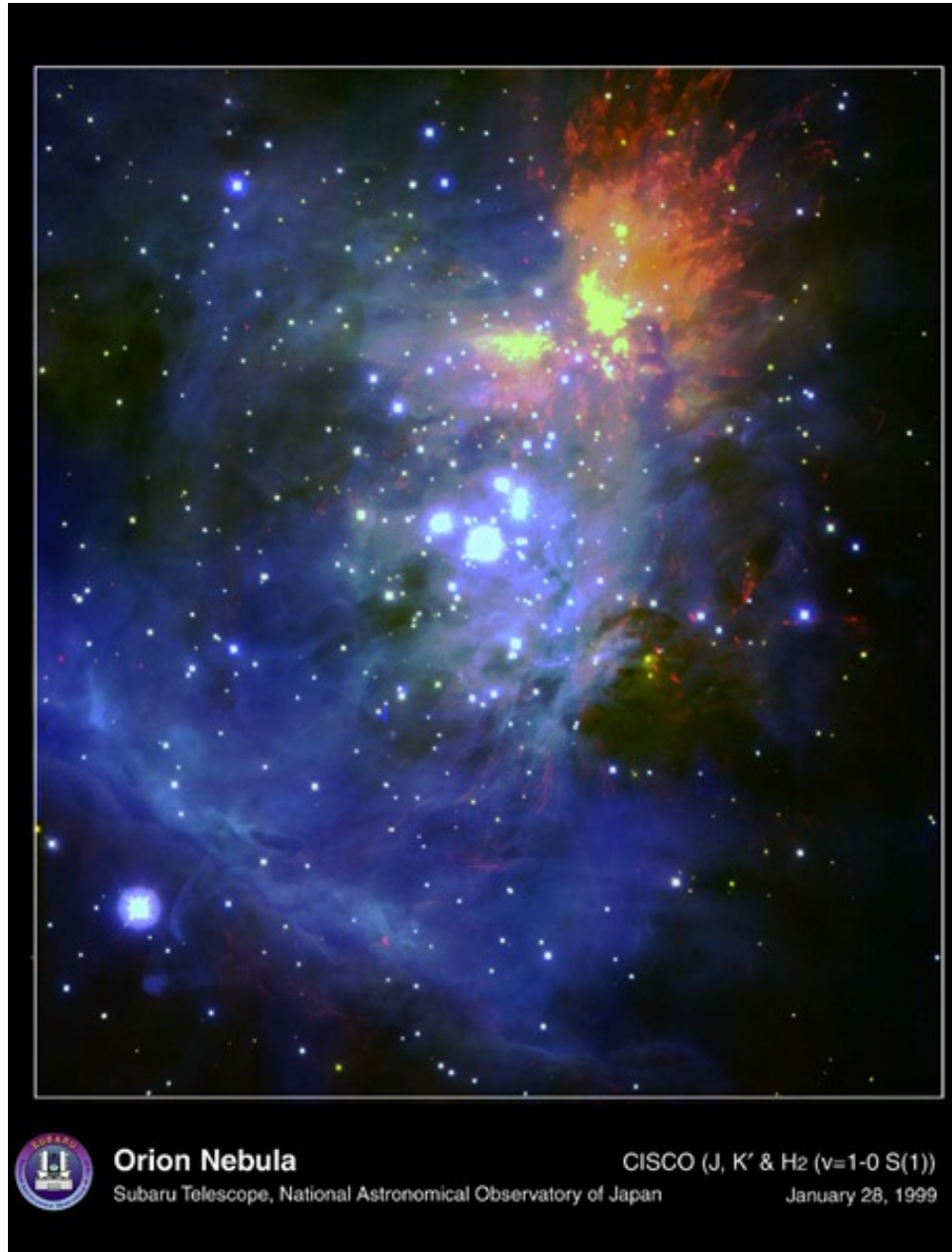


The Heavens Declare the Glory of God



**Date:
2002**

**Author:
Heard
Lowry**

Why do you believe in God?

- We must know why we believe:
(1 Peter 3:15) But sanctify the Lord God in your hearts: and be ready always to give an answer to every man that asketh you a reason of the hope that is in you with meekness and fear
- We must believe something: if we refuse to believe the truth, then the only thing left to believe is a lie
(2 Thessalonians 8-12)
(Psalm 19:1) The heavens declare the glory of God; and the firmament showeth his handiwork.
(Psalm 14:1) The fool hath said in his heart, There is no God.
(Romans 1:20) For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead; so that they are without excuse:

The purpose of this class

- To enable us to see the magnitude of God's greatness
 - As C.S. Lewis once wrote, the older we get, the bigger God gets
 - The more we learn about God and the universe, the greater God appears
- To show that true science does not conflict with God or the Bible
 - Our interpretations of either one may conflict
- To verify the basis of our faith
 - This is just one of many reasons to believe
 - Inherited faith doesn't really work
- Not to be a course in Physics or Philosophy
 - Don't be intimidated; we'll try to be gentle
 - We don't want to get bogged down in technical issues

- Keep an open mind about the ideas we discuss
- Feel free to ask questions

Outline of the Class

- Introduction
- A path of reasoning
 - From the universe to our response to God
- The character and power of God
 - Arguments for his existence
 - Miracles
- Man
 - Made in the image of God
 - The moral law within
- The Bible
 - Creation
 - Archeology
 - The Word of God
- Evolution
- The final analysis

Can man reason out the existence of God?

- “Proof” is in the eye of the beholder
 - Many things are unprovable with the tools at hand
- Man’s mind is not sufficient; he needs a revelation
- He must be very cautious in his thinking
 - Use of the scientific method
- We must consider what is most reasonable
 - What are the probabilities involved?

We can broaden and deepen our faith through our efforts.
We don’t have to get everything exactly right.

Interpretation

Usually we see what we expect to see, or what we want to see.

GOD IS NOWHERE

How do you interpret this?

GOD IS NOW HERE

or,

GOD IS NOWHERE

We must try to truly consider the facts from a new viewpoint

Be careful with “proofs”

Here's one I remember from a high school teacher:

One is greater than nothing

Nothing is greater than God

One is greater than God

With clever shifts in word meaning, the conclusion can be twisted around to suit someone's agenda

Keep your assumptions in mind

The best course I had in college was a course in logic. It taught me that all conclusions are based on assumptions, which must always be remembered

$$p \rightarrow q$$

means, if p, then q.

People tend to drop the assumption.

This is like saying,

If I have enough gas in my car, I can drive to Nashville and back today.

This is very true.

But some people run out of gas along the way because they forgot to check out the assumption

Assumption Example: Radioactive Dating

Radioactive dating is used extensively to determine the age of objects.

The technique is based on assumptions that we cannot prove right or wrong, e.g.,:

- 1) The decay rates of radioactive elements were the same in the past as they are in the present
- 2) The proportions of elements of different isotopes residing together at the time of interest are known

The technique works to support the assumptions that were made, generally preconceptions about how the universe came into being.

There are many types of arguments (not all good)

- From a basis or standard not accepted by both sides
- From a very low probability
- Out of context
- Logically incorrect
 - Assuming that which is necessary is also sufficient
 - Using converse or inverse reasoning
- Based on ridicule or intimidation
- Based on the way believers act
- Based on interpretations of the facts
- Based on semantics (word meanings)
- Aimed at what you selfishly want to hear
- Based on non-documentable data (“scientists say”)

Example of Ridicule or Intimidation

I've seen this many, many times:

Real scientists don't believe in creation.

But the truth is:

Real science doesn't conflict with God.

Be guided by the balance of probability

People draw conclusions that have very low probability of occurrence.

They believe in the creation of life from a soup of chemicals, with its extremely low probability, and verify their theory by our existence

But it is not like winning a lottery ticket, which also has a very low probability, because in that case a winner is preordained

Probability can trip you up if you are not careful.

Remember that when President Eisenhower found out that half of all Americans had math skills below the national average, he was shocked and appalled thought something ought to be done about it.

What is a Light Year?

- **A light year is not a unit of time!**

- It is the distance light travels in a year
- $186,000 \text{ miles/sec} \times 365 \text{ days/yr} \times 24 \text{ hrs/day} \times 3600 \text{ sec/hr}$

= 5,867,000,000,000 miles, or
9,467,000,000,000 km

This is about 63,000 times the average distance between the Sun and Earth

Looking into things smaller and smaller

- Electron
- Subparticles
- Quarks

Visualizing these things is not really possible from the fundamental nature of the universe

- Influenced by the interaction of light (photons)
- Uncertainty principles (Heisenberg)

The Heavens Declare the Glory of God



Introduction

- Do you know why you believe?
 - Are you ready to give a reason for your faith?
- The purpose of this class
- Ideas about proof
- Interpretation of information
- Remember your assumptions
- Beware of false arguments
- Consider the probabilities
- The Scientific Method
- The path of reasoning
 - Begin with the known universe

We all need to expand our minds (new wineskins)

- What is the purpose of calculus when you won't ever use it?
 - Calculate circumference, area, volume, many other things
 - To expand your mind

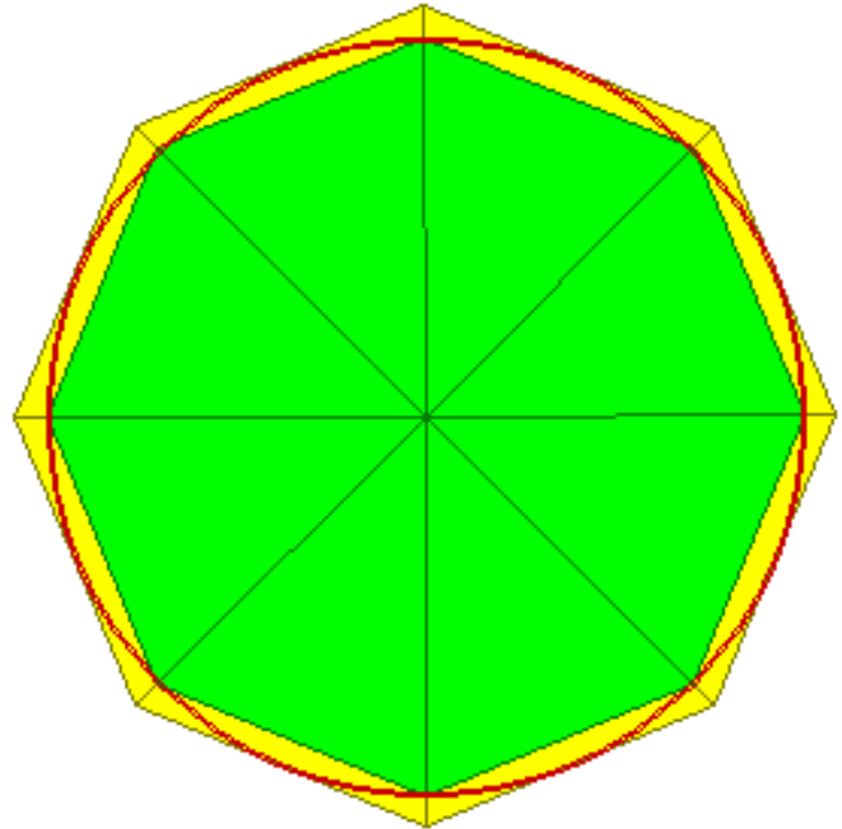
Archimedes' early method

Inside polygon: 3.061

Outside polygon: 3.313

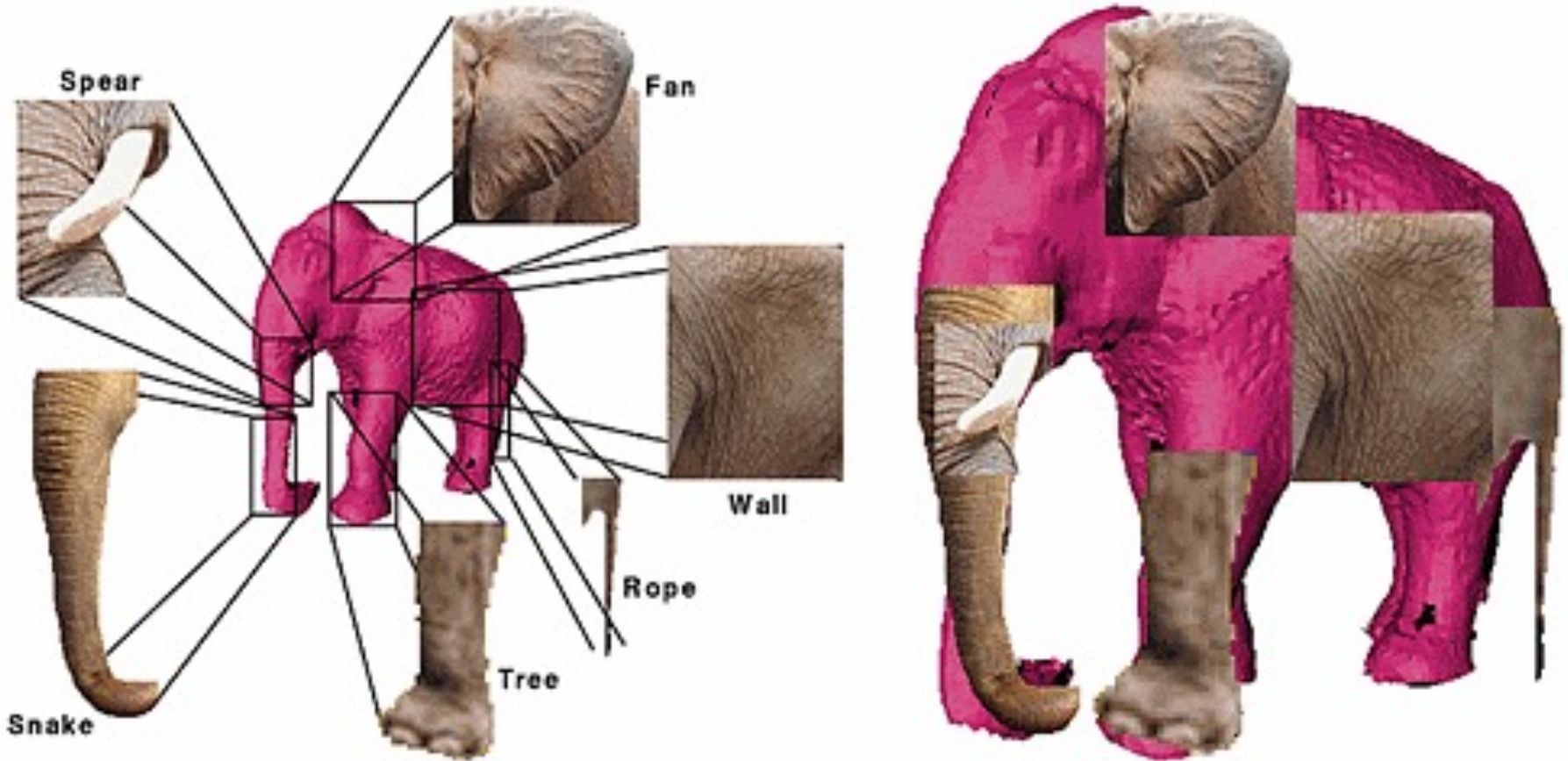
Actual Value of pi: 3.141

If you keep increasing
the number of sides (to infinity)
you get the right number



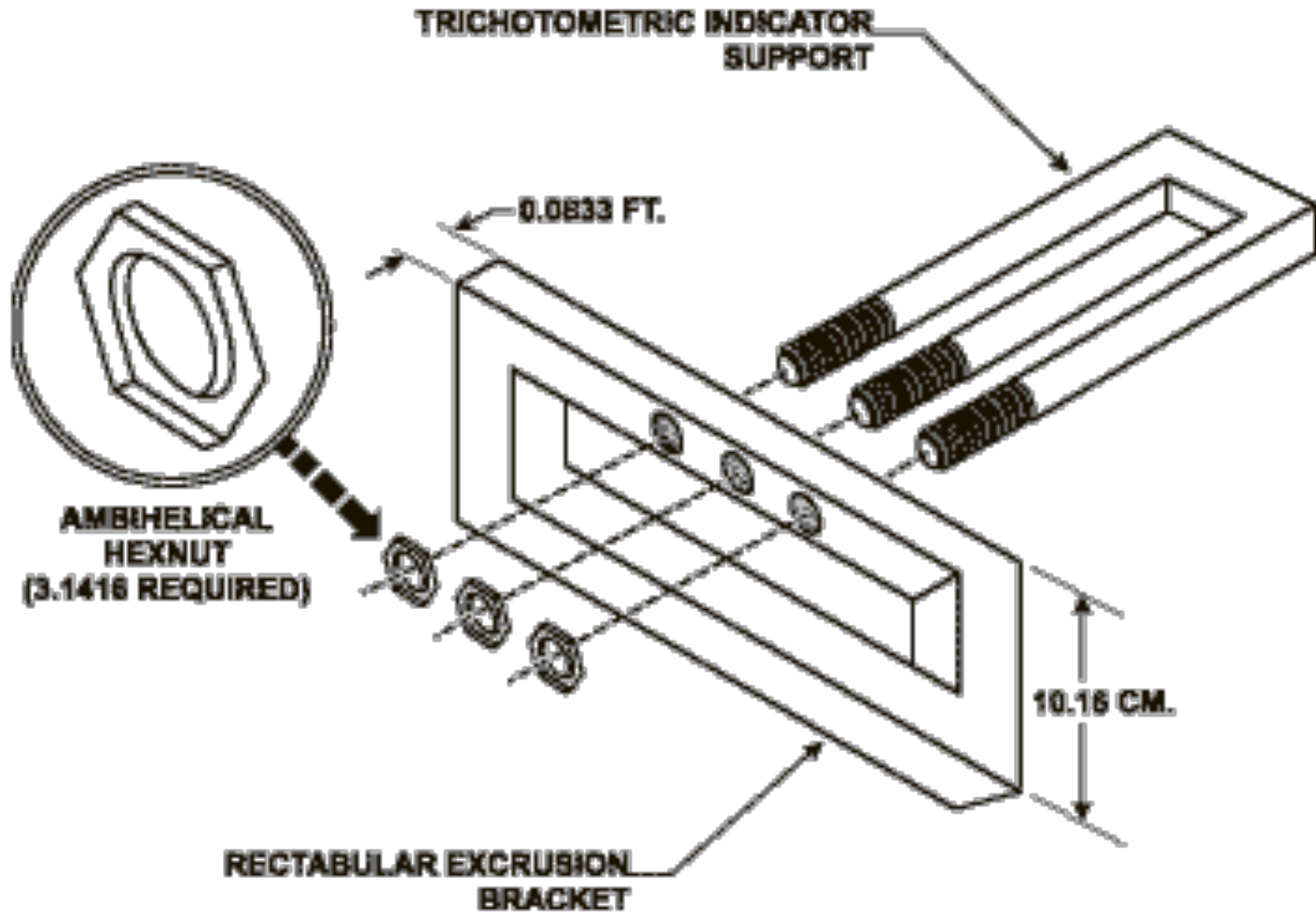
Once you see it, you're just different!
Just like trying to comprehend God!

We all see things a little differently



Remember the story of the blind men who each tried to describe an elephant

We must beware of being fooled



Watch out for the illusion of truth

The Scientific Method

1. Observe some aspect of the universe.
2. Invent a tentative description, called a *hypothesis*, that is consistent with what you have observed.
3. Use the hypothesis to make predictions.
4. **Test** those predictions by experiments or further observations and modify the hypothesis in the light of your results.
5. Repeat steps 3 and 4 until there are no discrepancies between theory and experiment and/or observation.

How does this apply to:

The origin of the universe

The origin of life

Path of Reasoning

1. We want to start out with what we know:

The universe exists

2. First we will examine it and see what we can learn
3. Then we will consider how it might have begun.
4. We will try to look at all of the possibilities, and choose the one that is the most reasonable, the one that makes the most sense

This will not be a proof, but it can strengthen your faith.

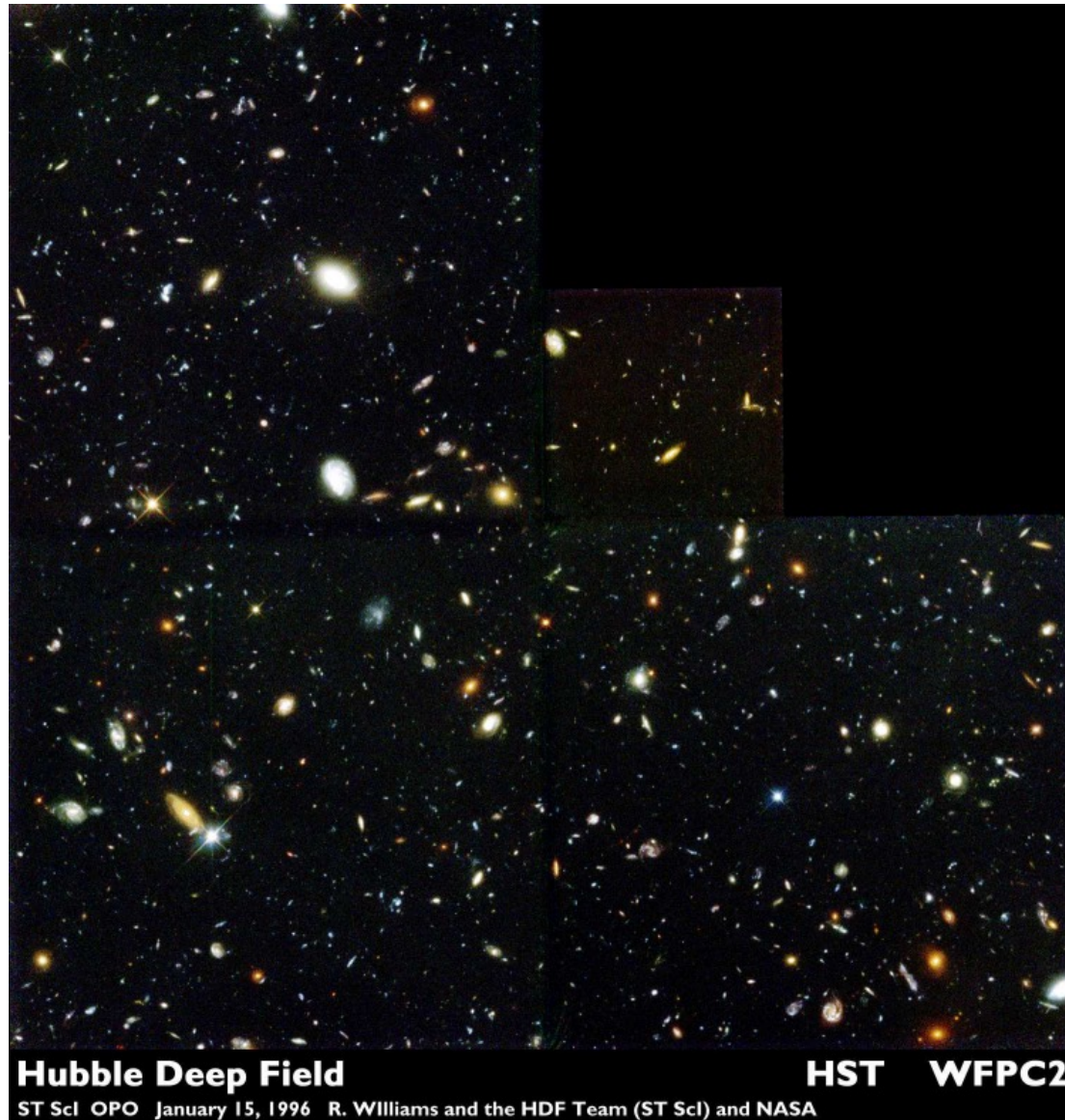
I'm simply sharing things that I have thought through.

Tour through the “Observable” Universe

- Current limit of the observable universe is about 10 billion light years
- Begin by viewing the Milky Way at 10 million light years from the earth
- Move through space towards the Earth by factors of 10 until you reach a tall oak tree in Tallahassee, FL
- Move from the actual size of a leaf into a microscopic world that reveals leaf cell walls, the cell nucleus, chromatin, and DNA
- Finally, move into a representation of the subatomic universe of electrons and protons
- The images represent about 40 orders of magnitude of zoom (40 factors of ten)

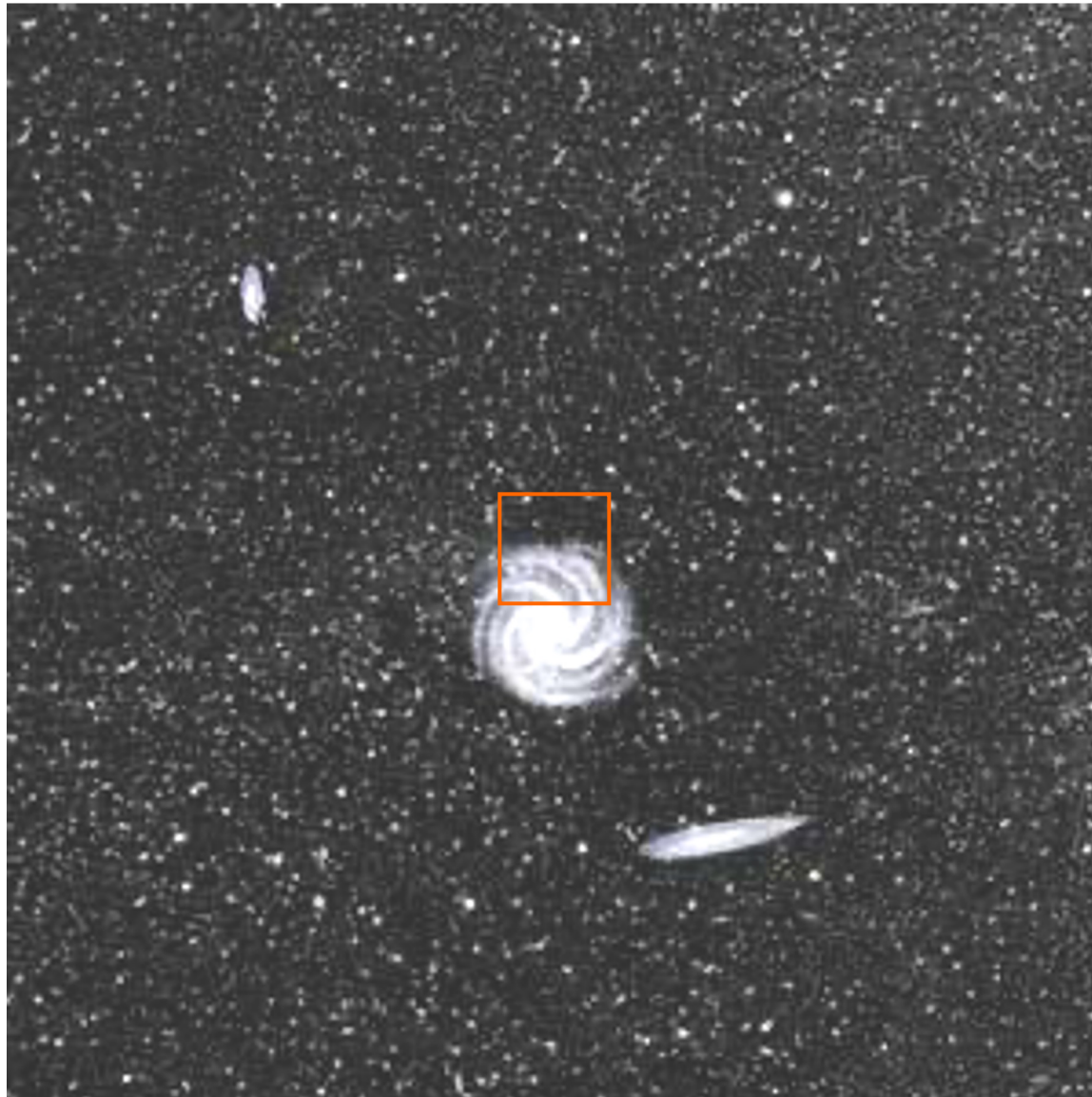
Thanks to micro.magnet.fsu.edu for these images!

The observable universe is filled with galaxies



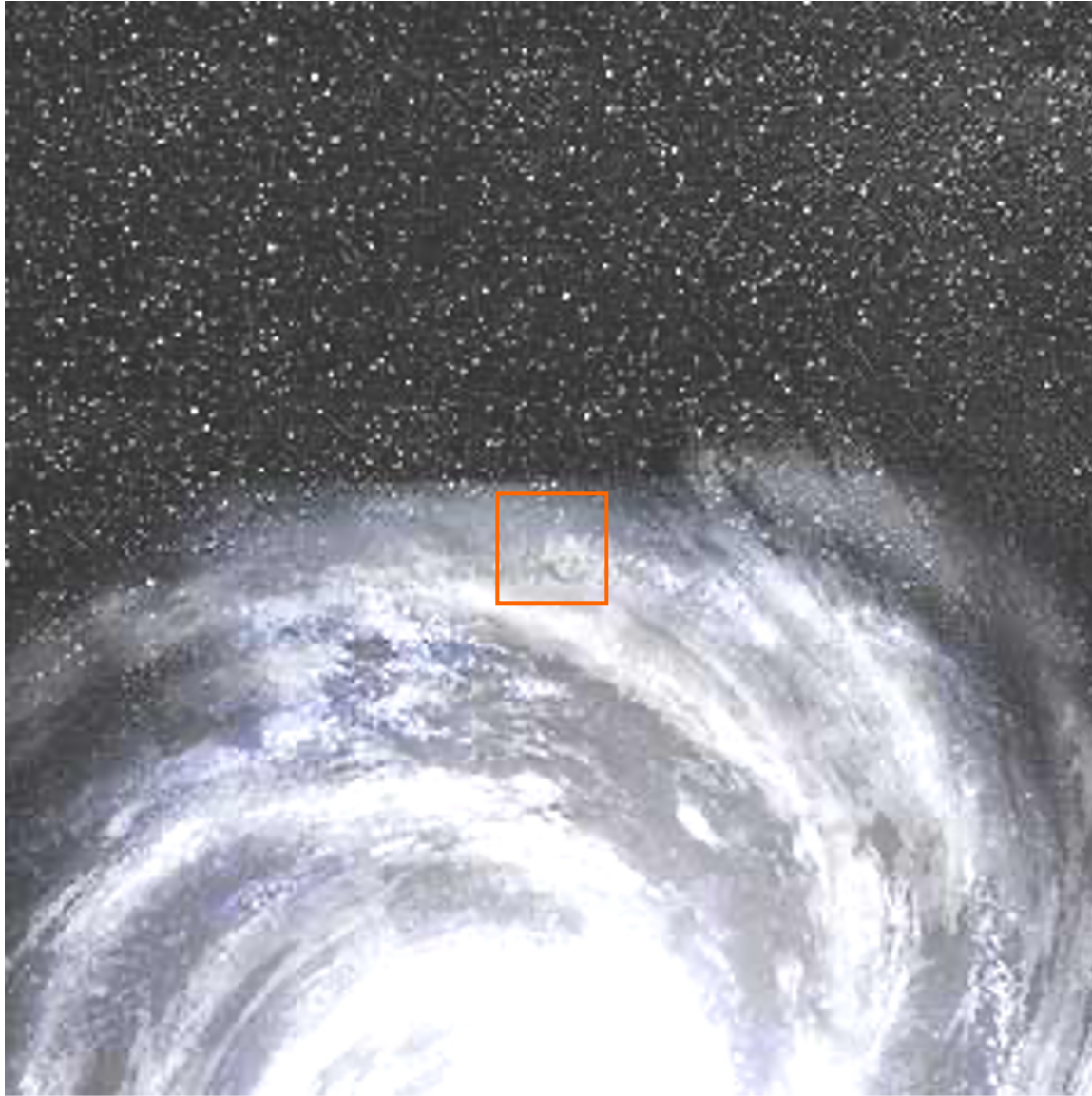
10^{26} meters

1 million light years away from the Milky Way Galaxy



10^{22} meters

Our Galaxy, the Milky Way



10^{21} meters

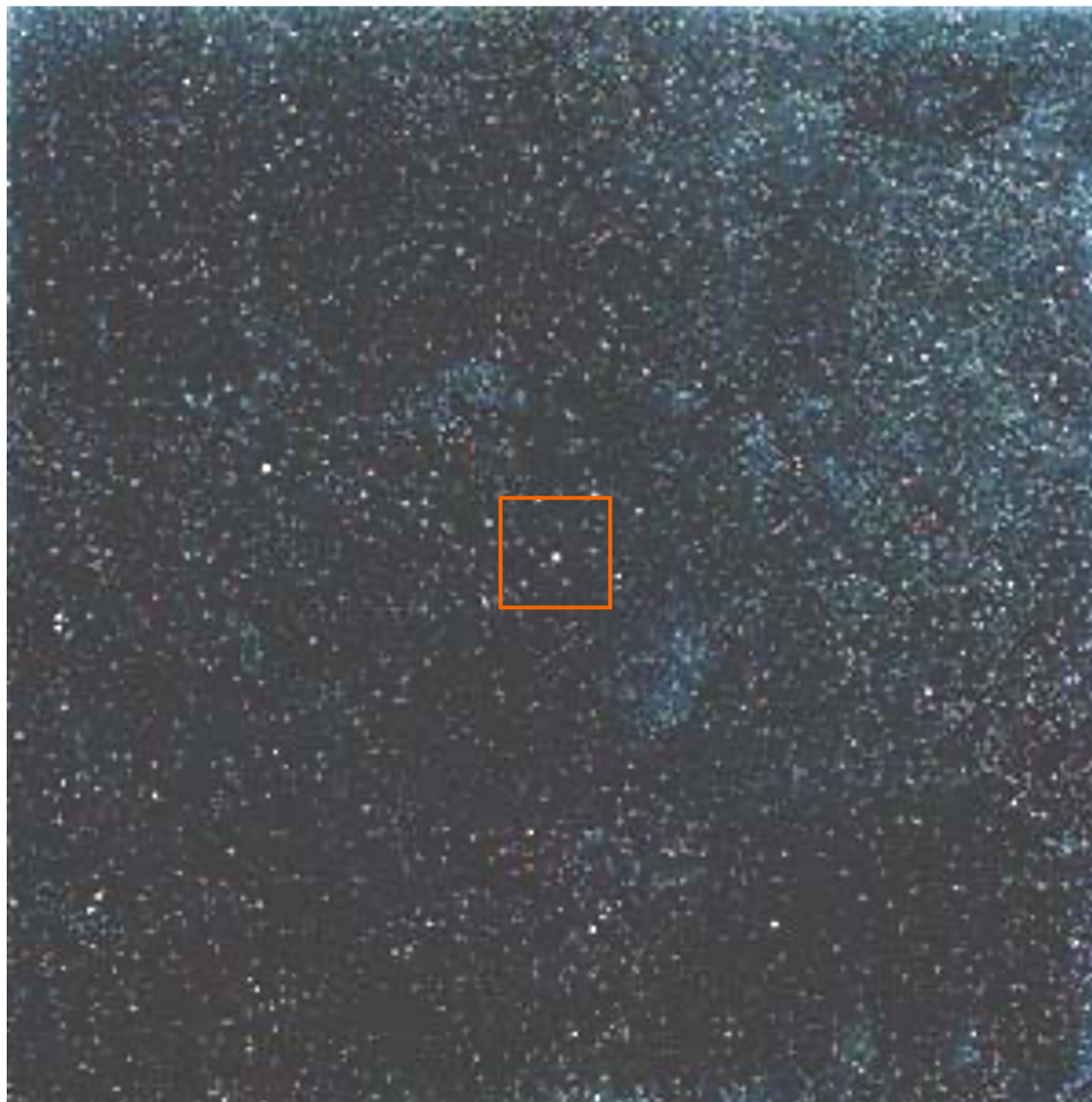
Stars in the Milky Way galaxy



10^{19} meters

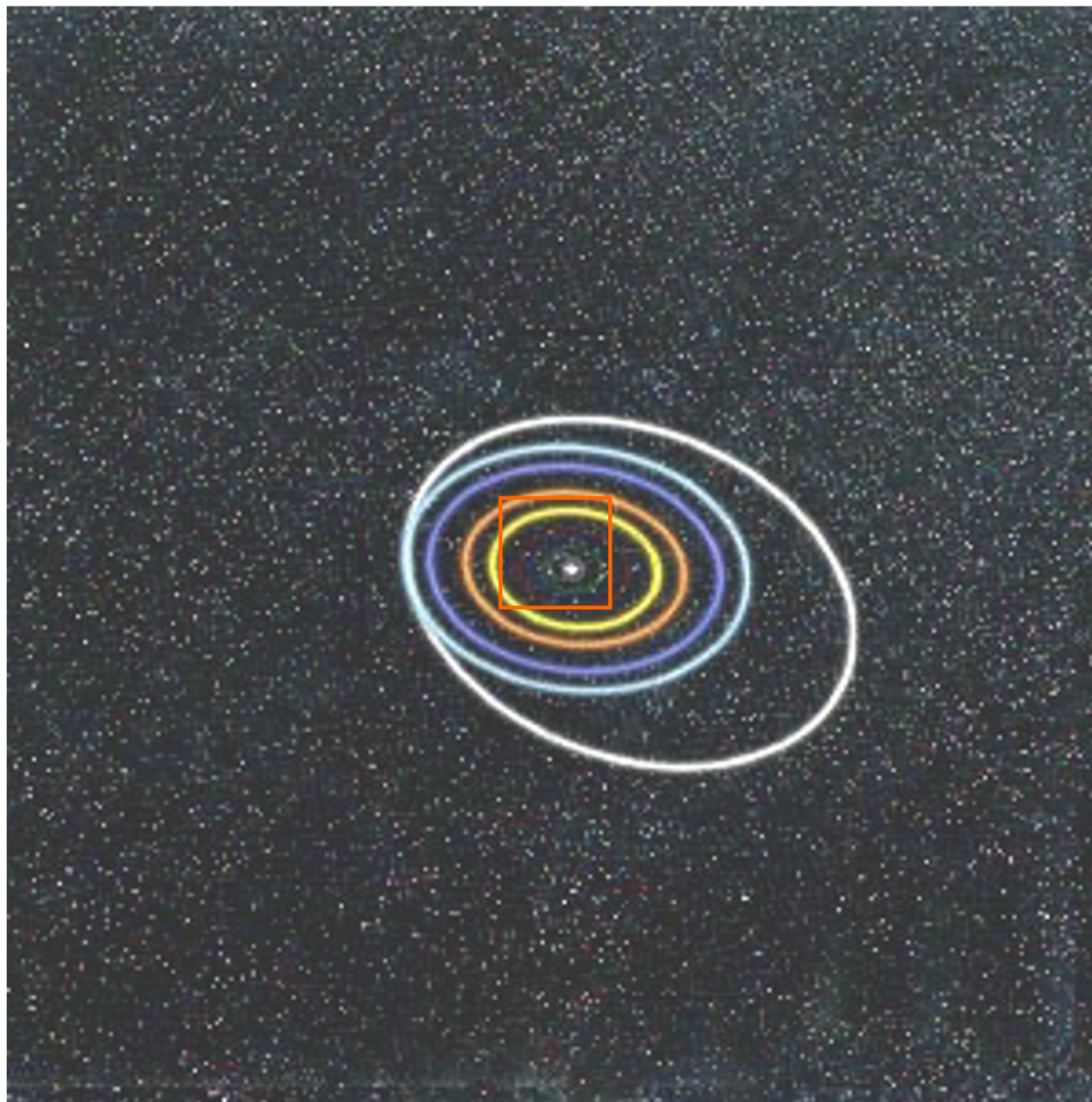
We can barely see the sun at 1 light year from earth

