed takes root & develops in womb of female	No
Female alone causes reproductive problems	No
Plants are immutable (unchanging)	No
Animals are immutable (unchanging)	No
Humans are immutable (unchanging)	No

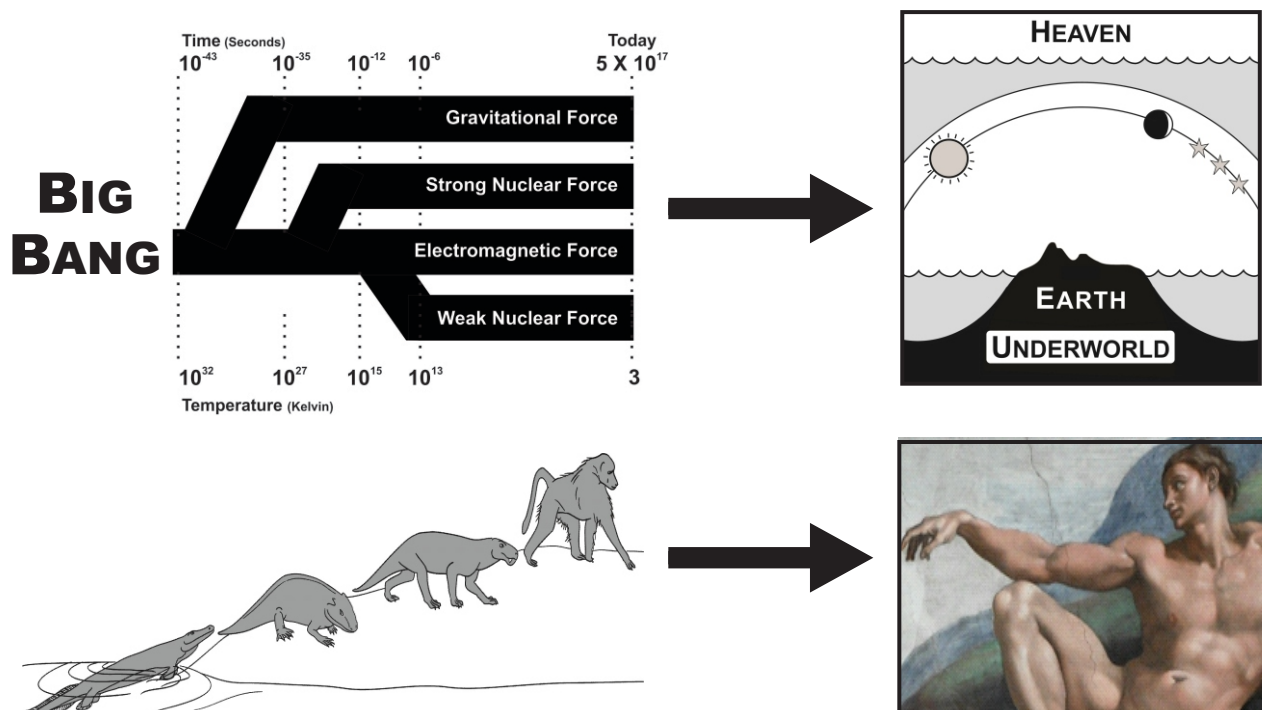
Origins

<i>De novo</i> creation of plants "according to their kind"	No
<i>De novo</i> creation of sea creatures "according to their kind"	No
<i>De novo</i> creation of birds "according to their kind"	No
<i>De novo</i> creation of land animals "according to their kind"	No
<i>De novo</i> creation of humans	No
<i>De novo</i> creation of a 1 st man (Adam) from dust	No
<i>De novo</i> creation of a 1 st woman (Eve) from side of man	No
Origin of suffering & death after creation of humans (Cosmic Fall)	No

MANIFESTATION OF IMAGE OF GOD & SIN DURING HUMAN EVOLUTION



COSMOLOGICAL EVOLUTION & BIOLOGICAL EVOLUTION ANALOGY



HUMAN ORIGINS

METAPHYSICS-PHYSICS PRINCIPLE

METAPHYSICS

God Created Humans

Humans Are Ordained, Sustained
& Intelligently Designed

Humans Have Image of God
& Are Sinful



PHYSICS

Human Evolutionary Sciences

Paleontology, Anthropology,
Archeology & Genetics

HUMAN ORIGINS

MESSAGE-INCIDENT PRINCIPLE



TWO DIVINE BOOKS

COMPLEMENTARY RELATIONSHIP

WITHIN AN

EVOLUTIONARY CREATION

BOOK OF GOD'S WORDS
 Spiritual Truths
 INERRANT

Intuition  **FAITH**  *Reason*

BOOK OF GOD'S WORKS
 Scientific Facts
 Evolutionary Sciences
 Cosmology, Geology & Biology

Hermeneutical Principles

1. LITERALISM

Hermeneutical Commandment #1

Thou shall not believe that the Bible is 100% literal!!!

