Supplemental Notes:

Genesis and the Big Bang

In the Beginning

Recent discoveries in the fields of astronomy, astrophysics, particle physics, and molecular biology have cast a new light on the traditional accounts in Genesis 1. Furthermore, the most advanced views of the origin of the universe prove to be surprisingly consistent with the insight of the Hebrew scholars of eight centuries ago.

Let There Be Light

Among the most elusive areas of modern science has been the nature of light—the subject of the first direct quote by God in the Bible. Recent and highly controversial findings suggest that the velocity of light may have been decreasing through time. These conjectures could totally alter our concepts of space, time and the origins of our universe.

© 1991 Koinonia House Inc.
Genesis Anticipates all False Philosophies

Atheism Created by God;
Pantheism God is transcendent and distinguishable;
Polytheism One God;
Materialism Matter had a beginning;
Humanism God, not man, ultimate reality;
Evolutionism God Created;
Uniformism God Intervenes.

All Major Doctrines

Sovereign Election, Salvation, Justification by Faith, Believer’s Security, Separation, Disciplinary Chastisement, Rapture of the Church, Divine Incarnation, Death and Resurrection, Priesthoods (Aaron & Melchizedek), Antichrist, Palestinian Covenant, etc.

“Types” (Models)

Adam (1st & Last) Rom 5, 1 Cor 15, Eve, Bride, Abraham and Isaac, Heb 11:17-19, Joseph (>100 ways).

Beginnings

Creation, man, woman, Sabbath, marriage, home, childhood, sin, murder, sacrifice, grace, trade, agriculture, city life, races, languages, chosen people, etc.

Authentication of Moses’ Authorship

Mt 8:4; 19:7, 8; 23:2; Mk 1:44; 10:3, 4; 7:10; Lk 5:14; 16:19, 31; 20:37, 24:27, 44; Jn 3:14; 5:39; 45, 46; 6:32; 7:19, 22, 23.

Christ Centered: Jn 5:39; Ps 40:7; Mt 5:17, 18. (See also, Footprints of the Messiah.)

OT Quotes:
Adam Deut, Job, 1 Chr
Noah 1 Chr, Isa, Ezek
Abraham 15x in OT, 11x in NT
Jacob 20x in OT, 17x NT

NT Quotes:
165 Direct, >200 allusions; >100 in the first 11 Chapters alone!

Genesis vs. Revelation

<table>
<thead>
<tr>
<th>Genesis</th>
<th>Revelation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning</td>
<td>Creation</td>
</tr>
<tr>
<td>Redemption</td>
<td>Completion</td>
</tr>
</tbody>
</table>

Earth Created 1:1
Earth Passed Away 21:1
Sun, Moon, Stars 1:14-16 4:12, 8:12
Earth’s Government 37
Earth’s Judgment 16:8
Sun to Govern the Day 1:16
No Need of Sun 21:23
Darkness Called Night 1:5
No Night There 22:5
Waters He called Seas 1:10
No More Sea 21:1
A River for earth’s blessing 2:10-14
A River for New Earth 22:1, 2
Man in God’s Image 1:26
Man Healed by Satan’s Image 13
Entrance of Sin 3
End of Sin 21, 22
Curse Pronounced 3:14-17
No More Curse 22:3
Death Entered 3:19
No More Death 21:4
Cherubim first mentioned 3:24
Cherubim final mention 19:4
Man Driven out of Eden 3:24
Man Restored 22
Tree of Life Guarded 3:24
Access to Tree of Life 22:14
Sorrow & Suffering Enter 3:17
No More Sorrow 22:4
Religion, art, and science 4
Separated from God 4
Judged, Destroyed 18
Nimrod Founds Babylon 10:8-10
Babylon Falls 17, 18
God’s Flood to
Destroy evil generation 6-9
Satan’s flood to
Destroy elect generation 12
A Bow: God’s Promise 9:13
A bow for remembrance 4:3, 10:1
Sodom & Egypt:
Corruption, Judgment 13, 19
“Sodom & Egypt” (Jerusalem) 11:8
A confederation vs.
Abraham’s People 14
Abraham’s Seed 12
A Bride for Abraham’s Son 24
A bride for Abraham’s Seed 19
Marriage of 1st Adam 2:18-23
Marriage of last Adam 19
Promised Seed:
Possess gate of enemies 29:8
Promised Seed possessing 19
Man’s dominion ceased and
Satan’s began 3:24
Satan’s domain ended and
Man’s restored 22