2



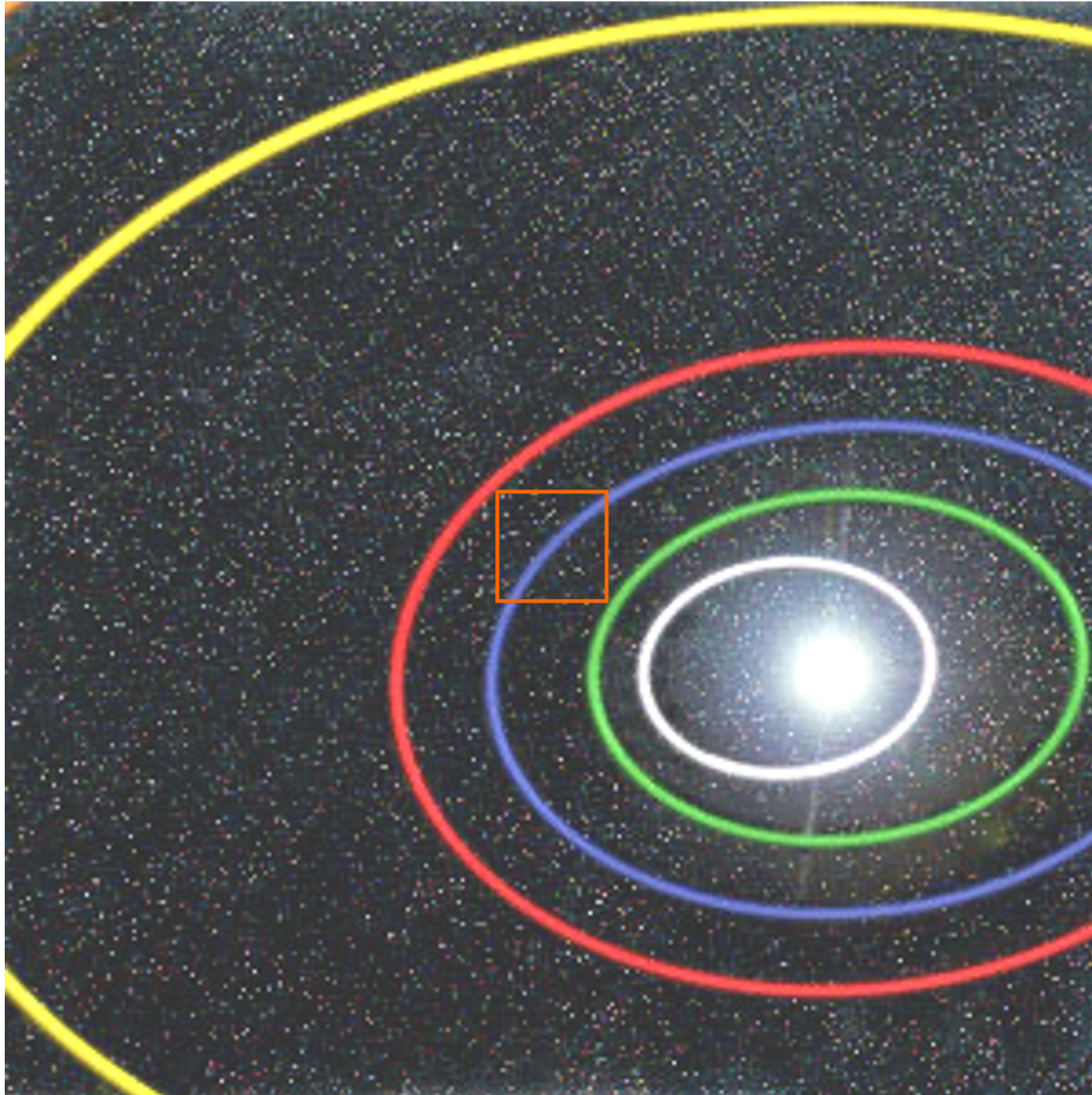
10^{16} meters

The solar system from 100 billion kilometers away



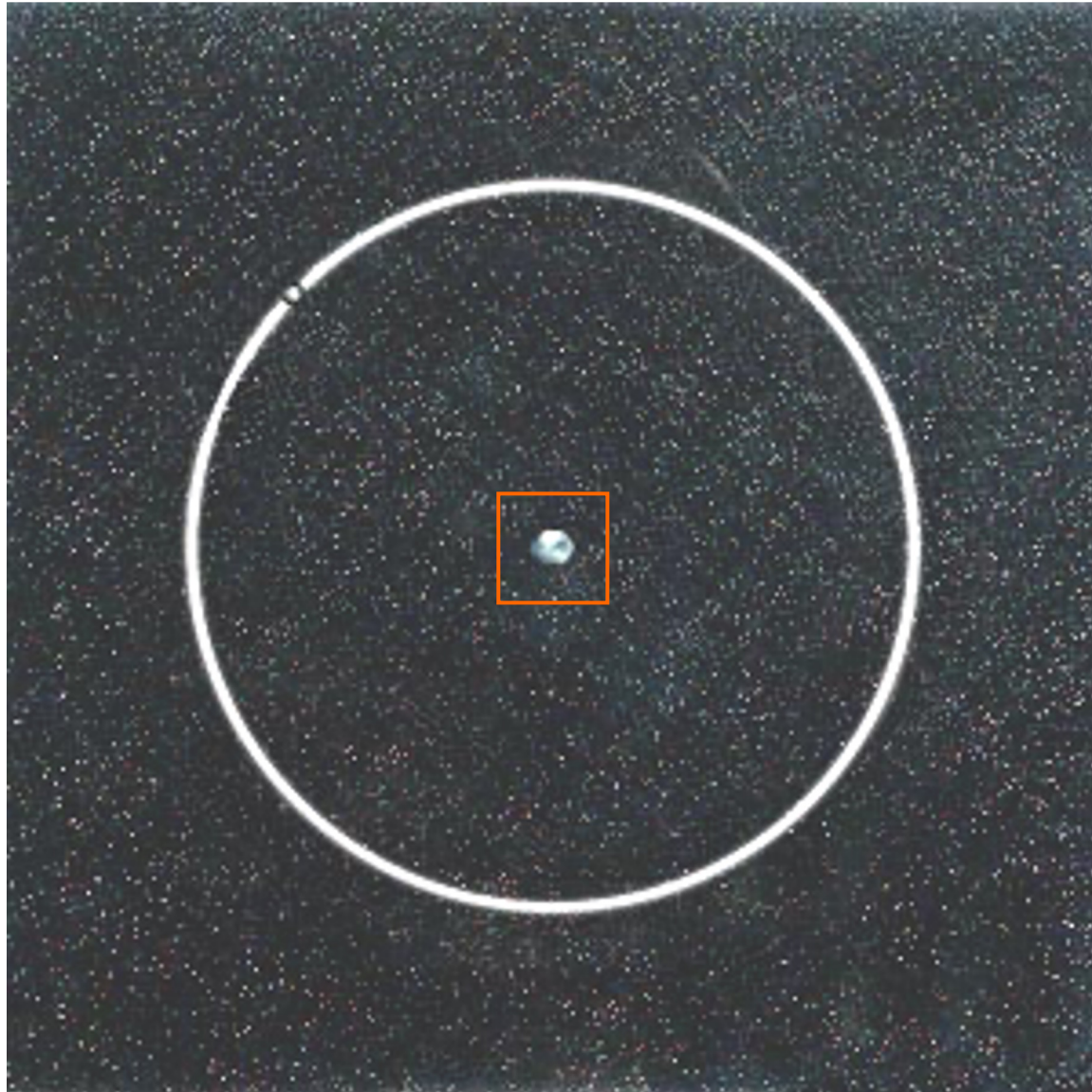
10^{14} meters

Orbits of Mercury, Venus, Earth, Mars, and Jupiter



10^{12} meters

The Earth and the orbit of the moon



10^9 meters

The western hemisphere of the Earth



10^7 meters

The Southeastern United States



10^6 meters

The National High Magnetic Field Laboratory



10^3 meters

Top of large oak tree



10¹ meters

Oak tree leaves at actual size



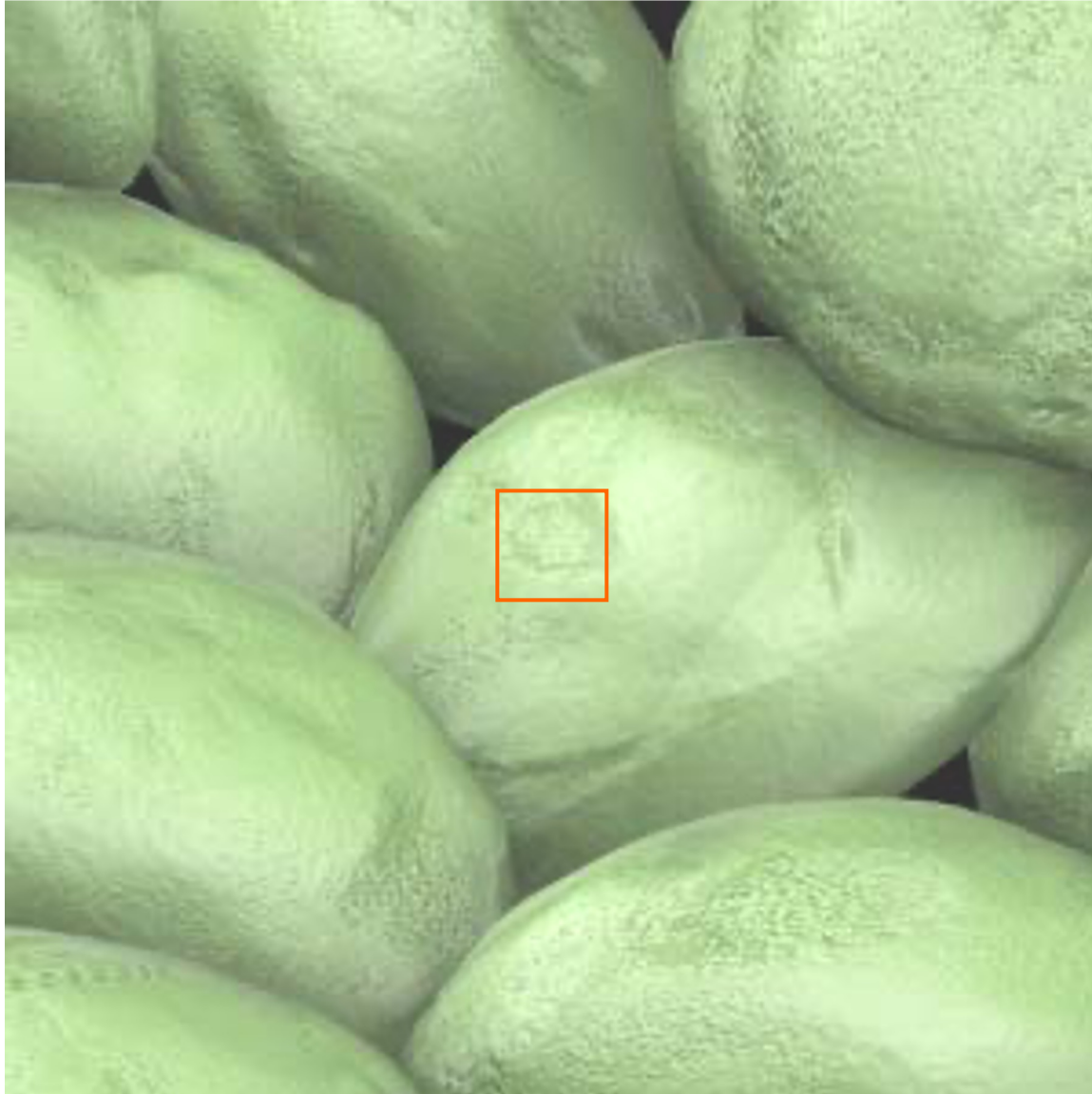
10^{-1} meters

Surface of an oak leaf magnified 100 times



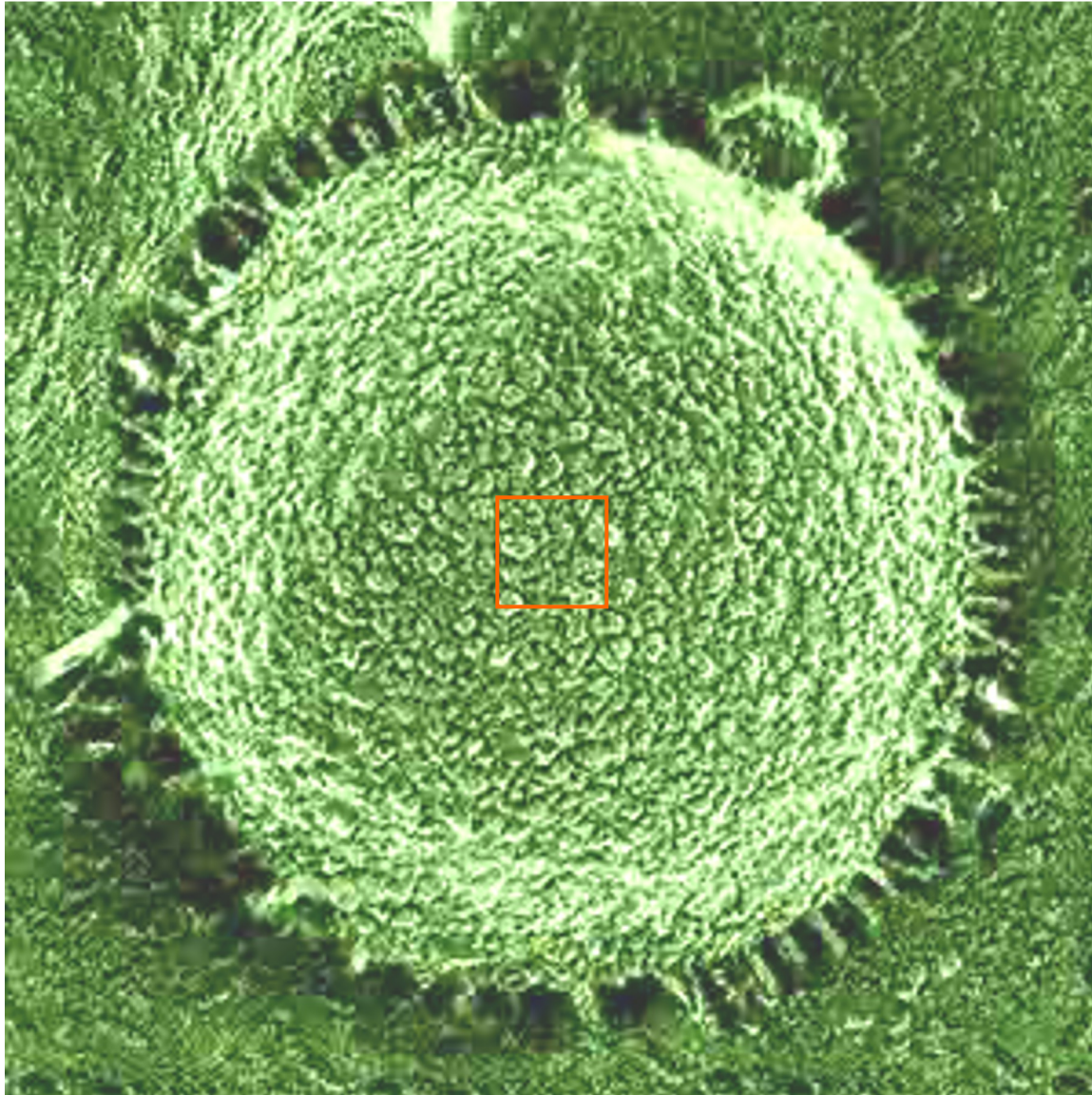
10^{-3} meters

Individual leaf cells



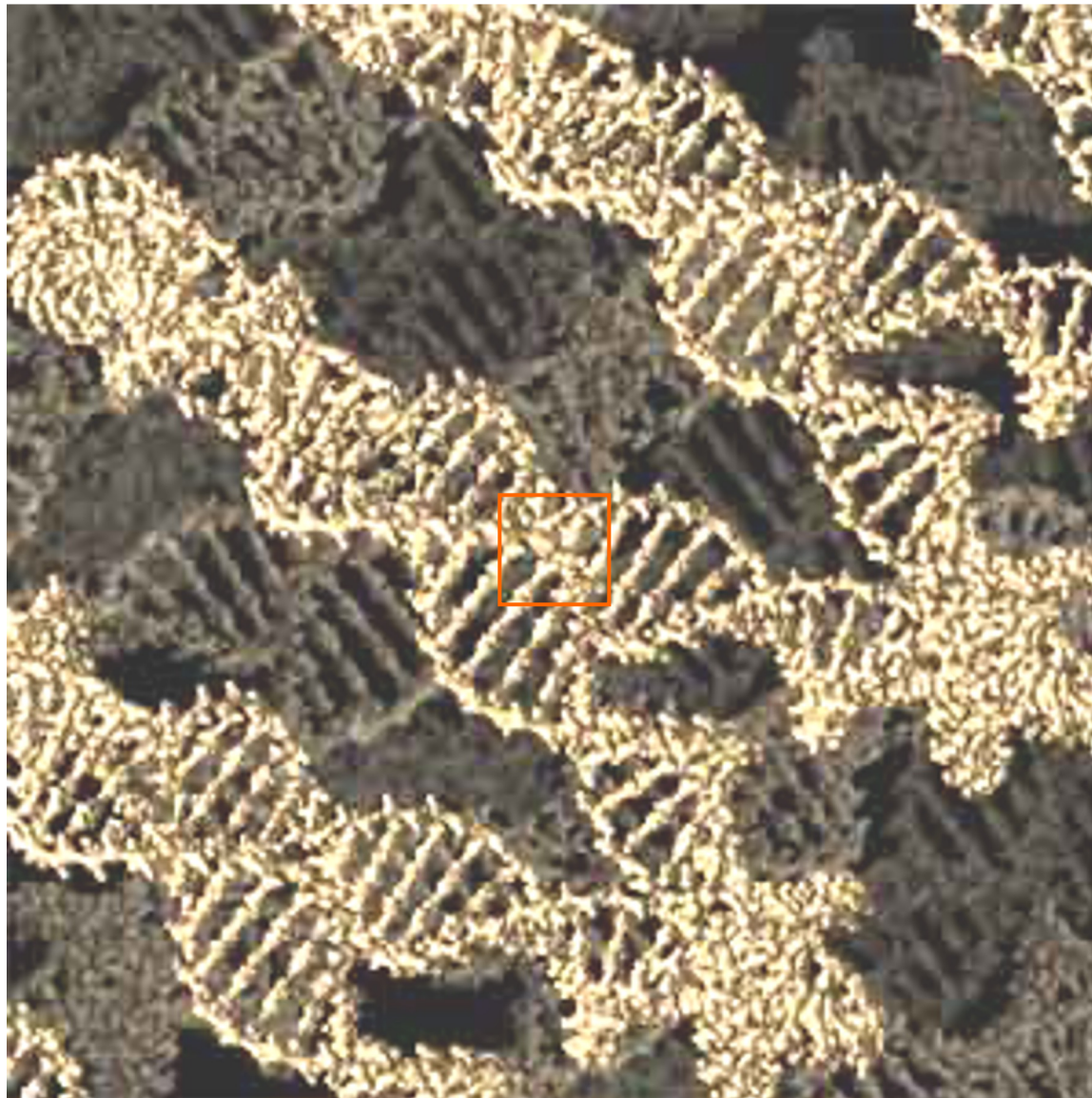
10^{-5} meters

The nucleus of a leaf cell



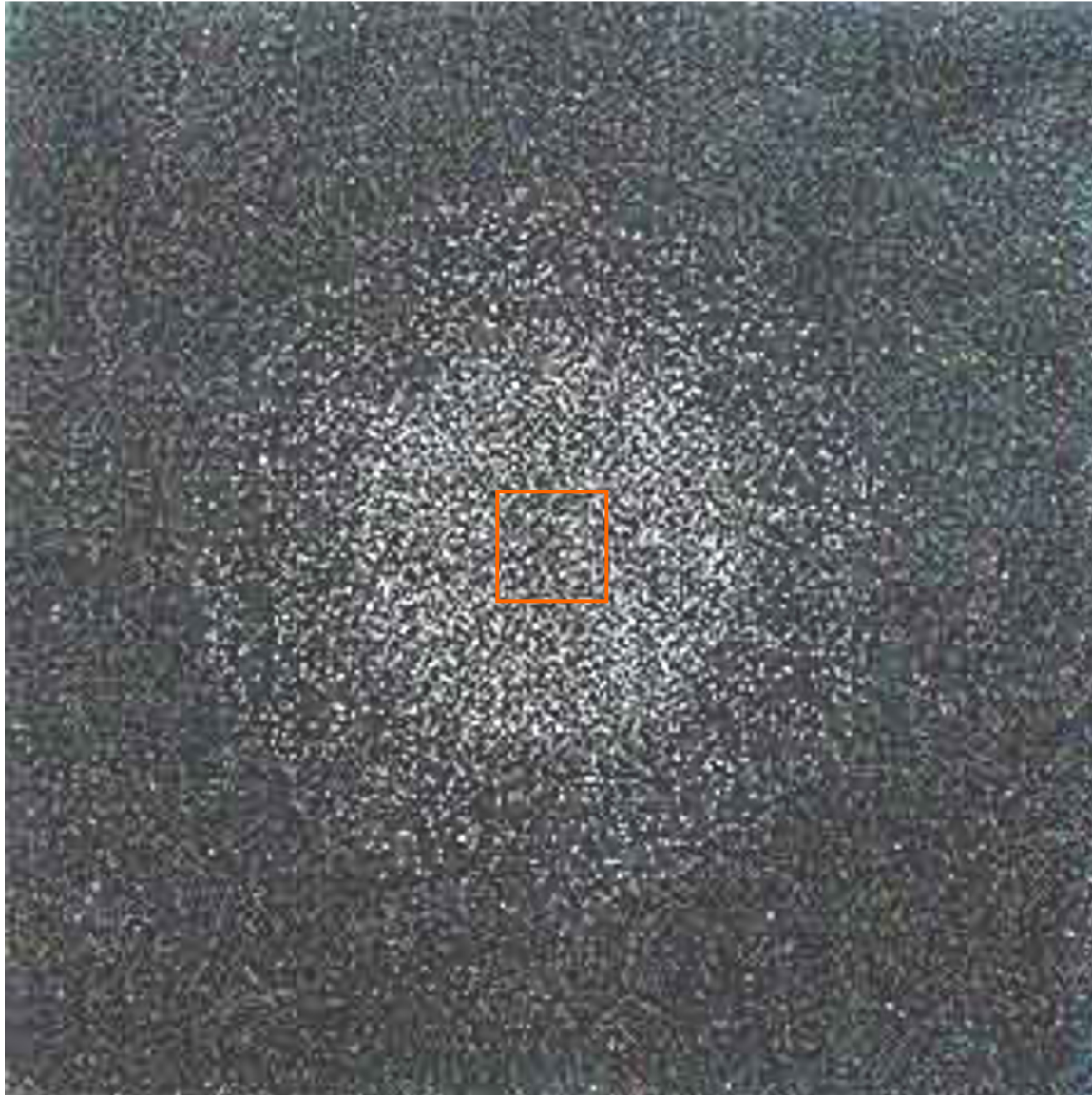
10^{-6} meters

Individual DNA strands



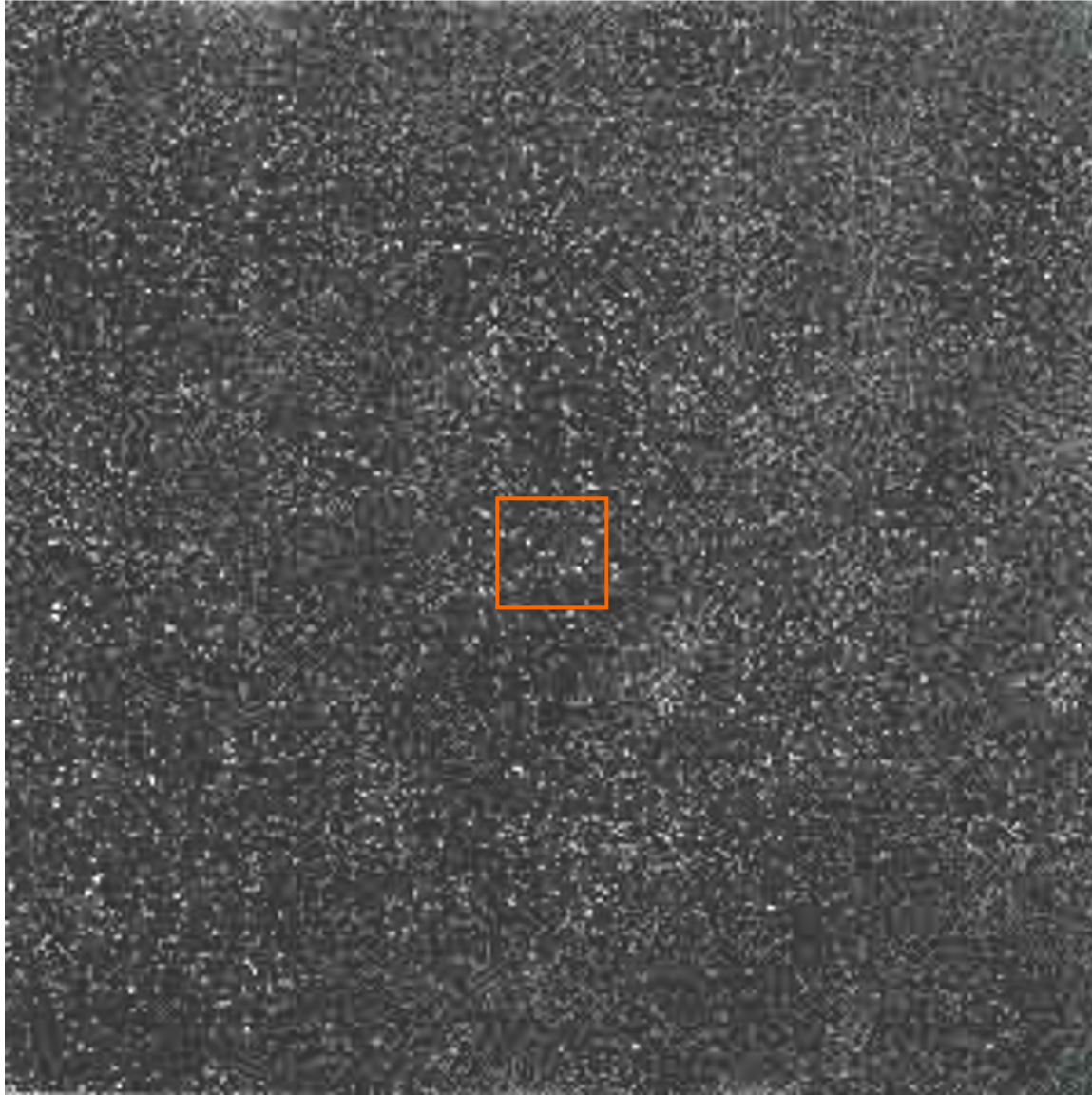
10^{-8} meters

Outer electron cloud of a carbon atom



10^{-10} meters

Electrons in the inner electron shell



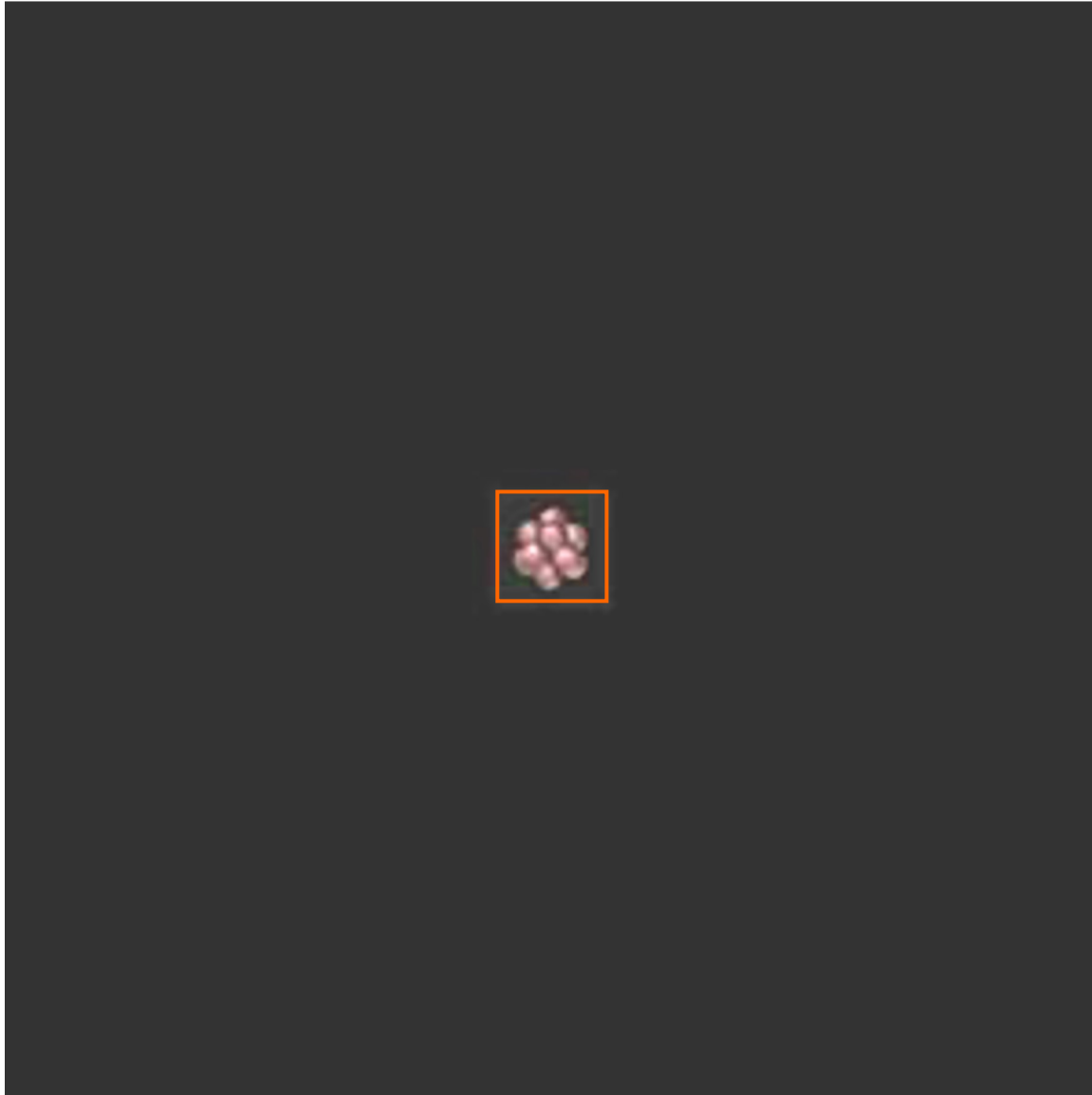
10^{-11} meters

Empty space between inner shell and nucleus



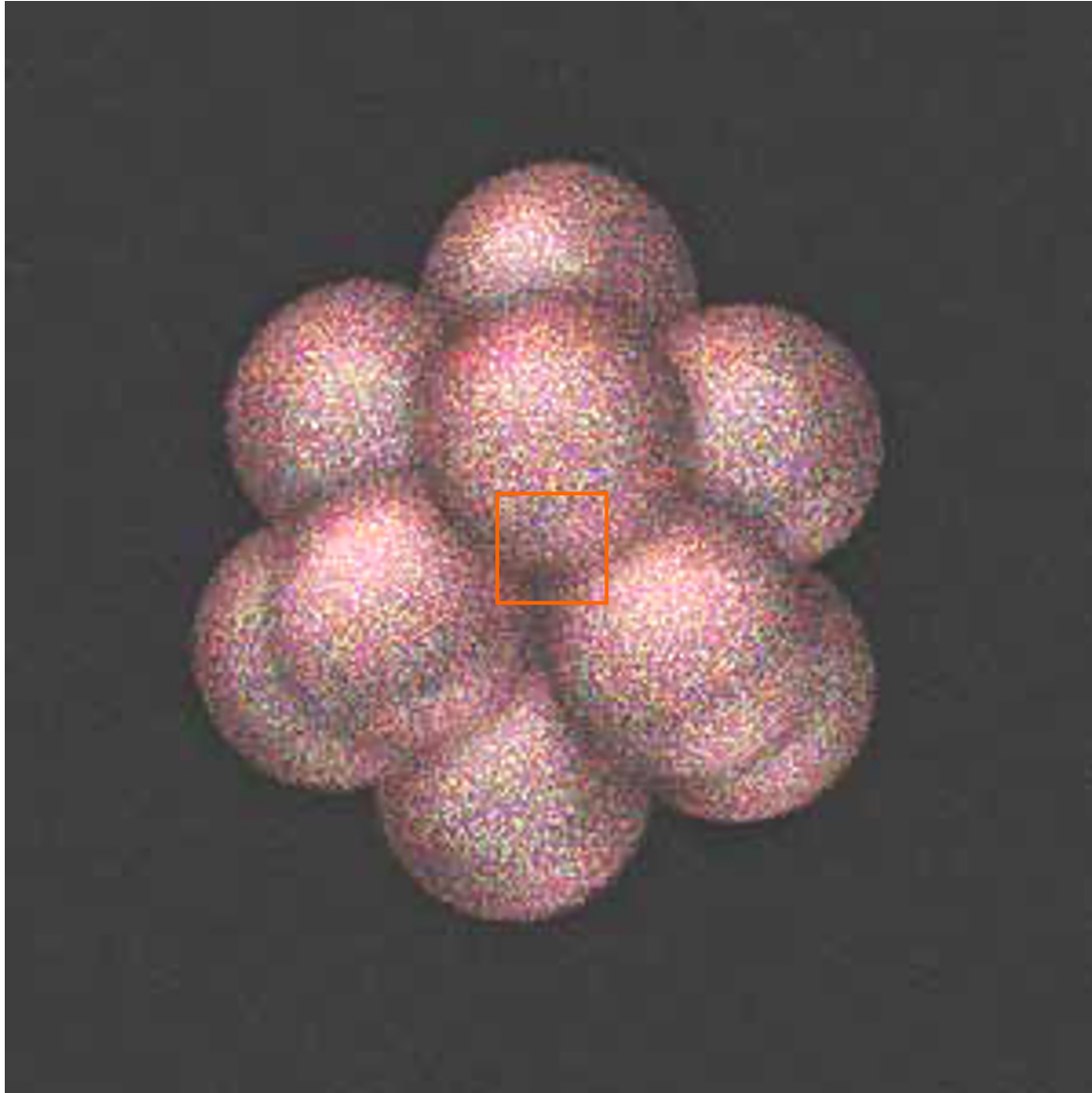
10^{-12} meters

Nucleus viewed beneath the electron shells



10^{-13} meters

Nucleus of the carbon atom



10^{-14} meters

Face to face with a single proton



10^{-15} meters

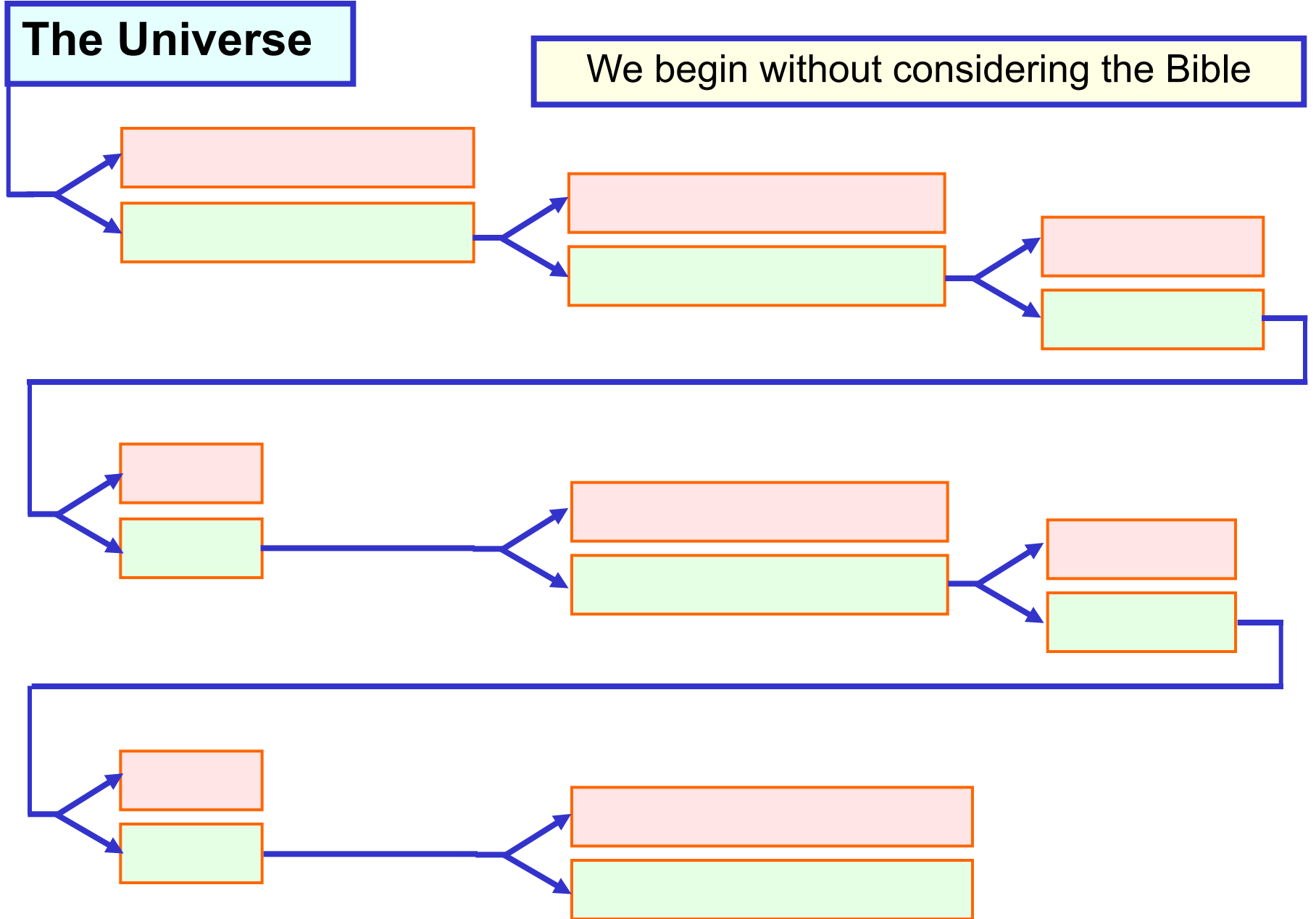
Looking into things smaller and smaller

- Electron
- Subparticles
- Quarks

Visualizing these things is not really possible from the fundamental nature of the universe

- Influenced by the interaction of light (photons)
- Uncertainty principles (Heisenberg)

A path of reasoning



What is the Universe?

- Mass and Energy
 - These are different forms of the same thing: $E=mc^2$
 - Matter and Light are how we usually think of this
- Space and Time
 - Time is now regarded as the fourth dimension
 - Scale of the universe is inconceivable
 - What man can observe is not all of it – its true dimensions are totally unknown
- Structure of rules of cause and effect
 - Laws of motion, $F=ma$
 - Laws of thermodynamics
 - Includes Laws of conservation of matter and energy
 - Fundamental forces
 - Gravity
 - Electromagnetic
 - Nuclear (strong, weak)
 - Relativistic effects at very high velocities
 - The speed of light is a constant
 - Quantum effects at very small scales
 - Heisenberg uncertainty principle

What do we know for sure?

- The Universe exists
 - Energy / Matter
 - Space / Time
 - Laws / Forces (Structure)
 - Man exists
 - The universe is not an illusion

Many times we will discuss the laws of the universe as though they were constant and never interfered with so that we may prove a point.

This is to show the reasoning that results from using that structure

We will bring out other ideas (e.g., creation with the appearance of age) later on

We will also use scripture at times even though we are not yet at the point in our thinking where we officially consider the Bible as authoritative

What is the “observable” universe?

- The continuing expansion of the known universe causes galaxies at the edge of our observable universe to move away from us at speeds closer and closer to the speed of light
- Such speeds cause significant shifts in the wavelength of the light from these galaxies
- Close to the speed of light, and through the distances involved, at some point we can no longer see these objects
- Thus, we live at the center of a sphere of only a portion of the universe that we can see
 - The light comes from objects that are now very, very old (and may no longer exist)
 - We are looking into the past, what the universe was
- There is no way of our determining its true extent

What are the fundamental forces?

- The ***strong interaction*** is very strong, but very short-ranged. It acts only over ranges of order 10^{-13} centimeters and is responsible for holding the nuclei of atoms together. It is basically attractive, but can be effectively repulsive in some circumstances.
- The ***electromagnetic force*** causes electric and magnetic effects such as the repulsion between like electrical charges or the interaction of bar magnets. It is long-ranged, but much weaker than the strong force. It can be attractive or repulsive, and acts only between pieces of matter carrying electrical charge.
- The ***weak force*** is responsible for radioactive decay and neutrino interactions. It has a very short range and, as its name indicates, it is very weak.
- The ***gravitational force*** is weak, but very long ranged. Furthermore, it is always attractive, and acts between any two pieces of matter in the Universe since mass is its source.

Much work has been done to try to unify these

What is the size of the universe?

- If you compress the diameter of the solar system (7.36 billion miles) to the thickness of a sheet of tissue paper (0.001 inch), then:
 - One light year is 0.8 in
 - The nearest star is 3.4 inches away
 - The width of the galaxy is 0.34 miles away
 - The nearest small galaxy is 2 miles away
 - The nearest large galaxy is 30 miles away
 - The edge of the observable universe is 16,000 miles away (the circumference of the earth is about 25,000 miles)

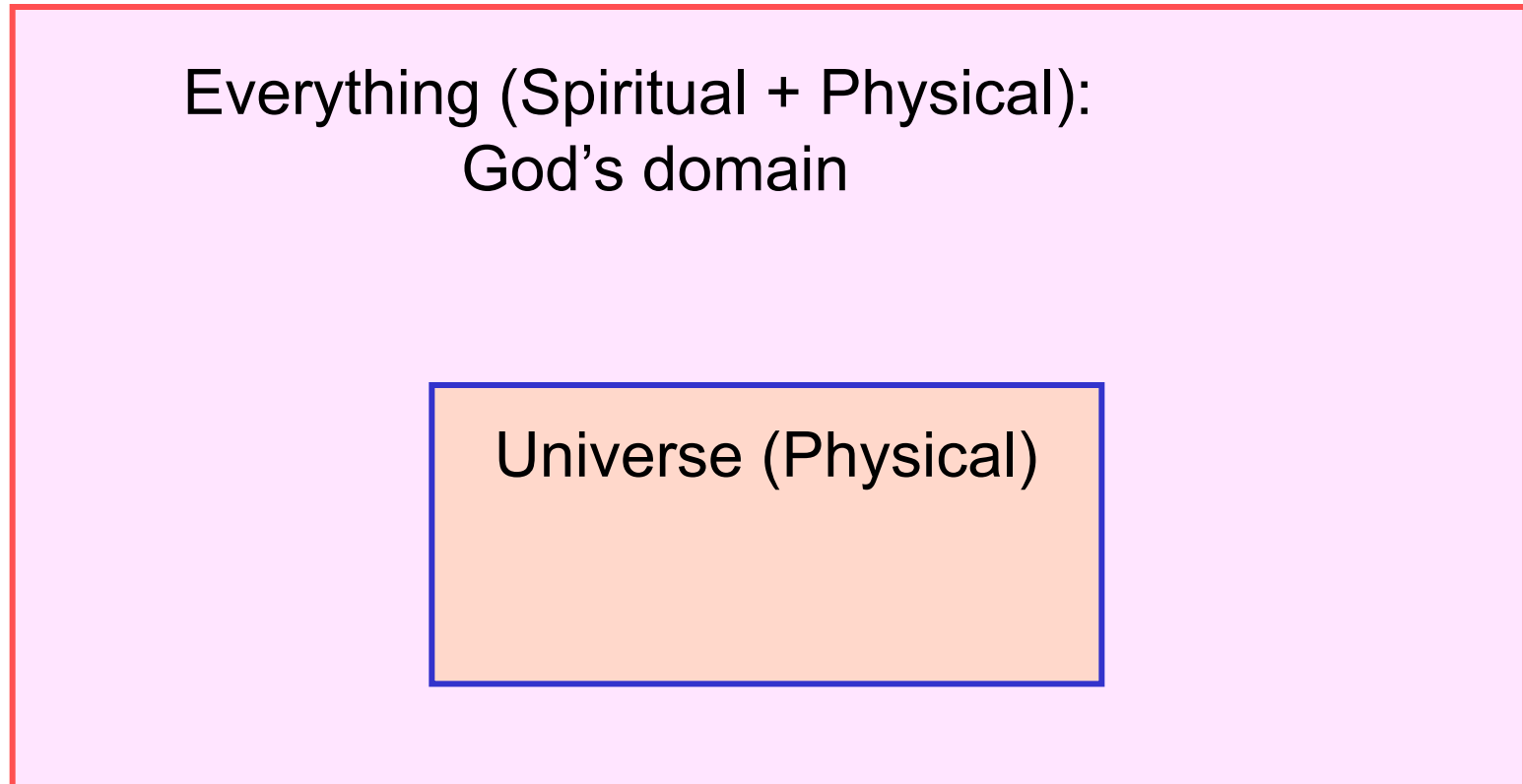
What is the amount of power and energy in the universe?

- Using $E=mc^2$, 50 grams of matter is equivalent to a one megaton hydrogen bomb blast (total conversion of mass to energy):
 - One pound of sugar is equal to 9 blasts
 - A person of my weight is equal to about 1500 blasts
 - One ton is equal to about 20,000 blasts
 - The earth is equal to about 3×10^{23} blasts
 - The observable universe is about 10^{52} blasts
 - This just includes the matter
 - How much radiation / energy is also there?

God merely spoke this into existence!
And His word sustains it (Hebrews 1:3)

Thinking outside the (physical) box

Something spiritual created something physical



God can interact with the physical, but He is not constrained by it
There is a different structure, a different set of rules

The Heavens Declare the Glory of God

The most reasonable conclusion



Could the Universe be an illusion?

The Ancient Greek idea of the Universe (Ptolemy)

- The circle and sphere were concepts of perfection
- The motion of the planets was seen as circles on the surface of celestial (crystalline) spheres
- The sky and stars were on spheres (as though painted on the ceiling)
- Spheres existed at set distances
- Each sphere was associated with notes on the musical scale
- The “harmony of the spheres” kept the universe in balance
- Everything was set in its place and in its order
- The earth was the center of the universe

Their view was an illusion

- It did not allow new things (problems with comets and nova)
- As measurements of the planets improved, the motions of the heavenly bodies (combinations of circles) grew more and more complex

Realization of the truth (1)

Copernicus (1473 – 1543)

- The sun is the center of the solar system
 - Perhaps not the center of the universe
 - Man is not the center
 - Much easier to describe the motions of the planets
 - Still thought of the orbits as circles

Kepler (1571 – 1630)

- The planetary motions are not circles, but ellipses
 - Still can be well described geometrically
 - Proved that the planets obeyed certain “laws” relating the period of revolution to the large axis (size) of the ellipse

Galileo (1564 – 1642)

- First to use the telescope to study the heavens
 - Found that Jupiter had moons which orbited that planet
 - Found many features of the moon and planets, and new stars
 - Condemned by the Catholic Church for his views – they refused to look through the telescope

Realization of the truth (2)

Newton (1643 - 1727)

- Developed the concept of gravity mathematically
 - Strength decreases inversely as the distance squared
 - Concluded that the universe must be infinite and filled with stars

Bessel (1784 - 1846)

- Able to measure the distance to some stars by parallax
 - measured geometrically at opposite sides of orbit

- General determination that the sky was filled with galaxies
 - The solar system lies at the edge of its galaxy, the Milky Way

Hubble (1889 - 1953)

- Galaxies are moving away from us
 - They going faster the further away from us they are (Doppler red-shift)
 - Means that the universe is expanding
 - The universe is extremely large

Could it still be an illusion?

We've been there



On July 20, 1969, astronauts Neil Armstrong and Buzz Aldrin set foot on the moon. Other spacecraft have landed on Mars, Venus, and asteroid Eros 433. Pioneer 10 has left the solar system and is heading into deep space.

What is the extent of the universe?

- Compress the diameter of the solar system (7.36 billion miles) to the thickness of tissue paper (0.001 inch), then:
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 - The observable universe is about 10^{52} blasts

God spoke this into existence, and His word sustains it

What about the earth?

Not at the center of our universe anymore

- Ordinary planet, revolving around an
- Ordinary star, at the edge of an
- Ordinary galaxy

The Cosmological Principle

The Universe behaves the same when seen by any observer at any point looking at any direction

But God still considers Man important

How long has it existed?

The Universe

Has always existed

Did not always exist

Are these the only two choices?

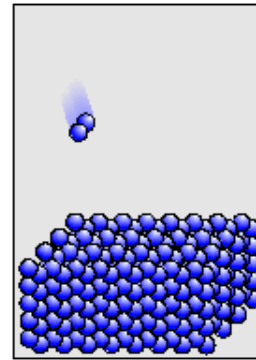
Choice 1: The Universe has always existed

- This does not explain its origin
 - We have an internal need to understand our beginnings
- Violates physical cause and effect (causality)
 - Every physical effect has a cause
 - There can be no first physical “cause”
- Violates the Second Law of Thermodynamics
 - Don't worry about the zeroth and first (or third) laws
 - The second law simply means that the universe is proceeding from order to disorder; it is winding down
 - Has this law changed?

