Supplemental Notes:

Beyond Time & Space

An exploration of the implications of Einstein’s Theory of Relativity on the Biblical views of our origin, existence and destiny.

The fallacy of making linear assumptions in a non-linear world.

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The Nature of Time

Paradoxes

Fate vs. free will.
Choice vs. predestination.
Authenticating God’s Word.

The Geometry of Eternity

Time: linear and absolute?
Assumptions from our everyday life now prove to be obsolete from recent discoveries.

Insights from Modern Physics

Time = physical property:
Four dimensional continuum, “space-time.”
Ephesians 3:18.
Lessons from geometry:

Hyperspaces

(n) dimensional spaces...
two-dimensional example: “Mr. & Mrs. Flat.”
Hilbert space: infinite dimensions!

Anthropic Dimensionality

(A list of “anthropic factors” has been included on page 9. For a more complete discussion, see our briefing package, Beyond Coincidence.)

1) Inverse square law: essential for stable orbits; by-product of three spatial dimensions. Planetary orbits are stable only in a space with three dimensions. (The dimensionality of the law of gravity is always one less than the dimensionality of space.)

2) Maxwell equations of electromagnetism have workable solutions only if they are applied in a space-time of 3+1 dimensions.

Transforms

Fourier: Spectra, prisms, et al.
Holography: immunity to dissection, distribution of the message over entire bandwidth, etc.
Lorentz Transforms: relativity adjustments for time with respect to velocity, etc.

Time not absolute: it changes with mass, acceleration, and gravity.
Gravity

Influence of gravitational forces from curvature of space-time: “space tells matter how to move, matter tells space how to curve.”

“The stretching of the heavens”:  
Isa 40:22, 44:27; 45:12, 51:13;  

“The heavens as a scroll”:  
Isa 34:4; Rev 6:14.

“...hung upon nothing”:  
Job 26:7.

Ps 19: “...declare glory” (see our briefing, Signs in the Heavens). Orion and Pleiades: gravitationally grouped (Job 38:31).

Gravity Affects Time

A time measurement device in a weaker gravitational field runs faster than one in a stronger field.

Near the surface of the Earth the frequency increases about one part in $10^{16}$ per meter, and a clock 100 meters higher that a second clock will have a frequency higher by one part in $10^{14}$.

Motion Affects Time

Clocks carried eastward around the world on an airplane will differ (very slightly) from a clock at rest on the Earth, or one carried westward, since they are in rotation at different speeds about the center of the Earth and there is a difference in gravitational potential.

In 1971, in experiments with the atomic clocks by the U.S. Naval Observatory, the eastward flying clock lost 0.06 microsecond and the westward one gained 0.27 microsecond, confirming the predicted relativistic effects.

The Twin Astronauts

One remains on the Earth, the other undertakes a space mission in which the vehicle attains a speed of half the velocity of light, en route to/from Alpha Centari (about 4 light years away). When our traveler returns to the Earth, he is more than two years younger than his twin brother.

Black Holes

In the idioms of relativity, gravity distorts space-time, and as gravity is stronger in the immediate vicinity of denser objects, so space-time is increasingly distorted as an object with particular density shrinks.

At a crucial size, known as the Schwartzschild radius, space-time bends completely around on itself, cutting off the region of space-time inside the hole from the rest of the universe.

Objects can still fall into the black hole, but within a sphere, with the Schwartzschild radius, nothing—*not even light*—can escape. Hence, a “black hole.”

Surprisingly, there are some solutions to Einstein’s equations of general relativity that appear to represent models that could permit *loops in time*. The area of the Schwartzschild surface of the hole is a measure of its *entropy*, and if it should shrink, entropy would decrease, implying a *reversal* of time.
Particle Physics

In terms of quantum physics, the two representations of the particle collisions in the above Feynman diagram are identical: in one case (A) an electron and positron appear to annihilate each other; in the other case (B), the position is simply the electron in a time reversal.

Can time really go backward? How could we tell? Entropy measure: shuffling a deck of cards: randomness toward order would be a reversal of entropy, and hence, time.

The Nature of God

Does God have mass? Is He subject to gravity? Of course not.