**Genesis** | **Revelation**
---|---
Cherubim first mentioned | 3:24 | 19:4
Man Driven out of Eden | 3:24 | 22
Tree of Life Guarded | 3:24 | 22:14
Sorrow & Suffering Enter | 3:17 | 22:4
Religion, art, and science | 4 | 18
Nimrod Founds Babylon | 10:8-10 | 17, 18
God’s Flood to Destroy evil generation | 6-9 | 12
Satan’s Flood to Destroy elect generation | 12
A Bow: God’s Promise | 9:13 | 4:3, 10:1
Sodom & Egypt: Corruption, Judgment | 13, 19 | 11:8
A confederation vs. Abraham’s People | 14 | 12
A Bride for Abraham’s Son | 24 | 19
Marriage of 1st Adam | 2:18-23 | 19
Promised Seed: Possess gate of enemies | 29:8 | 19
Man’s dominion ceased and Satan’s began | 3:24 | 12
Satan’s domain ended and Man’s restored | 22

The Bible consists of 66 books, penned by 40 authors over a span of a thousand years—yet it evidences an integrated design: every number, every place name, every detail, is there by design, Mt 5:17-18. Note the “gospel” in Genesis 5:

<table>
<thead>
<tr>
<th>Name</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam</td>
<td>Man</td>
</tr>
<tr>
<td>Seth</td>
<td>(is) Appointed</td>
</tr>
<tr>
<td>Enoch</td>
<td>Mortal</td>
</tr>
<tr>
<td>Kenan</td>
<td>Sorrow;</td>
</tr>
<tr>
<td>Mahalalel</td>
<td>The Blessed God</td>
</tr>
<tr>
<td>Jared</td>
<td>Shall come down</td>
</tr>
<tr>
<td>Enoch</td>
<td>Teaching</td>
</tr>
<tr>
<td>Methuselah</td>
<td>His Death Shall Bring</td>
</tr>
<tr>
<td>Lamech</td>
<td>the Despairing</td>
</tr>
<tr>
<td>Noah</td>
<td>Comfort, or rest.</td>
</tr>
</tbody>
</table>

**Universe by Chance?**

Second Law of Thermodynamics: Universe “winding down”; Entropy as a “time arrow”: a deck of cards, closet, garage, desk, school locker, etc. (See page 12.)

**Signal vs. Noise**

<table>
<thead>
<tr>
<th>Signal</th>
<th>Noise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>Error</td>
</tr>
<tr>
<td>Design</td>
<td>Chance</td>
</tr>
<tr>
<td>Direction</td>
<td>Random Walk</td>
</tr>
<tr>
<td>Order</td>
<td>Chaos</td>
</tr>
<tr>
<td>Music</td>
<td>Cacophony</td>
</tr>
<tr>
<td>Control</td>
<td>Anarchy</td>
</tr>
<tr>
<td>Neg-entropy</td>
<td>Entropy</td>
</tr>
</tbody>
</table>

**Hierarchy of Design Complexity**

Basic (Open) System: (wristwatch)
Closed Loop System: (power steering)
Adaptive Systems: (anti-skid brakes; adaptive numerically controlled manufacturing)
Intelligent Machines: (computers)
Storage/Retrieval, Input/Output, Processing Language Design
Self-Repairing Systems (?)
Reproducing Systems (?)

Complex systems cannot be approached gradually through non-functional intermediates: perfect multiple simultaneous co-adaptation is a prerequisite condition for functionality. “Automatic Organization” violates the entropy laws; i.e., the “paper wrote the book?”

Chance is too inefficient for both time and material:
   Only $10^{18}$ seconds in the history of universe!
   $10^{26}$ nanoseconds ($10^8$ seconds)
   $10^{66}$ atoms in the universe ($10^{80}$ particles)
Physics: “Absurd” is defined as $\alpha < 10^{50}$

**Big Bang Models**

Universe is finite and can be measured; the Universe has been “expanding.”

1905: Special relativity $E = mc^2$
1915: General Relativity: No distinction between time & space: four dimensional continuum; confirmed 12 ways to 5 decimal places.

(Einstein’s self-admitted mistake: cosmological constant a “fudge factor” to formulate a static model)

Universe originated from a “singularly”: 4-dimensional space compressed to 0 size.

Steady State) These refuted in 1960s.
Hesitation) Also refuted in the 1960s.

Oscillation Refuted 1984 [entropy?]
Inflation Current vogue: Alan Guth, MIT.
Forces are required that are not observed today. $10^{-35}$ seconds = $10^{-24}$ centimeters, anti-gravity type of force postulated.

**Black Hole:** “Darkness was on face of the deep.”
Photons couldn’t travel freely until electrons bound in stable orbits; as thermal energy falls to 3000°K, electrons bind in stable orbits, photons are visible. Darkness not simply the absence of light: Isa 45:7.

**Hoshek** = dark: created. Black fire = black hole.
Light (1:3) existed prior to separation of light from darkness (1:4). Light held within the primeval mass: light vs. darkness takes on new significance.