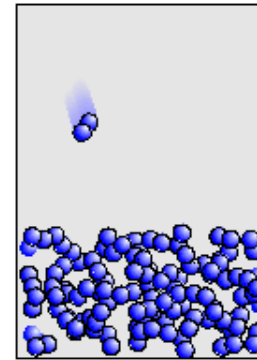
It is more reasonable to believe that the Universe has not always existed

The Second Law of Thermodynamics

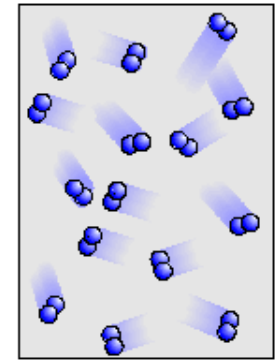
- Clock winding down
- Batteries losing power
- Ice melting
 - order to disorder
 - “entropy increases”



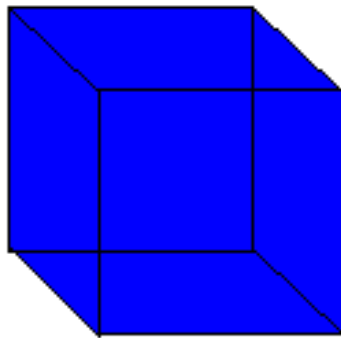
Solid
(order)



Liquid
(some order)

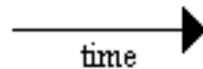


Gas
(no order)



ice cube
(crystal structure)

minimum entropy
maximum order

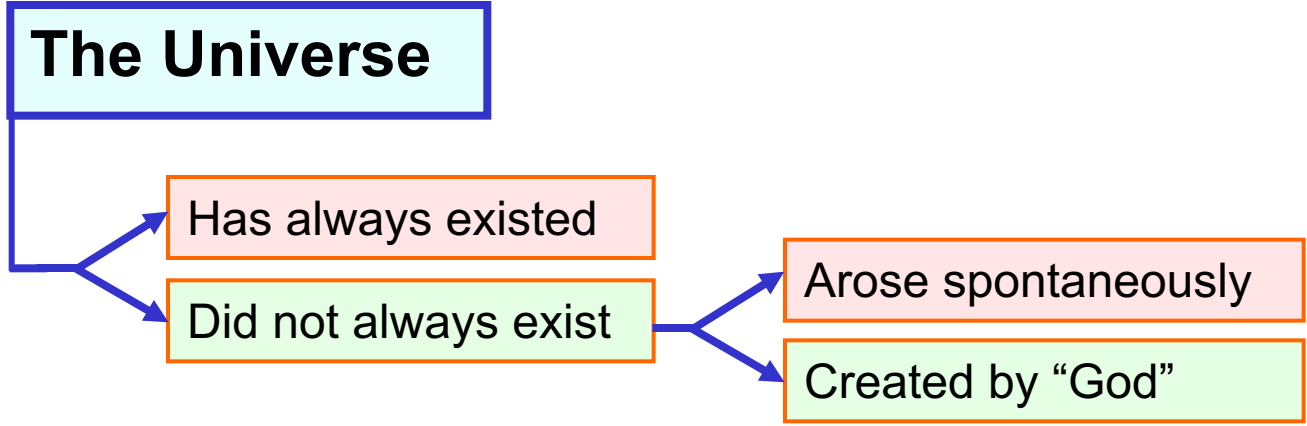


puddle of water
(no structure)

maximum entropy
minimum order

Energy level of all matter will eventually reach equilibrium

How did it begin?



The Universe has not always existed

It began at some time in the past

- It could not have arisen spontaneously
 - This violates the principle of the conservation of mass/energy (mass/energy can neither be created or destroyed)
- Something must have created it
 - Let us call that something **God**

Now we must consider cause and effect

Who or what created God?

Is He constrained by the same rules?

- To be able to create the physical universe, God must be of a fundamentally different nature
 - He is beyond or outside the physical, and not subject to its rules
 - He needs nothing to create Him
 - Call this larger or overarching world the **spiritual**
 - **We must understand that physical time was created by Him**

God is an existence that has no origin or beginning

We will discuss this in more detail later

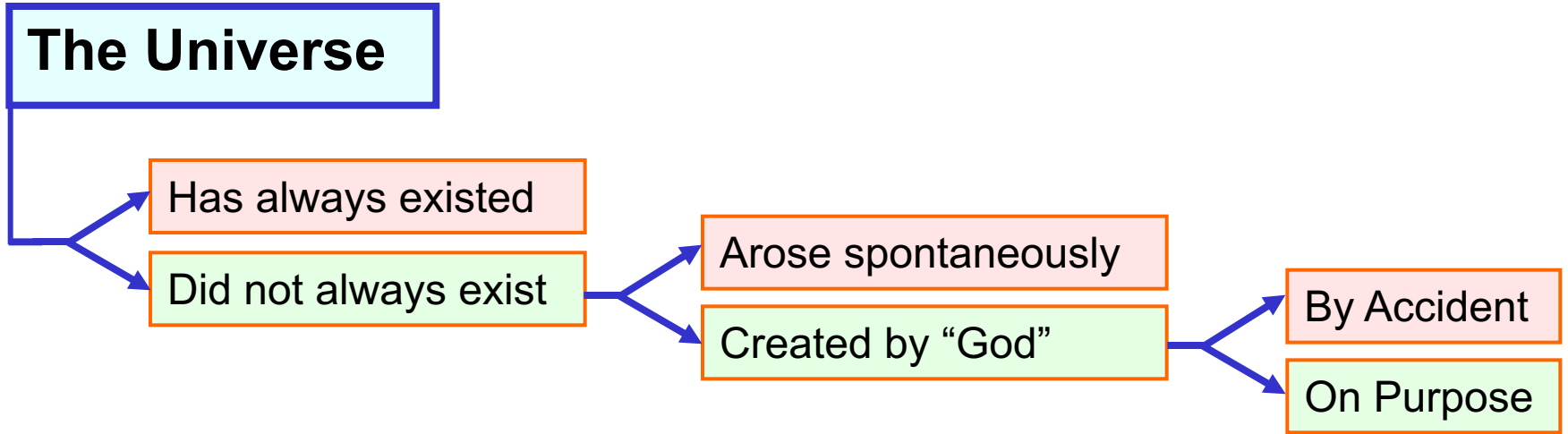
Example: Rules of the Game

Consider the creator of a game like Monopoly

- He constructs a “play” world where a particular set of properties are bought and sold according to certain rules
 - He has to roll dice and land on the property
 - Once bought, he can build houses and hotels in a very restricted manner
- But he can go out into his real world and buy things very differently
 - He is not constrained by the rules of the game he created
 - The rules may show some similarity



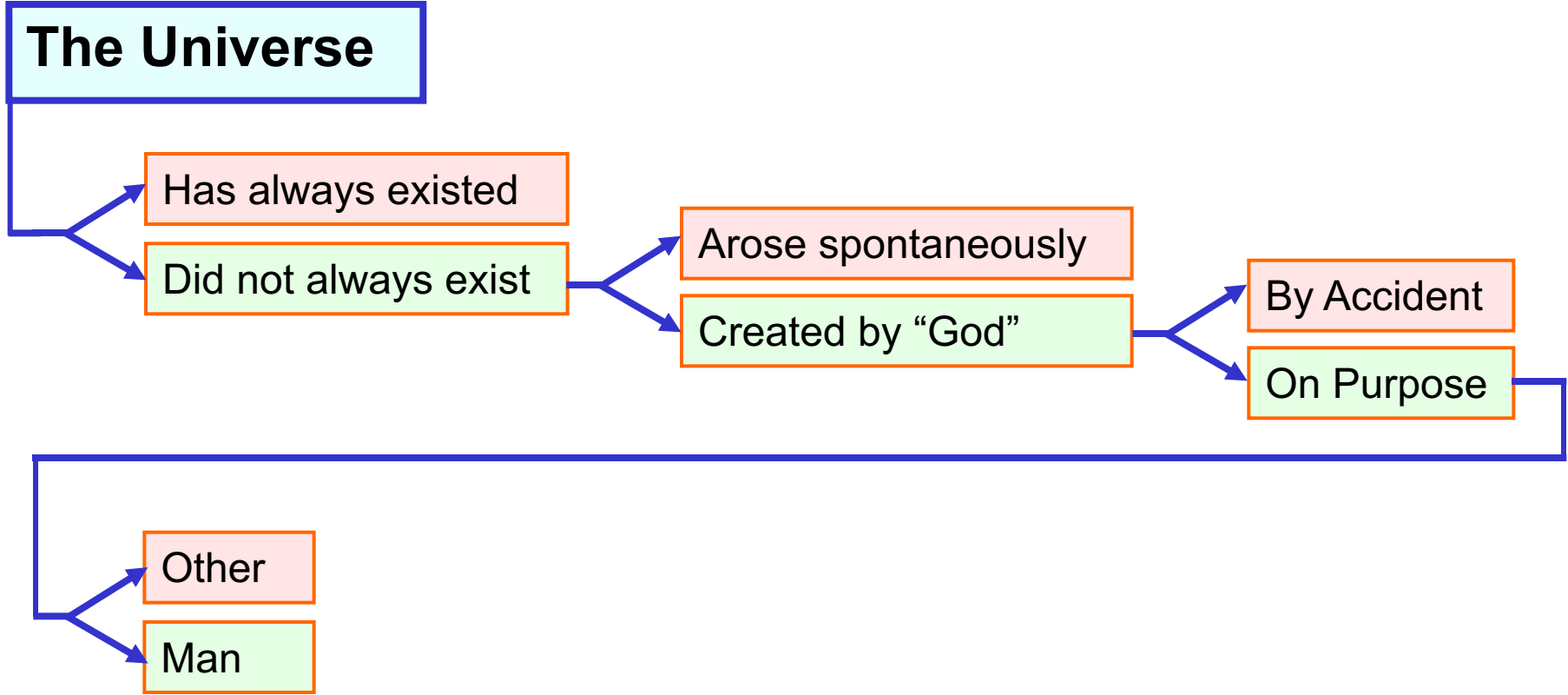
Was it created for a purpose?



Uncontrolled Creative Power?

- To have the awesome power to create such a universe but not to control it is not reasonable
- God must have created it on purpose

What was the chief purpose?

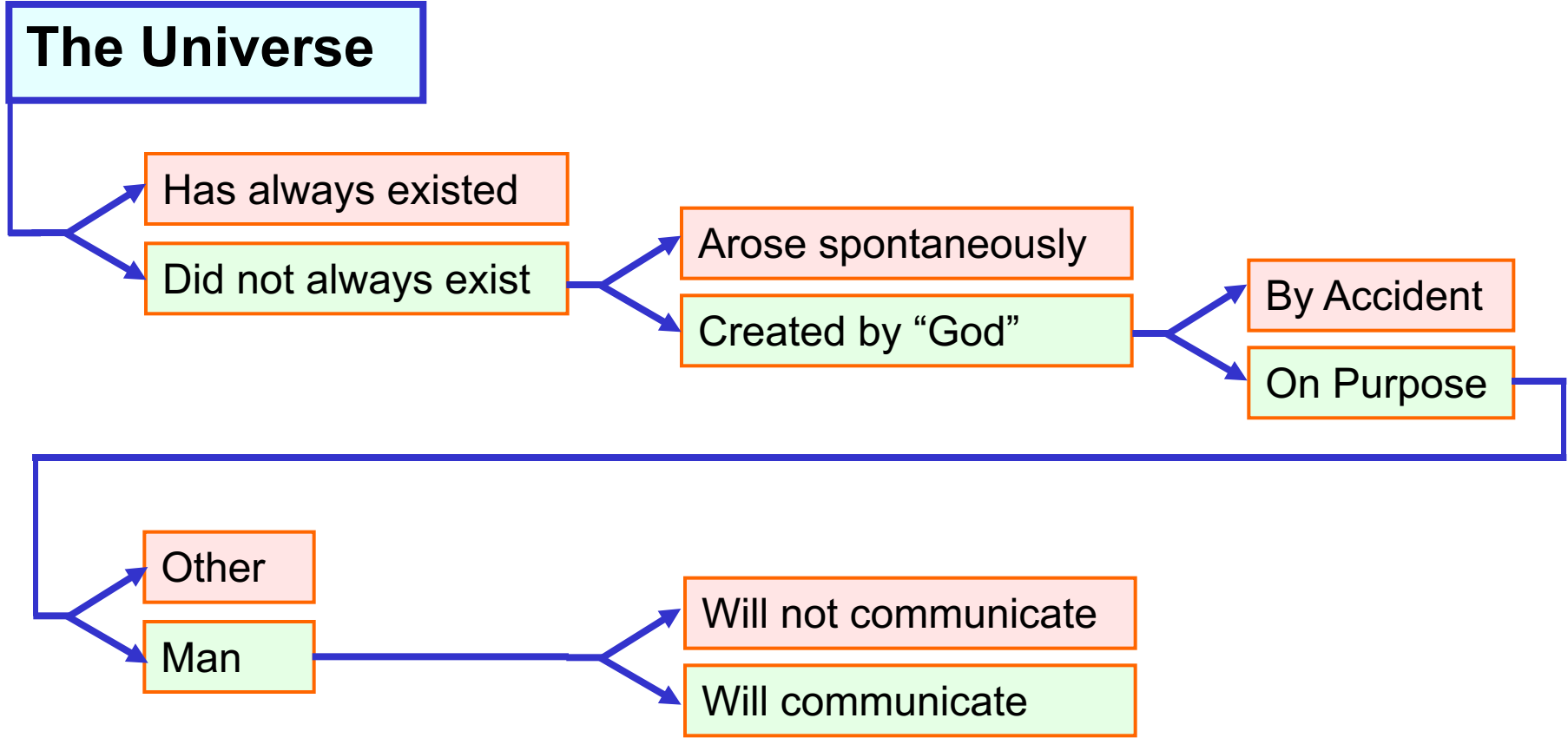


God created the Universe on Purpose

- Direct creation implies a purpose
- If God created the universe and all that it contains on purpose, then he created man on purpose
- Matter was created to house life (Isaiah 45:18)
- Life was created to support intelligent life (Man)
- Man was created to house the soul
 - The soul is something kin to or in some way a part of God
 - It is a part of that dimension or space that He exists in
 - Man is the only creature which can to any degree reflect the creative and intellectual power of God
 - It is not unreasonable to assume that God can connect the physical and the spiritual (blend soul and body)
- The soul was created to please God (Revelation 4:11) through a relationship with Him

The universe is a soul-building or soul-developing ground

Would God communicate with Man?



Would God communicate with man?

It seems reasonable that our reasoning powers are similar (but much inferior) to God's (Genesis 1:26, "in His image")

- For God to have no interaction or communication does not seem consistent with any idea we might have of purpose in creation
- If the purpose concerns a relationship between God and man, then God would need to communicate with him

The LORD will fulfill his purpose for me; your love, O LORD, endures forever-- do not abandon the works of your hands. (Psa 138:8)

God's purpose, then, demands that He would provide some means of communication

Would this communication be Evil or Good?

The Universe

Has always existed

Did not always exist

Arose spontaneously

Created by "God"

By Accident

On Purpose

Other

Man

Will not communicate

Will communicate

For Evil

For Good

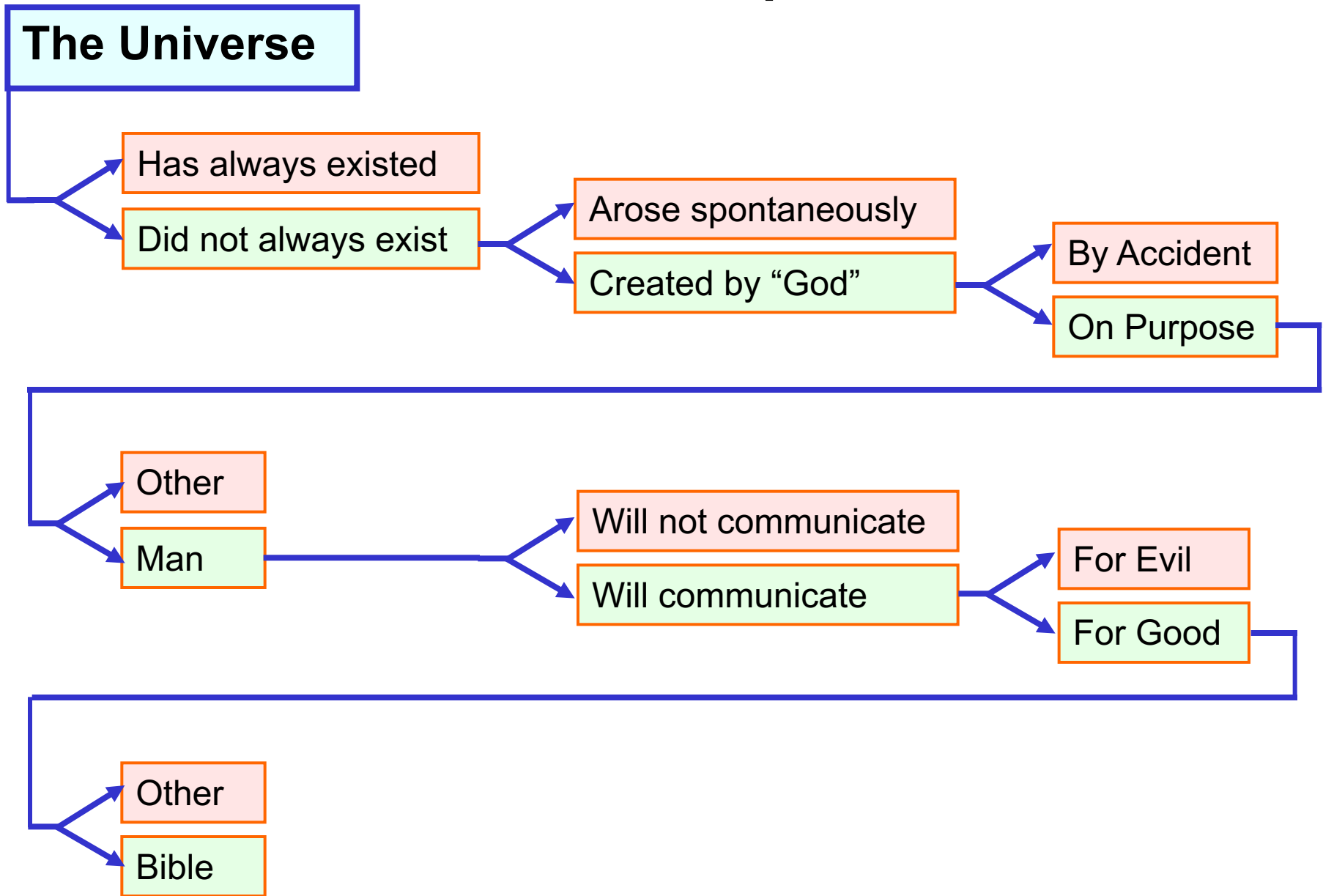
Would the communication be something Good? ³

It should show how to accomplish God's purpose

- It would be something to make man have the best relationship with God
- We are designed by God, and He knows what we need so that we can achieve His purpose
- He would want to support and strengthen us
- This communication would be an operator's manual, except on a higher plane
- God would hate sin or evil because it reduces the efficiency of the things that He has created to fulfill His purpose
- He would want to warn us about things harmful to us
- It would show that he cares for (loves) his creation

God's communication to us would necessarily be Good

What document best represents Good?



What would be the nature of that communication?

Needed characteristics:

- Have roots in the earliest history of man
- Given in stages due to the immaturity of mankind
- Show signs of God's creative power
- Describes creation from nothing
- Gives purpose for man
- Shows how God feels about man (Love)
- Tells how to achieve that purpose
- Preserved in written form

What is that communication?

Most significant examples

- Confucianism
 - deals mostly with morality and ethics
 - Si Shu (the four books), and Wu Jing (the five classics)
- Buddhism
 - no belief in a God; but believe in reincarnation and Nirvana
 - Emphasizes good works
 - Tripitaka
- Hinduism
 - recognizes a single deity, but also other gods and goddesses as facets or manifestations or aspects of that supreme God
 - transfer of soul after death; good deeds lead to higher level (Karma)
 - Chiefly the Bhagavad Gita and Rigveda; others include the Brahmanas, the Sutras, and the Aranyakas.
- Taoism
 - Tao is the first-cause of the universe. It is a force that flows through all life.
 - Each believer's goal is to become one with the Tao.
 - No personified deity or concept of the creation of the universe.
 - Inner meditation and outer observation, development of virtue.
 - Yin (dark side) and Yang (light side); interplay of opposites
 - Tao-te-Ching, and Chuang-tzu

What is that communication?

Most significant examples

- Judaism

- God is the creator of all that exists; he alone is to be worshipped
- God has communicated to man through the prophets.
- God monitors the activities of humans; he rewards good and punishes evil
- Believers are able to sanctify their lives and draw closer to God by fulfilling the divine commandments. No savior is needed or is available as an intermediary.
- The **Tanakh** [includes the **Torah** (Pentateuch), **Nevi'im**, and **Ketuvim** (remaining books in the Old Testament)], the **Talmud** [material from the **Mishnah** and the **Gemara**, which are basically commentaries)

- Islam

- A single, supreme, indivisible God (Allah)
- The angels; also Satan, who drives people to sin
- The Messengers of God, including Adam, Noah, Abraham, Moses, David, Jesus and Muhammad -- the last prophet; Muhammad's message is considered the final, universal message for all of humanity.
- The Day of Judgment
- The divine scriptures (the **Torah**, the **Psalms**, the rest of the **Bible** as they were originally revealed and the **Qur'an (Koran)**, which is God's words dictated by the Archangel Gabriel to Muhammad.

What is that communication?

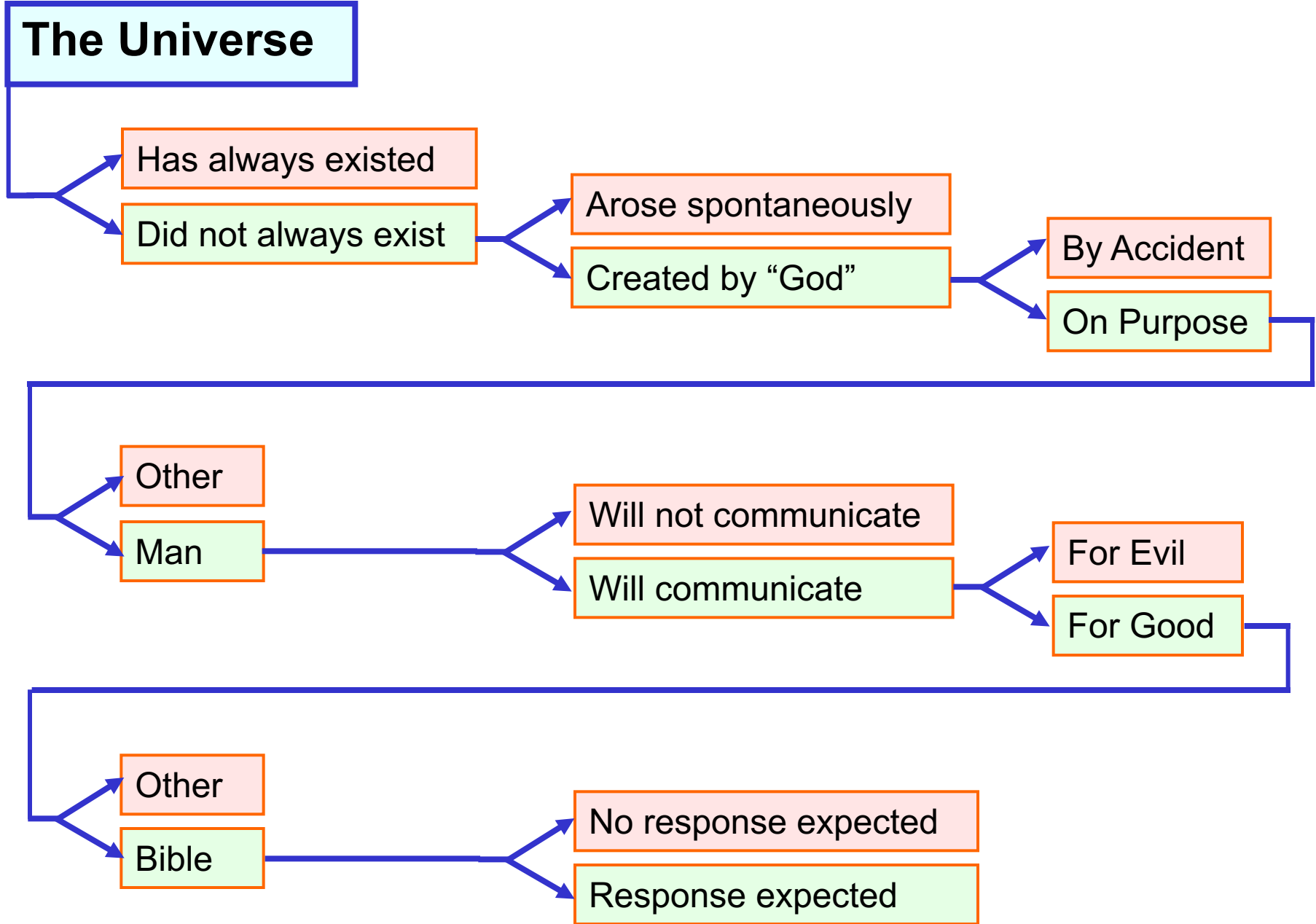
The other documents are missing a vital ingredient

- Christianity
 - God is the creator of all that exists; he alone is to be worshipped
 - Man sinned as a whole and falls short of being worthy of God's attention
 - God monitors the activities of humans; he rewards good and punishes evil
 - God is Absolute Good and He cannot accept sinners. A savior is needed as an intermediary. God has communicated to man first through the prophets.
 - The best way to live
 - That man is loved
 - God then sent a form of Himself to earth in human form
 - To show how much He loved man
 - To provide a way back into covenant relationship
 - The Bible [includes Old Testament and New Testament]

The Bible is unique in that it gives a personal definition of love:
The fullness of God came personally to reveal it by suffering

The Bible fits the requirements for God's communication best
We should examine it in further detail

What does God require of us?



Does God want us to respond to Him?

- We cannot accomplish His purpose unless we respond to him
- This response takes the form of the development of a relationship
 - Worship God as Creator and Absolute Good
 - We are to be His people
 - Rely on Him in our struggle with sin and life's problems
 - The Bible is a message designed to cause us to respond
 - How can we not respond to the cross of Christ?

Love the LORD your God with all your heart and with all your soul and with all your strength. (Deuteronomy 6:5)

O Jerusalem, Jerusalem, you who kill the prophets and stone those sent to you, how often I have longed to gather your children together, as a hen gathers her chicks under her wings, but you were not willing.
(Matthew 23:37)

God greatly desires us to respond to Him

What do we have in Common with God?

- God created the physical world to house the spiritual soul
 - He doesn't need it as we do
 - We don't know the rules of the spiritual world, except what He has shown us
 - But we know the basic connection is through our minds
- What do we have in common apart from the physical?
 - Once the physical world is gone, only the relationship is left
 - Our relationships are the only thing that represent the spiritual world
 - Physical characteristics will mean nothing
 - The way we feel about and treat each other is the connecting thread

Our response must relate to how we treat God and man

Fulfilling the purpose

- Those who do not respond to God
 - The physical universe collapses on them
 - God no longer holds it up
 - Hell is being without God
 - There is an realm of Evil in the spiritual world, but God will enforce an impassable barrier
- Those who do respond to God
 - Transcend fully into the higher (spiritual) dimension
 - They will be with God forever as companion

We will discuss man's impact on the universe later on

The Heavens Declare the Glory of God

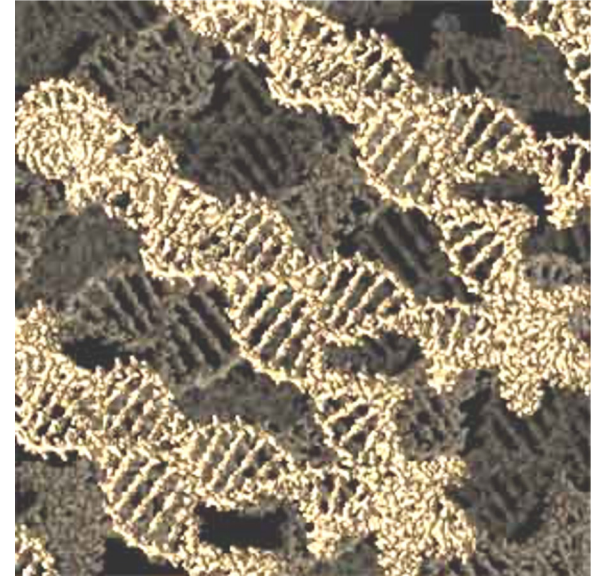
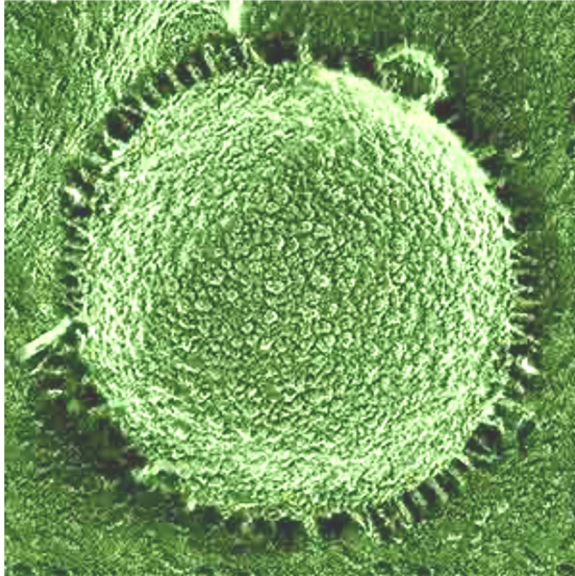
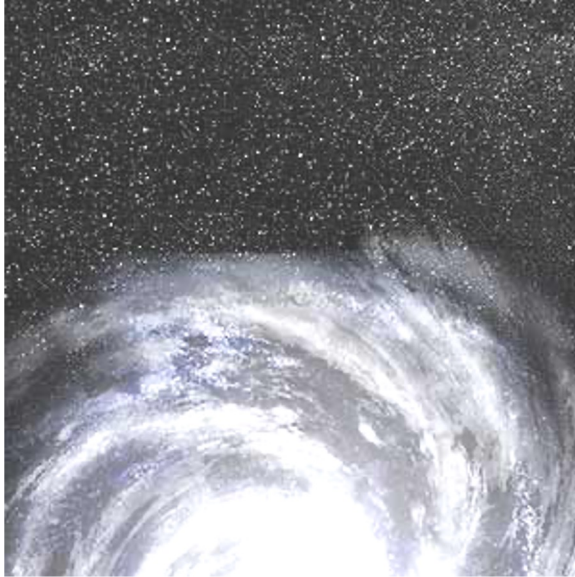
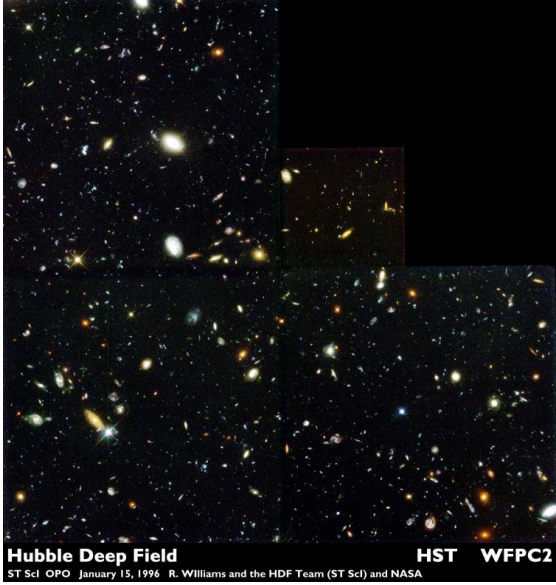
Views of origin and structure



Horsehead Nebula

Path of Reasoning

The universe exists



The Universe

Psalm 33:6-9

By the word of the LORD were the heavens made, their starry host by the breath of his mouth.

He gathers the waters of the sea into jars; he puts the deep into storehouses.

Let all the earth fear the LORD; let all the people of the world revere him.

For he spoke, and it came to be; he commanded, and it stood firm.

The Universe

Theories of Origin

- Infinite/Eternal Universe
- Steady State (Expanding) Universe
- Hot Big Bang
- Oscillating Universe
- Hartle-Hawking Model

Assuming that the laws remain the same since the beginning

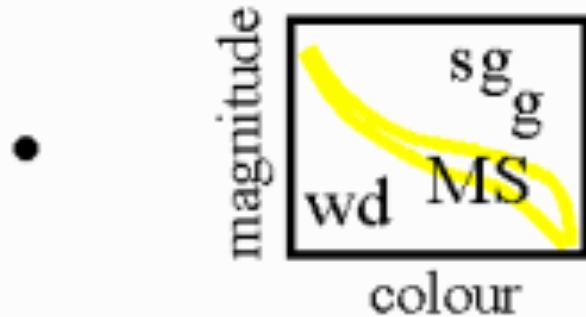
Infinite/Eternal Universe

Already discussed to some extent

- Violates Second Law of Thermodynamics
 - The universe is running down
 - How could something with a definite lifetime have existed forever in the past?
- Paradox of the Dark Night Sky
 - Universe filled with stars
 - Light we see decreases as square of distance
 - Number of stars (volume) increases with cube of distance
 - The universe should be too hot to live in

How do you measure distance in space?

- Trigonometric parallax



Hertzsprung-Russell diagram

- Cepheid variable stars

**bright and slow
faint and fast**



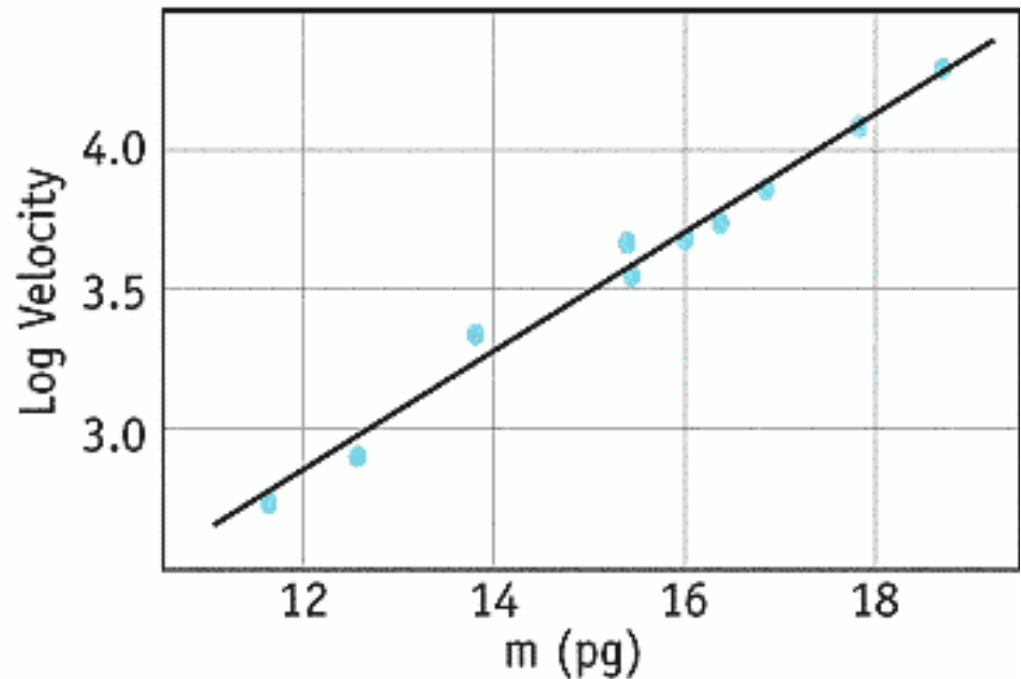
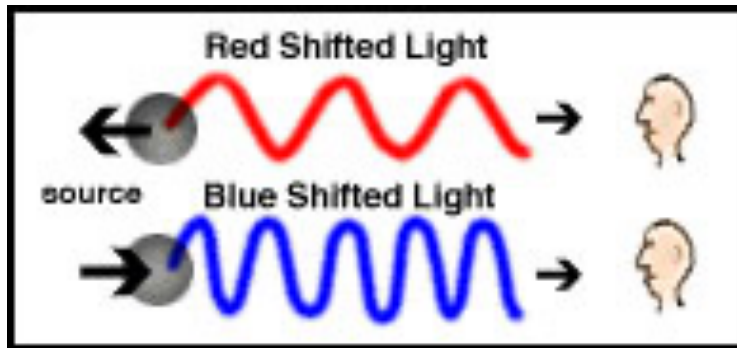
Brightest galaxy in a cluster

- Redshift

Expanding Universe

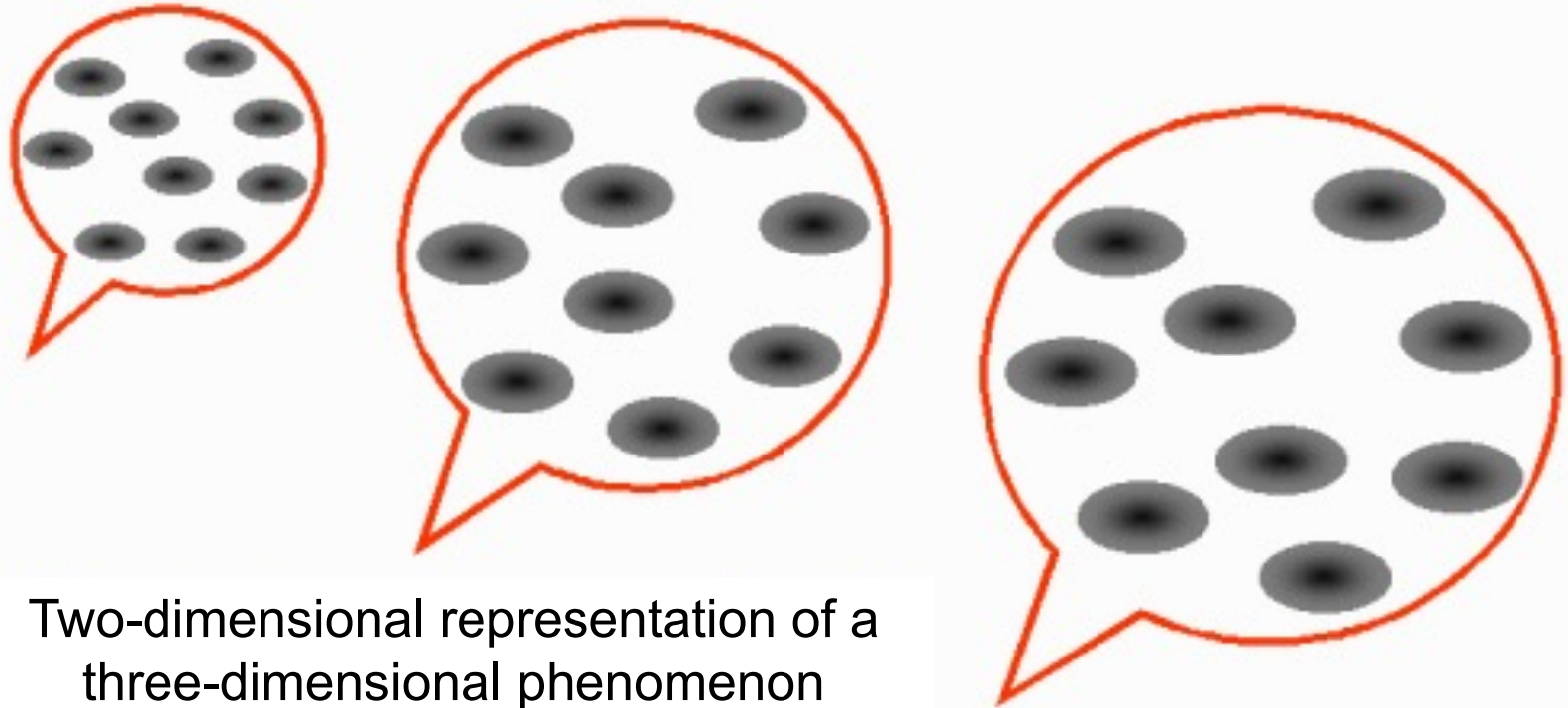
First indicated by dark night sky

- Measurement of Red-shift of distant galaxies
 - The further away a galaxy is, the faster it is moving away from us
 - The Doppler effect is what makes the train whistle change pitch as it passes you



Expansion Illustration

Imagine a balloon with galaxies painted on it...
Blow up the balloon to see the universe expand!



Two-dimensional representation of a
three-dimensional phenomenon

It all expands uniformly in all directions; there is no real center

The further objects are away, the faster they separate

It is expanding so fast that light from distant galaxies cannot reach us

There is an “event horizon” that is the end of what we can see

Solid State Universe

Like the infinite/eternal, with the addition of expansion

- Fred Hoyle and others
 - Opposed the Big Bang Theory (to be discussed shortly)
 - Did not require a point of creation
 - Due to the uniformity of the universe, suggested continual creation of hydrogen in the deep vacuum of space
 - Quantum fluctuations (uncertainty principle) allows this
 - As the universe expanded and became less dense in areas hydrogen would form to balance the loss
- Problems
 - No stars appear to be greater than a certain age (should be if the universe has existed for a very long time)
 - All galaxies appear to have the same age (none newly formed)
 - Not many hold this theory any more

Hot Big Bang

Extrapolate back (reverse the expansion) to find the initial time

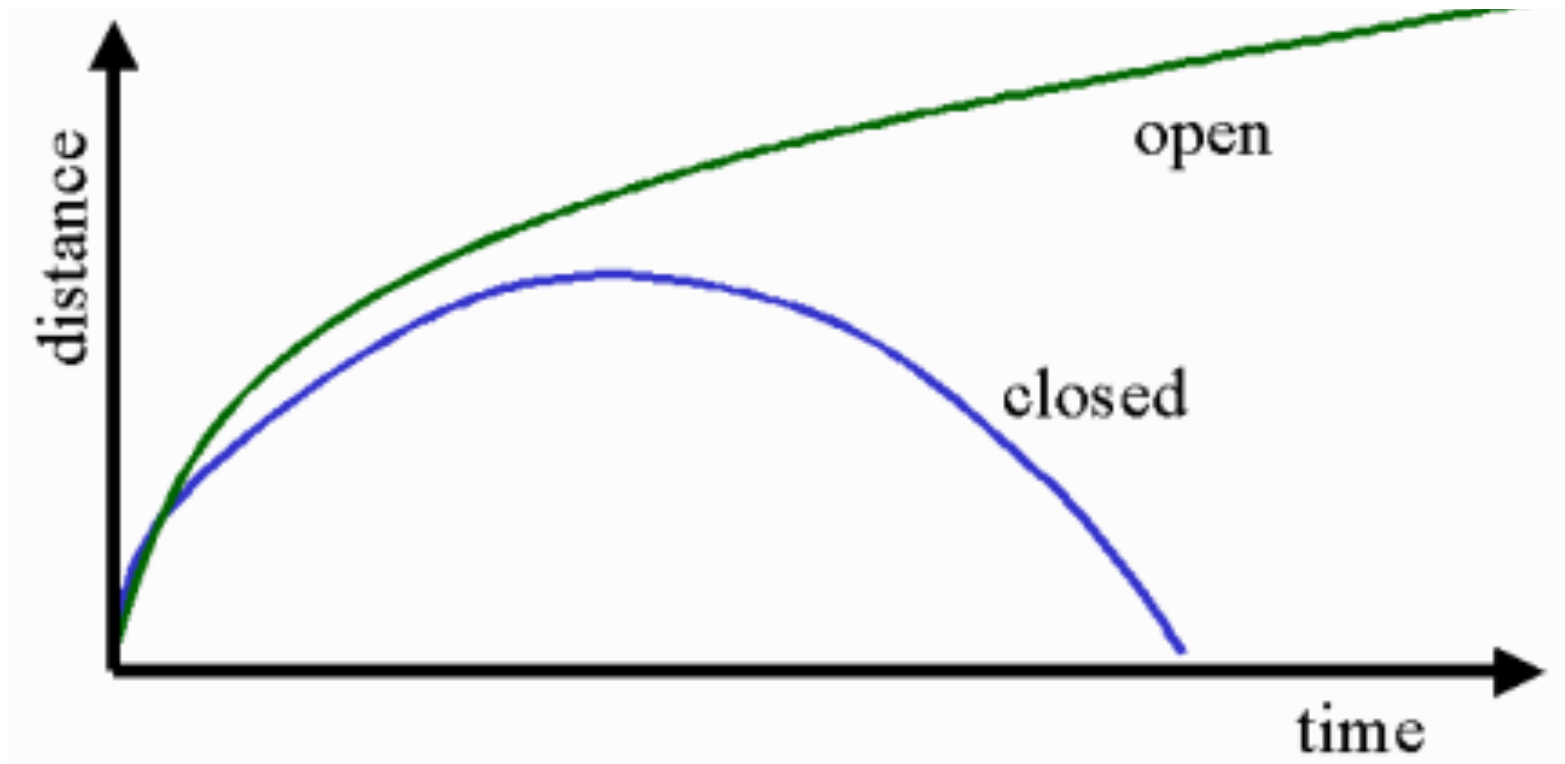
- George Gamow – first model (1946)
- Arno Penzias – radio noise (1965)
 - background radiation measurement
 - artifact of the initial explosion
 - data fits 2.7 K prediction
- Cosmic Background Explorer (COBE) (1992)
 - measured ripples in background radiation
 - higher level verification of theory (uncertainty principle)

Implications:

- Time, space, matter, energy all came into existence at once
- Time is a created dimension

Will the Universe continue to expand?

- Open (continues to expand forever)
- Closed (shrinks back after maximum expansion); could be “Big Crunch”
- Oscillating (keeps cycling back and forth)



A certain amount of matter is needed to reverse the expansion
So far, only 10 to 50 % of the matter needed has been detected

The Hartle-Hawking Model

How can we know what happened in the first instant after the Big Bang?