“God will cover you with **his feathers** & under **his wings** you will find refuge.”
Is God a cosmic chicken?!? Ps 91:4

JESUS: “I say to you that anyone who looks at a woman with lust has already committed adultery with her in his heart. If your right eye causes you to sin, **tear it out and throw it away.**”
Are churches filled with blind men?!? Matt 5:28-29

COMMENTS

- it is impossible to read the Bible literally 100% of the time
Jesus did NOT speak literally 100% of the time

JESUS: “Though I have been speaking **figuratively**, a time is coming when I will no longer use this **kind of language**, but will tell you **plainly** about my Father” ... Then Jesus’ disciples said,
“Now you are speaking **clearly** & without **figures of speech.**”
John 16:25 & 29

Parables of Jesus → parables are stories with a spiritual lesson
stories are NOT accounts of literal & actual events

- literal language in the Bible is NOT more important or holier than the non-literal language because Jesus used both

THE QUESTION:
When do we read a biblical passage literally or non-literally?

CONCLUSION

- everyone is forced to make a hermeneutical decision on whether or not a biblical passage is to be read literally.
- are you aware of your hermeneutical decisions?
- can you justify your hermeneutical decisions?

GENESIS 1-3

Should we read Gen 1-3 literally? Why? Or why not?

2. LITERARY GENRE

DEF: the type of literature

EG poetry, narrative, parable, allegory, history, letters, proverbs, laws, sermons, hymns, prophecies, etc

NB: The Bible is like an ANTHOLOGY
roughly **50 authors** & written over roughly **1500 years**

Lust & Tearing Out Eyes Passage

found in the **Sermon on the Mount** (Matt 5:21-43)
what type of literature is this?
this literary unit has similar passages:

JESUS: “If your right hand causes you to sin, cut it off and throw it away.” Matt 5:30
Are churches filled with handless Christians?!?

JESUS: “Do not resist an evil person. If someone strikes you on the right cheek turn to him the other.” Matt 5:38
Is this verse against protecting ourselves?!?

Features Hyperbole:

uses exaggeration → this technique helps us to remember
do not interpret literally

CONCLUSION

- literary genre DICTATES interpretation
- identification of the literary genre is one of the 1st & most important decisions in hermeneutics
- the challenge for us today is to identify ANCIENT LITERARY GENRES
some genres will seem “unusual” because we do not use them today

GENESIS 1-3

What is the literary genre of Gen 1-3?

EG Garden of Eden Account (Gen 2-3)

two mystical trees: one imparts eternal life
one imparts knowledge of good & evil
a talking snake

Science? Allegory? Fairy Tale?

3. ACCOMMODATION

DEF: God descending to the level of humans in order to reveal himself revealing Spiritual Truths so that humans can understand them

Most Important Hermeneutical Principle in Science & Religion

The Mustard Seed

JESUS: "With what can we compare the *Kingdom of God*, or what parable will we use for it? It is like a mustard seed, which, when sown upon the ground, **is the smallest of all the seeds on the earth**; yet when it is sown it grows up & becomes the greatest of all shrubs."

Mk 4:30-32 (NRSV)

- is the mustard seed "the smallest of all the seeds on the earth"?
NO. Orchids are much smaller (one is the size of bacteria)

- DID JESUS MAKE A MISTAKE? **DID JESUS LIE?**
OR

Was Jesus **accommodating** to his audience?

Was Jesus using the botany-of-the-day? **Ancient Botany?**

THE CONCERN

some Christians complain accommodation "waters down" the Bible

Arguments for Accommodation

- (1) Example of the **Incarnation** Latin *carnis*: flesh

DEF: God descended & became a human in the person of Jesus

☛ **GREATEST ACT OF ACCOMMODATION** → God became a man

"In the beginning was **the Word**, and **the Word** was with God, and the **Word was God**. He was with God in the beginning.

Through him all things were made; without him nothing was made that has been made ... **The Word became FLESH**

and lived for a while among us." ohn 1:1-3, 14

- (2) Jesus' Use of Parables

DEF: earthly story with a heavenly meaning

Jesus used common ideas-of-the-day to teach spiritual truths

- (3) Personal Prayer

when God talks to you does he not accommodate and use:

YOUR language & YOUR categories?

- (4) Principle of Teaching

everyone does it when talking to a 4 yr old

Message-Incident Principle



GENESIS 1-3

Did God **accommodate** when he inspired the ancient writers of the biblical creation accounts in Gen 1-3?

Did God allow them to use their **ancient understanding of origins**?

4. ANCIENT PHENOMENOLOGICAL PERSPECTIVE OF NATURE: THE 3-TIER UNIVERSE

DEF: nature as it **appears** to the naked eye & natural senses
Greek *phainōmenon*: appearance

CATEGORIES OF PHENOMENOLOGICAL PERSPECTIVE

Ancient Phenomenological Perspective

what the ancients saw, they believed was LITERAL & ACTUAL:

EG hard dome overhead & flat earth

☛ **NO telescopes!**

structure of heaven & earth was understood from the perspective of the naked eye & an ancient mindset

Modern Phenomenological Perspective

what we see, we know it is only an APPEARANCE:

so-called "dome" of sky & so-called "flat" earth is a visual effect

ANCIENT
Unaided
Physical Senses
Literal & Actual
Dome of Heaven &
Flat Earth

MODERN
Aided by
Scientific Instruments
Appearance of
"Dome" of Heaven &
"Flat" Earth

PHENOMENOLOGICAL PERSPECTIVES

S11-12

S13

S1

S2 N19

S3

S4

S5 H6

S6

S7

4A. THE EARTH & ANCIENT GEOGRAPHY

1. Earth Is Immovable

"The world is firmly established; it **cannot move**." Ps 93:1

2. Earth Set on Foundations

stated 20 X

"God set the earth on its **foundations**; it can never be moved."