**Chapter 1:1**

בראשית פָּרוּ אֱלֹהִים אֶת הַשָּנַיִם אֶת הָאֶרֶץ

Seven words, 4x7 letters; 7 stages of creation; 7 “good”; 7 “made.”

Elohim = grammatical “error”; plural noun, used singularly.
**Bara:** create out of nothing; vs.
Asa: make, fashion, fabricate; or
Yatsa: from (Isa 43:7 has all three).

[No belief in redemption without creation (2 Peter 3:3-7).] When did God first deal with You? (Eph 1:4).

**Yom (“Day”)**

1480 times in OT: 54 different words:
1181 day
67 time


30 today
18 forever
10 continually
6 age
4 life
2 perpetually

Ex 20:11 key vs. Zech 5:11 + 2 Sam 21:10.

Merahefet = to hover above, move, flutter, brood, vibrate, as a bird with young (Deut 32:11); only time in Genesis: one-time phenomenon (cf. 1 Pet 1:21 “moved” by Holy Spirit).

Created, not evolved: Christ: Mt 19:4 Mk 10:6.

“...us...our...image”:
Godhead exchanges: Gen 3:22; 11:7; Isa 6:8; 48:12, 13, 16; Ps 2:7; 45:7; 110:1.
NT: Matt 11:27; John 8:42; John 17:24 et al. Mentioned 3X = trinity?

“Gap” Theory

Origin: Thomas Chalmers, 1814; George Pember, 1907.

Angels created before the earth, (Job): When?
When did Satan sin? et al.

“And”: vav consecutive = “But...”
LXX, Vulgate: “but...”
Aramaic: “Ruined and uninhabitable.”

“was” = active verb: “became...”
Gen 19:26: Lots wife “became...”

Tohu v’bohu; Isa 45:18. Usage always with suggestion of ruin caused by God’s wrath: Isa 34:11, Jer 4:23-27 (result of Satan’s sin?).

“deep” = aboussos.

Fossils = death; therefore after Adam...

Perhaps the earth not a product of Big Bang? Gen 1:2 tohu v’bohu vs. Ex 31:17 “made...”

et: (1:1) – the Talmud: all that would ever be needed. Isa 48:13; all matter created in the beginning. 6 days of “making”: Ex 20:11.

Tape 2: Is Light Slowing Down?

First Law of Thermodynamics

Energy and matter can neither be created nor destroyed, but only converted from one form to another. Their conversion formula is the well known E = mc². Also, the mass of a moving object, m, with respect to the rest mass, m₀,

\[ m = m₀ \left[1/\left(1-v^2/c^2\right)^{1/2}\right]\]

Similarly, the physical limits of our observable universe can be described by the “Minkowski Diagrams,” all based on the concept that light is the inviolate constant.

Historical Perspective

Early Greek philosophers, like Aristotle, thought the speed of light was infinite. [Exceptions: Empedocles of Acragas (c. 450 B.C.) also Moslem scientists Avicenna and Aihazen (1000 A.D.) both believed in a finite speed for light; Roger Bacon and Francis Bacon (1600 A.D.) both believed in a finite speed of light.]

1600 A.D.: Johannes Kepler, father of modern astronomy, maintained the majority view that light was instantaneous in its travels. Rene Descartes,
the highly influential scientist, mathematician and philosopher (who died in 1650) also strongly held to the belief in the instantaneous propagation of light.

**Speed of Light Measured**

1677: Olaf Roemer, the Danish astronomer, the time elapsed between eclipses of Jupiter with its moons became shorter as the Earth moved closer to Jupiter and became longer as the Earth and Jupiter drew farther apart: accounted for by a finite speed of light.

1729: the British astronomer James Bradley's independent confirmation ends the controversy.

Over the past 300 years, the velocity of light has been measured 163 times by 16 different methods.

**Recent Discovery**

Australian physicist Barry Setterfield, and mathematician Trevor Norman, examining all of the available experimental measurements to date, announced that the speed of light appears to have been slowing down:

Roemer (1657) (io eclipse):
- 307,600 +/- 5400 km/sec

Harvard (1875) (same method):
- 299,921 +/- 13 km/second

NBS (1983, laser method):
- 299,792.4586 +/- 0.0003 km/sec.

This is approximately 186,00 miles/second; or about one foot per nanosecond. A dynamical second is defined as 1/31,566,923.9747 of the earth's orbital period and was a standard until 1967. Atomic time is defined in terms of one revolution of an electron in the ground state orbit of the hydrogen atom.

Alan Montgomery, the Canadian mathematician, also analyzed the data statistically and has concluded that the decay of the velocity of light has followed a cosecant-squared curve with a correlation coefficient of better than 99%.