- Stephen Hawking determines evidence for singularities
 - What is a singularity?
 - Like dividing by zero: very large mass in a very small volume
 - It indicates an origin at a particular time
- Quantum mechanics invoked prior to 10^{-43} second, to eliminate the problems related to singularity
 - What is Quantum Mechanics?
- Requires use of imaginary time
 - What are imaginary numbers?
 - Conceptual tools that have no physical basis (except that it might explain something)

Ordinary physics cannot explain it

Quantum Mechanics

- Quanta of energy -- $E = h\nu$
- Classical: Radiation from accelerating objects (like the electron)
 - This means it runs out of energy very quickly orbiting the nucleus
 - Neils Bohr first suggested the theory that they could remain stable, only changing energy levels by well-determined steps
- Wave / Particle duality of nature -- $\lambda = h/mv$
 - Is light a wave or a particle (photon)?
 - It is something that we can sometimes view one way, sometimes another (wave: interference; particle: photoelectric effect)
 - Louis DeBroglie found that objects with momentum also had a wave nature
 - The Schroedinger equation describes objects in terms of wave functions
- The uncertainty principle
 - The products of certain pairs of physical quantities cannot known better than $h/4\pi$
 - Position and momentum, Energy and time
 - Electron probability density, not an orbit
- The influence of the observer (impact of photon on small particle)

Planck Scales (named for Max Planck)

There is a point where we cannot treat space-time as continuous
The continuum required for relativity is incompatible with the uncertainty
that is fundamental to quantum mechanics

Beyond this the laws of physics no longer give meaningful answers

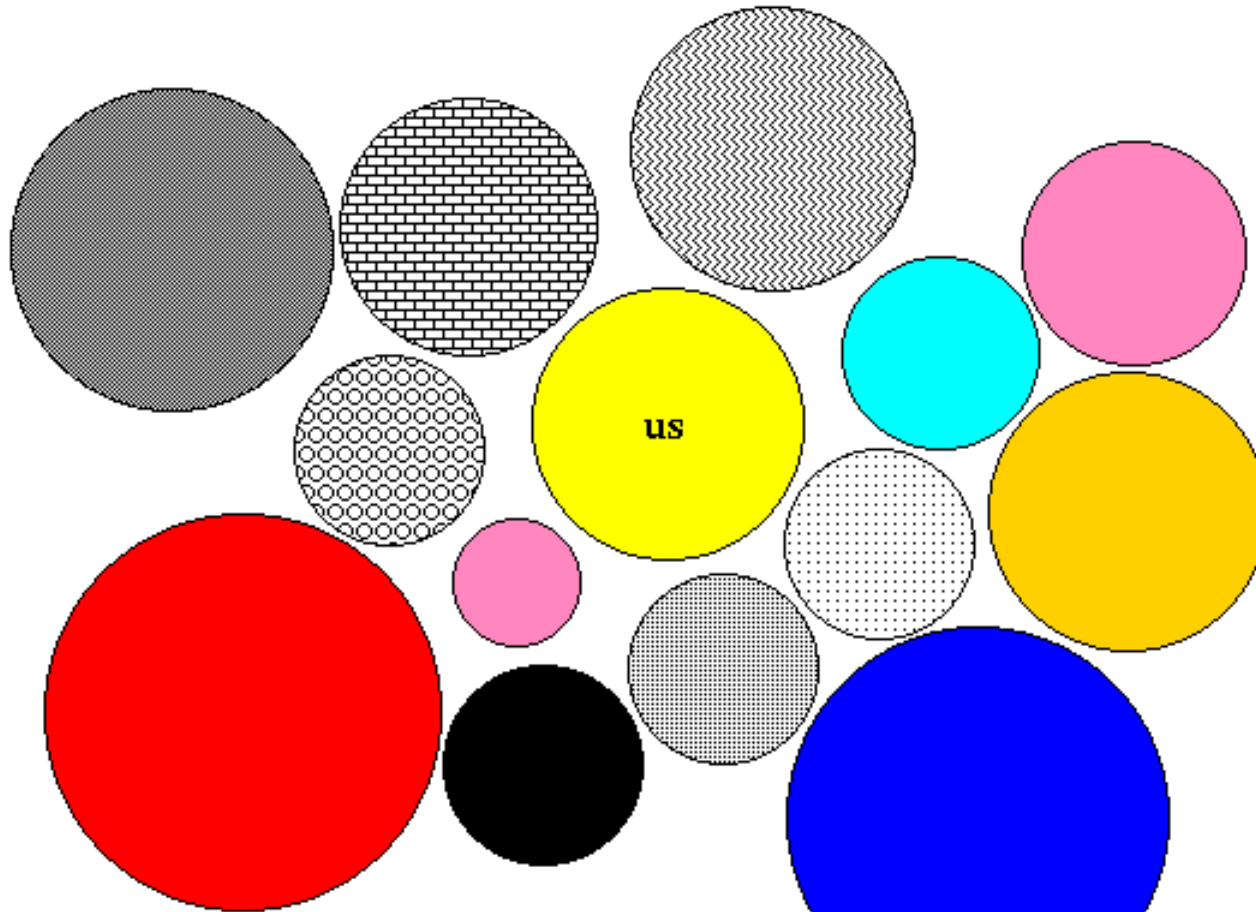
- Planck Time: $\sim 10^{-44}$ sec
- Planck Length: $\sim 10^{-33}$ cm
- Planck Mass: $\sim 10^{-5}$ gm
 - An object of such mass at the Planck volume would be a black hole
- Planck Temperature: $\sim 10^{32}$ K

Some physicists use these 'cracks' in space-time to introduce the idea of higher dimensions that we cannot see to explain higher level phenomena such as the origin of the universe

Funny that they scoff at those who believe in the spiritual world
(essentially a world of other dimensions)!

Bubble Universes

Like bubbles in boiling water – some collapse and disappear



The other universes are outside our event horizon

Star Trek Questions

- Warp Speed
 - Faster than the speed of light?
 - Spatial jumps through a higher dimension
- Power (matter – antimatter conversion)
- Time Travel
- Teleportation
 - Matter
 - Information
- Life on other worlds
 - communication
 - visitation

You might enjoy the book
The Physics of Star Trek by Lawrence M. Krauss

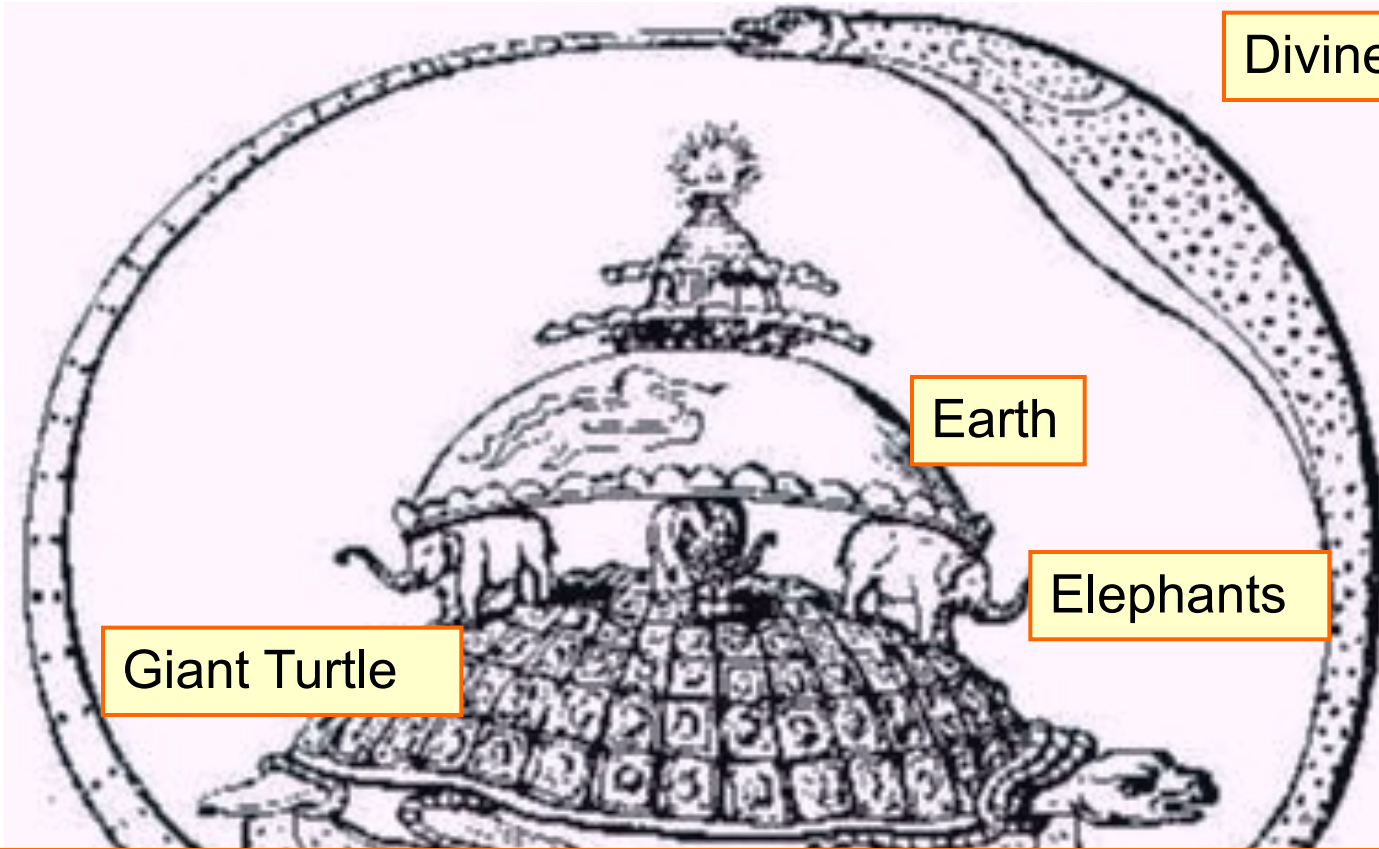
What is the foundation of our universe?

These theories beg the question:
What holds up the universe?
What is its origin?

They haven't answered the crucial question:
How did the "laws" or "structure"
of the universe get here?

They only back up the question to the point where it sounds like they have answered the question.
If they explain far enough back in time, most people lost interest and let it go.

Ancient Hindu Cosmology



Divine Cobra

Earth

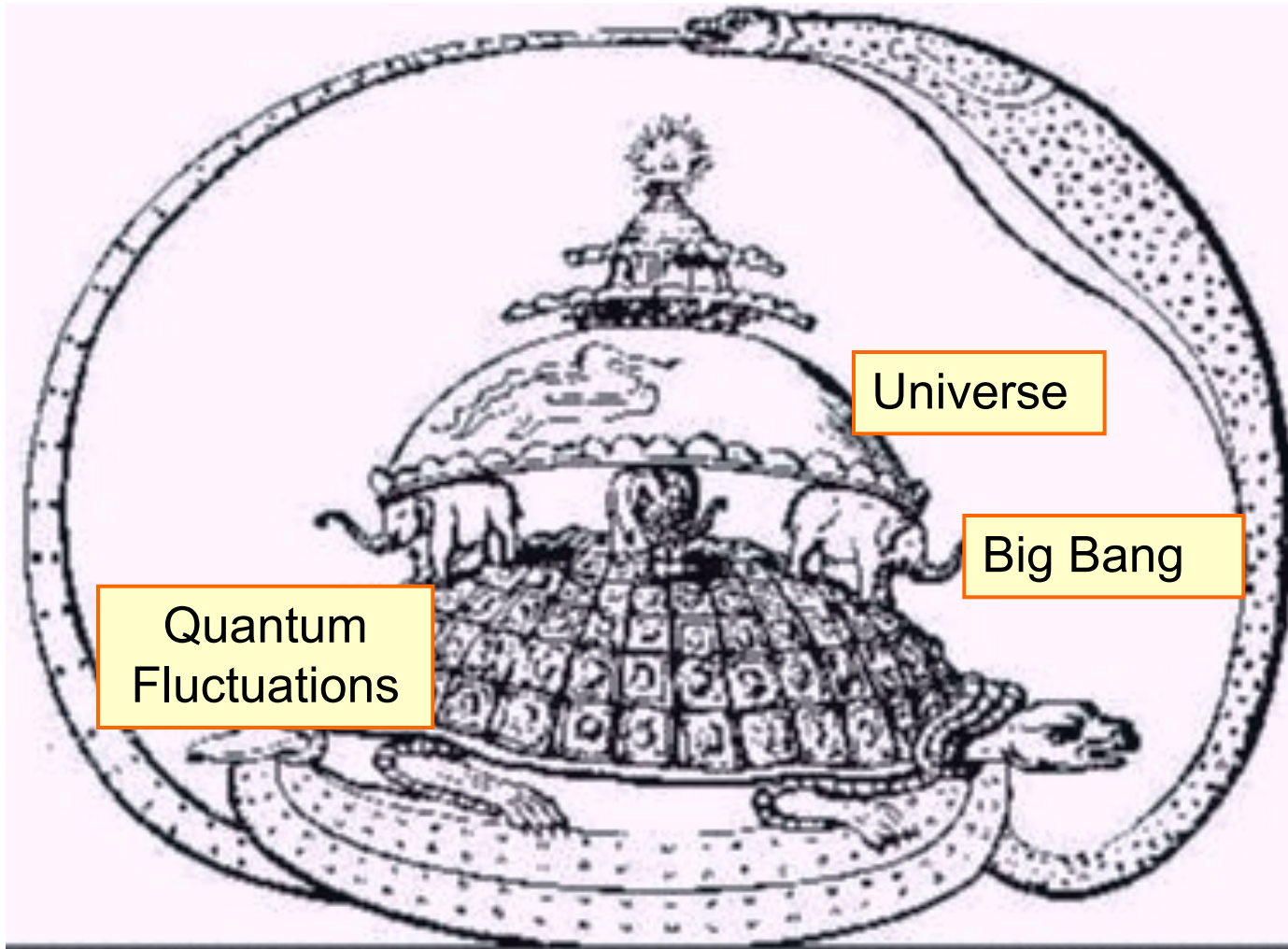
Elephants

Giant Turtle

Alternately: Some have the Turtle floating in a sea
 Some have Turtles on top of Turtles, forever

What holds up the earth?
There must always be a foundation somewhere
Most people give up before they get to the bottom of it

Modern Science Cosmology



The names are different, but they still don't answer the fundamental question: Where did the physical stuff or structure come from?

What is the foundation of the earth?

(Job 9:6) He shakes the earth from its place and makes its pillars tremble.

Literal pillars, or laws and structure?

(Job 26:7) He spreads out the northern skies over empty space; he suspends the earth over nothing.

What supports it?

(Heb 1:3) The Son is the radiance of God's glory and the exact representation of his being, sustaining all things by his powerful word.

How did the structure become established?

Only an intelligent Creator could have set it up.

- Space
- Light
- Matter
 - Subatomic particles
 - Atoms
 - Molecules
- Life
 - Cells
 - Plant, animals
 - Man

What is stuff made of?



There are so many different substances in our world
What are the fundamental building blocks?

Early Periodic Table

The ancients considered matter to be composed of four basic elements

Aristotle added the fifth element (quintessence)

- Aristotle divided the universe into two regions:
 - the realm of change near the earth
 - four classical elements: earth, water, air, and fire
 - eternally unchanging heavens.
 - an unchangeable, transparent material called the ether.

E 1 Earth	W 2 Water	A 3 Air	F 4 Fire
--------------	--------------	------------	-------------

Et 5 Ether

The idea of atoms

- Pythagorean notion of the regular solids playing a fundamental role
Leucippus and Anaxagoras had proposed an atomic system
- Democritus (400 BC) had a much more elaborate and systematic view
 - *the Void was a vacuum, an infinite space, filled with atoms*
 - *these atoms are eternal and invisible*
 - *atoms are absolutely small, so small that their size cannot be diminished (hence the name atomon, or "indivisible")*
 - *they are absolutely full and incompressible*
 - *they differ only in shape, arrangement, position, and magnitude.*
- Democritus explained all changes in the world as changes in motion of the atoms, or changes in the way that they were packed together.
- The whole of the structure proposed by Democritus was quantitative and subject to mathematical laws.
- Qualitative differences are only apparent and result from impressions of an observer caused by differing configurations of atoms.
- He proposed an early form of the conservation of energy

Democritus suggested that matter was made up of 'indivisible atoms'

Atomic theory

- John Dalton (1803) developed the first useful atomic theory of matter.
- In the course of his studies on meteorology, Dalton concluded that evaporated water exists in air as an independent gas.
 - Solid bodies can't occupy the same space at the same time, but obviously water and air could.
 - If the water and air were composed of discrete particles, Dalton reasoned, evaporation might be viewed as a mixing of water particles with air particles.
- He realized the vital theoretical connection between atomic weights and weight relations in chemical reactions. He was the first to associate the ancient idea of atoms with stoichiometry (what numbers of atoms of each element combine).

1. All matter consists of tiny particles.
2. Atoms are indestructible and unchangeable. (Conservation)
3. Elements are characterized by the mass of their atoms.
The discovery of isotopes: Elements are characterized by their atomic number
4. When elements react, their atoms combine in simple, whole-number ratios.

Dalton developed the first real atomic theory of matter

Problem!

- In the attempt to reduce the structure of matter to a few fundamentals, things have gotten away from us
- Now, instead of the four or five elements, we have many (tens) of them
- How do we find what is the fundamental core of these elements?
- Once again, there is a need to reduce to a few fundamentals

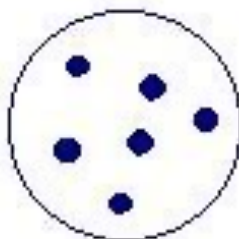
Scientists began to search for a way to understand all of the elements and how they combine to form substances

Order emerged from this organization

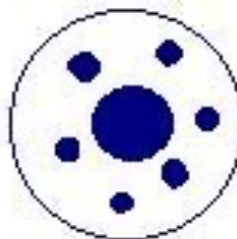
A better picture of the atom



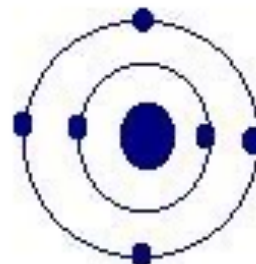
a. Dalton's model



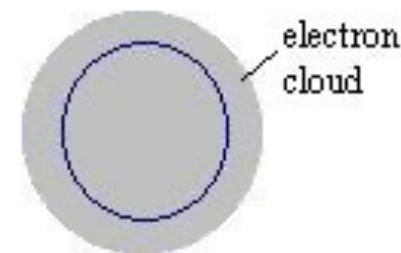
b. Thomson's model



c. Rutherford's model



d. Bohr's model

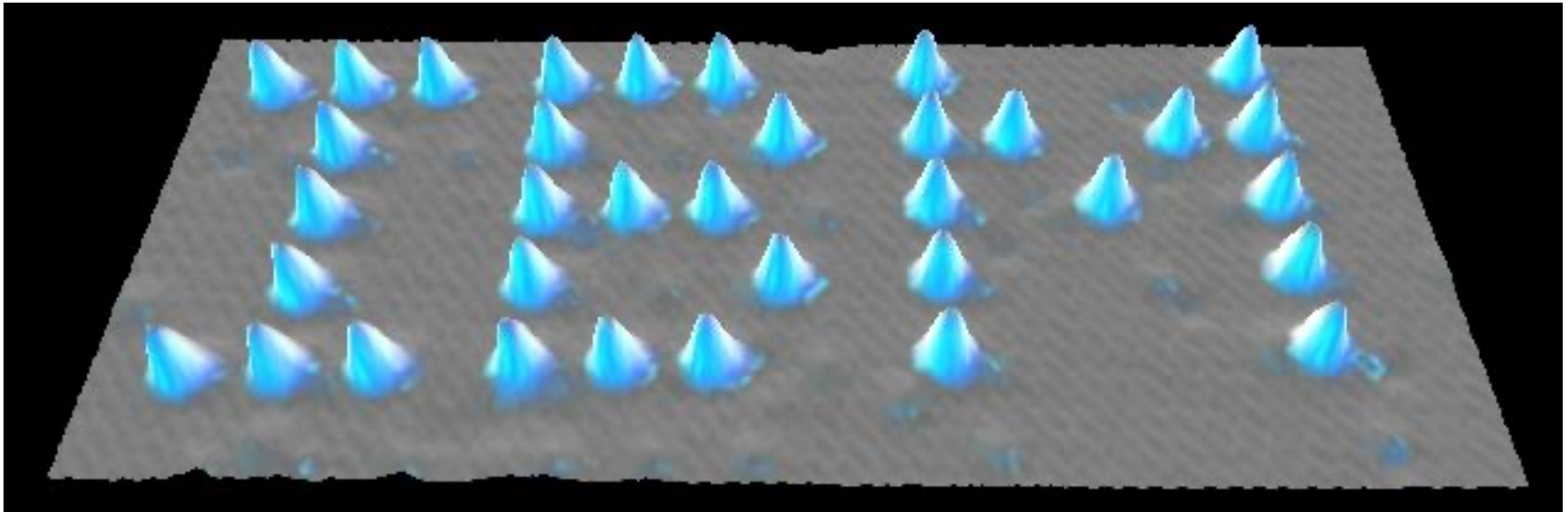


e. Quantum mechanical model

- The grouping suggested a well-defined internal structure
- Electrons (negative charge) were found to be a part of the atom
- The proton (positive charge) was postulated to neutralize the charge
- Neutrons were later found to be essential to hold the protons together
- Electron shells dictated the way elements combined

Can we see an atom?

Scientists can locate atoms very precisely



This is an image of Xenon atoms on Nickel

Back to three fundamental particles

But we couldn't leave well enough alone!

- By looking more closely, other “fundamental” particles began to emerge which were important to the structure of matter
- Collisions of matter at high energies produced all kinds of new things
 - anti-particles
 - neutrino
 - muon
 - pion
 - and on and on...

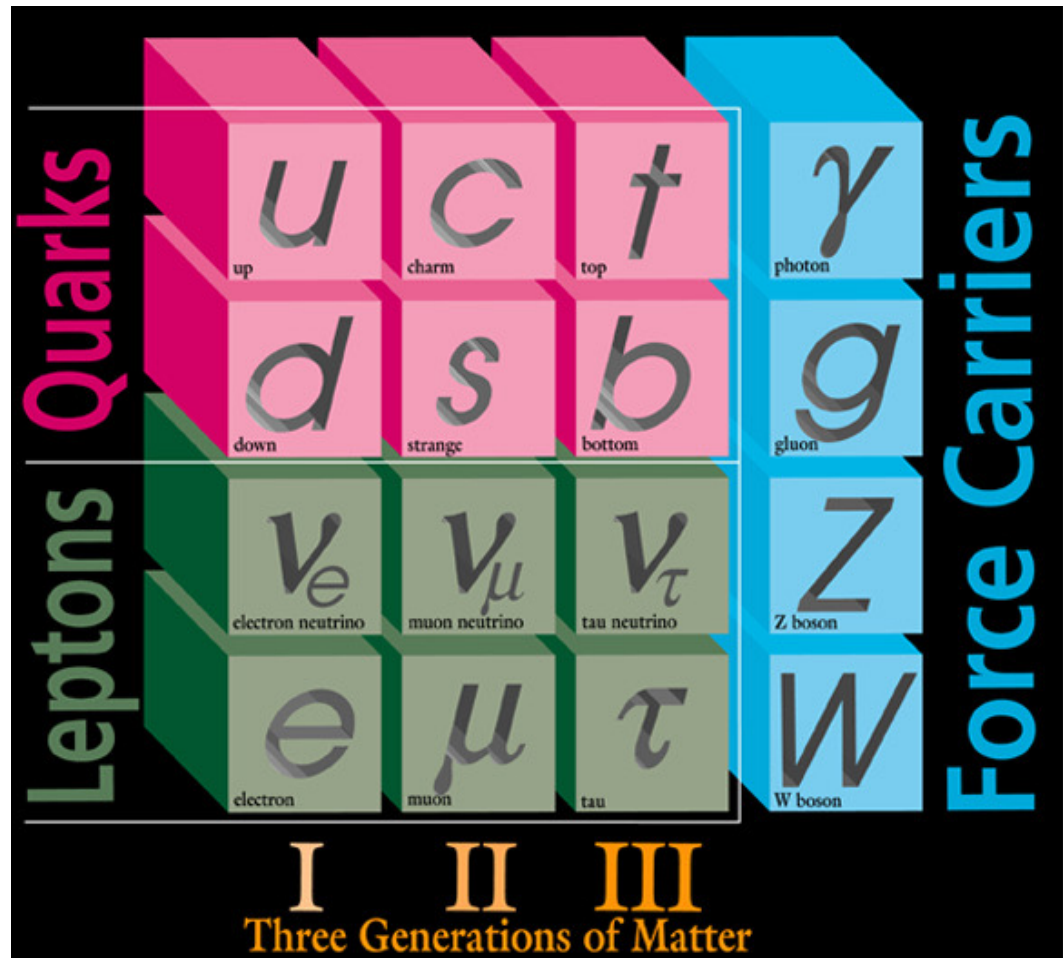
Now we have a problem again!

What are the fundamental particles?

Quarks!

Murray Gell-Mann claimed it was a “particle zoo”
He proposed fundamentals with fractional charge

- It takes more and more energy to split out the particles that are more deeply imbedded in the structure of matter
- We need more energy than we have to split things much further



Can three, or six, or even nine quarks explain it all?

What about other structure?

The fundamental forces

- Four basic forces known in relativistic space-time:
 - gravity
 - electromagnetic
 - strong nuclear
 - weak nuclear
- Thought to have split from a unified symmetrical force at the Big Bang
- “Fundamental constants” may have been different
- Gravity split off first
- Then there was a split into the other three

Going backwards to look at the first Planck time after the Big Bang, there are difficulties in trying to determine the exact nature of the laws and forces which drive the creation of the universe

Can we find the true fundamentals?

The closer we look, the more elusive they become

The universe will always look somewhat fuzzy to us

- Godel's theorem
 - Mathematicians sought ultimate proof
 - In any formal system of rules, questions always exist which can neither be proved or disproved by those rules
 - "this statement is false"
- Heisenberg's Uncertainty Principle
- Chaos even in deterministic systems
- No knowledge of the uniformity of the past

We need help from a higher source, the designer

The Universe

Psalm 19:1-6

The heavens declare the glory of God;

the skies proclaim the work of his hands. Day after day they pour forth speech; night after night they display knowledge. There is no speech or language where their voice is not heard. Their voice goes out into all the earth, their words to the ends of the world. In the heavens he has pitched a tent for the sun, which is like a bridegroom coming forth from his pavilion, like a champion rejoicing to run his course. It rises at one end of the heavens and makes its circuit to the other; nothing is hidden from its heat.

This is followed by David's love for the Goodness of God

How did the structure of the universe get here? ⁵

These theories beg the question:
What holds up the universe?
What is its origin?

They haven't answered the crucial question:
How did the "laws" or "structure"
of the universe get here?

- They only back up the question to the point where it sounds like they have answered the question.
- If they explain far enough back in time, most people lost interest and let it go.

Only an intelligent Creator could have set it up.

Zooming in for a closer look

We zoomed in pictorially from the observable universe to the smallest particle

Then from different types of matter we zoomed in to try to determine the fundamentals of its makeup

Let's reverse the process to look at the way matter combines to form man

Expand back out and examine the design

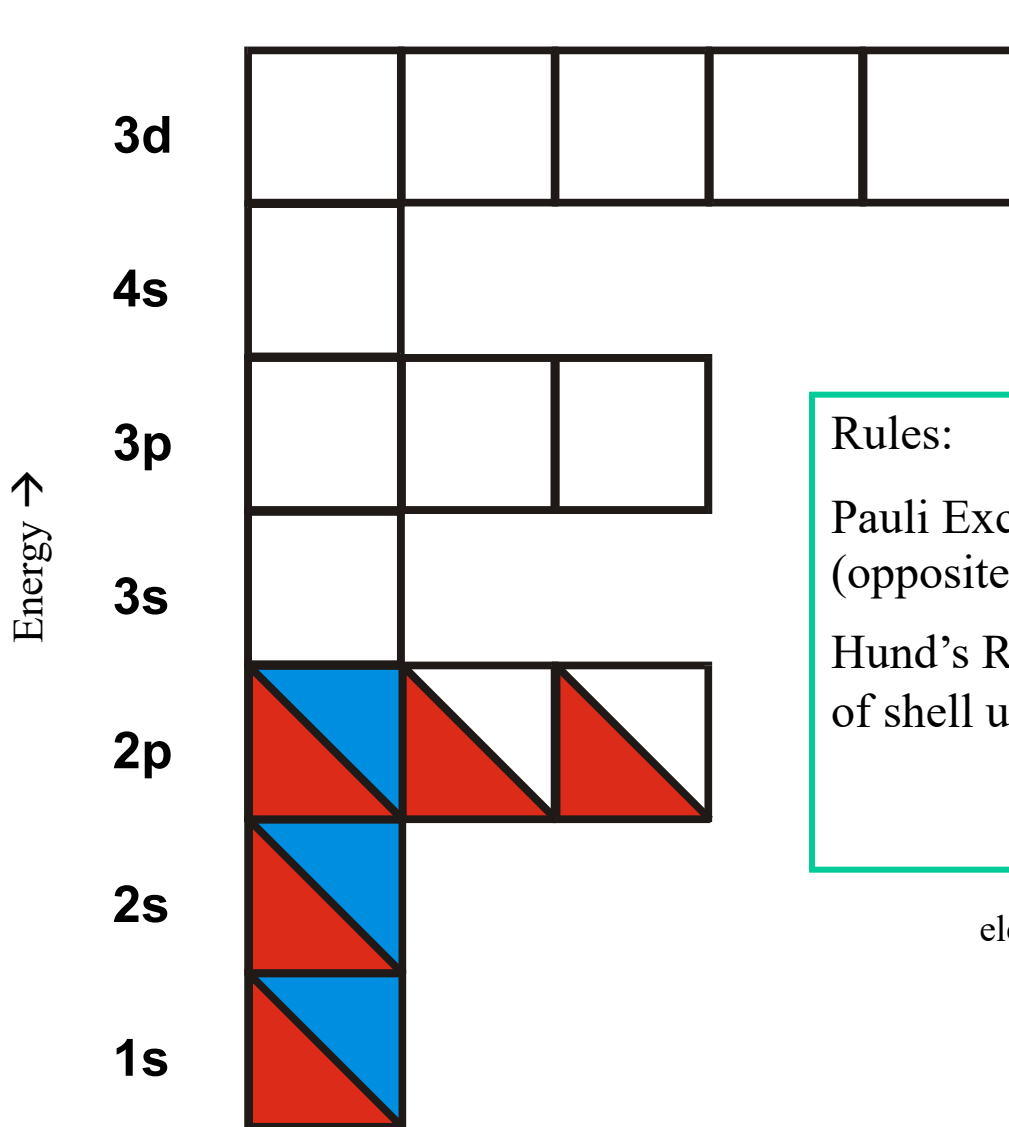
The fundamental particles generate the basic building blocks of the atoms: **protons, neutrons, and electrons**

These building blocks create the elements

1A	2A	3A	4A	5A	6A	7A	8A
1 H 1s ¹	Current Periodic Table -- Closeup						2 He 1s ²
3 Li 1s ² 2s ¹	4 Be 1s ² 2s ²	5 B 1s ² 2s ² 2p ¹	6 C 1s ² 2s ² 2p ²	7 N 1s ² 2s ² 2p ³	8 O 1s ² 2s ² 2p ⁴	9 F 1s ² 2s ² 2p ⁵	10 Ne 1s ² 2s ² 2p ⁶
11 Na [Ne] 3s ¹	12 Mg [Ne] 3s ²	13 Al [Ne] 3s ² 3p ¹	14 Si [Ne] 3s ² 3p ²	15 P [Ne] 3s ² 3p ³	16 S [Ne] 3s ² 3p ⁴	17 Cl [Ne] 3s ² 3p ⁵	18 Ar [Ne] 3s ² 3p ⁶

Population of electron shells determines properties

Electron Shelves (Shells)

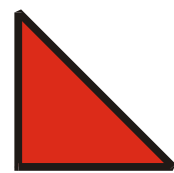


Oxygen
Atomic number: 8
Protons: 8
Neutrons: 8 (usually)
Electrons: 8

Rules:
Pauli Exclusion Principle: only two electrons (opposite spins) in each shell
Hund's Rule: put one electron in each level of shell until all levels are filled

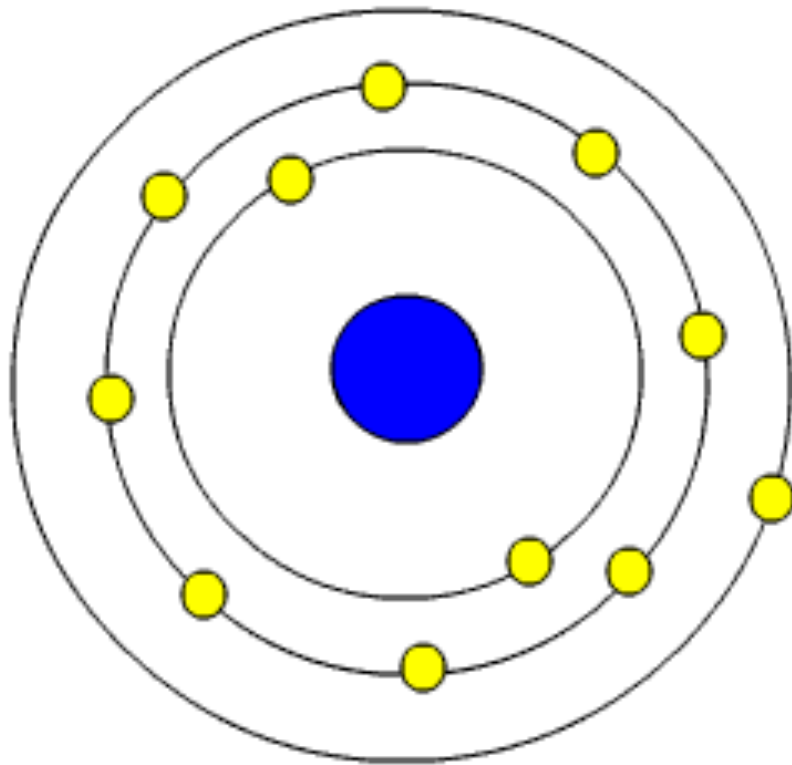
electron, spin 'up'

electron, spin 'down'



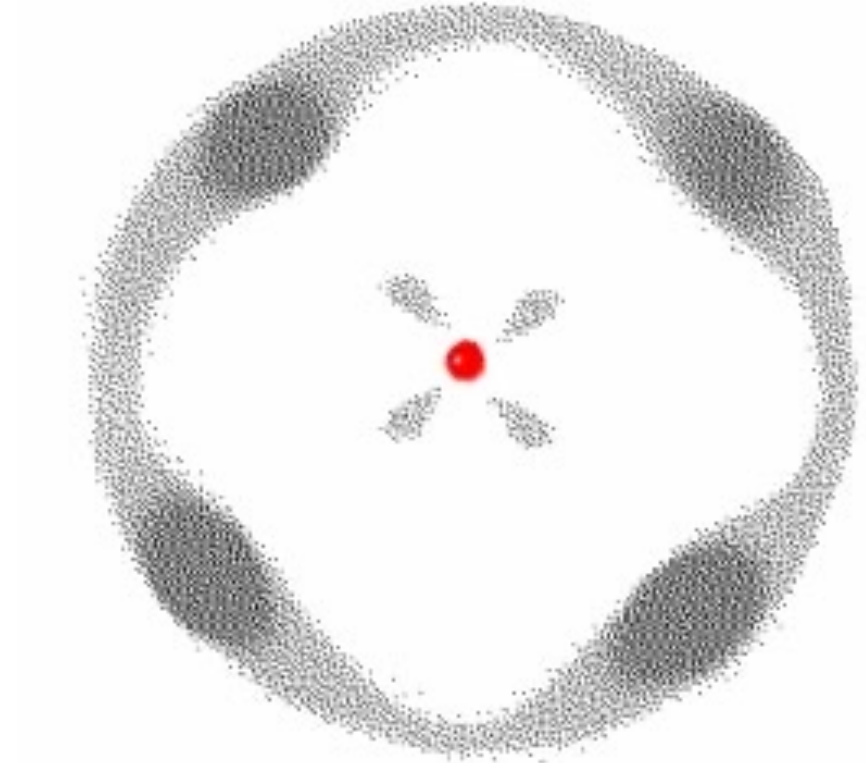
Uncertainty and the electron cloud

Simple model



Well-defined orbits

Realistic model

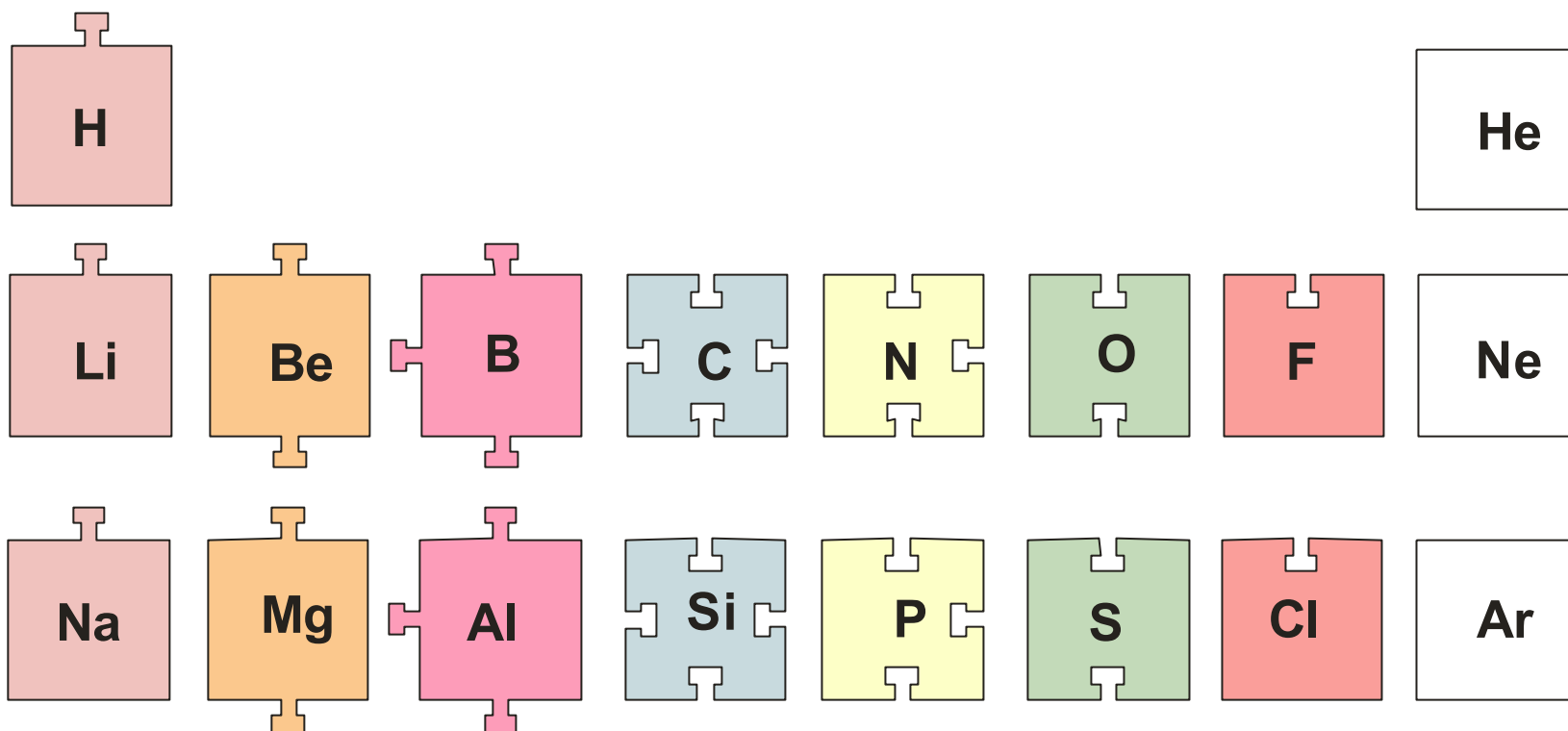


Cloud (probability function)

Each element combines in a certain way

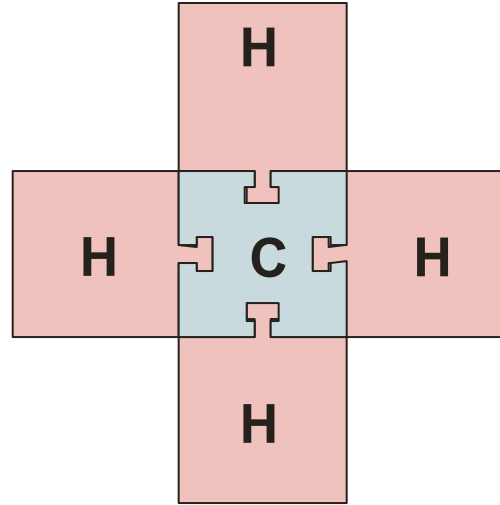
Sort of like a jigsaw puzzle

There is more stability when a shell is completely filled

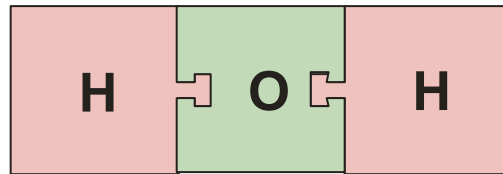


Some need a few electrons to fill the shell
For others it is easier to give up electrons

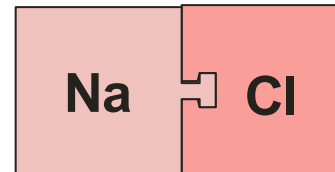
Simple compounds you will recognize



CH₄ -- Methane



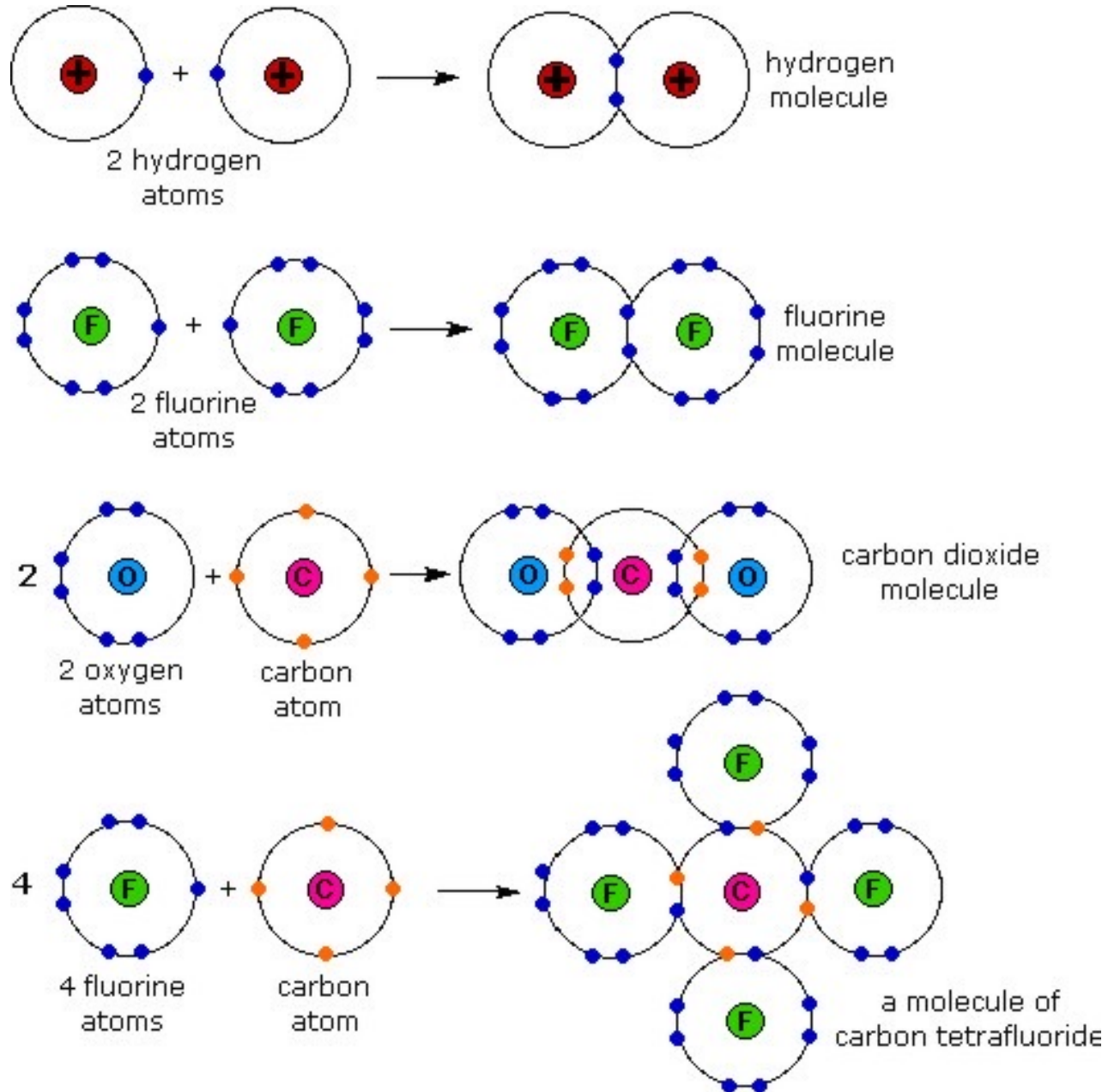
H₂O -- Water



NaCl -- Salt

It gets more complicated with double bonds, etc.