Ps 104:5

3. Earth Surrounded by Circumferential Sea

LOGICAL notion → emerged because of two phenomena:

- visual impact of horizon
- travellers in Ancient Near East eventually came to a sea

Geography of the Ancient Near East

the "end" of the earth was at a shoreline:

W: Mediterranean Sea N: Black & Caspian Seas

E: Persian Gulf S: Arabian & Red Seas



Creation of Circumferential Sea

Job 26:7-14 Creation Account

"God inscribed a **circle** on the surface of the waters." v. 10

Proverbs 8:22-31 Creation Account

"God inscribed a **circle** on the surface of the deep." v. 27

REMEMBER Genesis 1:2 → water covers the earth

God begins creating the world by outlining the outer boundary of the circumferential sea at the horizon

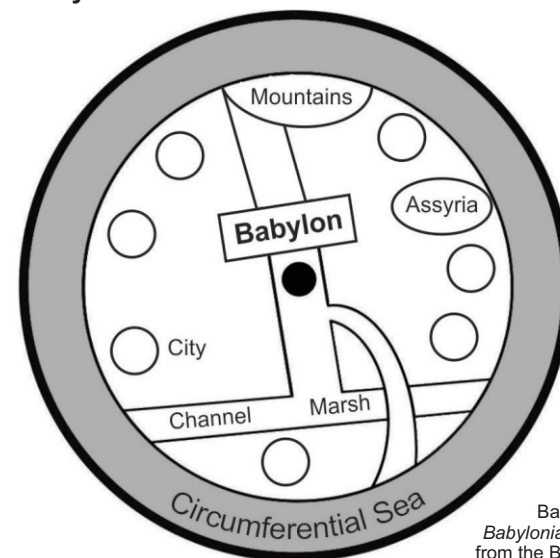
Historical Criticism

DEF: the use of Ancient Near Eastern (eg Egyptian & Mesopotamian) literature to understand the Bible within its historical context

EG circumferential sea was the geography-of-the-day 2500 yrs ago

Babylonian World Map

6th Century BC/E



Based on
Babylonian World Map
from the British Museum
Image Credits p. 42

4. Earth Is Circular

"God sits enthroned above the **circle of the earth**." Is 40: 22

Christians often claim that this verse refers to the spherical outline of the earth from the perspective of outer space

it is used as PROOF that the Bible has modern science

Proof-Text "Hermeneutics"

DEF: **tearing** ONE verse out of its context & **manipulating** it to mean something never intended by the author.

EG sound-bite political reporting on TV

BUT READ THE ENTIRE VERSE!!!

"God sits enthroned above the circle of the earth, and its people are like grasshoppers. He stretches out the heavens like a canopy, and spreads them out like a tent to live in."

Isa 40:22

a tent with a domed canopy & flat floor

☛ 3-tier universe

5. Earth Has Ends

S12

stated 50 X in Scripture
“the ends of the earth”

JESUS: “The **Queen of the South [Sheba]** will rise at the judgment with this generation and condemn it; for she came from the **ends of the earth** to listen to Solomon’s wisdom.” Matt 12:42
Sheba is in the SW corner of the Arabian Peninsula S14

6. Earth Has an Underworld

S15

OLD TESTAMENT: called *she’ōl* 65 X

God: “Though they **dig down** to the depths of **she’ōl**, from there my hand will take them. Though they climb up to the heavens, from there I will bring them down.” Amos 9:2 S15

NEW TESTAMENT: called *hadēs* 20 X S17

JESUS: “And you Capernaum, will you be lifted up to heaven? No, you will go **down** to **hadēs**.” Lk 10:15 S18

also called *katachthonios* S19

“At the name of Jesus every knee should bow, [1] in heaven and [2] on earth and [3] in the *katachthoniōn* Phil 2:10

katachthoniōn = underworld

kata = down *chthonios*= underworld

7. Earth Is Flat

S20

- **NO** passage in Scripture directly states: “The earth is flat.” earth does look “flat” from an elevated position

- Flat earth clearly IMPLIED in Scripture: S21
“The devil took Jesus to a **very high mountain** and showed him **ALL the kingdoms of the world.**”

Matt 4:8

Can one see the Chinese or Indigenous people in America from a mountain in the Middle East? **NO**

☞ only makes sense if the world is flat

Earth-Dearth [Lack of] Argument

S22

IF Scientific Concordism were true,

IF God intended to reveal scientific facts ahead of time,

THEN it is reasonable to expect God to reveal the shape of the earth
EG, comparing the earth to an orange, ball, etc.

BUT

S23

Greek *gē* earth, land

250 X in New Testament

NEVER referred to as a sphere or ball

Hebrew *’eres* earth, land

S24

2500 X in Old Testament

NEVER referred to as a sphere or ball

4B. THE HEAVENS & ANCIENT ASTRONOMY

S1

1. Sun Moves across the Sky Daily

S2

“The sun **rises** & the sun sets, and **hurries** back to where it **rises**.”