This curve would imply that the speed of light may have been 10-30% faster in the time of Christ; twice as fast in the days of Solomon; and four times as fast in the days of Abraham. It would also imply that the velocity of light was more than 10 million times faster prior to 3000 B.C.

Confirmatory trends also appear in 475 measurements of 11 other atomic quantities by 25 methods in dynamical time. Analysis of the most accurate atomic data reveals that the trend has a consistent magnitude in all quantities.

**Other Implications**

There are two properties of empty space known as magnetic permeability and electrical permittivity: their product is the reciprocal of c².

The permittivity of free space has not changed, but permeability has: it is related to the “stretching out” of free space at the time of creation. Isa 40:22; 42:5; 44:27; 45:12; 51:13; Jer 10:12; 51:15; Zech 12:1; the heavens as a “scroll”; Isa 34:4; Revelation 6:14.

Relaxation, or release, has set in, perhaps after the fall in Genesis 3. The shrinkage of free space could be the cause for the observed slowing down of the velocity of light.

The “Red Shift” may be caused by a decay of c. In fact, the universe may be contracting, not expanding. [The recent discovery that the red shift is quantized may discredit “Hubble’s Law” and the entire foundation of the expanding universe theory.]
The impedance of free space (currently 377 ohms) has been changing, as well as the refractive index, etc. Planck’s constant also varies inversely with c. The gyromagnetic ration is found to vary with c.

Radioactive Dating

The decay of c affects the speed of nucleons in the atom, and the alpha particle escape frequency. Thus, all radioactive decay rates may have decreased in proportion to c throughout the recent history of the universe. Also for many other reasons, the radio dating methods, Carbon-14, potassium-argon, or any other atomic-clock method, are unreliable for very large ages.

Entropy

Second Law of Thermodynamics: in a closed system, as time flows forward, energy becomes less and less available. “Entropy” = energy unavailability; it always increases. Entropy also a measurement of randomness; absence of order.

Order

Orderly systems of molecules represent low entropy systems. Orderly systems tend to become disorderly and chaotic through the process of decay and disintegration. With passage of time the normal tendency of things is for such systems to become disorderly, chaotic, and randomized.

To bring order out of chaos, we must put in outside energy or information: instructions, codes, blueprints, and effort. Order comes from chaos only if someone makes it happen. Time plus chance always leads toward chaos—not order—without the intervention of outside intelligence.

In the beginning there apparently was a close connection between the spiritual and physical realms, until the fall of man in Genesis 3.

The universe was pronounced “good”—free of defects—by the Creator. A high degree of order originally existed; that is, there was very low entropy.

But then Adam fell and the curse of sin began. Disorder and entropy began to increase. Could the slowing down of the speed of light have begun with the increase of entropy and also be a result of the curse brought about by sin?

The subsequent death, dying, decaying, and destroying processes, affected not only man, but nature as well (Romans 8:19-23).

Caveat

The possibility that the speed of light is not a “constant” after all and has been slowing down is highly controversial and conjectural. Yet, some of the most dramatic changes in scientific perspective come only after much debate, vigorous opposition, and the like.

The entire field of physics is presently in a state of upheaval. The particle physicists have decided there is no causality, and that the universe has at least 10 dimensions. The red shift has been discovered to be quantized and that may shatter previous conceptions of our universe. Gravity waves are now known to be virtually instantaneous (free of aberration) and that is also a major change in broadly held conceptions.

Many of today’s scientific orthodoxies, however, originated from yesterday’s unpopular heresies. The apparent decay in the velocity of light may be another of these controversial “heresies” looming
on the horizon of modern physics. Only time will tell. But the Bible changes not. It doesn't need to.

The Reality of Eternity

There is a part of you that is not physical and, therefore, has no time: it is eternal.

Our Creator has provided a destiny for us that is fabulous. It is so fantastic that it is entirely beyond our own eligibility, or ability to earn it. That is why God has provided for our eligibility through His Son. His plan of redemption is available for the asking. But it's up to us to accept it. You will either be in the presence of God, or separated from Him, for eternity. What will it be for you?

** Bibliography **

Highly Recommended


Quantum Mechanics and Particle Physics


Cosmology, Dimensions, and Time


Bible Commentaries

Commentaries on Tape

Chuck Missler’s Expositional Commentaries are now available from Koinonia House. Each volume consists of eight cassette tapes and includes notes, diagrams, and a comprehensive bibliography. Write for a complete list.

Monthly News Journal

Personal UPDATE, a monthly news journal highlighting the Biblical relevance of current events, is also available by writing:

Koinonia House
P.O. Box D
Coeur d’Alene, ID
83816-0347
1-800-KHOUSE-1
www.khouse.org