Another way of looking at the combinations



Similar to letters of the alphabet

Words are formed only according to certain rules

No real words with five consonants together

“q” is generally followed by “u” at a word’s beginning



English Diphthongs

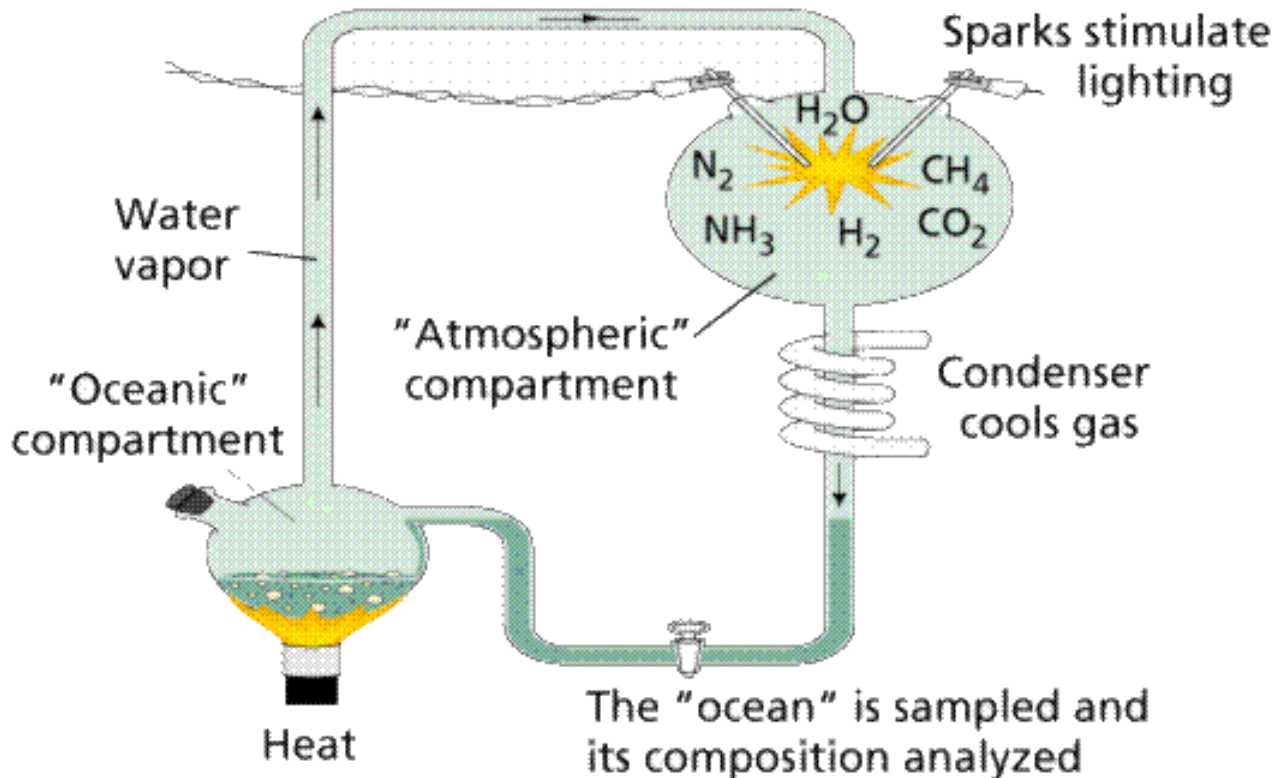
Used		Not Used
sc		sb
sh	sd	
sl		sf
sm	sg	
sn	sj	
sp	sx	
sr		sz

How long would it take for monkeys typing continuously to create the Bible identically?

Miller - Urey experiment

Created amino acids in “primordial” environment

- Amino acids are not a sacred precursor of life
- They are the result of the affinities between elements that is embedded in the created structure of matter



The composition of the atmosphere and ocean are assumed

The Golden Calf

Looking backwards, it is natural to see that the pieces fit

- The chemical structure was designed to create the materials needed for life

But we can't use this consistency to assume that life arose spontaneously from these trace amounts of molecules

- How could these molecules organize to form life?
- The Miller-Urey experiment only proved that the chemistry works, which the existence of life verifies already
- It really tells nothing about the origin of life, only the mechanics of it

While Moses was on the mountain with God, Aaron collected gold from the Israelites, put it into the fire and fashioned a calf. (Exodus 32)

When he saw the anger of Moses, he claimed that he just threw in the gold and out came the calf (magically).

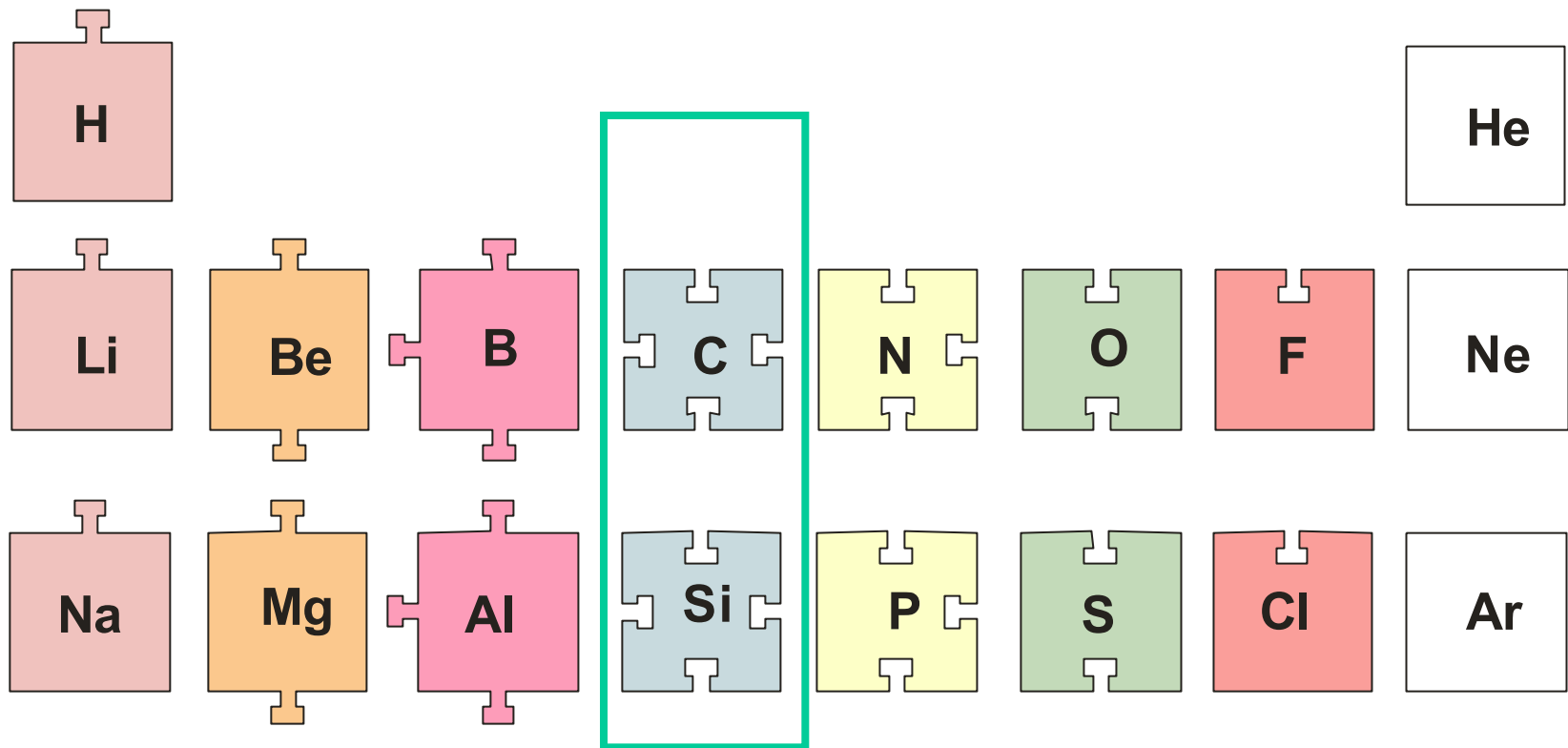
Moses didn't believe that idea, and we shouldn't either!



Carbon-based Life

Carbon is in the middle of the pack and resides in the column that has the most combination possibilities

As the lightest in this group, it becomes the basis of life

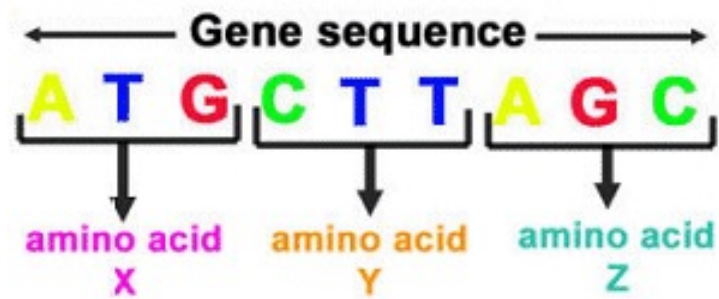
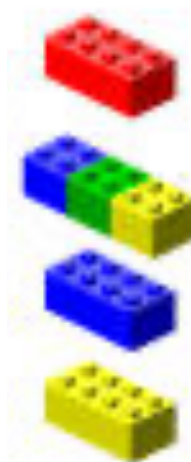
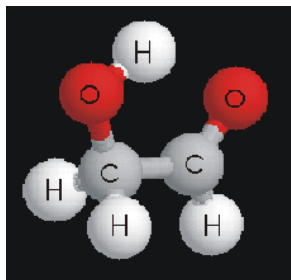
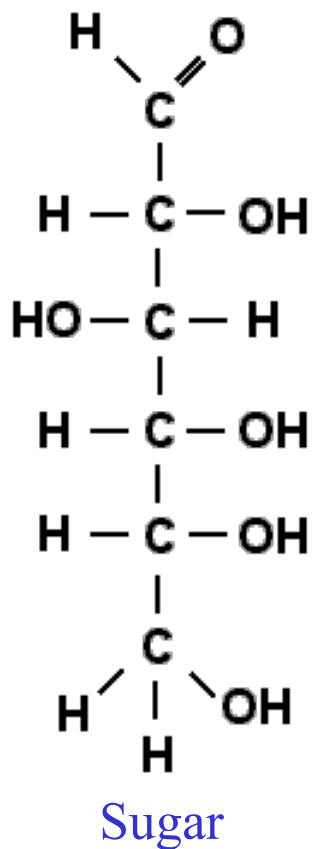


Could there be life based on Silicon?

Organic chemistry

Carbon is the basis for the molecules that govern life

Amino acids – enzymes – RNA -- DNA

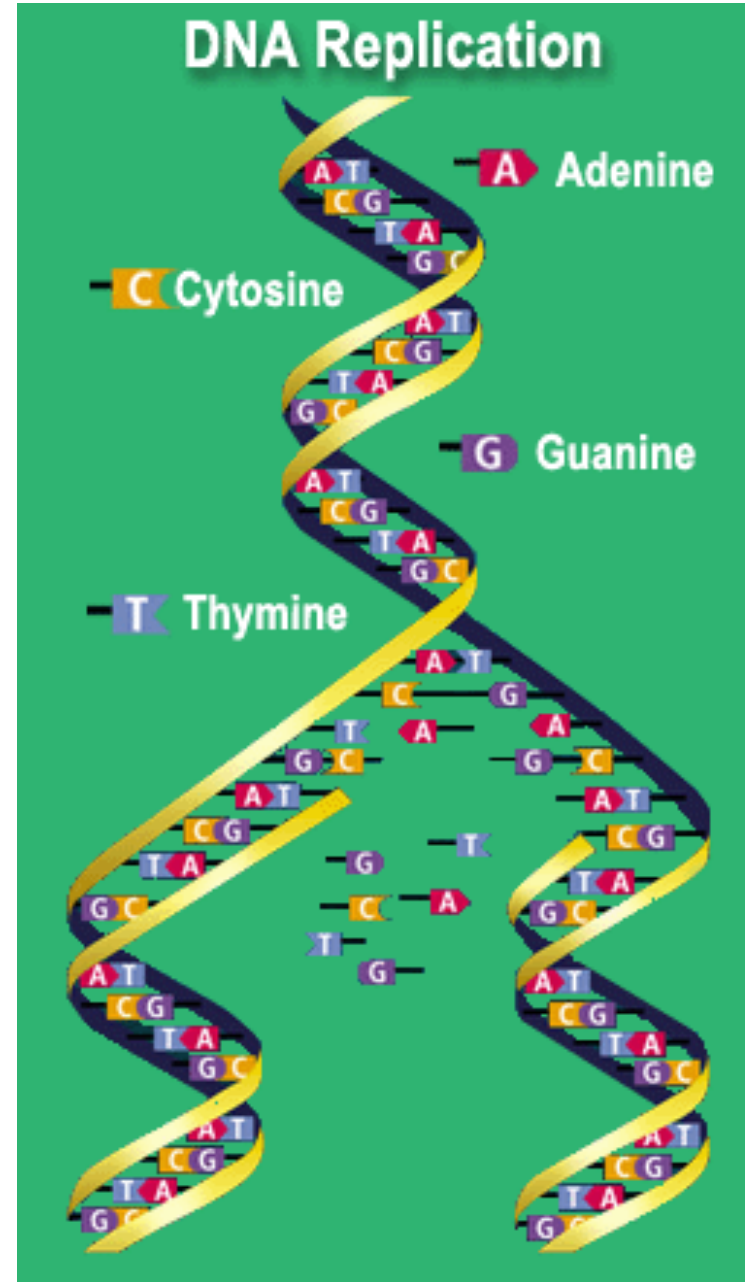
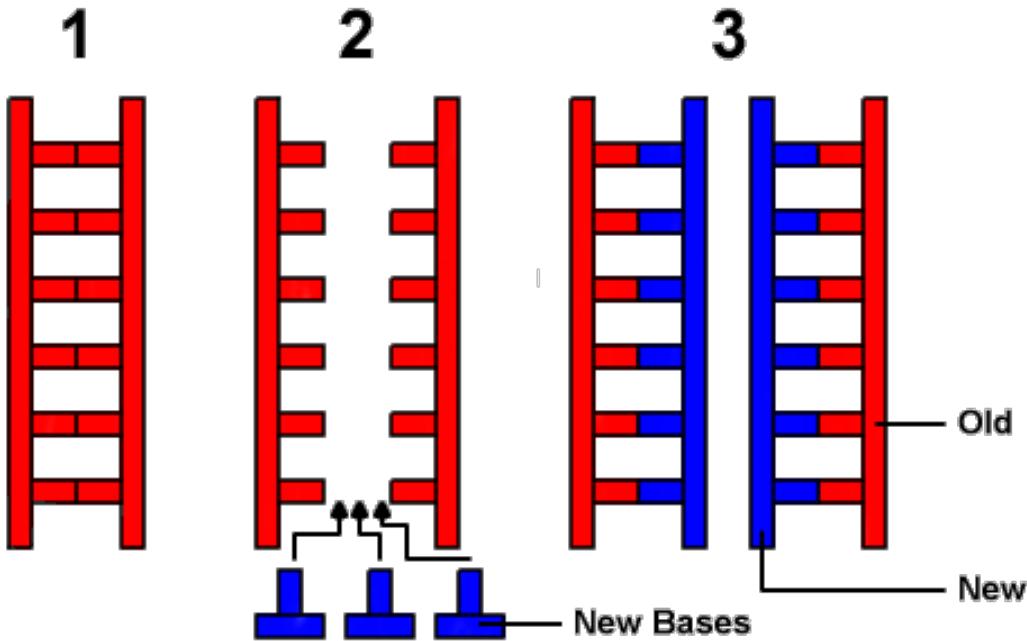


Naturally found complex molecules are related to life

Replication

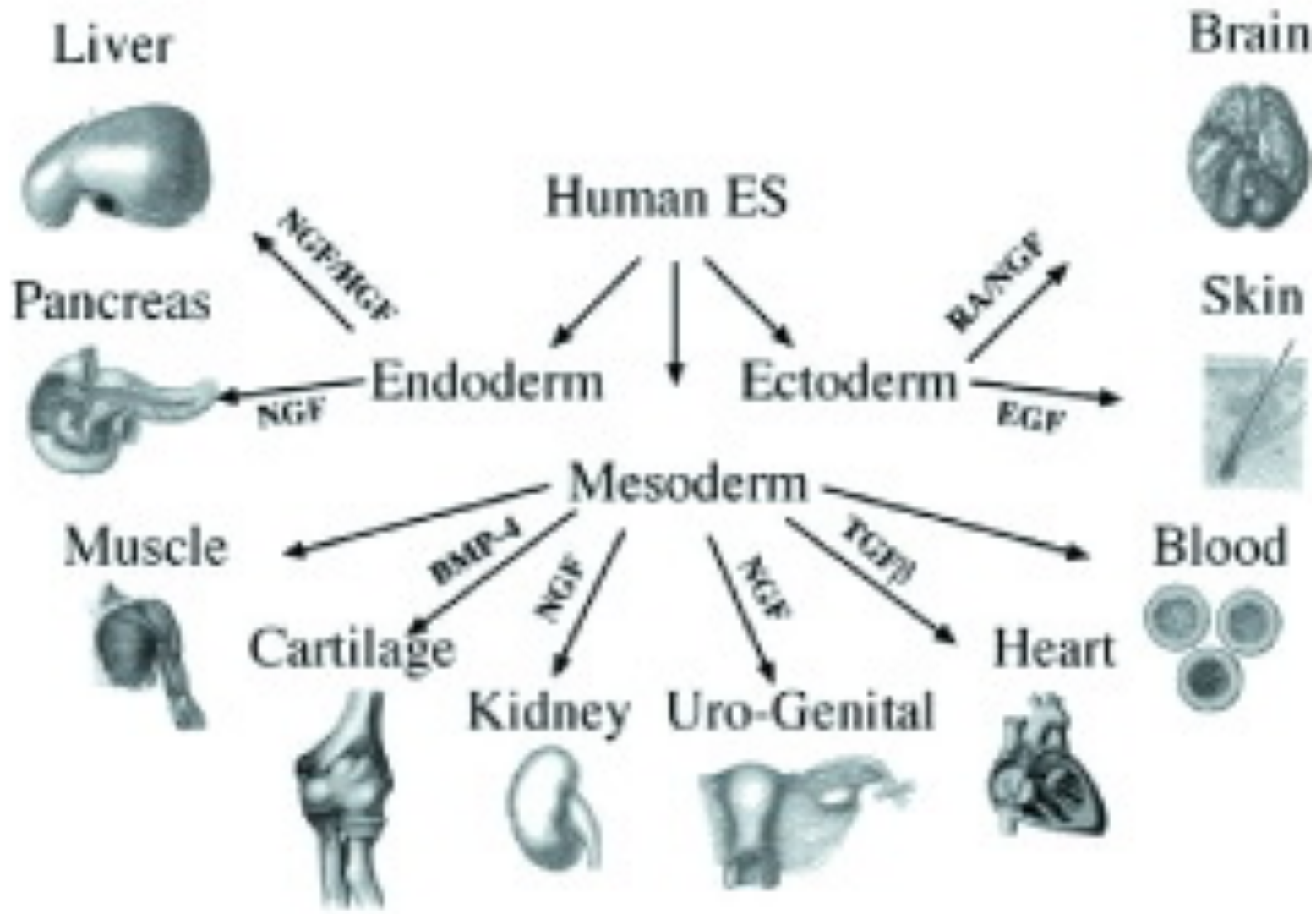
Replication of DNA is essential to life (cell division)

DNA passes on the information on how to build an organism



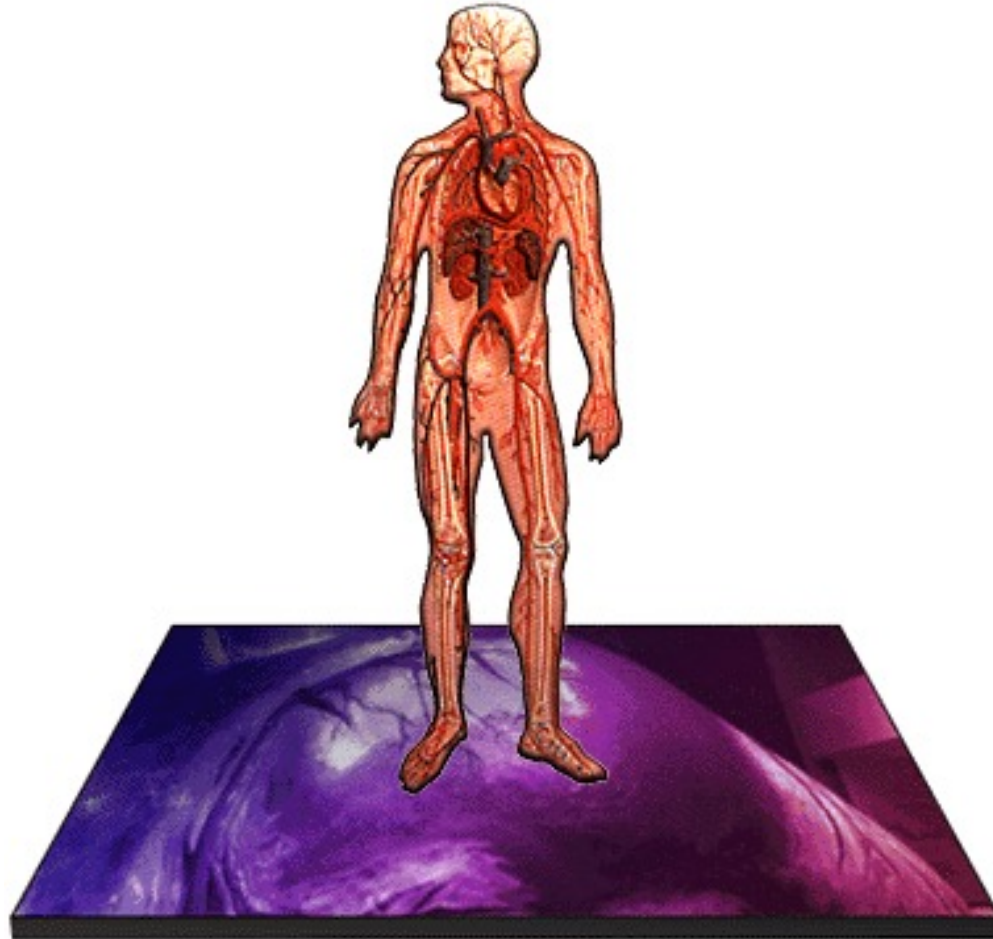
Tissues and Organs

DNA dictates the development of the structure of life



Plant and animal forms

The tissues and organs become part of a system



The design of this system is obvious
How could it have been an accident?

Now that we have reasoned the existence of God,
And that the Bible is his Word to us,
Let us see what He says about Himself

- Existence
- Extent
 - Space
 - Time
 - Power
 - Wisdom
- Relationships

The Existence of God

- “I am who I am”: He describes himself in terms of existence
 - Exodus 3:15 (see also Exodus 6:3)
- God is a spirit (something apart from the physical)
 - John 4:23,24
 - He cannot be seen unless he shows Himself in the physical
- God is the alpha and the omega (first and last, beginning and end)
 - Isaiah 44:6, Rev 1:8, 21:16, 22:13
 - He always existed; he is absolute
- He had no beginning (there was no god before or after)
 - Isaiah 43:10 Before me no god was formed, nor will there be one after me.
 - Isaiah 45:5 I am the LORD, and there is no other; apart from me there is no God.
 - Isaiah 45:21 there is no God apart from me... there is none but me.
- He has no age
 - Job 36:26 How great is God--beyond our understanding! The number of his years is past finding out.
- He created the universe
 - Gen 1:1 In the beginning God created the heavens and the earth.
 - John 1:1-18 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 Extent of God

Since He created it, He is not constrained by it

- Space -- He is beyond the physical and transcends its limits
 - He is in some way multi- or super-dimensional
 - Infinite physical extent → infinite God
 - Jeremiah 25:24: Do I not fill both heaven and earth?
- Time -- He knows all future and past
 - 2 Pet 3:8 With the Lord a day is like a thousand years, and a thousand years are like a day (similar to Psalm 90:4)
 - He is above it, looking down on it like we do a map
 - Non-simultaneity of physical occurrences does not bother Him either
- Power -- He has more than exists in the Universe
 - He spoke it into existence: Gen 1
 - He maintains it; He keeps it going against forces of decay: Heb 1:3
- Wisdom -- Beyond human understanding or measure
 - Psalm 147:5 His understanding has no limit.
 - Isaiah 55:8-9 Thoughts are much greater than man's.
 - Psalm 139:17-18 The sum of his thoughts are uncountable
 - Rom 11:33 Oh, the depth of the riches of the wisdom and knowledge of God! How unsearchable his judgments, and his paths beyond tracing out!

- He is separate from the physical universe
- He created space and time
 - it is reasonable to think that He can interact with it in a special way anytime that He wants
 - If you can believe that God created the universe, it is easy to believe in miracles
- Scientists tend to define a miracle so that it is impossible
 - They only want to consider physical forces
 - But miracles are performed with spiritual forces
 - They haven't seen one, but if they were commonplace they wouldn't really be miracles
- God interacts in a smooth, consistent way; nothing else is disturbed
- He did not create the universe and then forget about it
 - Remember our reasoning that He did it for a purpose
 - Just because He doesn't do what we want doesn't mean He can't interact

The Bible might be easier to believe without miracles, but would it be worth believing?

The universe will always look somewhat fuzzy to us

- Godel’s theorem
 - Mathematicians sought ultimate proof
 - In any formal system of rules, questions always exist which can neither be proved or disproved by those rules
 - “this statement is false”
- Heisenberg’s Uncertainty Principle
- Chaos even in deterministic systems
- No knowledge of the uniformity of the past
- No simultaneity between moving observers

None of these things affects God’s ultimate control over the universe.

It is indeterministic only to us!

God is outside the universe and does not have to be constrained by these physical rules.

God's Relationships

Good

- To spiritual beings
 - Let “us” make man in “our” image: Gen 1:26
- To man
 - Created man for a purpose
 - He loves us: 1 John 3:16
 - God is revealed in Christ: Jn 14:9, Col 1:5, Jn 1:1, 14

Bad

- To spiritual beings
 - Throw Satan into the bottomless pit (Rev 20)
- To man
 - He will cast us out if we do not worship
 - Mat 13:41-42 “into the fiery furnace, where there will be weeping and gnashing of teeth.”

What is love, and how do you know?

- God is love, and love flows from Him to us
- God showed what love means
 - Not our love, which is insignificant
 - His love, which gave up himself to save us
- Since God so loved us, we also ought to love one another.

What is the result of love?

- God lives in us
 - His love is made complete (fuller, stronger) in us.
 - He gives us of his Spirit.
 - We acknowledge that Jesus is the Son of God.
- We live in Him
 - We rely on the love God has for us.
 - We will have confidence on the day of judgment.
 - In this world we are like him.

We live (abide) in each other

The Heavens Declare the Glory of God

Evidences from Design



Heard Lowry

Watch out for BC Comics!



The Universe

Psalm 8:1-9

O LORD, our Lord, how majestic is your name in all the earth!

You have set your glory **above the heavens**. From the lips of children and infants you have ordained praise because of your enemies, to silence the foe and the avenger. When I consider your heavens, the work of your fingers, the moon and the stars, which **you have set in place**, what is man that you are mindful of him, the son of man that you care for him?

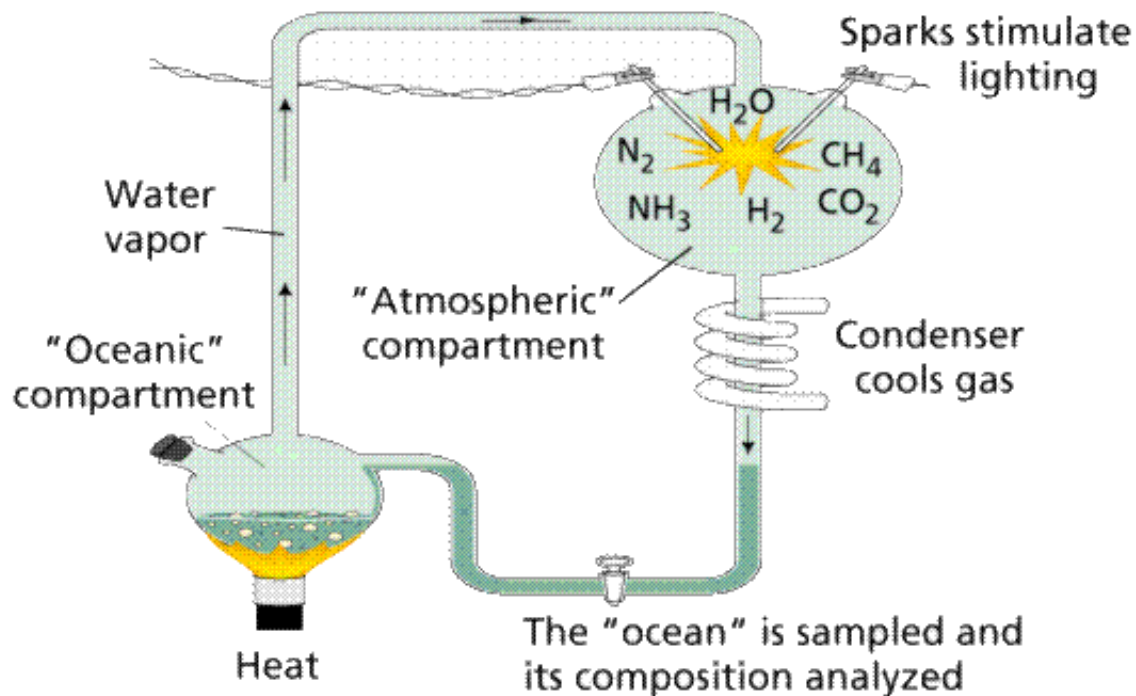
You made him a little lower than the heavenly beings and crowned him with glory and honor. You made him ruler over the works of your hands; you put everything under his feet: all flocks and herds, and the beasts of the field, the birds of the air, and the fish of the sea, all that swim the paths of the seas.

O LORD, our Lord, how majestic is your name in all the earth!

God does indeed consider us for His purpose

Miller - Urey experiment

Created amino acids in “primordial” environment



But organic molecules have also been detected in space!
Most recently – Sugar!

Once again, it only verifies the mechanics of the design.

Life from Outer Space

Another answer that used to be around was that life came to earth from a germ on a meteorite.

This is a fortuitous idea in that it means you push the explanation back into a regime that you cannot describe, and thus cannot be argued against.

How did life start at the other place? This cannot be answered, either

It's the same technique we have mentioned before.

But it doesn't explain the real origin of life.

Now that we have reasoned the existence of God,
And that the Bible is his Word to us,
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- Relationships

Evidence of God from Design

- The Expanse of the universe
 - The expanding universe
 - The observable universe
 - The number of stars, particles in the universe
- The Power and Energy in the universe
 - The power to create it
 - Created by a word or thought
- The structure of the universe
 - Laws of universe
 - Electron arrangement in elements (periodic table)
- The order of the universe
- The life-support system of the universe
- The “miracle” of Life

We have already discussed the first three

The order of the universe

- Can it be an accident?
 - Consider a simple scheme with a small amount of order
 - 6 coins in a row in order of their denomination, all face up
 - Chances are about 1 in 2 billion
 - Anyone what to bet on those odds?
 - Yet the structure of DNA is has much more order (1 in 10^{160})



Random



Ordered

The order of the universe

- God created the universe with a high degree of order
- He brings order out of chaos
 - Order leads to life
 - Disorder leads to death
- God is order
 - Reflected in physical laws (which God created for man)
 - Also reflected in moral laws (which is God's true nature)
 - The word "order" also means "command"

Dominion and awe belong to God; he establishes order in the heights of heaven. Job 25:2

For God is not a God of disorder but of peace.

1 Cor 14:33

The life-support system of the universe

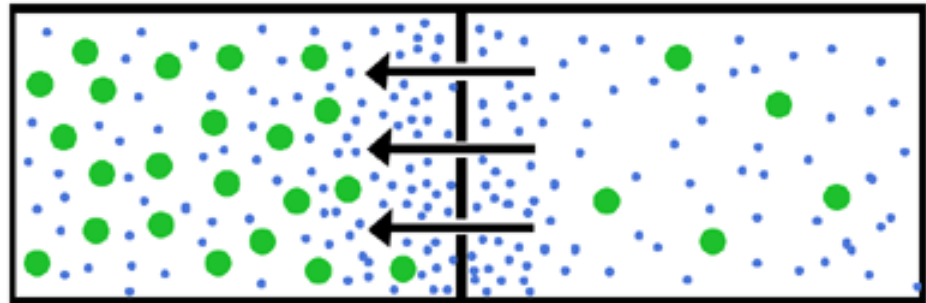
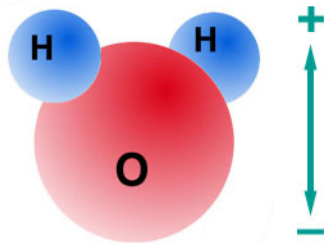
- Expanding universe is essential to life
 - Keeps from heat death
 - Expansion rate has to be just right
 - Too fast or too slow and galaxies and solar systems couldn't form
 - Only second generation stars collect heavy elements
 - Simple fusion alone does not create them
 - Created through stellar explosions (supernova)
- Solar system
 - Sun provides energy and warmth
 - Just the right size not to change too rapidly
 - Habitable zone: 0.99 to 1.05 earth's orbit (other estimates are larger)
 - Jupiter as our protector
 - Shield us from comets and meteors
 - Stabilizes the inner orbits

The life-support system of the earth

- No other planet has a moon so large proportionally
 - Capture
 - Budding
 - Collision (with Mars?)
- Magnetic field
 - Van Allen Belts: protect us from charged particles
 - Compass: provides direction of travel
- Atmosphere
 - Ozone layer: protect us from ultraviolet rays
 - Oxygen for burning food
 - Nitrogen buffer for burning control
 - Protection from meteors
 - Seed dispersion
- Rotation/revolution (day/night, seasonal changes)
- Temperature
 - Spans liquid water range (plus a little on the colder side)
- Plant/animal
 - food chain
 - Oxygen/carbon dioxide trade

Water

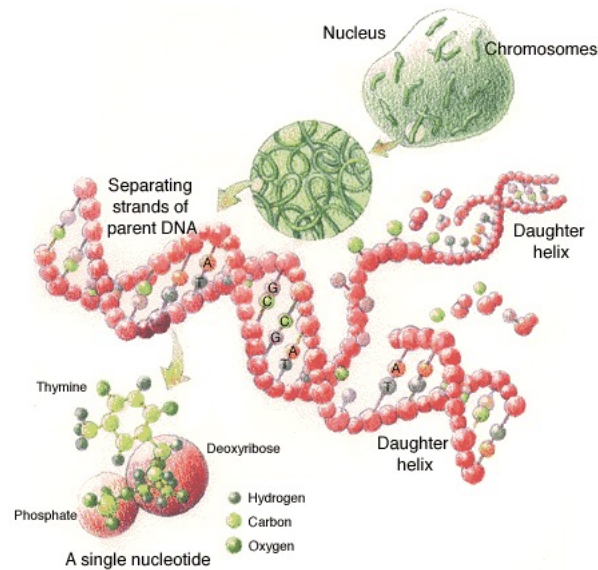
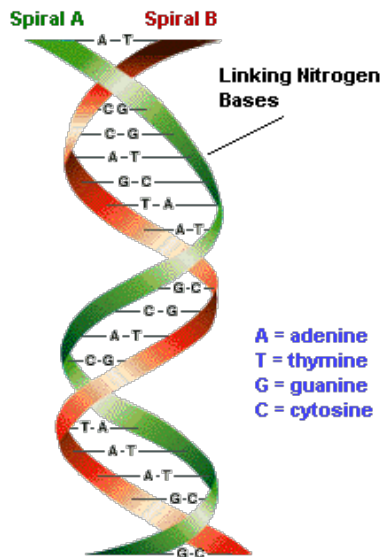
- The greenhouse effect: keeps the atmosphere warm
- Water cycle (evaporation / rain)
- Heat capacity
 - Reacts slowly to temperature changes (thermal stability)
 - Large temperature difference between boiling and freezing
- Density (ice floats, and insulates ponds and lakes)
- The ocean
 - a 'sink' for pollutants (water dissolves many substances)
 - a stabilizer for temperature
- Polarized nature of water enables control of the transfer of molecules through cell membranes



- Human body: 2/3 water

The “miracle” of Life

- Definition: what is the dividing line?
- Carbon Chemistry
- DNA: directs the building of a living organism
- The organization of the cell
- The complexity of systems that support a living being:
 - Electrical
 - Chemical
 - Mechanical
- A delicate balance



The nature of man

- Personality
 - No one knows how personality can be created
 - ‘Image of God’ is conceivable
 - Free will; the ability to choose a direction: this is something not defined by ‘physical laws’
 - Harvard Law of Animal Behavior
 - The need man has for relationships with other people and a higher being
- Moral law
 - There is a moral law in our minds, a conscience
 - How can we explain this by chance?
- Intelligence: What sets man apart is his intelligence and moral character
 - Thought is a vital part of the universe; it reflects the design and order of the universe
 - What meaning could the universe have without a mind to recognize it?
 - Can computers really simulate it?
 - The power to think in abstract symbols implies a ‘higher plane’
 - If man was created by random processes, then his reasoning is not reliable
- The mind is the greatest indication that something exists beyond the physical

Man has an extra dimension which we call a soul

Other worlds, other men?

6



- The difficult nature of interstellar communication
 - the limiting speed of light
 - the enormous distances between objects
 - the enormous number of objects (where do we look?)
 - $1/r^2$ electromagnetic power dissipation law
 - probability that two civilizations had this capability at the same time
- The difficult nature of interstellar propulsion
 - must be rocket propulsion: action / reaction (as far as we know now)
 - same problems as communication
 - UFOs: very improbable due to the above
- Different forms of life
 - Silicon and carbon seem to be the only two possibilities for developing and supporting complex structures
 - Other forms could have different senses, logic
 - Is religious truth absolute for different peoples?

God could have created companions on other worlds,
But He seems to have arranged it so that we can't communicate

What if God did make other intelligent life?

- They might be variations created out of the need to fulfill the same purpose that He had for us
 - He might have wired their brains differently
 - They might have different physical systems
 - But they would still reflect the same moral righteousness
- Perhaps there are groups that never sinned
- If they failed as we did, then Christ would have had to die for each of them, too!

Other intelligence may be common, but unreachable

People are looking: SETI (Search for Extraterrestrial Intelligence)

$$\text{Drake Equation: } N = R^* f_p n_e f_l f_i f_c L$$

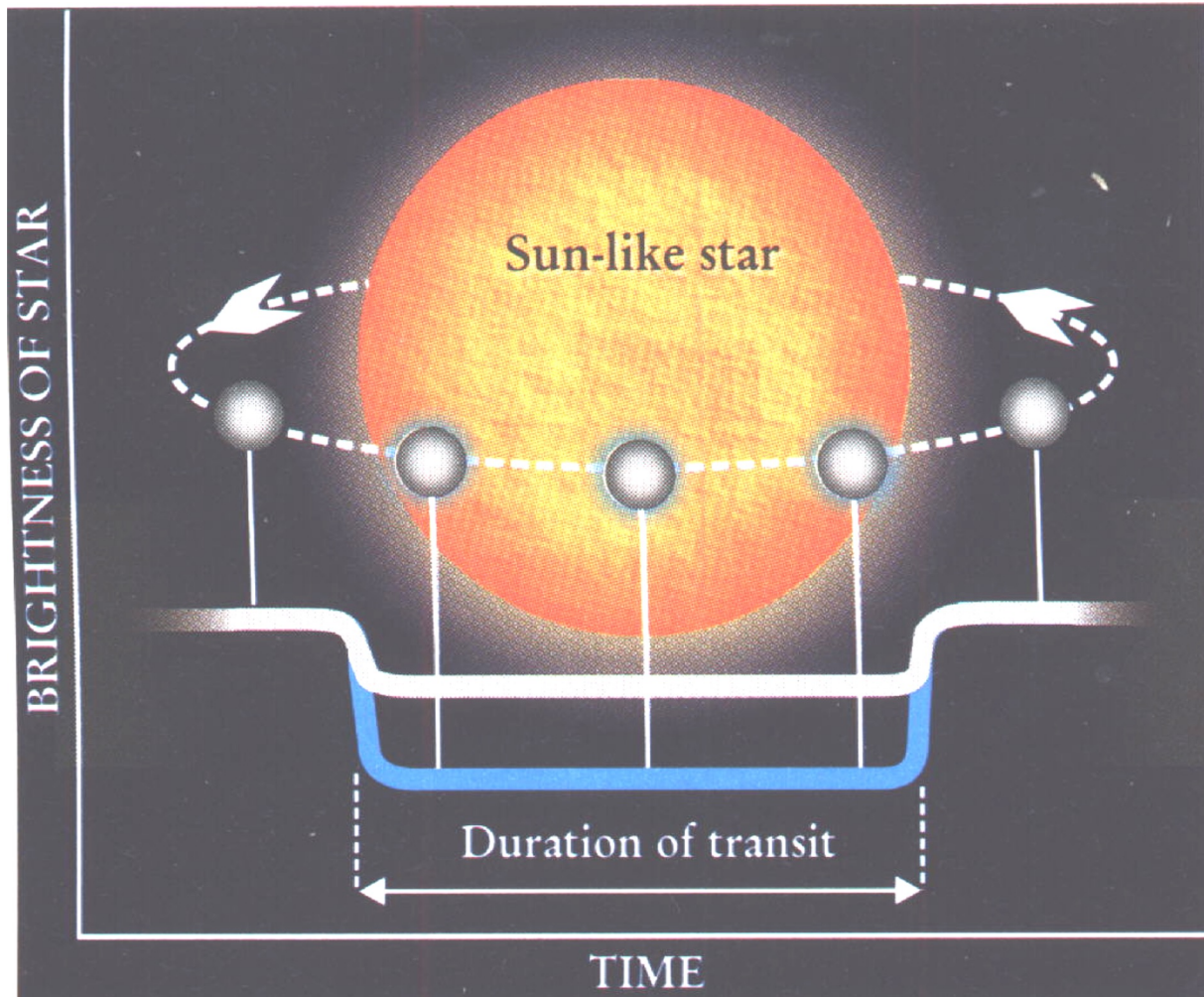
- N is the number of civilizations in the universe able to communicate
- R^* is the rate of star formation in our galaxy at the time that the solar system was formed
- f_p is the fraction of stars that have planets around them
- n_e is the number of planets per star that are capable of sustaining life
- f_l is the fraction of planets in n_e where life evolves
- f_i is the fraction of planets in f_l where intelligent life evolves
- f_c is the fraction of f_i that communicate
- L is the lifetime of a communicating civilization
- Carl Sagan estimates from 10 to 1,000,000

The only valid parameter is whether it was God's plan to create others

Stars with planets have actually been found!