“It is He who inhabiteth eternity.” Isaiah 57:15

Authenticating His Message

Since He has the technology to create us, He certainly has the technology to get a message to us.

But how does He authenticate it? How does He let us know it is really from Him? By demonstrating that the source of the message is from outside the domain of time.

“He alone knows the end from the beginning.” Isaiah 46:10

The Bible as a “Message System”

66 books by 40 authors over thousands of years, but with evidence of design from outside our time domain.

The Grand Adventure

This journey of discovery between the mystery of our origin and the miracle of our destiny.

Ironside’s Door

You are confronted with a doorway labeled: “Whoever will may enter.” You have complete freedom to enter or not—it’s entirely up to you.

You choose to enter.

On the other side you find a banquet table set with individual place settings. There’s a place with your name on it. You were expected.

You look back at the door you just entered, and on the other side it is labeled “Foreordained before the foundation of the world.”

How do you tell if you have been “predestinated?” Choose Him and He will demonstrate that you were...Yet it really is up to you.
Linear Assumptions in a Non-Linear World

False concepts of time: time is a physical property subject to mass, acceleration, and gravity.

Non-Linearities

“Straws that break the camel’s back.”

Natural Calamities:
  Fires, floods, wars, earthquakes.

Political:
  Empires: Egypt, Assyria, Babylon, Persia, Greece, Rome ruled the world.
  [“If increased taxation and lavish spending could save an economy, Rome would still rule the world.”]

Physics:
  “Boundary conditions.”
  Black Holes.

Quantum Mechanics:
  Length, mass, energy and time are quantized [see our briefing pack, Beyond Perception].

Cosmology:
  Anthropic Principle (Attempts to model the universe reveals innumerable factors that are too delicately in balance to occur by chance, without skillful design. Examples are listed on the next page. For fuller discussion see our briefing, Beyond Coincidence.)

Anthropic Factors*

Atomic Physics
  Strong nuclear force coupling constant
  Weak nuclear force coupling constant
  Electromagnetic coupling constant
  Ratio of electron to proton mass
  Stability of the proton
  Fine structure constants
  Be, C, and O nuclear energy levels

Earth
  Surface gravity
  Thickness of crust
  Rotation period
  Gravitational interaction with a moon
  Magnetic field
  Axial tilt
  Albedo (reflectivity)
  Oxygen to nitrogen ratio
  Carbon dioxide and water vapor levels
  Ozone level
  Atmospheric electric discharge rate
  Seismic activity

Sun Factors
  Age
  Distance from center of galaxy
  Mass
  Color
  Distance to the Earth

Universe
  Gravitational coupling constant
  Expansion rate of the universe
  Entropy level of the universe
  Mass of the universe
  Uniformity of the universe
  Number of stars
  Distance between stars
  Rate of luminosity increase

Big Bang Theories

[See our briefing, *Genesis and the Big Bang*]

Biology

Bishop Paley’s (digital?) watch language requires context “1 if by land; 2 if by sea.”

DNA = 3 out of 4 error correcting (digital) code, using nucleic acids.

(DNA): Adenine, Thymine, Guanine, Cytosine: 
(RNA): Adenine, Uracil, Guanine, Cytosine:

[For detailed chart, refer to the notes in our Commentary on *Genesis*]

Light May Be “Non-Linear”

The key properties of the vacuum of free space include permittivity, permeability, zero-point energy, and intrinsic impedance. If any of these properties change isotropically, then both atomic behavior and the speed of light would vary throughout the universe.

Barry Setterfield’s controversial observations concerning the apparent slowing down of the velocity of light has raised some fundamental questions. Setterfield has analyzed 164 measurements of “c,” the velocity of light, gathered over the past 320 years, which reveal a statistically significant decay in c. When coupled with associated c-dependent “constants,” the data includes some 639 values measured by 25 different methods.

A comparison of dates in orbital time from history, archaeology, corals, tree-rings, etc. with atomic dates from a variety of radioactive isotopes has provided some 1228 data points over 4550 years. (This has been explored in our briefing, *Genesis and the Big Bang*.)