Eccl 1:5

“The sun **rises** at one end of the heavens and makes its **circuit** to the other.” Ps 19:6 S3

2. The Firmament

S4-5

DEF: solid dome of heaven above the earth

2nd Day of Creation

S6

“God said, “Let there be a **firmament** between the waters to separate the water from the water.” So God made a **firmament** and separated the water under the **firmament** from the water above the **firmament**. And it was so. God called the **firmament** ‘heavens.’ And there was evening, and there was morning—The Second Day.” Gen 1:6-8

☞ word “firmament” appears 5X

Psalm 19

S7

“The heavens declare the glory of God and the **firmament** proclaims the work of his hands.” Ps 19:1

Ancient Languages

ancient science is deeply embedded in some ancient words

Greek *stereōma*
firmament, solid dome of heaven
stereos
hard, firm

Hebrew *rāqīa'*
firmament, solid dome of heaven
rāqa'
to flatten, hammer, stamp down

Context of pounding metals:
"They hammered out [*rāqa*] thin sheets of gold."
Ex 39:3

Context of creating the heavens:
"Can you join God in spreading out [*rāqa*] the skies,
hard as a mirror of **cast bronze**?" Job 37:18

Historical Criticism

the firmament was the astronomy-of-the-day 3000 yrs ago
in both Egypt & Mesopotamia

3. The Heavenly Sea: The "Waters Above"

a logical notion since the sky is blue & rain falls from above

2nd Day of Creation

"God said, "Let there be a firmament between the waters to
separate the water from the water." So God made a firmament
and separated the **water under** the firmament from the
water above it. And it was so ... The Second Day. Gen 1:6-8

leads to the expressions "waters above" & "waters below"

"Praise him [God], sun & moon, praise him, all you shining stars.
Praise him, you highest heavens and you **waters above the skies**."
Ps 148:3-4

"God stretches out the heavens like a tent and lays **the beams**
of his upper chambers **on their waters**."
Ps 104:2-3
God's dwelling set in the heavenly waters above

Historical Criticism

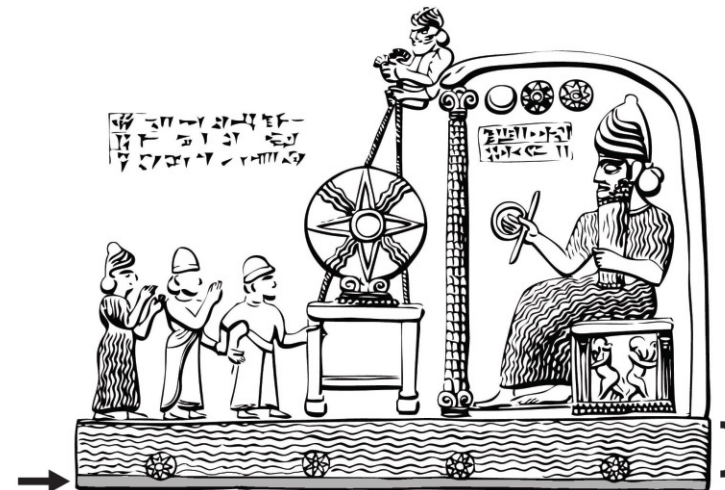
the heavenly sea was the astronomy-of-the-day roughly 3000 yrs
ago in both Egypt & Mesopotamia

Egyptian Universe 1570-1085 BC/E



The firmament (shaded) and stars are the sky goddess Nut. The sun god Re (falcon head) travels in a boat across the heavenly sea and is received by the afterlife god Osiris at the entrance of the underworld (lower right corner). The sun passes through the underworld to rise again in the east. Earth god Geb is reclined; air god Shu is above Geb.

Mesopotamian Heavens 885-850 BC/E



The firmament (shaded; arrow) supports the heavenly sea (bracket) and stars. The sun god Shamash is seated.

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4. Ends & Foundations of the Heavens

S24

- “ends of the heavens” logical since end of firmament is at the horizon
JESUS: “God will gather his elect from the four winds, from the ends of the earth to the **ends of the heavens**.” Mk 13:27

- “foundations of the heavens” logical notion because something was needed to support the firmament (like the foundations of the earth)
 “The **foundations of the heavens** shook & trembled.” 2 Sam 22:8

5. Sun, Moon & Stars Placed in the Firmament

S27

4th Day of Creation

S28

“God said, ‘Let there be lights **in the firmament** of the heaven to separate the day from the night, and let them serve as signs to mark the seasons and days and years, let them be lights **in the firmament** of the heaven 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 firmament** ... The Fourth Day.” Gen 1:14-19

logical idea since sun, moon, and stars appear to be embedded in the firmament in front of the heavenly sea S29

- stars were believed to be small and can fall to the earth S31-26
 logical notion due to the phenomenon of meteors
 same size & luminosity as stars & look like they fall from firmament

JESUS: “The **stars** will **fall** from heaven, and the heavenly bodies will be **shaken**.” Matt 24:29

6. Upper Heavens

S33-34

GOD’S DWELLING PLACE

a real **PHYSICAL** location just overhead

A prayer to God:

“**Look down** from heaven, **your holy dwelling place**, and bless your people Israel.” Deut 26:15