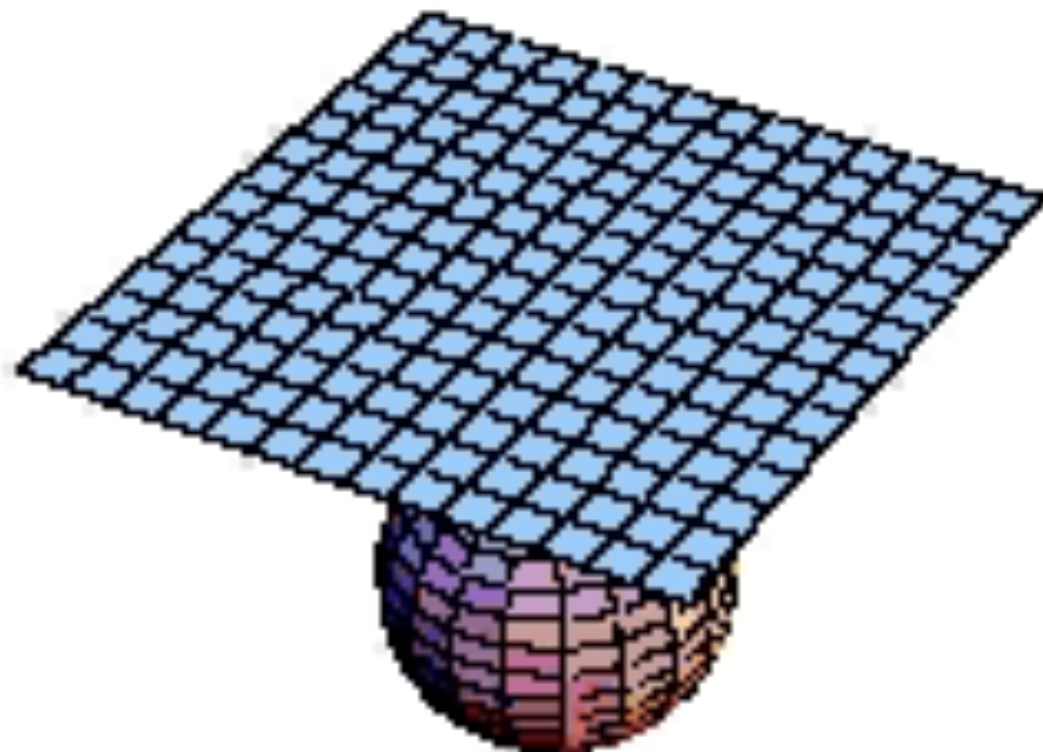
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A regular dip in the star's intensity indicates a planet



A corresponding dip in spectral information indicates an atmosphere

Visualizing a higher dimension using lower dimensions

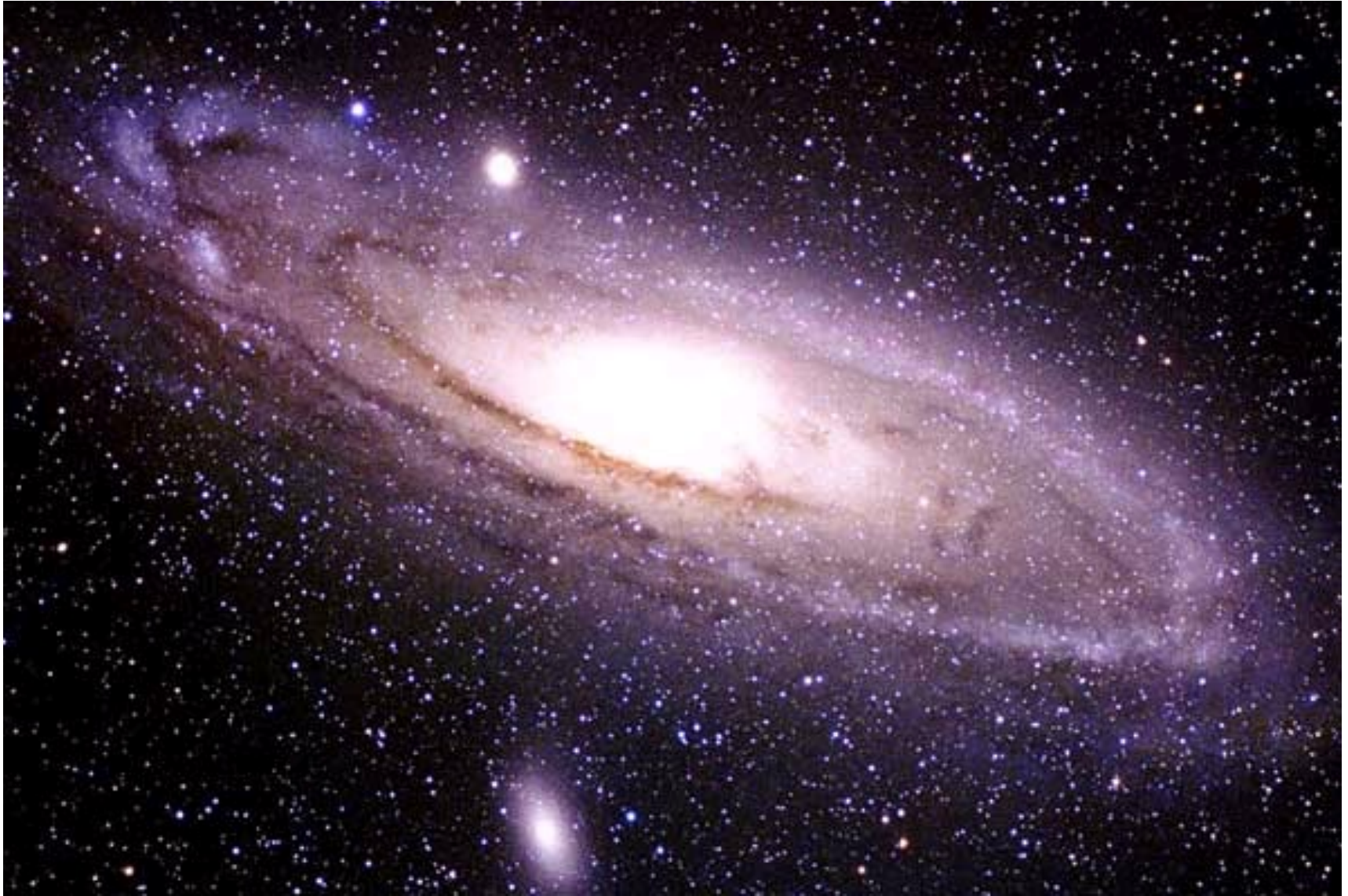


3-D world

2-D world

The Heavens Declare the Glory of God

God's Communication to Us



Heard Lowry

The Universe

Jeremiah 10:12

But God made the earth by his power; he founded the world by his wisdom and stretched out the heavens by his understanding.

The words 'stretched out' are very interesting; they remind me of putting up curtains

Evidence of God from Design

- The Expanse of the universe
 - The expanding universe
 - The observable universe
 - The number of stars, particles in the universe
- The Power and Energy in the universe
 - The power to create it
 - Created by a word or thought
- The structure of the universe
 - Laws of universe
 - Electron arrangement in elements (periodic table)
- The order of the universe
- The life-support system of the universe
- The “miracle” of Life

We have already discussed the first three

The evidence of God from Design

The Design of the Universe and the Living Minds in it demand a designer!

That Designer is God!

How does God communicate with man?

As the heavens are higher than the earth, so are my ways higher than your ways and my thoughts than your thoughts.

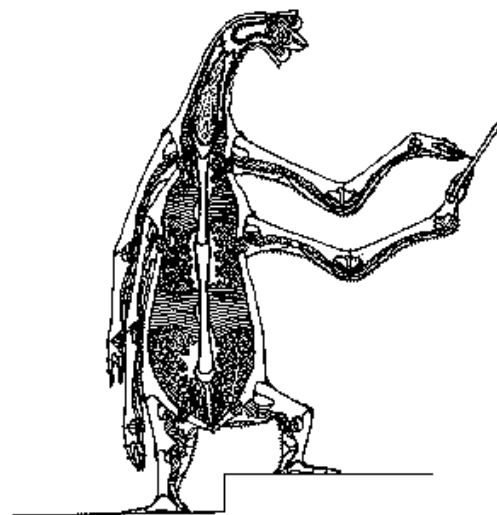
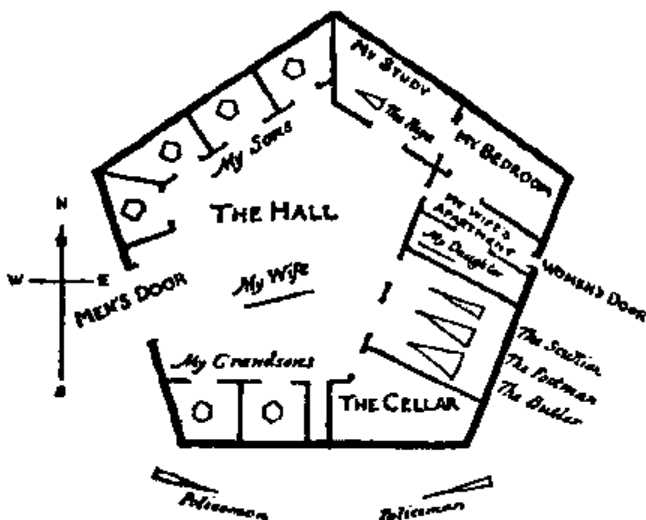
Isaiah 55:9

- God has infinite wisdom; man has only finite wisdom.
 - God has, in a sense, an infinite vocabulary, but must describe some of his truth in a finite word set
 - As when we use a child's vocabulary to explain things to them
- God can speak the truth perfectly
 - Man because of his finiteness cannot understand perfectly
 - Man's sin reduces this ability even further
- God will try to show himself in terms of what we know
 - All we know is the universe

Thinking in multiple dimensions

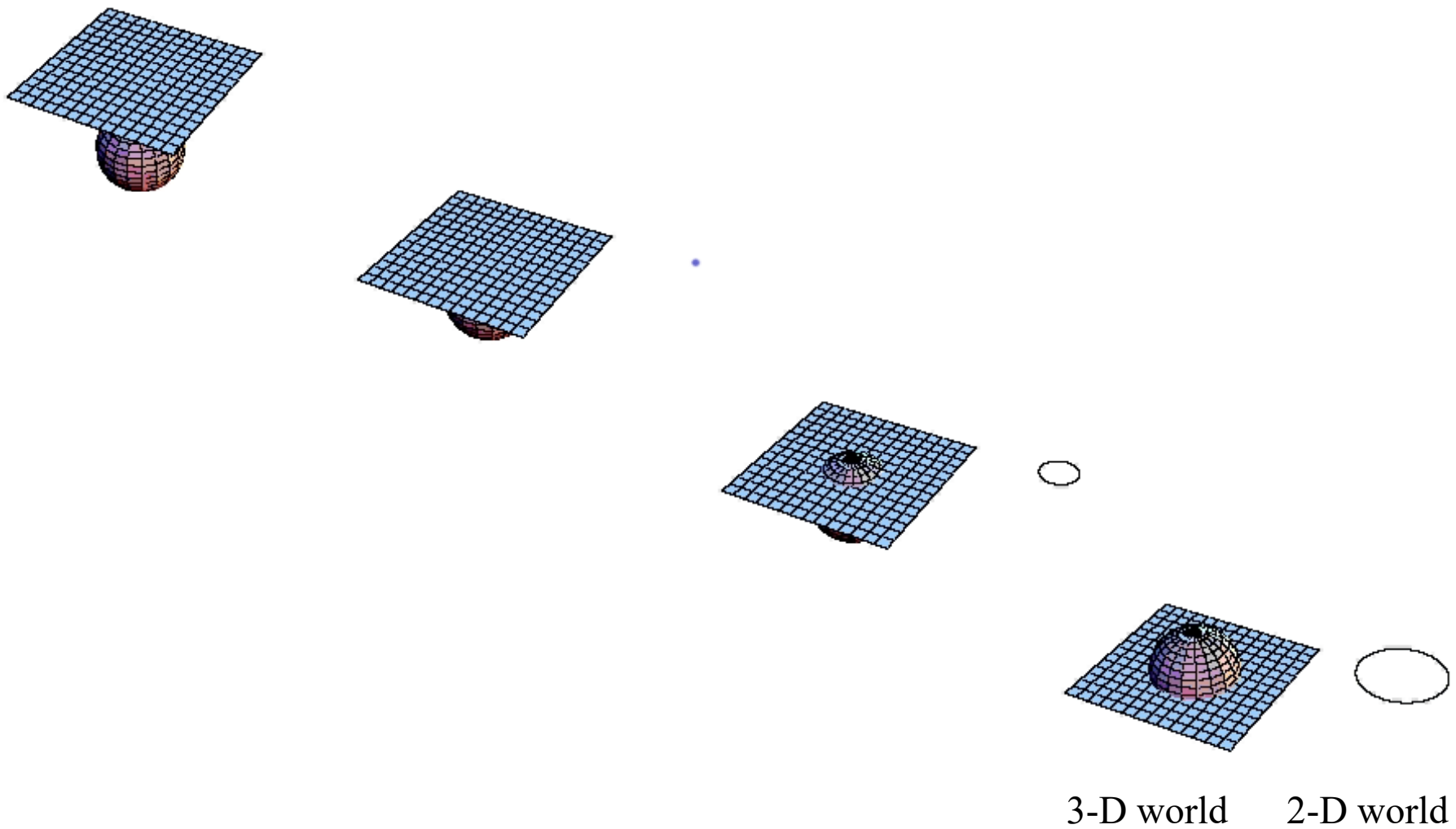
God's communication must describe something in higher dimensions in terms of lower dimensions

- Multiple dimensions are frequently used in physics and math to help interpret the world
 - Phase space: add momentum of objects
- Projections are used to reduce higher dimension objects to lower dimensions
- Flatland

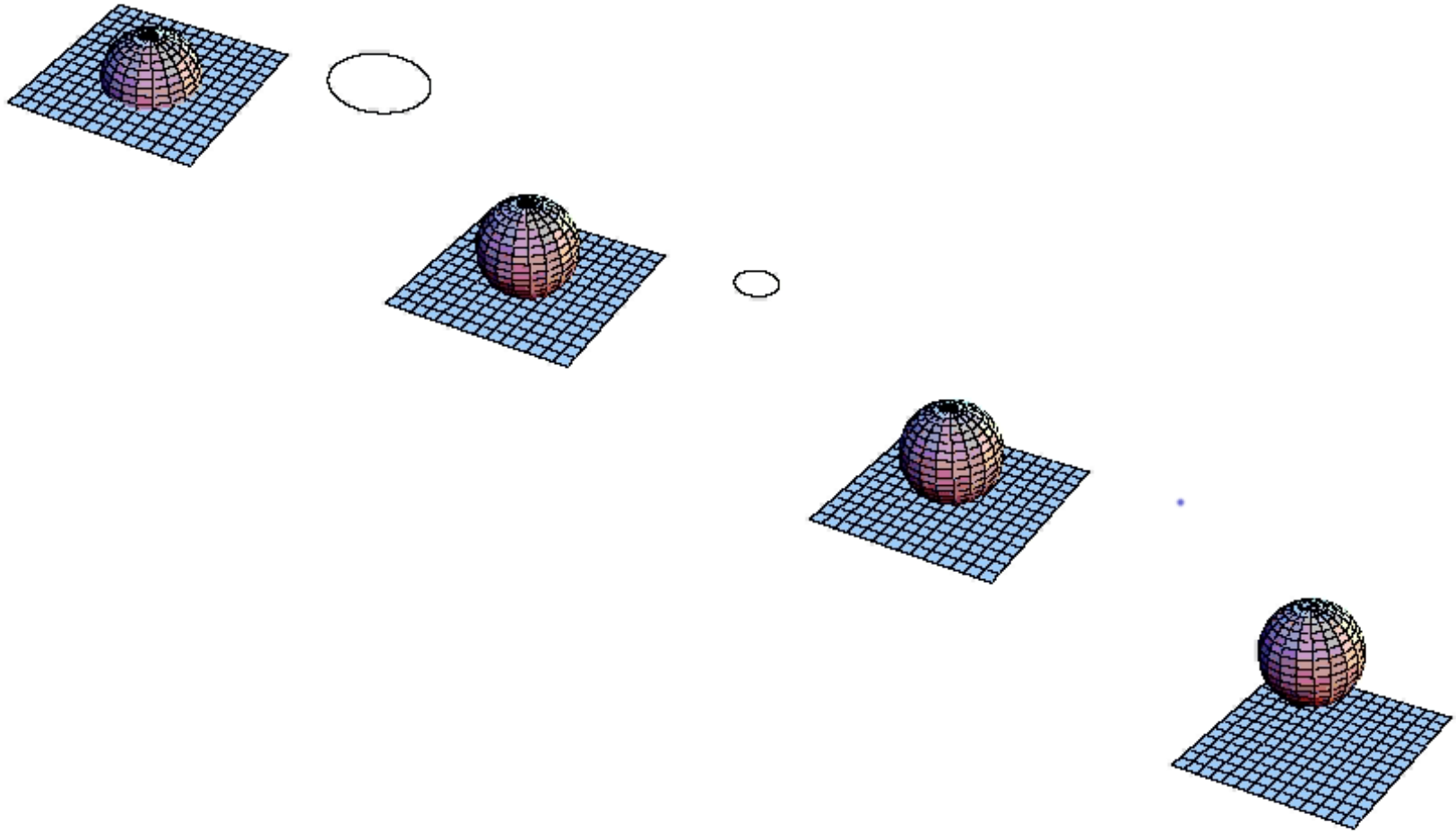


How would you describe a sphere to people who only lived in two dimensions (like a flat sheet of paper)?

Visualizing a higher dimension using lower dimensions



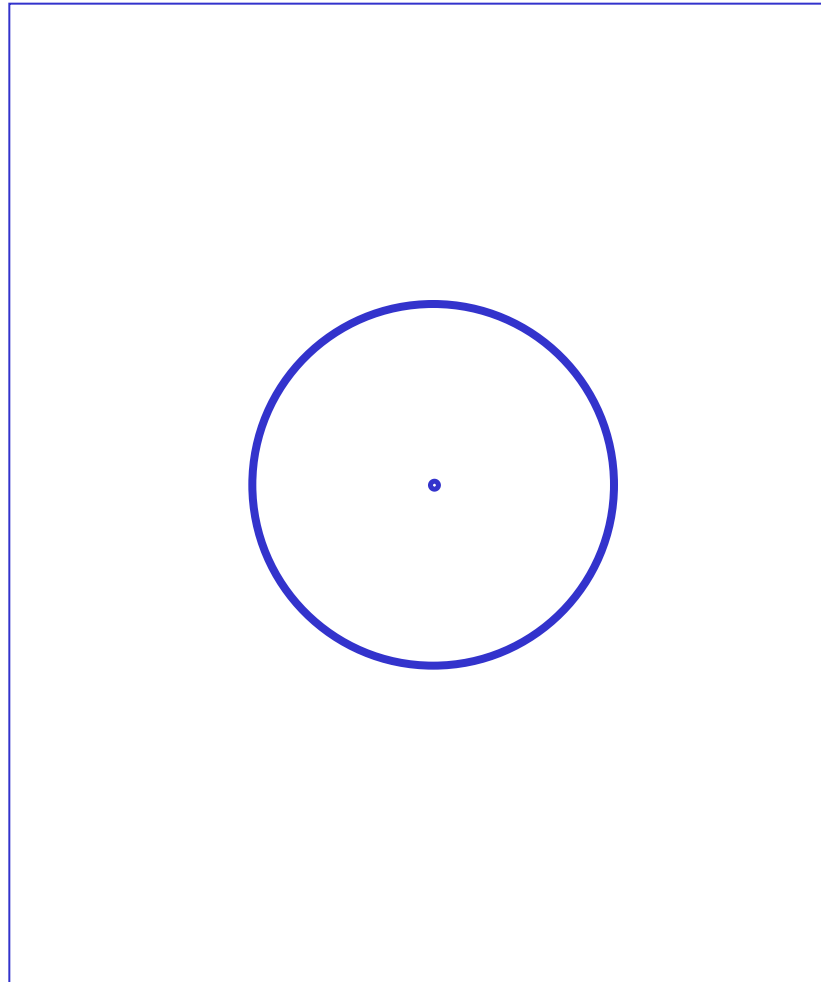
Visualizing a higher dimension using lower dimensions



3-D world 2-D world

Operating through a higher dimension

Task: Draw the figure on a piece of paper without lifting your pencil from the paper



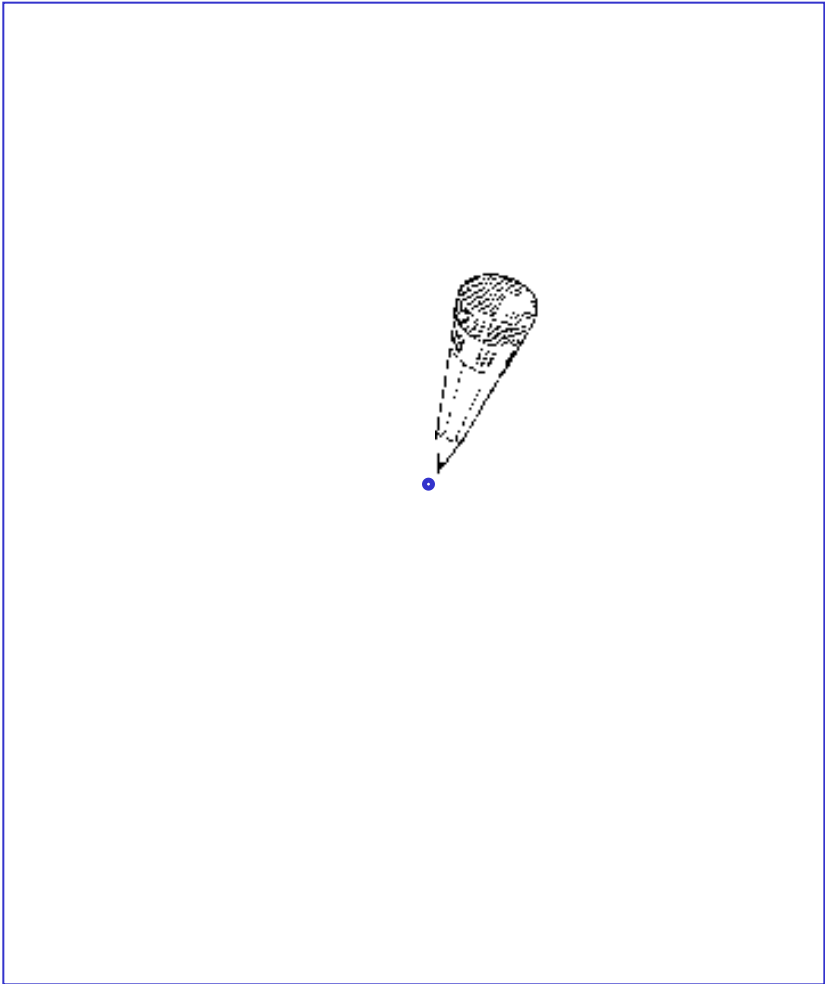
No, Dave,
You can't use two
pencils!

Dave:
This has nothing to
do with the
"Sphere of Cheer"

Impossible?

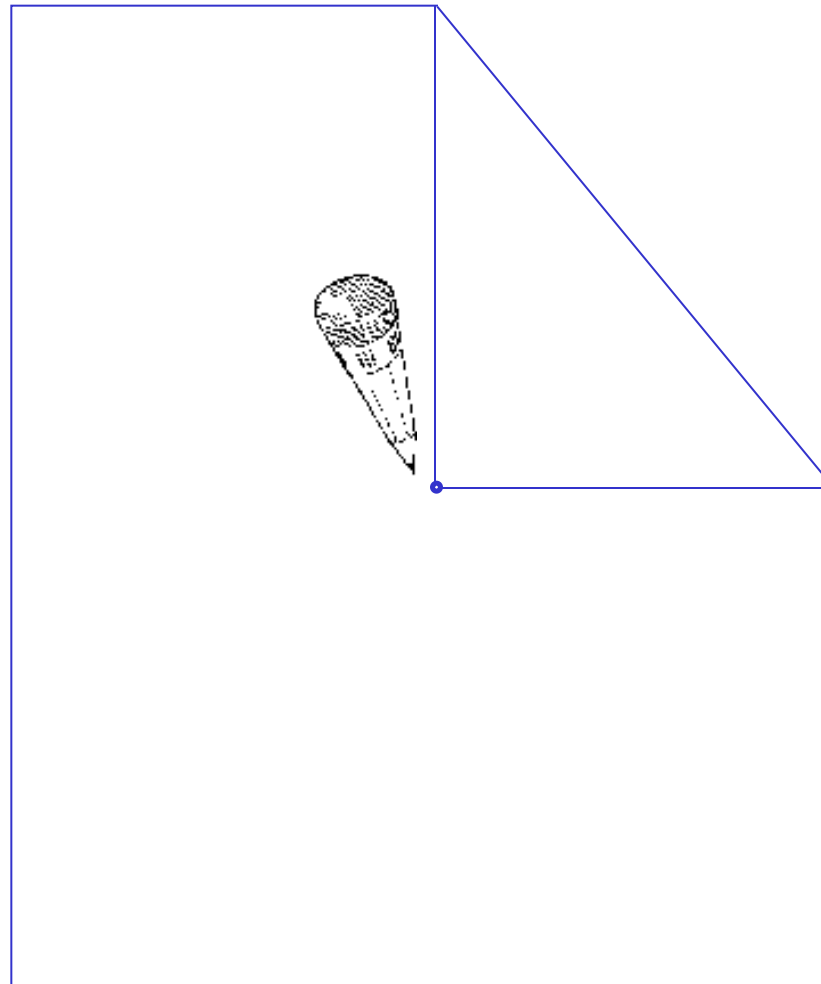
Operating through a higher dimension

First draw the center dot



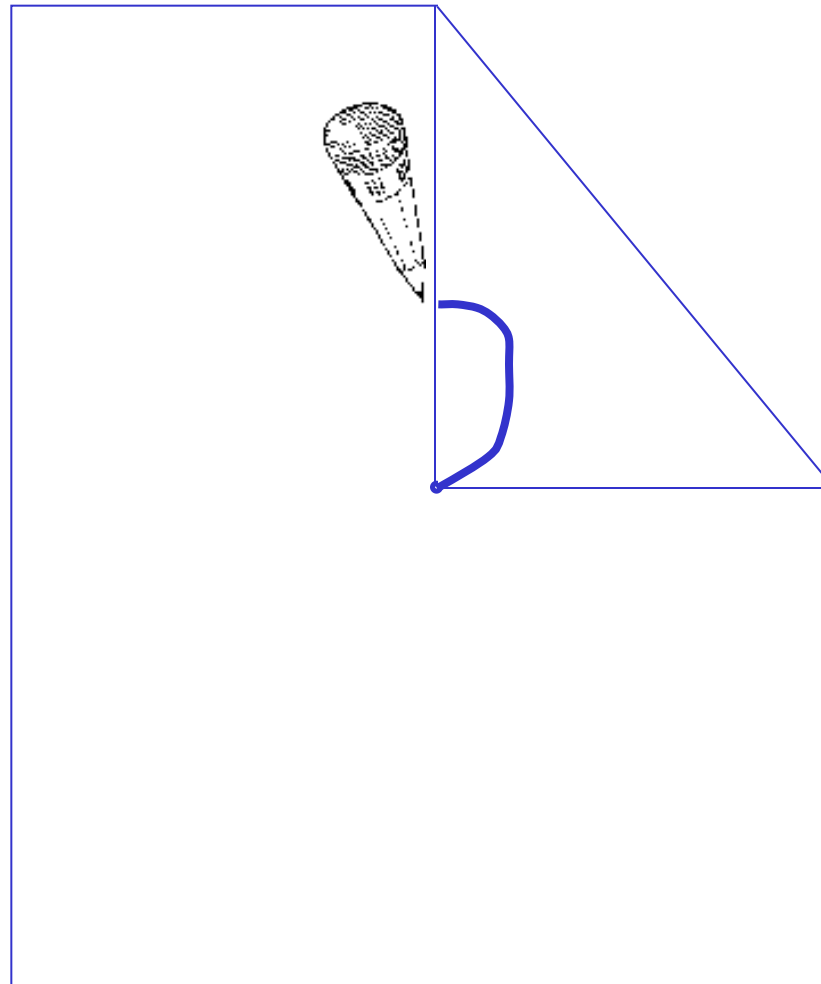
Operating through a higher dimension

Then fold a corner of the paper over
Slide the pencil over to the backside



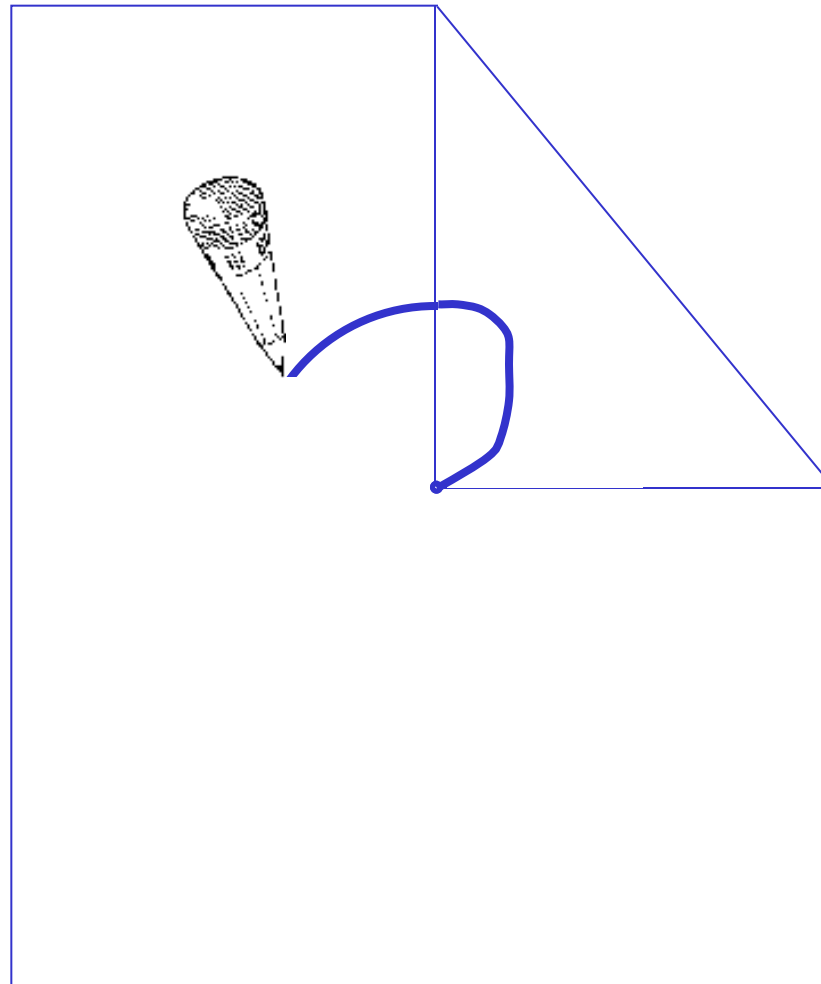
Operating through a higher dimension

Draw on the backside until you reach the edge at the diameter you want



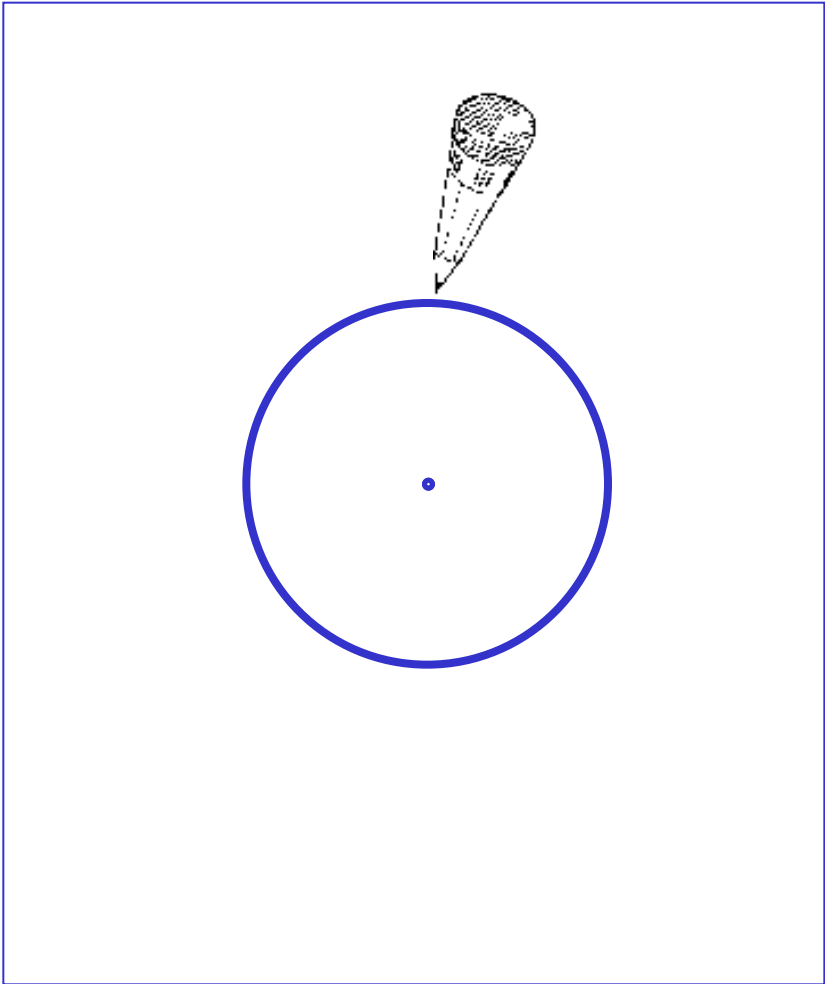
Operating through a higher dimension

Draw on the backside until you reach the edge at the diameter you want



Operating through a higher dimension

Unfold the corner and
Finish drawing the circle!

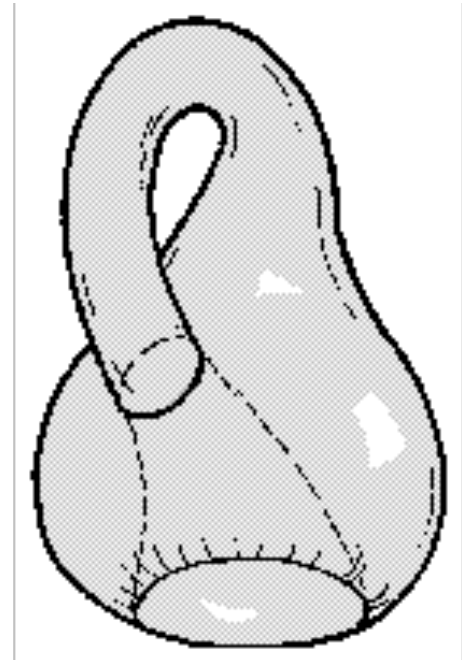
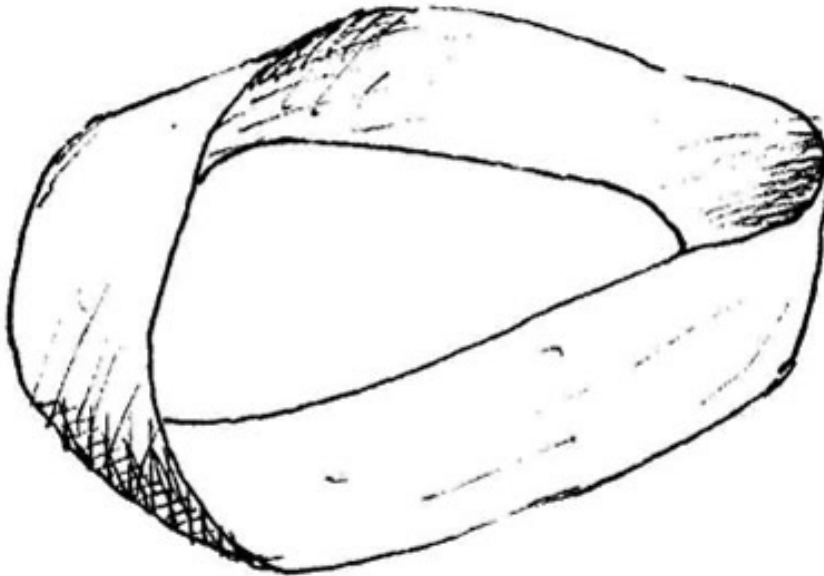


You have achieved the impossible by going to another dimension!

Messing with dimensions

Moebius strip: only one side and one edge

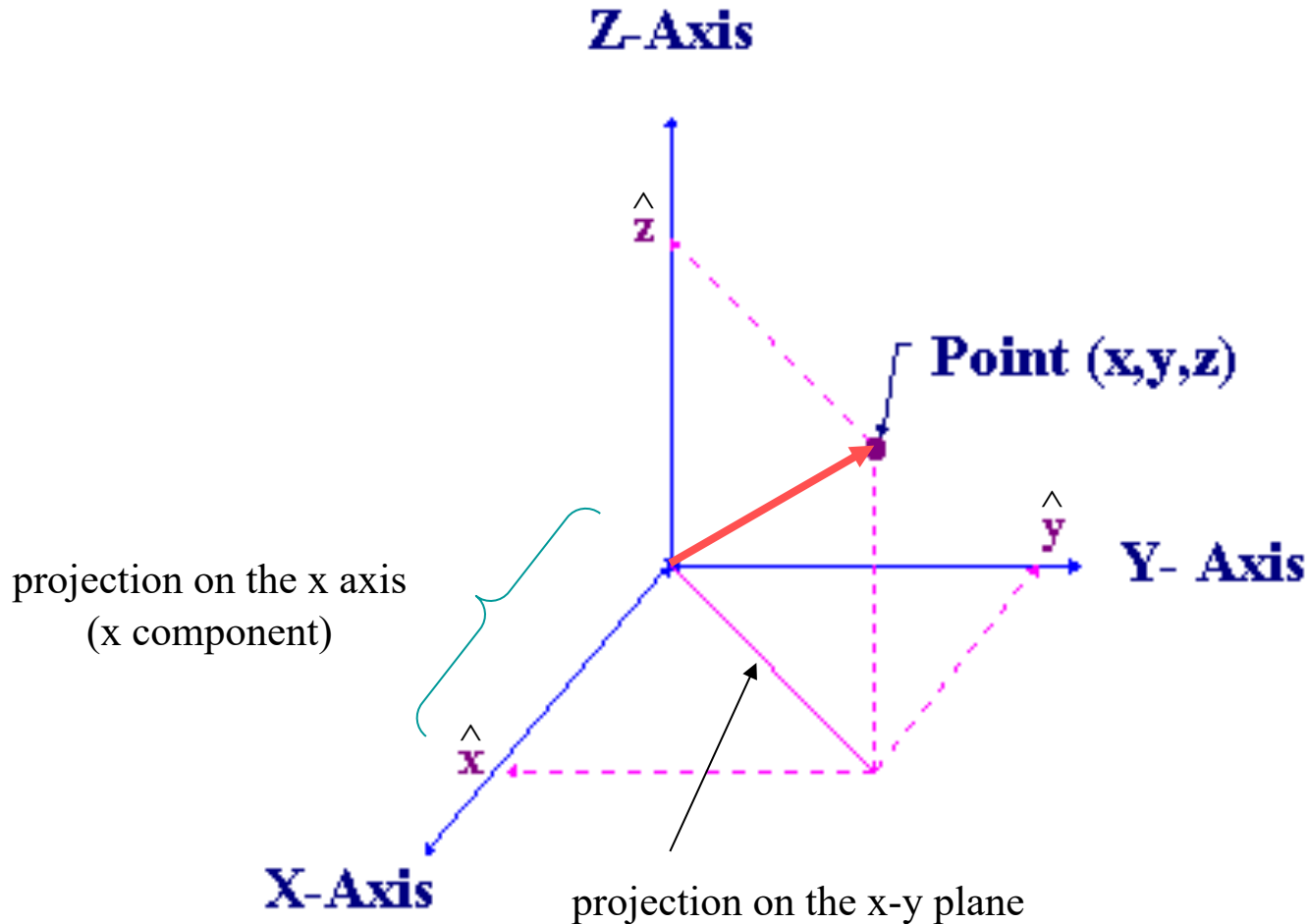
Klein bottle: three-dimensional equivalent of the Moebius strip



Create a Moebius strip by taking a strip of paper, twist it, and then tape it together

How do we visualize a direction in 3-D?

We project it against a plane defined by the coordinate axes



We can also project it against an axis to determine that length

How do we visualize a higher dimensional object?⁷

Similarly, we can look at its shadow



See three different projections of this object
A snapshot cannot describe this fully

Why can't we see God?

Because He is spiritual!

God is not physical, but He can interact with it; He must project Himself into the physical world in some kind of representation so that we can "see" Him

(To Moses) "But," he said, "you cannot see my face, for no one may see me and live... Then I will remove my hand and you will see my back; but my face must not be seen."
(Exo 33:20-23)

(To Elijah) The LORD said, "Go out and stand on the mountain in the presence of the LORD, for the LORD is about to pass by." Then a great and powerful wind tore the mountains apart and shattered the rocks before the LORD, but the LORD was not in the wind. After the wind there was an earthquake, but the LORD was not in the earthquake. After the earthquake came a fire, but the LORD was not in the fire. And after the fire came a gentle whisper.
(1 Ki 19:11-12)

(To Balaam) When the donkey saw the angel of the LORD, she lay down under Balaam, and he was angry and beat her with his staff. {28} Then the LORD opened the donkey's mouth, and she said to Balaam, "What have I done to you to make you beat me these three times?" (Num 22:27-28)

How does God communicate with man?

The Bible is one means of projecting God

These are a **shadow** of the things that were to come; the reality, however, is found in Christ. (Col 2:17)

They serve at a sanctuary that is a copy and **shadow** of what is in heaven. (Heb 8:5)

The law is only a **shadow** of the good things that are coming-not the realities themselves. (Heb 10:1)

In the beginning was the Word, and the Word was with God, and the Word was God. (John 1:1)

The Word became flesh and made his dwelling among us. We have seen his glory, the glory of the One and Only, who came from the Father, full of grace and truth. (John 1:14)

How does God communicate with man?

Jesus is the ultimate means of projecting God

Jesus is the image of the invisible God (Col 1:15)

For in Christ all the fullness of the Deity lives in bodily form
(Col 2:9)

The Son is the radiance of God's glory and the exact representation of his being, sustaining all things by his powerful word. After he had provided purification for sins, he sat down at the right hand of the Majesty in heaven. (Heb 1:3)

- God communicates to us through Christ.
- This is like a projection into a world of reduced dimension.
- He is the fullness of God, but we can only see it partially.
- Christ is the most tangible way God has to represent Himself and His Goodness (Righteousness).

Love binds the two worlds

The connection is too strong to be broken!

... neither death nor life, neither angels nor demons, neither the present nor the future, nor any powers, neither height nor depth, nor anything else in all creation, will be able to separate us from the love of God that is in Christ Jesus our Lord.

(Rom 8:38-39)

We could read this:

Neither height, nor depth, nor any other dimension

But we can choose to let go...

How does our soul project back into heaven?

7

Not very well! We are corrupted and only fit in through Christ

We are too weak to stand alone in that environment

It might be compared to being on another planet or a star:

If we could stand on Jupiter or the sun, it might crush us

Jupiter: 2.4 times your weight

Sun: 271 times your weight

The tidal force from the gravity of a black hole rips atoms apart.

This is similar in a way to our weakness and insignificance when we are in the presence of God.

We can only make the transition by being transformed by God

The Bible as evidence

God has given us the truth, but not the exhaustive truth

- Fulfills needed characteristics as described earlier
- Internal Evidence (Consistency)
- History-Archaeological evidence
- Prophecy
- Miracles

The Bible is not a science textbook

And God said, "Let there be Light! And there was light" Gen 1:3

Gauss' Law for Electricity	$\oint \mathbf{E} \cdot d\mathbf{A} = \frac{q}{\epsilon_0}$
Gauss' Law for Magnetism	$\oint \mathbf{B} \cdot d\mathbf{A} = 0$
Faraday's Law	$\oint \mathbf{E} \cdot d\mathbf{s} = -\frac{d\Phi_B}{dt}$
Ampere's Law	$\oint \mathbf{B} \cdot d\mathbf{s} = \mu_0 i_{enc}$

What would Moses have done with this?

The Bible is not a science textbook!

Remember that the purpose of the communication is to address the relationship!

Very early on the first day of the week, just after **sunrise**, they were on their way to the tomb... (Mark 16:2)

That evening after **sunset** the people brought to Jesus all the sick and demon-possessed. (Mark 1:32)

Is this scientific commentary (on the sun moving around the earth), or just an acceptance of the way people talked?

God had to communicate His truth in terms that man could understand at any point in history

The Bible is not a science textbook!

Communication implies understanding!

The Bible contains:

- History
- Poetry
- Law
- Symbolism
- Parables
- Prophecy
- **Very little science instruction**

The parables are a perfect example of how God has to communicate with us; we must get the main point and not become lost in the details!