William Tifft, an astronomer at the University of Arizona, has been collecting data for about 20 years on redshifts, and it now appears that the universe might not be expanding. Tifft has discovered that some clusters and pairs of galaxies exhibit only certain discrete values, rather than the more random distribution one would expect if the shifts were distance related. These redshifts appear in discrete quantum levels, similar to the energy states of subatomic particles in quantum physics. (This was discussed in Personal UPDATE, June 1993.)

If Setterfield proves correct, then this might explain the quantization of redshifts. Specific values of c govern the quantization of the emitted wavelengths, and quantized redshifts would result.

Biblical “Non-Linearities”

- **Flood:** warnings for four generations! – Gen 5.
- **Fall of Man:** Entropy introduced; light slows down, etc. – Gen 3.
- **Israel:**
  - Exodus from Egypt – Gen 15
  - Assyrian Conquest – Amos
  - Babylonian Captivity
  - Messiah! (Detailed predictions are summarized in our briefing, *Footprints of the Messiah*.)
  - The Diaspora

- **The “Big One”:** (now on the time horizon!) A period of history, written in advance, about which the Bible says more about than any other and into which we are being propelled at the present time.
Babylon (see Mystery of Babylon), Magog Invasion (see The Magog Invasion), Israel, Jerusalem, Temple (see The Coming Temple Update), Europe (see Europa Rising).

The “Spirit World”

95% of the mass of the universe is “missing!” The search for the “cold dark matter” continues...

Elisha’s servant 2 Kings 6:15-17
Angels
185,000 Assyrians: 2 Kings 19:35
Exodus Exodus 9-12
Sodom & Gomorrah Genesis 19
Guardian Angels Matthew 18:10
1/3 of the angels: hostile! Revelation 12
B’nai Elohim Genesis 6
[see Flood of Noah]
Role of Mars?

Angelic Warfare Daniel 10
Return of the Prince of Persia [see Sword of Allah]
Satan- The God of This World
Personal Warfare Ephesians 6
Battleground: Deceit vs. Truth
Evolution, Humanism, et al.

Shekinah – “Clouds?”

OT Mt Sinai Exodus 19:16; 24:15-18
Tabernacle Exodus 40:34
Solomon’s Temple 1 Kings 8:10-11, Ps 97:2

NT Transfiguration Mt 17, Mark 9:7
Ascension Acts 1:9
Return Dan 7:13, Mark 13:26, 14:62
Rev 1:7

What About Us?

The real you (the “soul,” the “heart,” the “spirit”) is without mass: it has no time, it is eternal. That’s the problem. Where will you spend it? [For further discussion, see our briefing, The Architecture of Man.]

The Geometry of Eternity

Your connection to eternity is not in the conceptual “future”: it is “NOW.”

Your ultimate non-linearity: death? Or rapture?

The Greatest Non-Linear of All

A love story written in blood, on a wooden cross, 2,000 years ago.

Every detail of the birth, mission, and destiny of Jesus Christ was written down in detail centuries before their realization in history. The Old Testament was translated into Greek 270 years before He was born. (For a detailed discussion of this incredible perspective, see our briefing, Footprints of the Messiah. For the most amazing passage in the Bible and a remarkable validation of His mission and destiny, see Daniel’s 70 Weeks.)
Many of the topics summarized in this briefing package have been excepted from previous issues of our monthly newsletter, Personal UPDATE, which attempts to highlight the Biblical relevance of current events, recent discoveries, etc.

**Bibliography**


Setterfield, B., *The Speed of Light and the Redshift*, pre-publication paper received by private communication. (Box 318, Blackwood, South Australia, 5051.)


If you enjoyed this briefing package, you might enjoy one of its companion volumes which make up our “Cosmic Quartet”:

1. *The E.T. Scenario*—This unusual presentation of the reality of the Bible has become a classic.
2. *Beyond Time and Space*—The Theory of Relativity and other discoveries on the Biblical view of our origin, existence, and destiny.
3. *Beyond Coincidence*—Evidences of Design, the Anthropic Principle
4. *Beyond Perception*—Particle Physics, Quantum Mechanics, and the quest for reality.
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