7. Lower Heavens

S35

FIRMAMENT

2nd Day of Creation: “God called the firmament ‘**heavens**.’” Gen 1:7

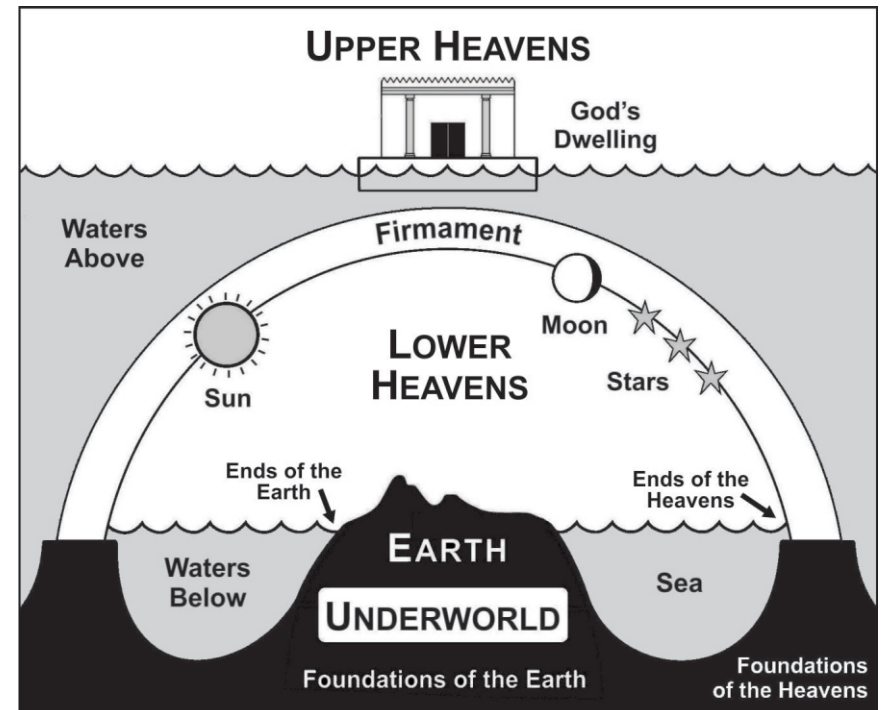
AIR SPACE

“God formed ... all the **birds of the heavens**.” Gen 2:19 S36-37

“The Son of Man coming in the **clouds of the heavens**.” Dan 7:13

The 3-Tier Universe

S38



CONCLUSION

S39

- The Bible features a 3-Tier Universe
 BEST science-of-the-day in the Ancient Near East (ANE)
- The Bible has an **Ancient Phenomenological Perspective** of the **structure** and **operation** of the universe
- God accommodated in the Bible and allowed the ancient writers to use **ancient astronomy** and **ancient geography** S40

QUESTION

S41

Does the Bible also feature an **ancient biology**?

GENESIS 1-3

QUESTION

S42

Do the creation accounts in Gen 1-3 feature an **ancient understanding** of the origin of the universe & life?

5. ATTRIBUTION OF DIVINE ACTION IN ORIGINS: DE NOVO CREATION OF THE 3-TIER UNIVERSE

De Novo Creation Latin *de*: from *novus*: new
DEF: creation that is 'brand new' from the start
found in most ancient creation accounts (eg, in the ANE)
Features:
QUICK: within days
NOT over 100s of millions of years
COMPLETE: into fully mature forms
NOT through an evolutionary process
☛ KEY concept to understand anti-evolutionism

Attribution of Divine Action in Origins

DEF: God's creative action is filtered/accommodated through an ANE understanding of origins:

DE NOVO CREATION → Quick & Complete

QUESTION 1:

Does the Bible reveal the ACTUAL structure of the universe?

ANSWER 1: **NO**

The Bible features a 3-tier universe

QUESTION 2:

Does Gen 1 reveal how God ACTUALLY created the universe?

ANSWER 2: **NO**

2nd Day of Creation:

God creates the firmament & waters above **DE NOVO**

3rd Day of Creation:

God puts the seas in one place & raises dry land **DE NOVO**

4th Day of Creation:

God sets the sun, moon & stars in the firmament **DE NOVO**

QUESTION 3:

Did God LIE in the Bible?

ANSWER 3: **NO!!!**

God ACCOMMODATED

God allowed the use of ancient astronomy & ancient geography as a vessel to deliver inerrant Spiritual Truths

GENESIS 1-3

IF the Bible has an ancient astronomy & an ancient geography,

THEN it is reasonable that the Bible also has an **ancient biology**

IF we do not go to Gen 1 to find out how the heavens & the earth were created,

THEN we should not go to Gen 1 to find out how **living organisms** were created.

☛ how **HUMANS** were created

THEREFORE if we want to understand how God created the world:

**Open the Book of God's Works
and Do the Science!**

6. ANCIENT PHENOMENOLOGICAL PERSPECTIVE OF NATURE: LIVING ORGANISMS & ANCIENT BIOLOGY

DEF: living organisms as they **appear** to the naked eye & natural senses
an ancient understanding of plants & animals

☛ **Ancient Biology**

1. Ancient Botany

Mustard Seed Is the Smallest of All Seeds

JESUS: "With what can we compare the *Kingdom of God*, or what parable will we use for it? It is like a mustard seed, which, when sown upon the ground, **is the smallest of all the seeds on the earth.**" Mk 4:30-31 (NRSV)

mustard seeds are not the smallest seeds on earth

BUT

from an Ancient Phenomenological Perspective
they appear to be the smallest

Seeds Die before Germination

JESUS: "The hour has come for the Son of Man [ie Jesus] to be glorified. I tell you the truth, unless a **kernel of wheat** falls to the ground and **dies**, it remains only a single seed. But if it **dies**, it produces many seeds." John 12:23-24

Do seeds die before they germinate?