Always remember man's limitations when you try to interpret the Bible

The Bible: Internal Evidence

- Style of Writing
 - Brevity of books
 - Brevity of incidents
 - Omissions of scriptures
 - Impartiality of scriptures
 - Calmness of scriptures

- Accuracy of recorded historical events and customs

- The content of the message
 - Loving God, personal relationships, Golden Rule

- Medical evidence
 - See None of these Diseases, by S.I. McMillen

The Bible: History-Archaeological evidence

Old Testament

1. Discovery of Ebla archive in northern Syria in the 1970's
 - Personal and place names are genuine, e.g. Canaan
 - “Tehom” (the deep, Gen 1:2) used at Ebla
 - Ancient customs described
2. Existence of the Hittites proved
 - Records discovered at Bogazkoy, Turkey
 - Previously thought to be greatly exaggerated
 - Shows wealth in antiquity, validates story of Solomon
3. Record of King Sargon discovered
 - His palace discovered in Khorsabad, Iraq
 - His capture of Ashdod (Isaiah 20) recorded on palace walls
 - Other evidence of the victory found
4. Doubts about Belshazzar removed
 - Tablets found showing Belshazzar was Nabonidus' son and served as co-regent with Him
 - He was in a position to make Daniel the third highest ruler (Dan 5:16)
5. Many other military items exist on walls and monuments

The Bible: History-Archaeological evidence

New Testament

1. Contemporary mention of Christ
 - a. Pagan sources: Thallus, Tacitus, Pliny, Suetonius
 - b. Jewish sources: The Talmud, Josephus
 - c. New Testament writers
 - d. Jesus was a real person in history
2. Historical reliability of the New Testament
3. Manuscript evidence better than any other ancient document
 - a. Oldest copies only date about 100 years after the originals
 - b. Agreement between copies
4. Resurrection
 - a. No body was ever found
 - b. The position of the grave clothes
 - c. The Jews wanted him to stay in the grave
 - d. the apostles were powerless to take the body
5. Changes in the lives of people such as Paul
6. Shortly after the year 300, the whole empire embraced Christianity

The Bible: History-Archaeological evidence

Other items of interest

- Burial sites of Bible characters have been found
 - Caiaphas, Augustus, Cyrus the Great, Darius, Uzziah
 - Cave of Machpelah: burial place of Sarah, Abraham, Isaac, Rebekah, Leah, and Jacob
 - Probably the tombs of David and Solomon
- Likeness of Bible characters have been found
 - Shishak, Jehu*, Hazael, Sargon, Sennacherib, Augustus
- Man-made structures found
 - East gate of Shechem, temple of Baal in Shechem
 - Palace at Jericho, Hezekiah's water tunnel, Jacob's well
 - Foundation of the synagogue at Capernaum
 - Various pools in and around Jerusalem
 - Palaces of Xerxes and Belshazzar; nation of Israel

The Bible: Prophecy

- Hosea – predicted that Israel would pass out of existence
- Joel – Tyre and Sidon would be destroyed
- Amos – the military strength of Damascus would be destroyed
- Obadiah – the Edomites would be destroyed
- Micah – prophesied the destruction of Samaria and Jerusalem
- Nahum – predicted in detail the destruction of Ninevah by flood
- Zechariah – many nations would be joined for God

Many prophesied that Christ would come to serve and save

The Bible: Prophecy of Christ

• Of the tribe of Judah	Gen 49:10	Luke 3:23ff
• Of the royal line of David	Jer 23:5	Matt 1:1
• Born of a virgin	Isa 7:14	Matt 1:18ff
• Born in Bethlehem	Micah 5:2	Matt 2:1ff
• Forerunner prepares the way	Mal 3:1, 4:5	Matt 21:6,7
• Betrayed by a disciple	Ps 41:9	Matt 26:14,15
• Betrayal price 30 pc silver	Zech 11:12	Matt 27:3-7
• Betrayal money returned	Zech 11:13	Matt 26:31,56
• Disciples forsake Him	Zech 13:7	Matt 26:59ff
• Suffered abuse	Isa 50:6	Matt 26:67
• No bones broken	Ps 34:20	John 19:33ff
• Pierced	Zech 12:10	John 19:33ff
• Darkness in daytime	Amos 8:9	Matt 27:45
• Buried with the rich	Isa 53:9	Matt 27:57-60
• Arise from the dead	Ps 16:10	Matt 28:6

These are just a few examples of the many which occur

The Bible: Miracles

1. A miracle is an interference with the normal natural laws by a power which is above the natural (the supernatural)
2. Any being capable of creating the universe is certainly capable of interacting with it at any time, to any degree
3. Miracles are necessary for God's revelation of himself, his nature, and his power
4. The Jews never claimed that Christ was a trickster, but that he claimed to be God; they could not prove the former, even with Judas a traitor
5. God can use the physical elements such as rain to work his will in a subtle manner, but he can also work directly to do anything that he wants

The Dead Sea Scrolls

- First scrolls found by Bedouin shepherds in 1947
- Contain many well-preserved copies of Old Testament books
 - The entire book of Isaiah: the oldest Bible book in existence
 - All Bible texts are much older than were known previously
- Other literature found as well
 - Most likely related to the city of Qumran
 - Perhaps a sect of Essenes, but definitely separatists
 - Believed in a doctrine of “last things” and “messiahs”
 - Utilized ritual baths and cleansings; moral purity
 - Marriage not promoted
 - “Manual of Discipline” and “Rule of the Community”
- There is still doubt concerning how this community fit in with the rest of the Jewish world
- The clearest message from the Dead Sea Scrolls is further verification of the ancient texts of the Bible

The "Bible Codes"

Intentional coincidences of significant words or phrases that appear as letters with equal spacing

יִשְׁבַּעַל הַבָּאָר וְלֹכַ
 בִּי הוֹנֵא יִאֲמַר מִדּוֹ
 יוֹאֵל מִשְׁהֵה לְשִׁבְתָּא
 הָעֵבֶדְהוּ יִזְעָקוּ וְ
 הִהְיֶה הָעֵה אֶתְצֵאן
 נִוְאֶכְלֵוּ יִאֲמַר מִשְׁ
 כְּבִהֵלְסֵה לְנִעְלֵי וְ
 לְהִיִּסוּ יִאֲמַר יְהוָה
 רְחֹבֵהָאֵל אֶרְצוּבַת

"Thou hast now
done foolishly
in so doing..."

The claim is that God inspired this code into the Word letter by letter

First, a word about belief and Occam's Razor

7

The simplest explanation is best

How does this relate to our belief in the way God created?

Some people think that you must pick the hardest, most complex choice in order to show the supreme power of God to create any way that He pleases

Examples:

The Bible Codes

Literal creation of the universe in 7 days

They may condemn you because you don't believe in the most stressing explanation

We should keep all of our options open

Back to the Bible Codes

This can be tested with other texts

- Mathematicians are able to generate very similar things with other books, for instance War and Peace.
- Famous assassinations foretold in Moby Dick
- Some results cannot be reproduced independently; some can be reproduced if the data is manipulated unfairly
- Proponents of the theory use variations of spelling to “prove” their point
 - This is similar to finding the mark of the beast: 666
 - By assigning numbers to the Greek letters, as was done in ancient times, you can make just about anyone you want to have the number of the beast
 - you may have to vary the spelling or whether you use the middle name or initial

In objective tests, there no “codes” found beyond normal chance

The Bible as evidence

**There is powerful evidence
that the Bible
is indeed the Word of God.**

**One of the chief messages
is that God is All-Powerful
and that He created the Universe.**

**Another is that
He loves us
with a similar power.**

The Heavens Declare the Glory of God

The Creation Account



Heard Lowry

The Creation Account

The purpose of the Biblical account

- To give a general sketch of the creation and power of God
- It is not meant to be a detailed textbook or photograph
- A Bible peppered with scientific jargon would not be appropriate for the religious instruction of humanity
- There is no way to tell this kind of detailed truth to man such that it means anything to him
- How much should God have covered, etc. A fundamental college text can be as big as the Bible is now!
- God did not want us to learn science so fast

Are we even capable of understanding how God did it?

The Meaning of the Biblical Account

The Bible, not being in the language of science, is naturally more open with regard to the interpretation of science

Our view that the Bible as absolute truth sometimes causes us to try to force it to be all of the truth: this cannot be done with the creation account. There is much left out.

How many people would read the Bible if Physics 101 was scattered throughout?

Not enough people read it as it is....

“Conflict” between the Bible and Science

The theories of science in the past have constantly shifted, but have always been used by man to attack the Bible

The problem is between
theories of science and interpretations
of the Bible

So-called Contradictions

When there are Biblical 'contradictions', unbelievers think that this is a 'proof' that the Bible is false...

But scientific theories which conflict (such as the wave and particle theories of light) are all right, it's just a matter of interpreting the results properly!

This is not fair.

We must be somewhat flexible in our thinking

- we must be able to see several possibilities without locking in on only one
- we must also understand our own inadequacies to absorb these truths

Archbishop Ussher's Date of Creation

Based his chronology on an intricate correlation of Middle Eastern and Mediterranean histories and Holy Scripture

Incorporated into the 1701 authorized version of the Bible

Came to be regarded with almost as much unquestioning reverence as the Bible itself.

- The first day of creation was Sunday 23 October 4004 BC
- Adam and Eve were driven from Paradise on Monday 10 November 4004 BC
- The ark touched down on Mt Ararat on 5 May 1491 BC 'on a Wednesday'.

Bishop Ussher's date for the creation of the world has been much ridiculed

It is an interpretation: the Bible does not say this at all

There are too many uncertainties for this kind of calculation to be accurate

Genesis 1:1 to 2:3

Read the account

Main Points:

- God created the universe in an orderly fashion
 - Performed in stages
 - Life reproducing “after their kind”
- It was not a static thing
 - There were to be seasons
 - There was to be life
 - There was to be growth
- It was a beautiful thing with a great deal of variety
- God saw that His creation was Good

Man is made in the “image of God”

Spiritually, not physically

The charge to mankind:

- Be fruitful and increase in number; fill the earth
- Subdue it (the earth): rule over all the creatures

It's really all for fulfill the purpose: a relationship with man

The first few verses: Genesis 1:1-5

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.

And God said, "Let there be light," and there was light.

God saw that the light was good, and he separated the light from the darkness.

God called the light "day," and the darkness he called "night." And there was evening, and there was morning-- the first day.

Hopefully, we all understand that this is a translation

The first few verses in some detail -- 1

(1) In (the) beginning God
first, former object of worship (spiritual)
first time *elohim*
reshith

created the heavens
to create (**from nothing**) heaved up things
form, fashion, prepare lifted up things
bara (make) *shamayim*

and the earth (all the universe; the structure)
land
erets

The first few verses in some detail – 2a

(2) And the earth was without form (formless)
(became?) a ruin, vacancy
nothing, confusion
(in disorder)
tohu

and void
empty
bohu

The first few verses in some detail – 2b

and	darkness obscurity disorder <i>chosek</i>	(was)	upon on, upon above, over <i>al</i>
-----	--	-------	--

the	face face surface <i>panim</i>		of the deep deep place the deep (sea) depth, expanse <i>tehom</i>
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The first few verses in some detail – 2c

and the Spirit of God
breath *Elohim*
spirit
wind
influence
ruach

moved upon the face of the waters
was hovering over the water
shook material
acted structure
flutter (vibrated)
rachaph *mayim*

The first few verses in some detail – 3

(3) And God said,
say
spoke
amar

Let there be light, and there was light.

or

(*Ye hi or -- wa ye hi*: “Exist light”, then exists light)

Creation in a nutshell:

And God said, ‘Let there be light, and there was light!’

The first few verses in some detail – 4

(4) And God saw
behold, look
consider, enjoy
raah

the light, that it was good: and God divided
good separated
tob made a difference
badal

the light from the darkness.
energy? matter?

The First Seven Days

Day one	Structure, Time, Energy, Matter
Day two	Separation of “waters” (space)
Day three	Gathering of waters (land and sea) Plants (according to their kinds)
Day four	Celestial objects (stars, sun, planets, moon)
Day five	Gliders (Fish & Birds)
Day six	Walkers - Land animals (according to their kinds) - Man
Day seven	Rest (Finished)

And God saw that it was Good!

Seven Major Components of the Creation

- Material
- Organization (order) into stars, planets, etc
- Plant life
- Seasonal and diurnal cycles (setting the system into motion)
- Fish and fowl
- Large land animals and man

Could the word 'day' represent a stage?

Another way of looking at it (though not in exactly the right order)

Begin

- Create the raw material
- Develop the shell or superstructure
- Set the system into motion
 - develop the rhythms required for life
- Establish the support system
 - Plant life
 - Fish and fowl
 - Large land animals
- Complete the main objective: Man
- Establish the relationship

End

Technical support required to keep the program running

How did God create?

“In the beginning there was light, and plenty of it!”

Dr. George Gamow

How much did God directly create?

How much did God let develop from an initial start?

He could have let things proceed from a Big Bang

Or He could have created it with that appearance

Would He not have created it to point to Him, even if we are incapable of thinking it through clearly?

My purpose is not to answer this question absolutely,
But to open the world of possibilities that you can believe

The Ultimate Power of God

God, with power beyond the physical, could have created the universe any way that He wanted to:

- Over a long period of time (billions of years)
- Over a short period of time (7 days)
- In no time (instantly)
- With the appearance of age
 - Instant light from the distant stars which were created in day four

The 'Word' which created the universe shows the non-physical nature of God as revealed in the Bible

'We cannot disprove the postulate that the universe was created one second ago, complete with all our apparent memories of our own earlier days, or that it was not created in 4004 BC, with all the apparent record of earlier billions of years.

Dr. George Simpson, Harvard Professor, prominent evolutionist

Questions we want to consider

- Did God create the universe in seven 24-hour days?
- What about the Garden of Eden?
- What happened to the universe when man sinned?
- Where did Cain get his wife?
- What were the waters above the heavens?
- How do cave men and the dinosaurs fit into the picture?
- Was the flood universal (over the entire earth)?
- Did scientists find the 'long day' of Joshua?

Genesis 1:1-2: summary or chronology?

- If it is a summary,
 - ‘Light’ in verse 3 means the energy content of the universe
 - Verse 3 then begins an account of the whole creation
 - ‘Let there be light’ seems to imply the climactic event of the total creation
 - ‘without form and void’ conveys the idea that God at first created the elementary principles of all things (structure)
 - Dividing the light from the darkness (vs 4) could be the separation of pure energy and matter
- If it is part of the chronology,
 - What does ‘light’ refer to in verse 3?
 - The heavens and earth have already been created
 - The sun is evidently not created until verse 4

‘light’ in verse 3 (day 1) is *or*, a substance;

‘light’ in verse 14 (day 4) is *ma-or*, a container with that substance

Gap theory: 'without form and void'

- God created the heavens and the earth
- The earth became void, as though it were destroyed
- Verse 3 begins the regeneration of a dead or dormant world
 - Had the earth had life on it previously?
 - How long had the earth been in this formless mode?

What does the word 'day' mean?

The Hebrew word 'yom' is translated 'day'

- Is this day a twenty-four hour day?
 - Some scholars argue that due to the frequency of use when connected with a number, this must mean a twenty-four hour day
 - But this is the first time that the word is used, and in obviously a non-typical context
 - We must not limit God to that
- What do 'evening' and 'morning' mean before the sun was created (day 4)
 - Some believe that the sun existed but was only revealed on the fourth day, after plants were made
 - The language seems pretty plain that God created it then
- At the very beginning, the earth/sun system would have had different rotational and revolutionary periods
 - Not millions of years long, though

God could have created it in 7 literal days, or 7 seconds

What does the word 'day' mean?

The Hebrew word 'yom' is translated 'day'

- Is this day a very long or variable period of time?
 - This can be consistent with the text and intent of the passage
 - Some don't like this because it appears to be a 'cop-out' so that we can live with the radioactive dating of rocks, etc
 - We must not limit God by ignoring this, either
- How could plants have stayed alive for an eon before the sun was created?
 - God could have protected them in another way (In His Hands)
 - He used a different (mist) watering system, for example, in the beginning
 - In Gen 2:5-7, it appears that man was created before plants
- Why was God not more exact in His description?
 - No matter what He said, it would have conflicted with men's changing theories

God could have created it in a developmental manner

What about radioactive dating?

These dating methods say the earth is millions of years old

- These methods all are based on unprovable assumptions made on the past history of phenomena
- They stem from preconceptions of how old some think the universe should be
 - Assumed: they decay rates of radioactive elements of the past are the same as those of the present: unprovable
 - Assumed: the proportions of elements residing together of different isotopes can be deduced accurately: unprovable
 - Assumed: the sun evolved from the Big Bang and has to have been burning for millions of years: unprovable
- Any creation act must give the appearance of age, like the creation of a full grown man, Adam and the turning of water into 'aged' wine

The dating may or may not be meaningful

God created the universe

Does it matter whether it was 7 days or 7 stages?

The Bible account does not contradict “science”

The problem is in man’s limited understanding

The Perfect Physical Model

Do as the scientists do, and have models of things that are ways to think about that situation; we don't think that this is absolutely the way it is; the imperfect physical is just a model about how we think of this

“And God saw that it was Good”

How does the Big Bang jive with the perfect physical model?

The idea of symmetry – at what point did it become imperfect?

after galaxies and solar systems were made?

could all of this been brought about before the second law?

If the Second Law had arrived at some particular time

we truly cannot know what happened before that

maybe make a diagram of that

perfect physical, creation of everything

does the Big Bang make any sense in that context?

At some point the second law was introduced

what can we gain from it

we don't have the second law

we have the flow of energy from hot to cold, that sort of thing

but there wouldn't be the tremendous mechanism of winding down

you still have conservation, so you can't have creation of energy, etc

Imperfect physical:

Randomness

Bad things happen

Uncertainty

Non-simultaneity?

The Heavens Declare the Glory of God

The Creation Timeline



Heard Lowry

Review

- The universe is awesome in size and power
- The most reasonable view is that God created the universe for the purpose of having a relationship with man
- Scientific theories haven't answered the crucial question: How did the "laws" or "structure" of the universe get here? Only God can explain that.
- The Design of the Universe and the Living Minds in it demand a designer: God!
- Jesus is the ultimate means of projecting God to us
- There is powerful evidence that the Bible is indeed the Word of God.
- The Creation account and 'science' do not conflict – only interpretations of the Bible and theories of science do

The Universe

Isaiah 40:26

Lift your eyes and look to the heavens:

Who created all these?

He who brings out the starry host one by one, and calls them each by name.

Because of his great power and mighty strength, not one of them is missing.

Think about God naming each star

The First Seven Days

Day one	Structure, Time, Energy, Matter
Day two	Separation of “waters” (space)
Day three	Gathering of waters (land and sea) Plants (according to their kinds)
Day four	Celestial objects (stars, sun, planets, moon)
Day five	Gliders (Fish & Birds)
Day six	Walkers - Land animals (according to their kinds) - Man
Day seven	Rest (Finished)

And God saw that it was Good!

Creation Account Review

- Genesis 1:1-2: summary or chronology?
 - Remember plants before sun
- Gap theory: how long was the earth formless and void?
- Does ‘evening and morning, the ____ day’ mean 24-hour periods or very long periods?

Does it matter whether it was 7 days or 7 stages?

The Bible account does not contradict “science”

God did it His own way!

Questions we want to consider

- Did God create the universe in seven 24-hour days?
- What about the Garden of Eden?
- What happened to the universe when man sinned?
- Where did Cain get his wife?
- How did the races emerge?
- How do cave men and the dinosaurs fit into the picture?
- What were the waters above the heavens?
- Was the flood universal (over the entire earth)?
- Did scientists find the 'long day' of Joshua?

Genesis 2:4 to 2:25 (1)

Summarize the account

- Gen 2:4-7: God created man
 - Prior to the plants coming up
 - Earth watered without rain
 - From the dust
 - Breathed in the breath of life
- Gen 2:8-14: God created the Garden of Eden
 - A particularly good part of earth?
 - Put man in it
 - Many trees (for beauty and food)
 - Tree of life
 - Tree of knowledge of Good and Evil
 - A river waters it
 - Separates into four
 - Other raw materials mentioned

Genesis 2:4 to 2:25 (2)

Summarize the account

- Gen 2:15-17: God sets the rules
 - Man is in the garden to work it and take care of it
 - One 'Do Not' rule: don't eat of the tree of knowledge...
 - He could evidently eat freely of the tree of life
- Gen 2:18-20: God searches for a helper for man
 - Man names all of the animals
 - There is still no suitable helper
- Gen 2:21-25: God creates woman
 - He puts man to sleep
 - He takes part of man to use as a basis for woman
 - He intended for them to be united
 - They were naked and felt no shame

Genesis 3:1 to 3:7

Summarize the account

- Gen 3:1-7: Satan makes them fall
 - He questioned the one rule
 - He claimed that God was keeping something from them
 - They would be like God
 - They would not (immediately) die
 - Eve ate, and then Adam
 - Their eyes were 'opened'
 - They responded by making themselves clothes
 - What was the real step in knowledge?

Genesis 3:8 to 3:19

Summarize the account

- Gen 3:8-19: God deals with the entrance of sin
 - Adam and Eve tried to hide from God
 - This proved their guilt
 - God punished the serpent
 - Cursed
 - Forced to crawl in the dust
 - Hatred between him and mankind
 - God punished Eve
 - Increased pain in childbirth
 - Put her in subjection to her husband
 - God punished Adam
 - Painful toil all of his life
 - He would return to the ground (assumed for Eve, too)
 - God cursed the ground

Genesis 3:20 to 3:24

Summarize the account

- Gen 3:20: Adam names his wife Eve
 - She is the mother of all living
- Gen 3:21: God makes them better garments
 - From skins of (dead) animals
- Gen 3:22a: Man has become like God
 - This knowledge of good and evil is a crucial difference
- Gen 3:22b-24 God throws them out of the Garden
 - He removes access to the tree of life
 - They will certainly die without it
 - He will have to work the cursed land
 - A spiritual being is posted to keep him out

Further word on the curse of the earth

The creation waits in eager expectation for the sons of God to be revealed.

For the creation was subjected to frustration, not by its own choice, but by the will of the one who subjected it, in hope that the creation itself will be liberated from its bondage to decay and brought into the glorious freedom of the children of God.

We know that the whole creation has been groaning as in the pains of childbirth right up to the present time.

Romans 8:19-22

This applies to the entire creation

God has to keep working to hold it together (Hebrews 1:3)

Destruction and Renewal of the universe

{10} But the day of the Lord will come like a thief. The heavens will disappear with a roar; the elements will be destroyed by fire, and the earth and everything in it will be laid bare ('become void')...

{12} ... look forward to the day of God and speed its coming. That day will bring about the destruction of the heavens by fire, and the elements will melt in the heat.

{13} But in keeping with his promise we are looking forward to a new heaven and a new earth, the home of righteousness.

2 Peter 3:10-13

Isaiah 65:17, 66:22, a new heavens and a new earth (enduring)

Revelation 21, a new Jerusalem (no evil or suffering)

We will have a new (different) body

... The Lord Jesus Christ, who, by the power that enables him to bring everything under his control, will transform our lowly bodies so that they will be like his glorious body.

Phillipians 3:20-21

{42} So will it be with the resurrection of the dead.

{50} I declare to you, brothers, that flesh and blood cannot inherit the kingdom of God, nor does the perishable inherit the imperishable.

{52} ... For the trumpet will sound, the dead will be raised imperishable, and we will be changed.

{53} For the perishable must clothe itself with the imperishable, and the mortal with immortality.

1 Corinthians 15:42a, 50, 52-53

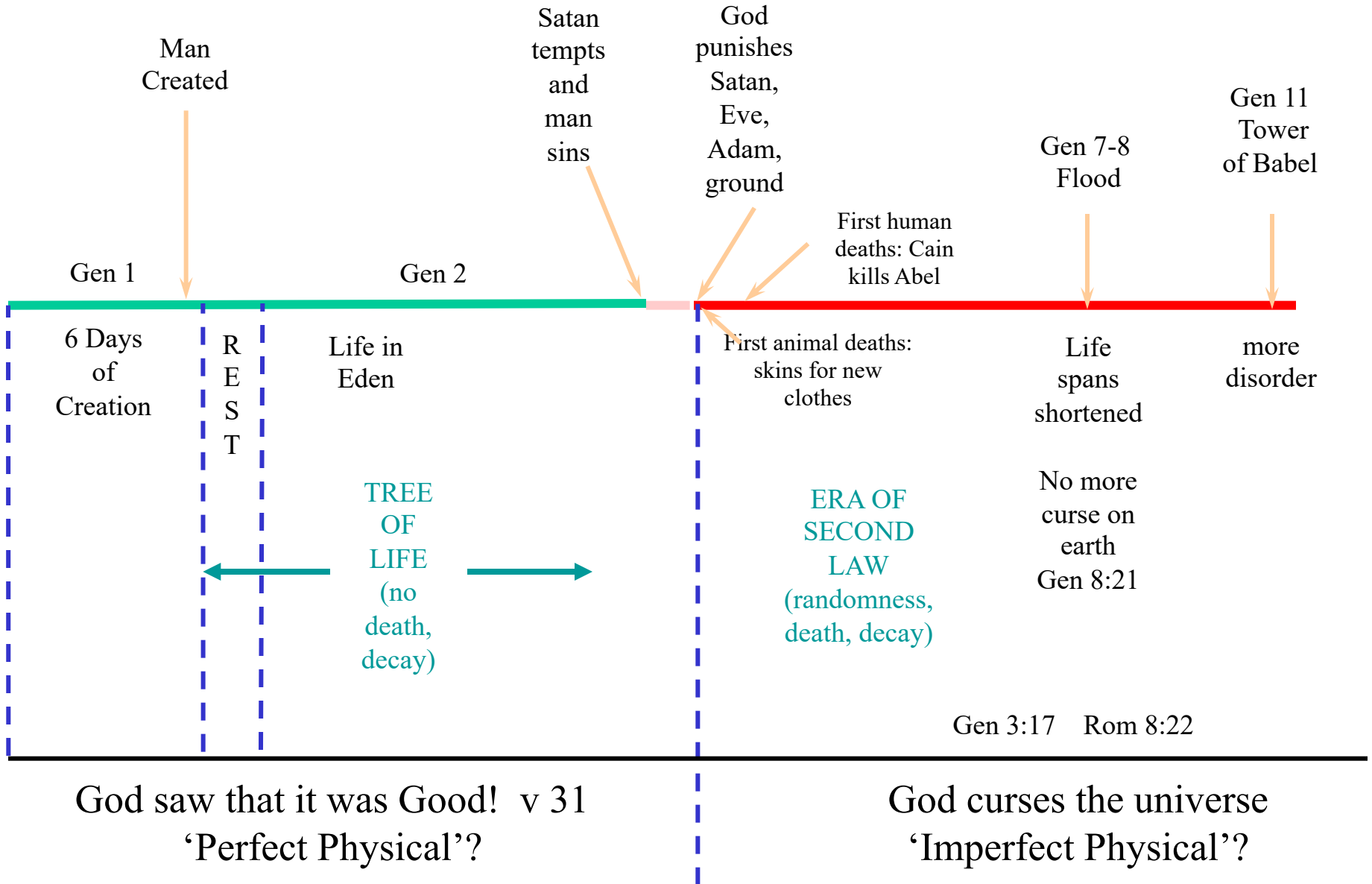
Implications of the Fall

- God created the universe very differently from what it is now
 - Either it was entirely free from the Second Law of Thermodynamics (randomness, death and decay) and he added it when he cursed the earth (universe), or
 - The Second Law was dormant, kept at bay by continual spiritual energy from God, which He ultimately stopped when he cursed the earth
- Either way, He now has to continually pour His power into the universe to keep it from collapsing (Heb 1:3)
- Did He create in anticipation of man's eventual sin?

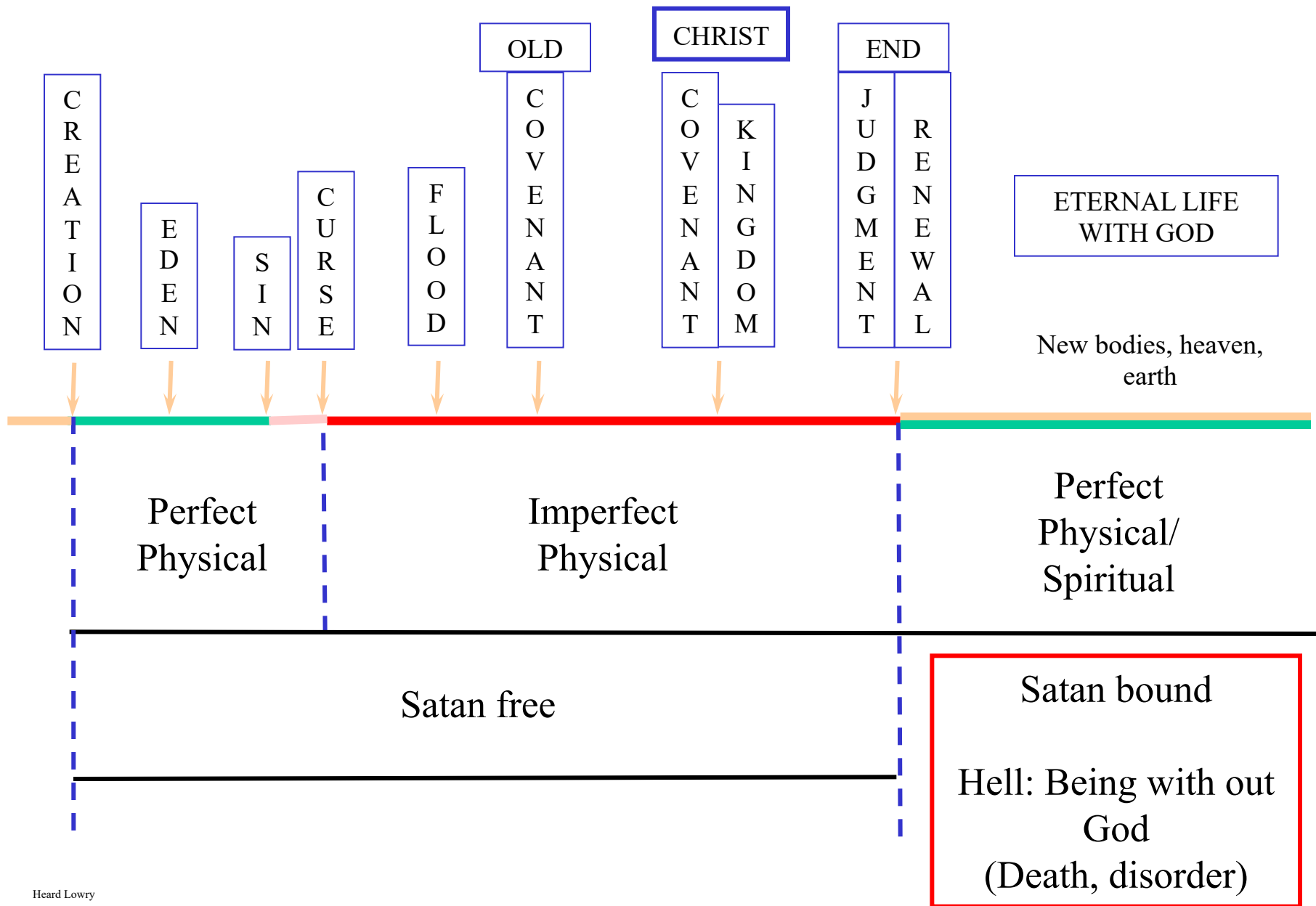
How would the creation have developed without the Second Law?

God's creation of a universe without the Second Law could help explain how He could accomplish it all in a short period of time

Major Events in the Creation Timeline



The Full Timeline of the Universe



Where is the Garden of Eden?

- After the fall of man and resulting changes in the universe, one could not hope to recognize its location
- Even if one could, the flood would have wiped out every trace
- God must surely still bar the way if it still existed
- The Tigris and Euphrates rivers most likely do not indicate the location, but were named in memory

Life in Eden

- The tree of life seems to supply a force that kept death and decay away while Adam and Eve partook of it
- The perfect physical: no death, no decay
 - Life was very different
 - God said that he gave plants for food for man and animals
 - No indication of pain (but God put Adam to sleep to create Eve)
- There is no way of knowing how long Adam and Eve were in the garden: it could have been many years
- They “walked with God” – signifying a very close, personal relationship

Were Adam and Eve able to have children in the Garden?

- In the 'perfect physical', where there was no death, there was not necessarily a need for procreation
- The tree of the knowledge of good and evil (by which they knew they were naked) may mean that sexual relations were not part of the Eden plan
- After the fall, God did not say that Eve's punishment would be childbirth, but increased pain in childbirth
- Adam did not call Eve the Mother of all living until after they left the garden
- They just may not have had time before they sinned

Sin in Eden

- How long do you think it took man to fall?
 - eons? years? days?
- After man sinned and was cast out of the garden, the second law seems to come into play
 - No indication of death (animal or man) before this
 - Gen 3.17 (God cursed the ground)
 - Rom 8.22 (the whole creation groans)
 - Man became mortal
 - The food chain was altered (some plant-eating animals changed to meat-eating)
- Man's sin caused disorder in the relationship with God
- Life was much harder because of death and decay
 - Man had to work to establish order which was naturally present from God before he sinned.
 - Pain multiplied in childbirth

Could they feel the transition from perfect to imperfect?

Life after Eden

- Adam and Eve's perfect world fell apart
- Adam and Eve began raising a family, but then had to see their children's relationships fall apart
 - like theirs had with God
- God imposed other rules
 - He desired worship through animal sacrifice
- Cain killed Abel because he was jealous
 - Did he realize that humans could be killed just like the animals?
 - Cain had to flee, but he started his own family
 - The 'mark of Cain' is not a racial thing
- Adam and Eve then had Seth
 - and other sons and daughters, Gen 5:4
 - Jesus came through Seth
- Mankind began to multiply and turn away from God

Where did Cain get his wife?

- Did God create more people than (after) Adam and Eve?
 - Adam called Eve the mother of all living: Gen 3:20
 - Perhaps this meant she was the first to have a child
- In the beginning...
 - disease was not as prevalent
 - man lived longer and had more time to have children
 - after a hundred or so years, there would have been many candidates (crude calculation leads to about 12000)
- Cain most likely married a (very) close relative
- What about the problem of congenital defects caused by intermarriage?
 - either it had not had time to develop (the gene pool had not yet become corrupted by radiation levels, etc)
 - or God protected man specially during this time

How did the races emerge?

- People look to the Bible to support their racism
- The mark of Cain is sometimes used
- The curse on Canaan, Noah's grandson, is frequently used
 - Absolutely no evidence to support the idea that this is where a variation of race was created
 - Canaan, Ham's son, saw Noah naked (after Noah became drunk)
 - Shem and Japheth walked backwards to cover their father
 - When Noah woke up, he cursed Canaan and said that he would be the lowest of slaves
 - This was a curse of fate and circumstance, not of radically changing a person's appearance and genetics
 - God did not create at this point a race that was destined to be slaves
 - Canaan became the name for the land of promise – and God caused the nation of Israel to conquer and enslave them

No discussion of the creation of racial diversity – it must have sprung from the original genetics (unless God made other peoples)

What about the giants?

There were giants in the earth in those days; and also after that, when the sons of God came in unto the daughters of men, and they bare children to them, the same became mighty men which were of old, men of renown. (Gen 6:4)

Even after the flood...

And there we saw the giants, the sons of Anak, which come of the giants: and we were in our own sight as grasshoppers, and so we were in their sight. (Num 13:33)

That also was accounted a land of giants: giants dwelt therein in old time; and the Ammonites call them Zamzummims; (Deu 2:20)

God doesn't mention how these giants arrived on the scene

Supplementary creation?

Genetic variance?

The Heavens Declare the Glory of God

Dinosaurs and the Flood



Heard Lowry

The Universe

Job 38:31-33

Can you bind the beautiful Pleiades? Can you loose the cords of Orion?

Can you bring forth the constellations in their seasons or lead out the Bear with its cubs?

Do you know the laws of the heavens? Can you set up God's dominion over the earth?

God reveals His awesome power over the entire universe

Questions we want to consider

- Did God create the universe in seven 24-hour days?
- What about the Garden of Eden?
- What happened to the universe when man sinned?
- Where did Cain get his wife?
- How did the races emerge?
- How do cave men and the dinosaurs fit into the picture?
- What were the waters above the heavens?
- Was the flood universal (over the entire earth)?
- Did scientists find the 'long day' of Joshua?

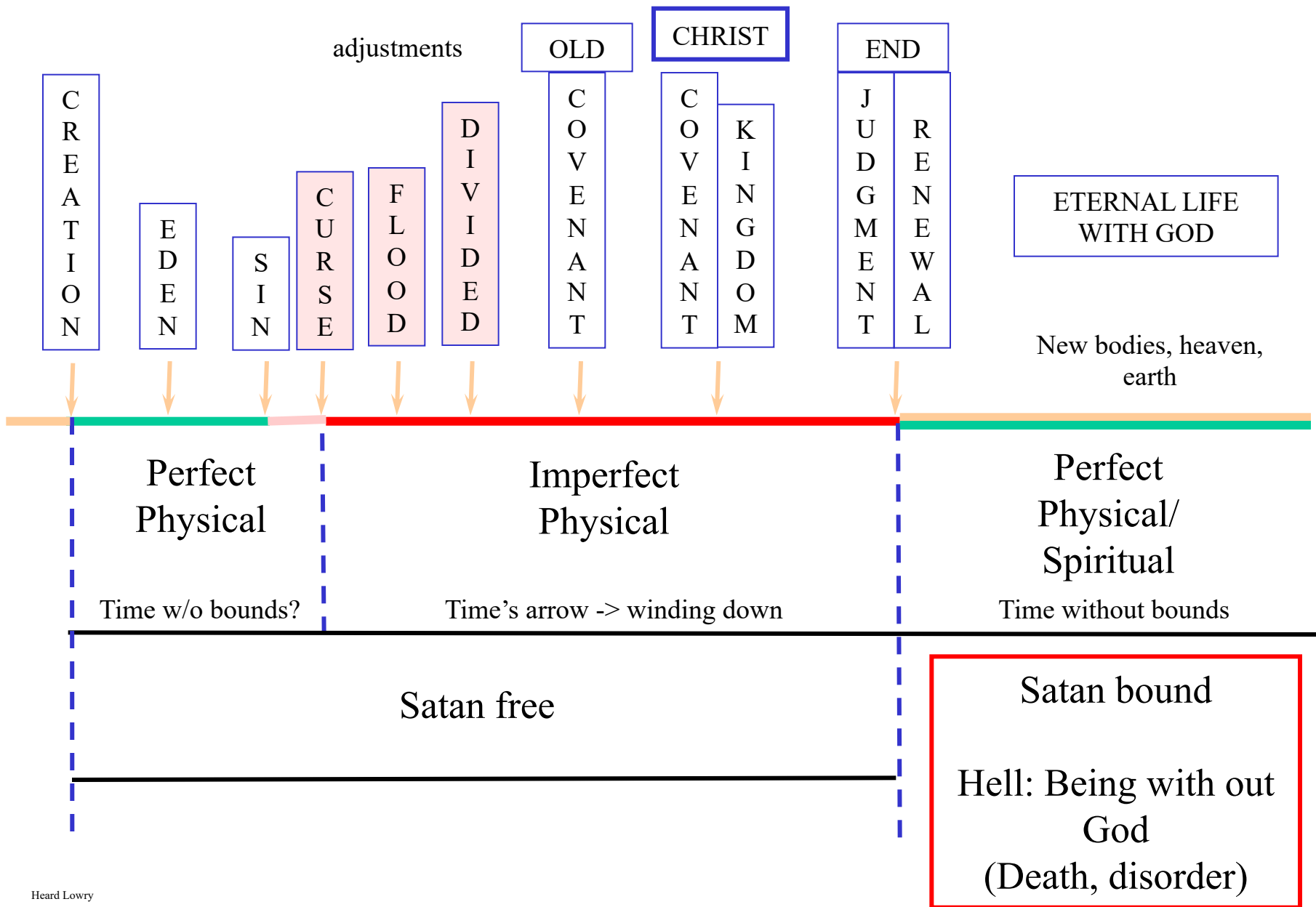
Another possible adjustment in the universe

Two sons were born to Eber: One was named Peleg, because in his time the earth was divided...

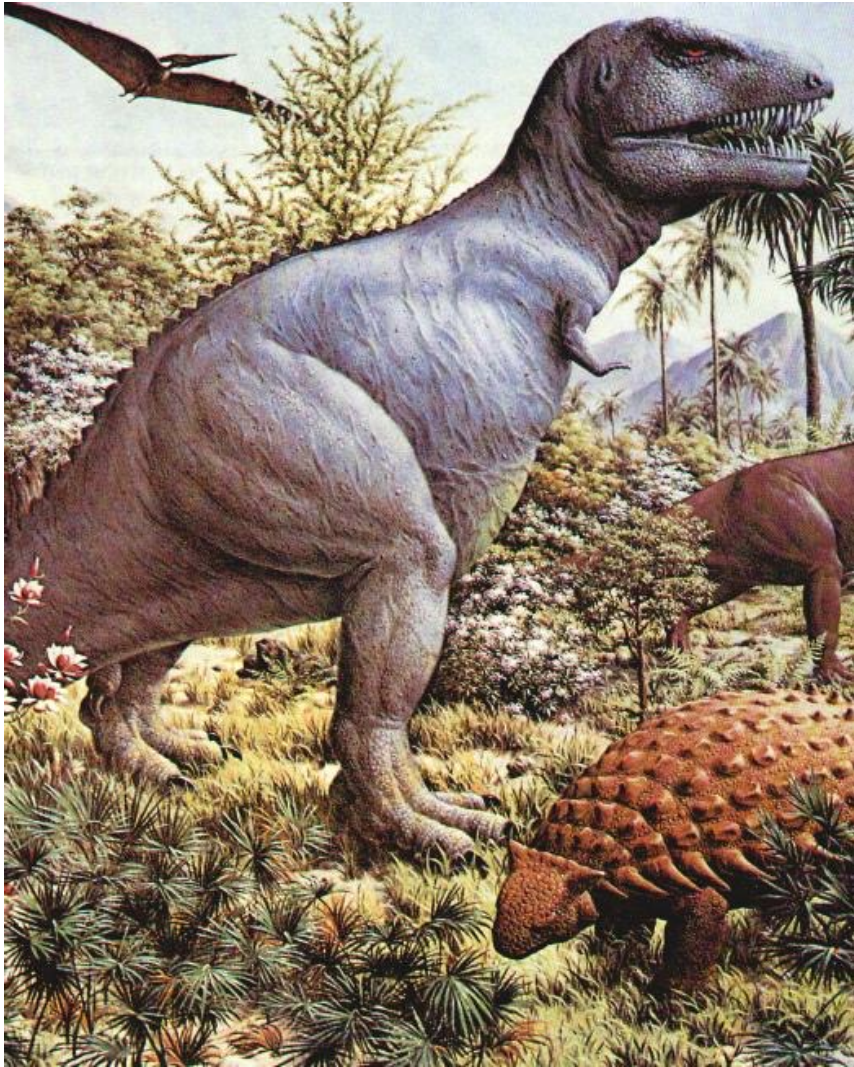
Gen 10:25, 1 Chr 1:19

This was some cataclysmic event, possibly the separation of the continents

The Full Timeline of the Universe



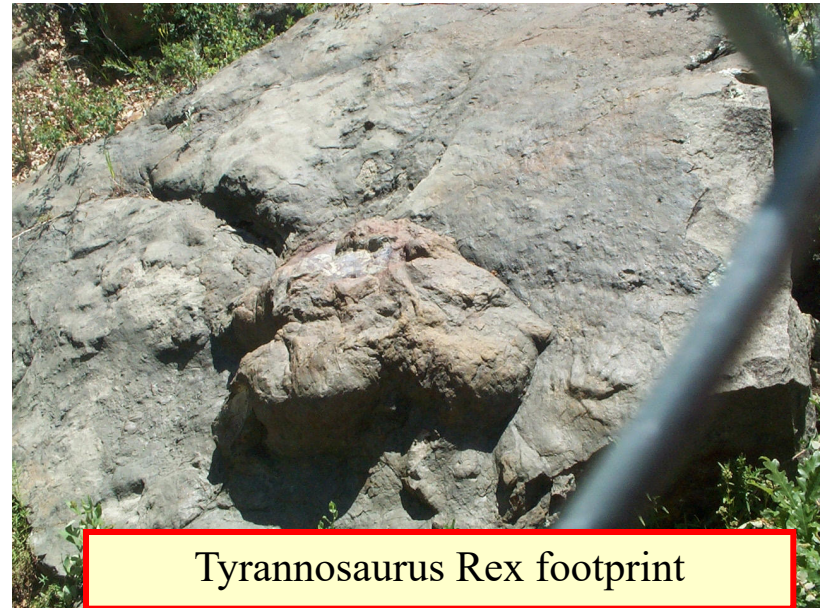
What about the Dinosaurs?



Tyrannosaurus Rex



Man with Triceratops skull



Tyrannosaurus Rex footprint

Dinosaurs

Could have existed...

1. Before the earth 'became' void
 - Would the signs be lost in the re-make?
 - Extinction when the earth became void
2. In the long time period while animals existed but before man was created
 - Extinction when the universe was cursed or in the flood
3. In the same day as man, and in the long time before he sinned
 - Extinction when the universe was cursed or in the flood
4. In the pre-flood era
 - Extinction in the flood
5. Perhaps even after the flood
 - Extinction by meteor impact

Each connects to a particular view of the chronology

Dinosaur possibilities in the Bible

Leviathan:

Definitely a monster of the sea

Fire from his mouth and smoke from his nostrils

Undersides like jagged potsherds; Back is a row of shields

(Job 3:8, 41:1; Psalm 74:14, 104:26; Isaiah 27:1)

Rahab:

Another monster, perhaps living in the sea

(Job 26:12; Psalm 89:10; Isaiah 51:9)

Behemoth:

Land monster – tail like a cedar

(Job 40:15ff)

Jonah's great fish?

Prepared special?

Or one of the sea monsters?

Footprints of man with dinosaur footprints?