NO. If they died, they would not germinate
seeds are alive & function metabolically at
a very low rate

BUT

from an Ancient Phenomenological Perspective,
the outer casing of the seed breaks down & rots
giving the impression that the seed has died

2. Ancient Reproductive Biology

Only Men Have "Seed" & Women Do Not

- ancient people did not have modern scientific instruments & did not know that men provide sperm & women provide eggs
- they assumed that the male provided a "seed" with an entire miniature person inside it
known as "**Preformatism**" or "**1-Seed Theory**"
a scientific theory up to 1700:

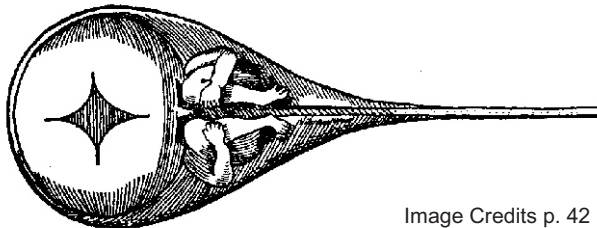


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- in order to understand human reproduction, ancient people used the concepts & terminology of agriculture (farming)
males provided "seed" similar to a plant
females provided a "fertile field" for the seed to grow
- Hebrew noun *zera'* (1) seed farmers plant in fields
(2) seed males provide during sex
"flow of seed [*zera'*]" = ejaculation of semen
Lev 15:32
- Hebrew verb *zāra'* (1) to sow seed in fields
(2) to be made pregnant
"a woman shall be seeded [*zāra'*] with seed [*zera'*]"
Num 5:28

S5

Do only men have & provide "seed" during sex & women do not? S11

NO. Men provide sperm & women eggs

BUT

from an Ancient Phenomenological Perspective,
men ejaculate & women do not, giving the impression
that only men have & provide "seed" during sex

Only Women Are the Cause of Reproductive Problems & Never Men

S12

- ancient people thinking about human reproduction through their agricultural concepts & terminology, thought that women were like fields in farming
- they assumed that when there was a reproductive problem that the woman was the cause & that she was like a **barren field** that did not produce crops

S6

- The Bible states that only women are barren: S13

"Now Sarai was **barren**; she had no child." Gen 11:30

"But they had no children, because Elizabeth was **barren**." Lk 1:7

S7

- Hebrew adjective *'āqār* (1) barren field
(2) barren woman S14

- Hebrew verb *'āqar* means "to uproot"
"a time to plant and a time to **uproot** [*'āqar*]" Eccl 3:2 S15

QUESTION: Why was a barren woman seen as "uprooted"?

S16

- ancient people would have experienced **miscarriages**
they would have seen small partially developed fetuses

from an Ancient Phenomenological Perspective:
it looked like a "seedling" **UPROOTED** from the womb

- Greek adjective *steiros* (1) barren field
(2) barren woman S17
root is *stereos* & means "hard"

QUESTION: Why was a barren woman seen as "hard"?

S18

- ancient people would have experienced that seed thrown
on hard ground did not germinate & take root

from an Ancient Phenomenological Perspective,
the man was ejaculating "seed," but it was not
germinating & taking root in the woman's **hard** "field"
(her womb)

S10

Are women the only cause of reproductive problems? S19

NO. Modern science reveals problems with:
35% male, 35% female, 20% both, 10% unknown

BUT

from an Ancient Phenomenological Perspective,
to think women were the cause made perfect sense,
because a **barren** woman had either a seedling
uprooted from the womb or a womb that was **hard**
and did not allow the seed to germinate & grow

3. Ancient Taxonomy (Classification of Living Organisms) S20

Bats Are Birds

"These are the **birds** you are not to eat ... the eagle, the vulture,
[17 other birds listed] ... and the **bat**." Lev 11:13-19

bats are not birds, they are mammals

BUT

from an Ancient Phenomenological Perspective,
it is reasonable to think they were birds because bats fly

Rabbits Are Ruminants

"The rabbit, though it chews the cud, does not have a divided hoof;
it is unclean for you." Lev 11:6

rabbits are not ruminants like cows that chew the cud

BUT

from an Ancient Phenomenological Perspective,
the repetitive side-to-side jaw actions of rabbits gave
the impression that they chew the cud like cows

Living Organisms Are Immutable (Unchangeable) S22

- ancient people assumed that plants & animals never changed
into different plants & animals

BUT

from an Ancient Phenomenological Perspective,
this made perfect sense

EG

they saw a goat births → a goat which births → a goat

- immutability of living organisms appears in Gen 1 S23
plants & animals are created & reproduce:

"According to Their Kind"

this phrase appears 10X in Gen 1

3rd Day of Creation: Land Plants S24

"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.'" Gen 1:12

5th Day of Creation: Sea Creatures & Birds S25

"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**." Gen 1:21

6th Day of Creation: Land Animals S26

"God said, 'Let the land produce living creatures **according to**
their kinds: the livestock, the creatures that move along the
ground, and the wild animals, each **according to its kind**.'" Gen 1:24

GENESIS 1-3 S27

QUESTIONS:

IF the Bible views living organisms from an Ancient Phenomenological
Perspective,

THEN does the Bible also view the ORIGIN of plants & animals
from an Ancient Phenomenological Perspective?

IF Gen 1 views living organisms as IMMUTABLE (unchangeable), S28

THEN what does this mean for the creation of plants & animals?

7. ATTRIBUTION OF DIVINE ACTION IN ORIGINS: S1

THE *DE NOVO* CREATION OF LIVING ORGANISMS

When thinking about origins, we need to think like an ancient person S2

OBSERVATION S3

in his/her life time an ancient person saw:

a goat births → a goat which births → a goat

the parents of that ancient person saw:

a goat births → a goat which births → a goat

the grandparents of that ancient person saw:

a goat births → a goat which births → a goat

NB the "goat births a goat" series is a data set, like any today

CONCLUSION 1

from their ancient phenomenological perspective, this ancient person, his/her parents, and his/her grandparents came to the very reasonable conclusion that goats are **immutable & never change**

THE QUESTION

ancient people, like us today, naturally asked the question:
Where do goats come from?

THE ANSWER

ancient people would reasonably have thought:

... ← an even earlier goat ← an earlier goat ← a goat today

CONCLUSION 2

ancient people assumed living organisms were immutable (unchangeable) and they reasonably concluded that God had created a first goat or a first group of goats

Creation of 1st goat/s ← ... ← an even earlier goat ← an earlier goat ← a goat today

RETROJECTION Latin *retro*: backward; *jacere* to cast, throw

DEF: to cast back in time

EG crime scene investigation (CSI)

police take evidence **present** at the scene, and cast it back in time to reconstruct the **past**

to understand the origin of goats, the ancient person **RETROJECTS** the “goat births a goat” data sets back in time to the creation of goats

CONCLUSION 3

from their ancient phenomenological perspective, ancient people reasonably concluded the 1st goat/s were created **DE NOVO** (QUICK & COMPLETE)

☛ ancient people did not: have the fossil record
know about evolution

THE KEY: Connect Immutability & De Novo Creation

- Attribution of Divine Action in the Origin of Living Organisms connects:
 - (1) **Ancient Taxonomy** that plants & animals are immutable
 - (2) **Retrojection** of the observation that living organisms give birth only to their kind, back in time, to the *De Novo* creation of plants & animals

- God's creative action is filtered/accommodated through an ANE understanding of origins: S11

DE NOVO CREATION → Quick & Complete Creation of Plants & Animals S12

- God ACCOMMODATED in the biblical creation accounts (Gen 1 & Gen 2)

God allowed the use of **Ancient Biology**

☛ an incidental vessel to deliver the inerrant Spiritual Truth:

God is the Creator of plants & animals

GENESIS 1-3

QUESTIONS:

Young Earth Creation & Progressive Creation reject biological evolution S14

because Gen 1 & Gen 2 state God created plants & animals **DE NOVO**

BUT

Is anti-evolutionism (YEC & PC) ultimately based on:

Ancient Biology

Ancient Taxonomy?

Humans are created **DE NOVO** in Gen 1 & Gen 2 S15

BUT

DE NOVO creation is an ancient understanding of origins.

Does this mean that the Bible **does not** reveal how God actually created men & women?

8. HISTORICAL CRITICISM

DEF: the use of Ancient Near Eastern literature (Egyptian & Mesopotamian) S2

in order to understand the Bible within its historical context

Ancient Reproductive Biology

Aeschylus (5th Century BC/E) S3

“The mother of what is called her child is no parent of it, but the nurse only of the young life that is **sown** in her. The parent is the male, and she but a stranger, a friend, who, if fate spares his **plant**, preserves it till it puts forth.” *Eumenides* (v. 658-661)

COMMENTS

- agricultural language → 1-seed theory (preformationism)
- similar language in the Bible with human reproduction:
“Mary ... blessed is the **fruit of your womb** [Jesus]”

Lk 1:42

Ancient Mesopotamian Creation Account

called “*Creation of the World by Marduk*” & dated 3000-2000 BC/E

All the lands were sea . . .

Marduk [main Creator] constructed a raft on the waters;

he created dirt and piled it on the raft.

In order to settle the gods in the dwelling pleasing to them,

he created mankind.

Aruru [goddess of child birth] created the **seed of mankind with him**.

He [Marduk] created the wild animals and all the animals of the steppe.

He created the **Tigris** & the **Euphrates** and set them in place, (cf Gen 2:14)

giving them a favorable name.

He created the grass, the rush of the marsh, the reed, and the woods;

he created the green herb of the field,

the lands, marshes, and canebrakes,

the cow and her young, the calf, the ewe and her lamb,

the sheep of the fold; the orchards and forests. RJ Clifford, *Creation Accounts in the ANE & in the Bible*, 63

COMMENTS

- Marduk created the earth & living organisms **DE NOVO**
- Marduk created a Flat Earth → placed it on a raft
earth surrounded by water
- Goddess Aruru created the “Seed of Mankind” in man
1-seed theory (preformatism)
- humans are created to serve the gods → slaves of the gods

G.E. Ladd’s Aphorism

“*The Bible is the Word of God given in the words of men in history*”

Message-Incident Principle

Message = “Word of God”

Incident = “words of men in history”

New Testament & Criticism
(Eerdmans, 1967) 12

GENESIS 1-3

QUESTION:

After you read the “*Creation of the World by Marduk*,” did you think that the accounts in Gen 1 & Gen 2 are:

The Word of God given in the words of men in history?

☛ inerrant Messages & an incidental ancient science of origins?

DE NOVO creation of the universe, plants & animals?

9. SCOPE OF COGNITIVE COMPETENCE

Telescopes & Microscopes Hermeneutical Principle

DEF: intellectual tools thru which everyone sees & understands the world

a feature of **BOTH**: (1) Biblical Writers &
(2) Modern Readers of the Bible

Scope

visual metaphor → “field” of vision

implies limits & boundaries

Cognitive Latin *cognitō*: to learn & acquire knowledge

Cognition

DEF: mental processes in perceiving, reasoning & knowing
cognition is impacted by:

intelligence & knowledge

culture, education & point in history

☛ Scientific Instruments

Competence

being capable or having ability to perform correctly

Biblical Writers → **NARROW SCC**

limited field of vision: the naked eye

no telescopes & no microscopes

NB: no disrespect to ancient people

if we lived at that time, we would have the same views

Modern Readers → **WIDE SCC**

we see deeper into space & inside cells

we enjoy telescopes & microscopes

GENESIS 1-3

AGE OF THE UNIVERSE

YOUNG → **NARROW SCC**

NO instruments for radiometric dating

Based on the length of time in a few short genealogies

1st communities **ORAL**

reflects limits of memory before invention of writing (3000 BC/E)

CREATION OF LIVING ORGANISMS

DE NOVO → **NARROW SCC**

NO fossil record & **NO** instruments for genetic mapping

Based on the retrojection of the immutability of plants & animals

Excursus: The “Hermeneutical Brakes”

Were the biblical writers COMPETENT to know:

structure of the universe? **X**

size of mustard seeds compared to all other seeds? **X**

cause of human reproductive problems? **X**

OR were the biblical writers COMPETENT to know:

Jesus had changed water to wine (John 2:9)? **✓**

Jesus had healed a man who was born blind (John 9:6-7)? **✓**

Jesus had risen to life after he had died on the Cross (Lk 24:36-53)? **✓**

QUESTION:

Which group of questions are FOUNDATIONAL to Christianity?

10. SUFFICIENCY OF THE BIBLE & PROFICIENCY OF ITS READERS

DEF: despite challenges of hermeneutics, the Message of Faith is revealed to those seeking to meet God

- Sufficiency → the Bible is sufficient in revealing God
- Proficiency → readers are proficient in grasping main Messages

NB: there is a spiritual aspect to hermeneutics:

“those seeking to meet God” & wanting a personal relationship with him

☛ not just intellectual

it is a mystical & spiritual encounter

hearing the “**Voice of God**” in Scripture

Lesson from Church History

The MESSAGE has always got through to the Church

eg, Jesus died on the Cross & rose from the dead

The INCIDENTAL elements have led to a wide variety of views

eg, origin of the world in Gen 1 → YEC, PC, EC etc

GENESIS 1-3

Is Gen 1-3 sufficient & are readers proficient? **YES! & YES!**

Christians through history have always grasped 5 main MESSAGES:

1. God created the universe & life
2. The universe & life are very good
3. Humans are created in the Image of God
4. Humans are sinful
5. God judges humans for their sins

11. THE BACONIAN HERMENEUTIC

DEF: the use of science in biblical interpretation

everyone already does this whether or not they are aware of it

EG no one reads passages of the sun “moving” as being literal

WHY? we all accept modern astronomy

“Our Saviour [Jesus] says, ‘*You err, not knowing the scriptures, nor the power of God*’ [Matt 22:29], laying before us **two books or volumes** to study, if we will be secured from error; [1] first the **Scriptures**, revealing the will of God, and then [2] the **creatures** expressing his power; whereof **the latter is a KEY unto the former**: not only opening our understanding to conceive the **true sense of the Scriptures** ... but chiefly opening our belief, in drawing us into a due meditation of the omnipotency of God, which is chiefly **signed and engraven** upon his works.”

Sir Francis Bacon *Advancement of Learning* (1605) 1.6.16

COMMENTS

- **Creatures** (creation) HELP to find the “true sense” of the **Scriptures**

modern science is a **KEY**:

- (1) in identifying the ancient science in the Bible
- (2) in separating the Message from the ancient science helps avoid the CONFLATION of the two together

- Two Types of Divine Revelation → **Two Divine Books**

SPECIAL REVELATION: The Bible

Scriptures reveal “the will of God”

GENERAL REVELATION: Natural Revelation & Intelligent Design

Creatures reveal “the omnipotency of God signed and

engraven upon his works”

GENESIS 1-3

- will the **evolutionary sciences** assist Christians in finding the “true sense” of the biblical creation accounts in Gen 1-3?

- are Jesus’ words in Matt 22:29 applicable today to:

Scientific Concordists

“You are in error because you do not know the Scriptures.”

☛ the Bible has an ancient science & concordism **FAILS**

Anti-Evolutionists

“You are in error because you do not know the power of God.”

☛ God has the **overwhelming power** to create the universe & life thru evolution & allow the world to **SELF-ASSEMBLE**

IMAGE CREDITS

Note: most of the diagrams were made by Denis O. Lamoureux

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