- Dinosaur footprints uncovered near Glen Rose, Texas in 1908
- Other footprints were discovered in 1910
 - Somewhat elongated
 - Accepted by many as human footprints
- Creationists embraced this as proof that man and dinosaurs lived together and not 60 million years apart
 - Helped with the day = 24 hours theory
 - Countered the theory of evolution
 - Eventually these were shown to be other dinosaur tracks
- Most Creationists now accept the dinosaur conclusion
 - They don't need this data anyway

- A world-wide cataclysmic event
- A destructive event limited in magnitude but not in spatial extent
- A re-start of the living world with chosen people/animals
- The earth (perhaps even the whole universe) changed significantly once again

Genesis 6:1 to 9:17 (1)

Summarize the account

- Gen 6:1-2: Mankind began to multiply
- Gen 6:3: God puts limits on man's lifespan
- Gen 6:4-5: Man was very wicked
 - Every inclination of his thoughts was only evil all the time
- Gen 6:6-10: God decides to wipe all life off of the earth
 - But He is pleased with Noah (righteous, blameless)
 - Noah “walked with God”
- Gen 6:11-21: Remove just the wicked people
 - He instructs Noah to build an ark
 - Type of wood, door, window, three decks
 - Noah will bring at least two of every animal, and provisions
- Gen 6:18: God makes a covenant with Noah
- Gen 6:22: Noah obeys God in everything

Genesis 6:1 to 9:17 (2)

Summarize the account

- Gen 7:1-5: Noah gathers the animals into the ark
 - Seven (or seven pairs) of every clean animal (male and female)
 - Two of every unclean animal (male and female)
 - The animals came to Noah (vs 15)
- Gen 7:6-10: Noah and his family enter the ark
 - Noah is 600 years old
- Gen 7:11-16: God shuts them in and it begins to rain
 - The floodgates of the heavens were opened
 - Also the springs of the deep
- Gen 7:17-24: The floodwaters rose greatly
 - Covered the mountains
 - Everything that moved on land and in the air died
 - What about the fish?
 - The waters flooded the earth for 150 days (about ½ year)

Genesis 6:1 to 9:17 (3)

Summarize the account

- Gen 8:1-5: God remembered Noah
 - He sent a wind to help the waters recede
 - The rain stopped and the springs were closed
 - The water began to recede steadily
 - The Ark came to rest on the mountains of Ararat
- Gen 8:6-12: Noah began to check out the earth
 - Forty days after coming to rest he sent out a raven
 - The raven kept flying back and forth
 - Then he sent out a dove
 - It came back because there was nowhere to land
 - A week later, he sent the dove out again
 - It came back with a freshly plucked olive branch in its beak
 - A week after this, he sent the dove out again
 - This time it never came back
- Gen 8:13-14: Noah saw that the earth had dried out

Genesis 6:1 to 9:17 (4)

Summarize the account

- Gen 8:15-19: Noah brought everyone outside
- Gen 8:20: Noah sacrificed to God
- Gen 8:21: God was pleased
 - He promised to never curse the ground again
 - He also promised to never again destroy all living creatures
- Gen 9:1-11: God establishes a covenant with Noah
 - God blesses Noah and his family and tells them to replenish the earth
 - God tells them to eat anything that lives and moves
 - This goes beyond the earlier provision of eating only plants
 - They must not eat meat with blood in it
 - They must not kill other men
 - The covenant is with Noah, his descendants, and every animal
 - God will never destroy all life by a flood

Genesis 6:1 to 9:17 (5)

Summarize the account

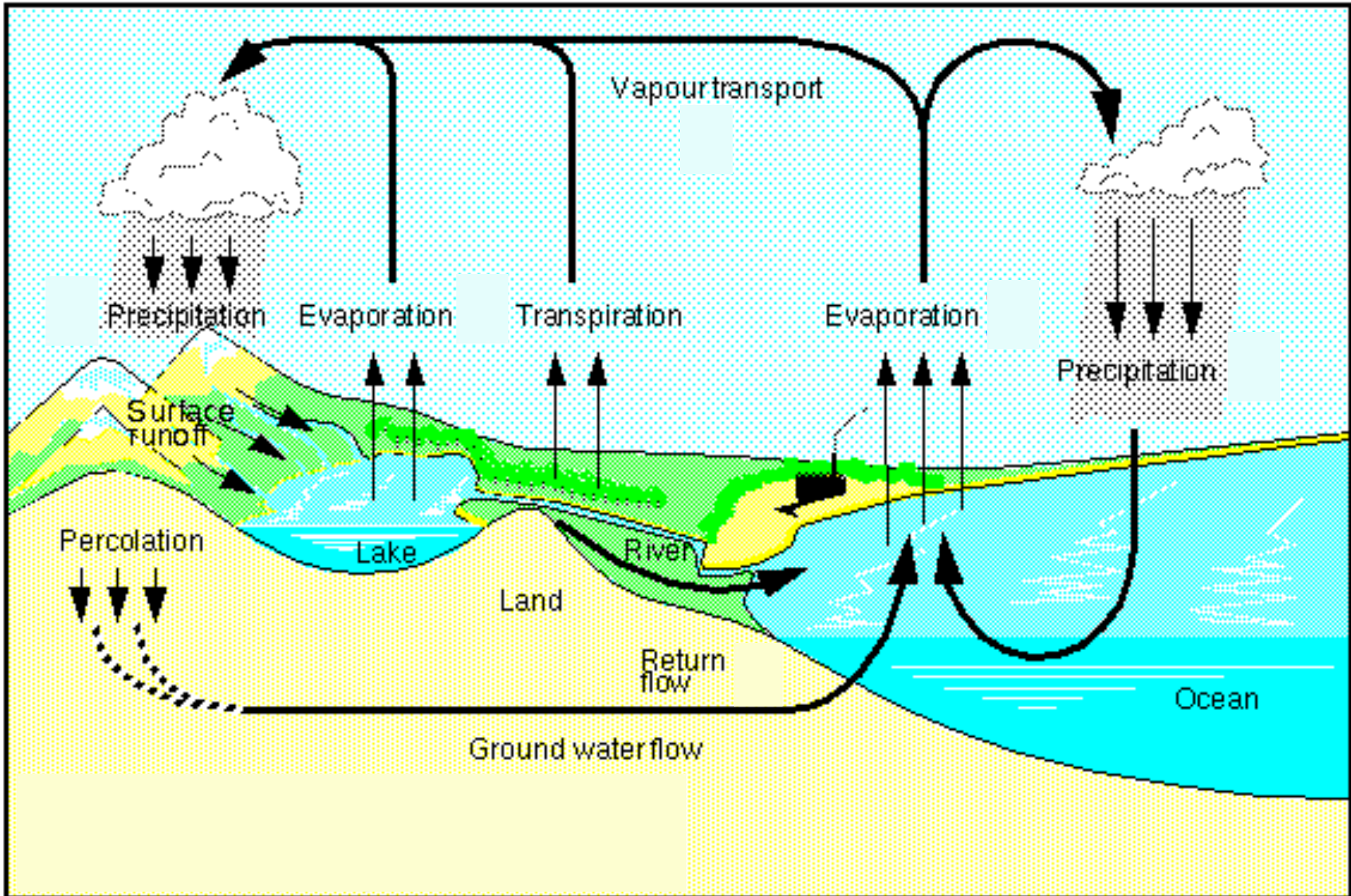
- Gen 9:12-17: God provides a rainbow as a sign of the covenant
 - They had not seen a rainbow in the sky before
 - This was due to God's watering cycle, the mist
 - Clouds may have been a new sight as well
 - A symbol of the great change made in the earth (universe)



Life before the flood

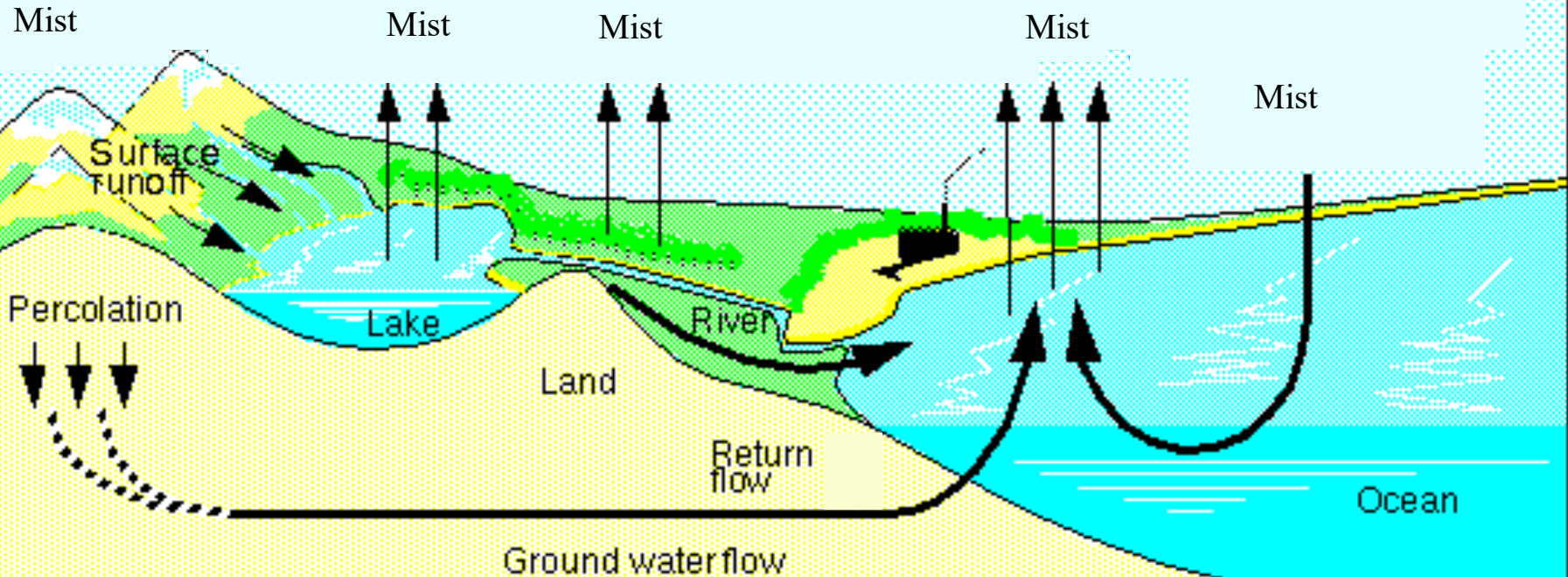
- Long life spans
- Little or no disease
- Populations grew with little restraint or limit
 - Population would have been in the millions
 - 28 million for a growth rate per year of 1%
 - Reasonable comparison with current rates
 - If man had been alive for millions of years, at this rate the mass of the people would be much more than the earth!
- Man grew more and more evil in the sight of God

Present-Day Water Cycle



Pre-Flood Water Cycle

Ice Canopy? supplies flood water; prevents precipitation



More like a terrarium

God talks about the 'waters'

What were the waters above the heavens? (Gen 1:6-8)

- And God said, "Let there be an expanse between the waters to separate water from water." So God made the expanse and separated the water under the expanse from the water above it. And it was so. God called the expanse "sky." And there was evening, and there was morning--the second day.

(Gen 1:6-8)

- And God said, "Let the water under the sky be gathered to one place, and let dry ground appear." And it was so. God called the dry ground "land," and the gathered waters he called "seas." And God saw that it was good.

(Gen 1:9-10)

Is God talking about H₂O in the first section?

How God describes the flood

- Gen 7:4 -- Seven days from now I will send rain on the earth for forty days and forty nights...
- Gen 7:6 -- Noah was six hundred years old when the floodwaters came on the earth.
- Gen 7:11 -- In the six hundredth year of Noah's life, on the seventeenth day of the second month--on that day all the **springs of the great deep burst forth**, and the **floodgates of the heavens were opened**.
- Gen 7:24 -- The waters flooded the earth for a hundred and fifty days.
- Gen 8:1 -- But God remembered Noah ... and he sent a wind over the earth, and the waters receded.
- Gen 8:2 -- Now the **springs of the deep** and the **floodgates of the heavens** had been closed, and the **rain had stopped falling** from the sky.

Where did all of the water come from?

- There was some water already in the seas
- God could have just created it new
- No rain previously: the earth was watered by a mist
 - Possibly much higher water vapor content then
- The source of the river in the Garden could be a spring
- Something significant changed in the way the world worked
 - Springs of the deep burst forth
 - Floodgates of the heavens opened up
- Possibly a large ice-filled asteroid entered the atmosphere
- Some believe that a special ice canopy or 'ring' of ice surrounded the earth
 - Shielded mankind from harmful rays
 - Made a more protected environment
 - Difficult to justify with current science
 - But the world was different back then

God had the power to furnish all the water He needed

Facts about Noah

- Noah a preacher of righteousness (2 Pet 2:5)
- Noah's name meant "comfort"
 - (Gen 5:29-30) He named him Noah and said, "He will comfort us in the labor and painful toil of our hands caused by the ground the LORD has cursed."
- First to be able to predict the weather to his fellow man
 - last to be completely accurate
- Took forty days to find a place to park
- He was floating stock while everyone else was in liquidation
- He was one of Ezekiel's top three men of faith: Noah, Daniel, and Job (Ezekiel 14)

Ark specifications

Genesis 6:14-16

- 450 feet long, 75 feet wide, 45 feet high
- Three decks
- A door in the side
- A window
 - Probably a continuous slot under the roof eaves, 18 inches high
- Made out of “gopher” wood (perhaps teak or cyprus)
- Sealed with “pitch” inside or out

- Had to have adequate ventilation
- Had to be somewhat “cleanable”
- Did not need a rudder

No bidders! Sole source to Noah!

Construction of the ark

conventional construction idea



The France



Queen Elizabeth



Queen Mary



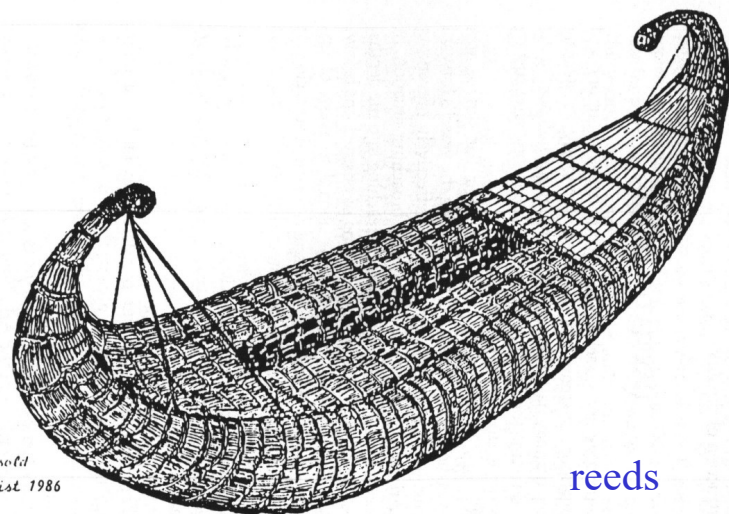
The United States



The Ark of Noah

Length, 450 feet, beam, 75 feet,
height 45 feet, 3 decks

size comparison



reeds

Gold
1986

- The food was stored only for the beginning of the trip; then they went into hibernation: John Whitcomb
- Using young, immature animals would have reduced the size and mass required to be contained in the ark. John Whitcomb
- Could have made it 'self-bailing' to continually clean out the mess
 - Gives the term 'waste management' a new meaning
- Representative animals taken from each genus, not species
 - From 2000 to 16,000 animals
- Think about the crowding, the noise, and the smell!
 - Not meant to be a pleasure cruise

Ark management

The Lord said to Noah, 'Where is the ark I commanded you to build?'

And Noah said, 'Verily I had three carpenters off sick, and the gopherwood supplier hath let me down, even though gopherwood hath been on order for nigh on twelve months.'

And God said to Noah, 'I want the ark finished before seven days and seven nights,' and Noah said, 'It will be so', and it was not so.

The Lord said to Noah, 'What seems to be the trouble this time?' And Noah said, 'My subcontractor hath gone bankrupt, the pitch for the outside hath not arrived, the glazer departeth on holiday, yea even though I offered him double time. Lord, I am undone'.

The Lord grew angry and said, 'What about the animals?' Two of every sort I ordered. Where are the giraffes?' And Noah said, 'They have been delivered to the wrong address but should arrive on Friday.'

The Lord said to Noah, 'How about the unicorns?'

Noah wrung his hands and wept, 'Oh, Lord, they are a discontinued line. Thou canst not get unicorns for love or money. Thou knowest how it is'.

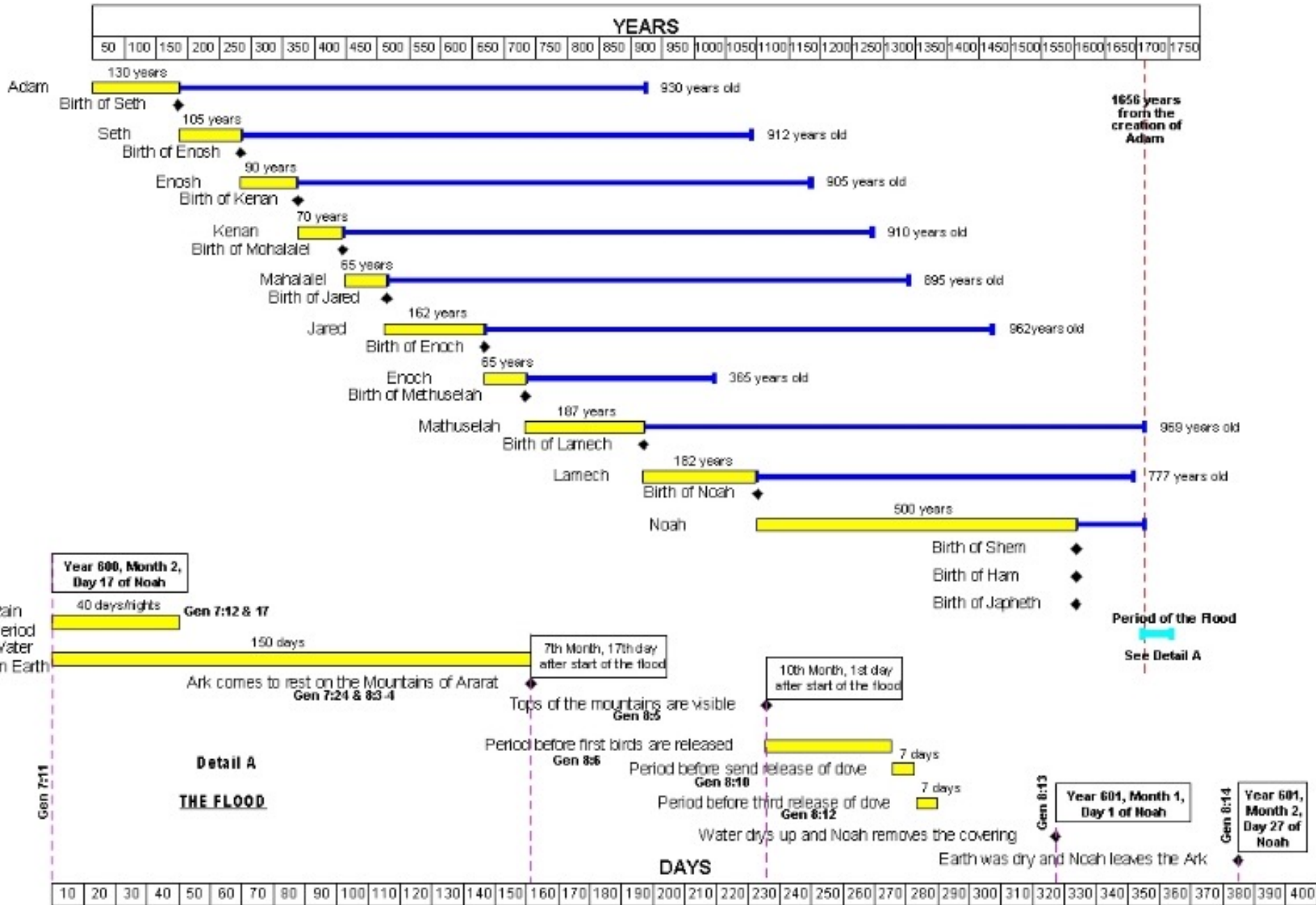
And the Lord said, 'Noah, my son, I know. Why else dost thou think I caused the flood?'

from Bruce Larson: My Creator, My Friend p.42

Noah had plenty of problems!



Timeline from creation of Adam to end of flood 10



- Introduction
- A path of reasoning
 - From the universe to our response to God
- The character and power of God
 - Arguments for his existence
 - Miracles
- Man
 - Made in the image of God
 - The moral law within
- The Bible
 - Archeology
 - The Word of God
 - Creation
- Evolution
- The final analysis

Dinosaurs

Could have existed...

1. Before the earth 'became' void
 - Would the signs be lost in the re-make?
 - Extinction when the earth became void
2. In the long time period while animals existed but before man was created
 - Extinction when the universe was cursed or in the flood
3. In the same day as man, and in the long time before he sinned
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4. In the pre-flood era
 - Extinction in the flood
5. Perhaps even after the flood
 - Extinction by meteor impact

Each connects to a particular view of the chronology

- A world-wide cataclysmic event
 - A destructive event limited in magnitude but not in spatial extent
 - A re-start of the living world with chosen people/animals
 - But mankind fell again
 - The earth (perhaps even the whole universe) changed significantly once again
-
- God had Noah build an ark
 - God opened the floodgates of heaven and the springs of the deep
 - The earth was flooded for 150 days

The Universe

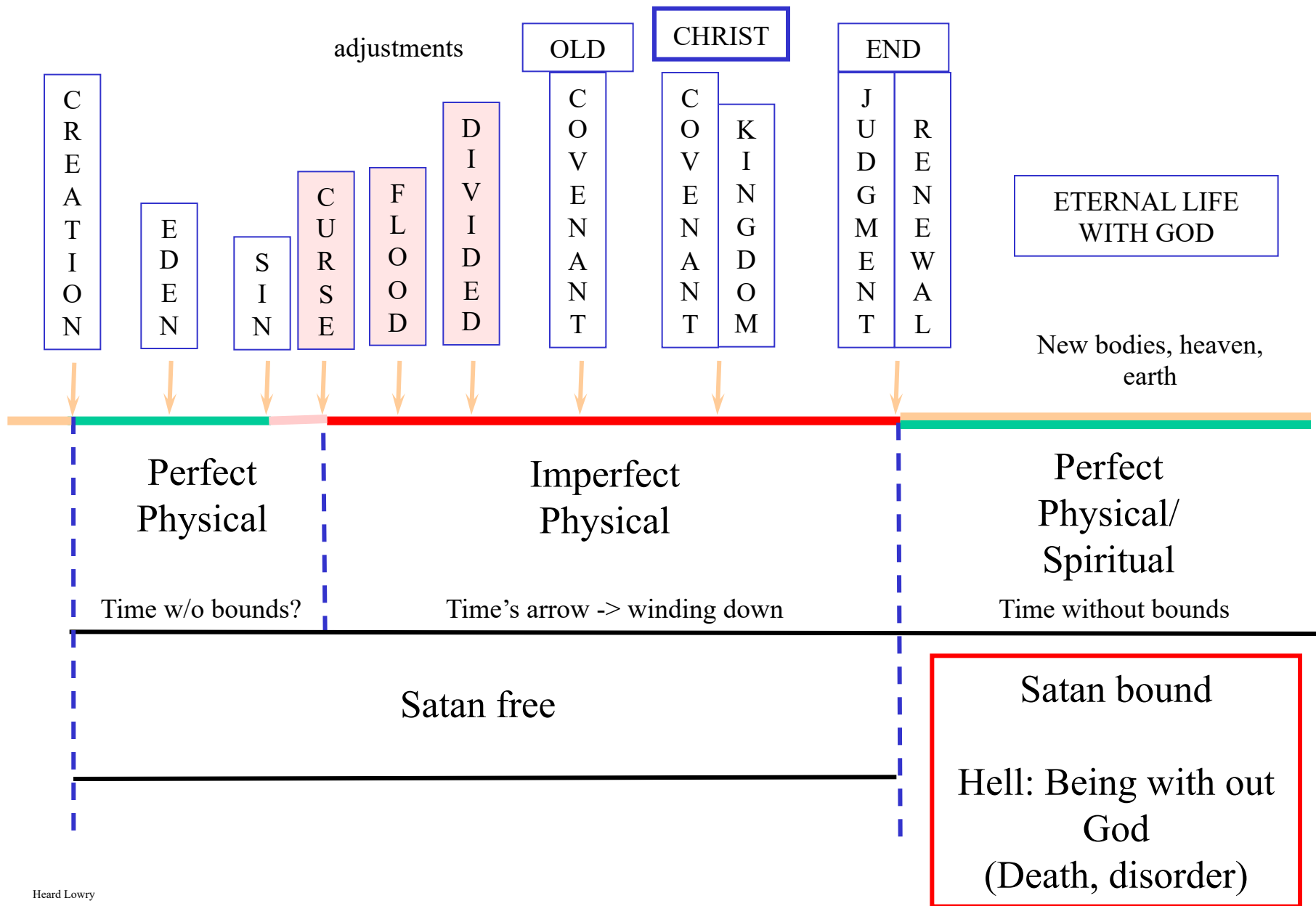
Isaiah 40:22

He 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.

Is the tent for God or for us?

The Full Timeline of the Universe



World-wide or Local?

Evidences that it was world-wide

- All the mountains were covered (Gen 7:19-20)
 - Mountains may not have been as high then as they are now
- The Ark was huge (Gen 6:14-16)
 - A local flood would have not endangered all animal life
 - With enough warning to build an ark, Noah could have moved
- Mankind filled the whole earth (Gen 6:1, 11-12)
 - It may have been a single land mass then
- All mankind was eliminated (except Noah's family) Gen 7:21)
- The flood is described as a global cataclysm
 - Hebrew "mabbool", Greek "kataclusmos"
- God's Rainbow Promise (Gen 8:21, 9:8-17)
 - If a local flood is meant, God repeatedly breaks this promise
- Noah stayed in the ark a full year (Gen 8:14)
 - An absurdly long time if it was a local flood
- The whole earth was devastated (Gen 6:13b, Isaiah 54:9)
 - Representative of a final judgment (2 Pet 3:5-7)

The flood caused great hydrodynamic pressure ¹¹

The weight of the water on the surface of the earth re-molded it

- Sediment
 - Gen 8.1: God allowed time so that the sediment could settle, covering all of the carcasses
 - The fossil record is explained very well by this sedimentation: at least as well as 'evolution'
- Mountains
 - The pressures associated with such a tremendous amount of water caused the mountain ranges
 - Water could completely cover the earth if it were more level, as it most likely was before the flood

Physical evidence of a world-wide flood

- Earth's geologic features require a catastrophic explanation
- Sedimentary rock formations (water deposited, e.g. sandstone) cover continent-sized regions
- Large coal, oil, ore deposits are not forming today
- Great fossil beds exist requiring rapid burial at massive scale
- Mountains made of "ocean-bottom" rocks, ocean fossils on continent interior mountains, fossils of warm habitat plants/animals near the poles
- Many exceptions to standard geologic column (e.g. out of order strata, different "age" fossils found together)
- Population statistics suggest a growth level resulting from only a few thousand years
- Oldest signs of civilization date only to about 11,000 years

From Jason D. Browning's presentation

After the Flood

- (Possible) Breakup of the unified landmass during the flood (catastrophic plate tectonics) (Gen 7:11)
- Mountain ranges formed as plates collide
- Removal of vapor canopy leads to introduction of varying climates and seasons (Gen 8:22)
- People and animals given permission to eat meat (Gen 9:3)
- An ice age caused by excess heat in the oceans and barren landmasses
- Drastic climate changes lead to extinction of the dinosaurs and many other animals

Recovery after the Flood

- Survival of organisms outside the ark
 - Water salinity stratification allowed some fresh, brackish, and salt-water fish to survive
 - Large floating mats of vegetation
 - Seeds buried and re-exhumed by erosion, or floated
- Food sources after the flood
 - Plants, seaweed, fungi, carrion, fish, insects, earthworms, rodents
 - Three months between first dry land and emergence of animals gives time for some plants to grow
- Repopulation of the world
 - Mountain landing: encouraged fragmentation of populations; offered varying ecological zones
- Genetic diversity and speciation
 - Rapid post-flood speciation

From Jason D. Browning's presentation

Life span of man

Before the flood, the life span of man was in the hundreds of years:

Adam – 930

Seth -- 912

Methuselah – 969 (Noah's grandfather, probably died in flood)

Lamech – 777 (Noah's father, probably died in flood)

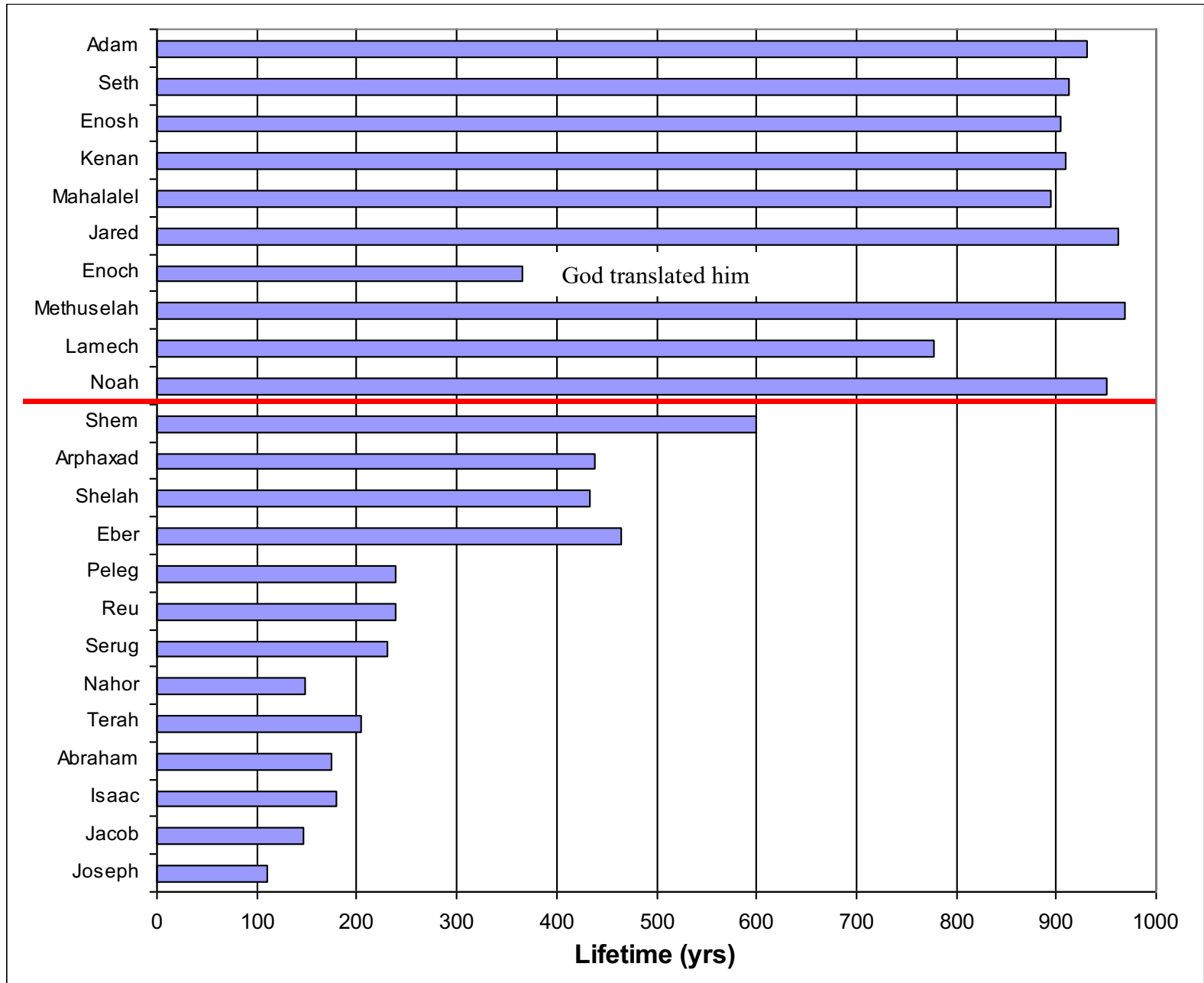
* shortest lifespan before Lamech was 895

And the LORD said, My spirit shall not always strive with man, for that he also is flesh: yet his days shall be an hundred and twenty (**120**) years. (Gen 6:3)

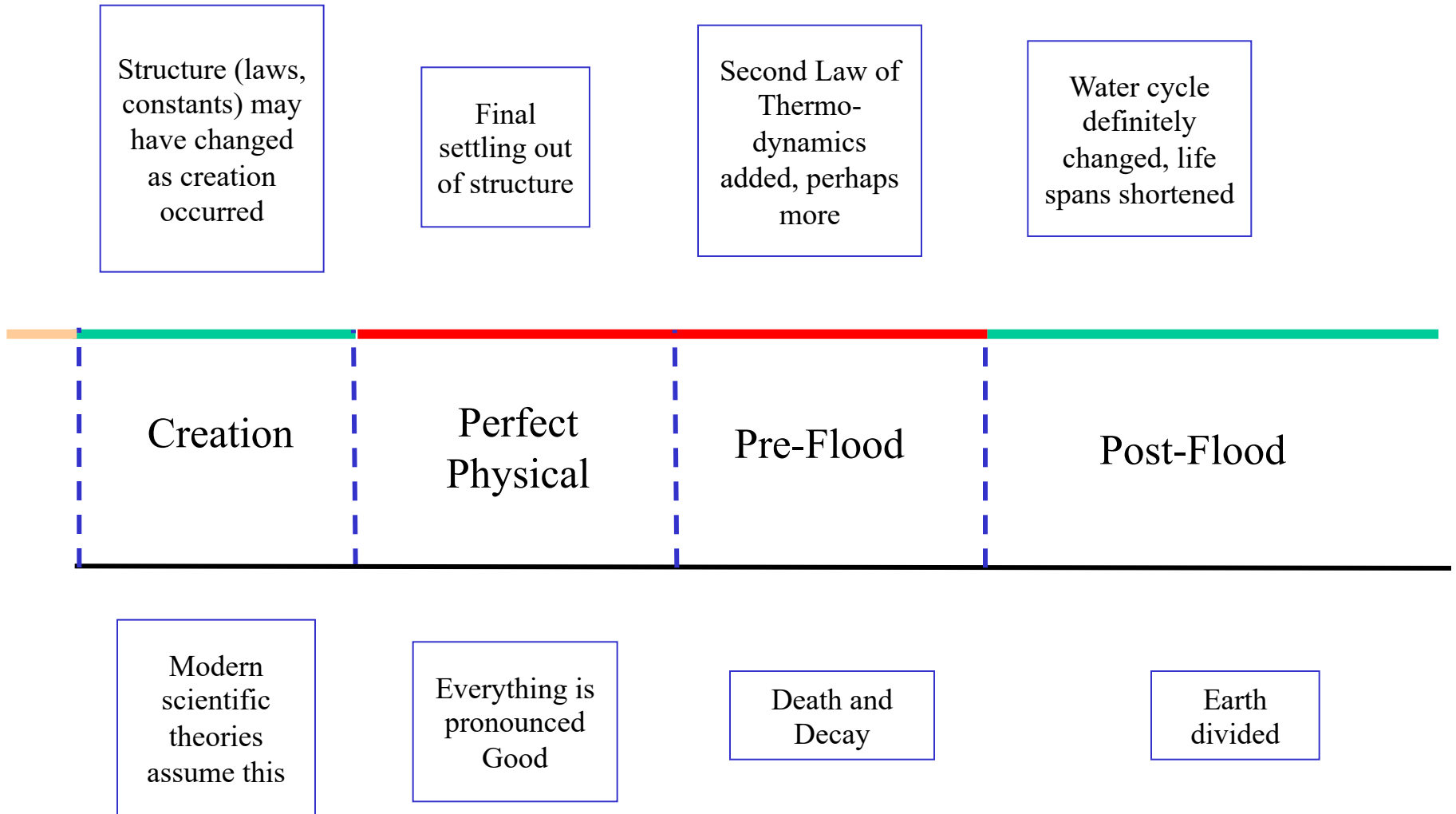
The days of our years are threescore years and ten; and if by reason of strength they be fourscore (**70 – 80**) years, yet is their strength labour and sorrow; for it is soon cut off, and we fly away. (Psa 90:10)

God adjusted the system a couple of times

Life span of the patriarchs



The changing universe



We have to look back on a universe that has changed
We cannot always apply current physical principles to the past

The symbolism of the flood

The world-wide flood really happened

God uses this event to point to our salvation through Christ

... God waited patiently in the days of Noah while the ark was being built. In it only a few people, eight in all, were saved through water, and this water symbolizes baptism that now saves you also -- not the removal of dirt from the body but the pledge of a good conscience toward God. It saves you by the resurrection of Jesus Christ...

(1 Pet 3:20-21)

Man is sinful and is once again subject to judgment

Did NASA Scientists find the 'Lost Day'?

A story has been circulated that NASA scientists, working backwards with computer simulations of the motions of the solar system, discovered a missing day. This has been promoted by Christian scientists as proof of God's word, as it would support the long day of Joshua when God made the sun 'stand still' and the time that God made the shadow go backwards 10 steps for Hezekiah.

- Reported by Harold Hill, President of Curtis Engine Co.
 - he was not an employee of NASA
 - he admits that he did not witness these events personally
 - he still says that it is true
 - this basic story actually originated with Ball and Totten in 1890
 - computer simulation makes it sound more 'scientific' and official
- Computer simulations simply cannot gaps in time

Christians lose all credibility when they depart from the truth for 'proofs'

There are three basic forms:

- Atheistic (no God)
- Deistic (God not that of the Bible)
- Theistic (God of the Bible)

God helps guide the evolutionary process

Evolution -- History

- Similarities were noted between different plants and animals
 - symmetries
 - structures
 - functions
- Many ancient philosophers considered this type of origin
- Malthus: pamphlet on population growth indicating the survival of the fittest
 - here he was not referring to development of new species
- Mendel: work on genes
- Darwin and Wallace: work on natural selection
- Discovery of DNA, cause of mutations, etc

Evidence suggested by evolutionists

- The fossil records
 - assumes that the layers indicate long periods of time
- Comparative anatomy
 - similarities between different types of animals
 - many kinds have a heart, lungs, kidneys, etc.
 - as easily explained by a common designer
 - designed to be interdependent on each other
- Embryology
 - some saw the stages of evolution in the growth of an embryo
- Vestigial organs
 - assumed to be organs no longer needed by the ‘improved’ evolutionary being
 - they are organs that man hasn’t found the reason for
- New characteristics
 - colors, etc
 - not new structures

Facts to consider

- Genetic recombination occurs whenever an egg is fertilized, shuffling traits already in existence
- Random mutations arise spontaneously from time to time that add new traits (mostly harmful)
- Natural selection tends to eliminate those mutations which cannot adjust to environment
- Speciation occurs when the traits of a population shift so far that the original cannot reproduce with the new

These four points are the Creator's means of giving to each organism a limited ability to adapt to changing environments

How do we look into the past?

amoeba

paramecium

fish

frog

snake

mouse

dog

horse

chimp

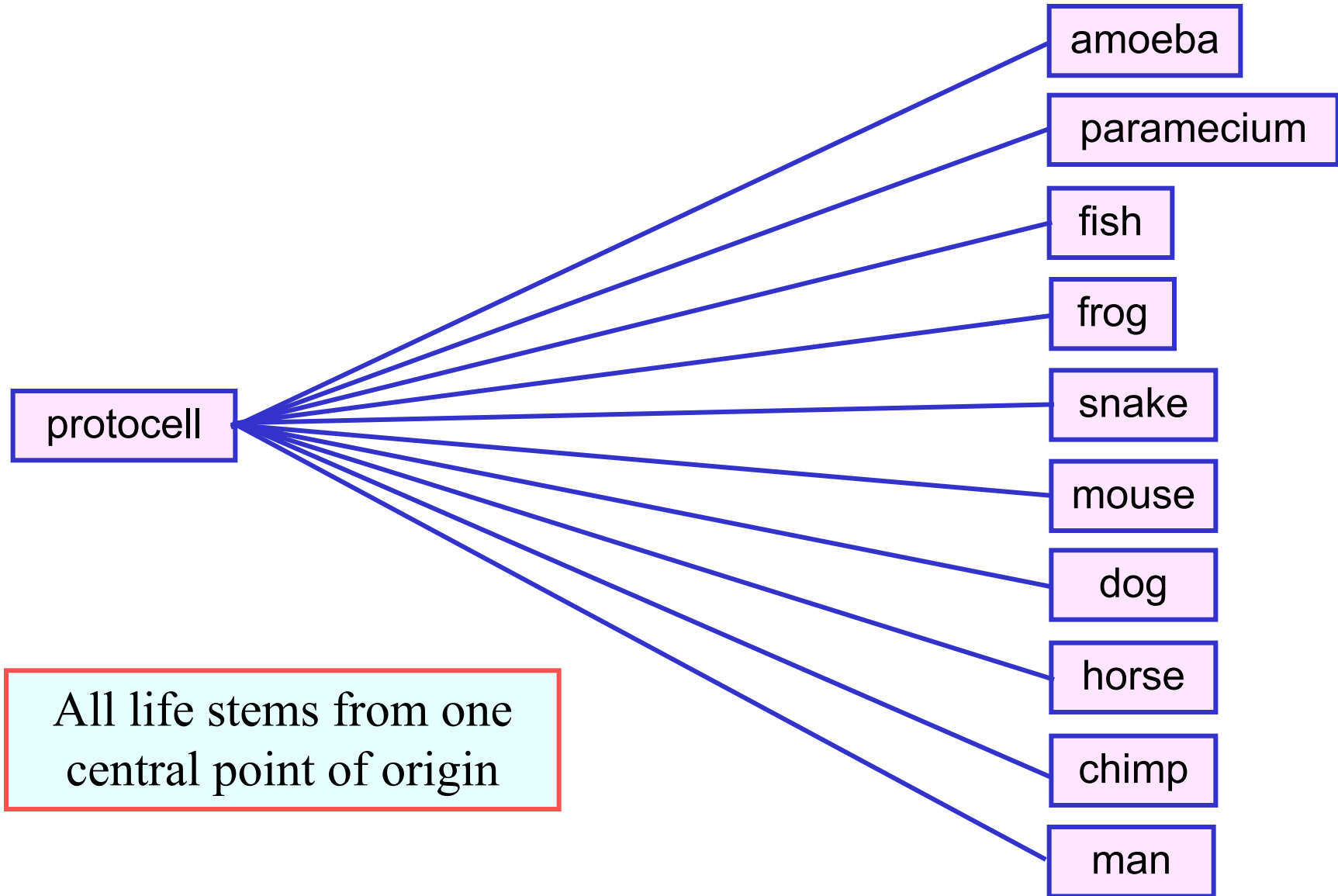
man

We see this current structure of the plant and animal kingdom

How can we tell about its origin?

A pair of railroad tracks looks like it comes from a single point

Evolutionist view



Creationist view



Basically the same structure that God began with

Fossils indicate abrupt appearance

- Abrupt appearance of animals. All the different, basic kinds of animals appear abruptly and fully functional in the strata - with no proof of ancestors.
- Plants appear abruptly, too. Scientists cannot find an evolutionary history (beginning to end) for even one group of modern plants.
- Animals unchanged. Most fossils are very similar (and often totally identical) to creatures living today. Evolutionary history is supposed to be filled with temporary, intermediate stages of evolution.
- Sufficient fossils. There is a continuing lack of evidence for evolution despite an enormous number of fossils.
- Fast strata formation. There is increasing evidence that many sedimentary rocks, which some thought took thousands or millions of years to accumulate, almost certainly were deposited in only months.
- Rapid coal formation. There is increasing evidence that massive coal deposits were formed in deep flood waters.
- Wrong order for evolution. It has been reported that "80 to 85% of Earth's land surface does not have even 3 geologic periods appearing in 'correct' consecutive order" for evolution.

Conditions for fossil creation

Fossilization requires very special conditions

Animals almost never fossilize unless they are buried quickly and deeply - before scavengers, bacteria and erosion reduce them to dust. Such conditions are highly unusual.

In almost all cases, the very existence of the fossils, in the types and numbers discovered, strongly indicates catastrophic conditions were involved in their burial and preservation.

Without such conditions, there seems to be no plausible way to explain their existence.

Huge dinosaurs, huge schools of fish, and many diverse animals are found entombed by massive muddy sediments which hardened into rock.

Almost all fossils are found in water-laid sediments.

In a huge flood, the smallest animals would sink first, etc

Bridging the gap (or not)

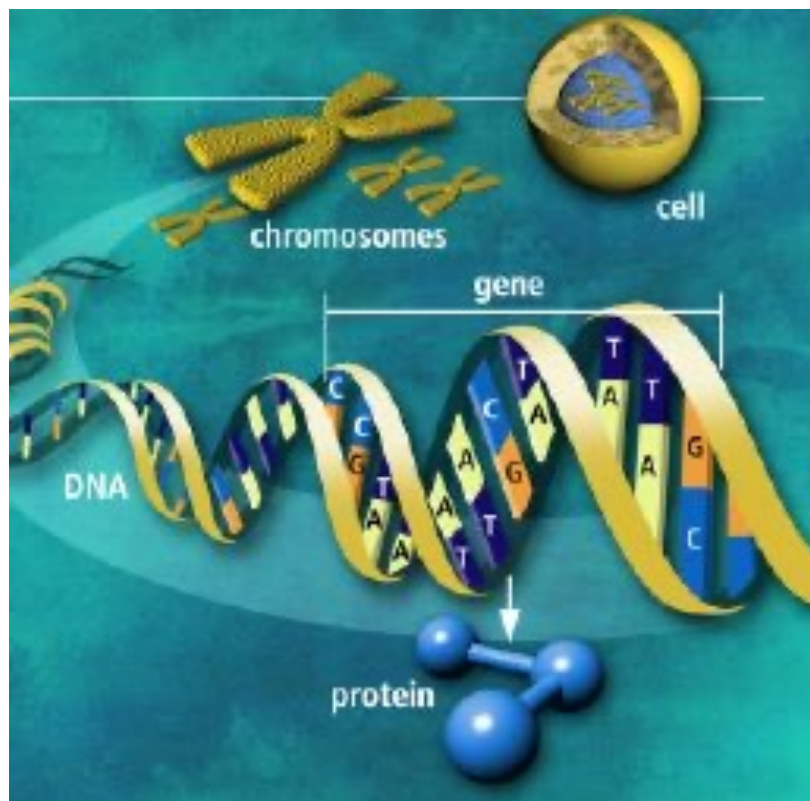
- The suddenness of the appearance of fossil forms of life...cells developed into major classifications or different phyla, and these phyla still extend into the present time
- There are no transition fossils between the simpler and the more complex form of life
- There is no evidence whatsoever of change from one phylum into another or crossing-over between phyla...instead of a rare or occasional missing link, the whole chain is missing
- Biological evolution has ended. This is an embarrassing thought to evolutionists today. Why do we not see transitional changes being introduced day by day?
- It is usually agreed in evolutionary theory that the bridge over this gap (protocells: living to nonliving) is the least understood aspect of the origin of life.
Charles B. Thaxton
- Why are there no two-celled and three-celled animals?
- The fossil fly was practically identical to modern flies, even though it was supposed to be 30 million years older. Henry Morris

Some problems with evolutionist views

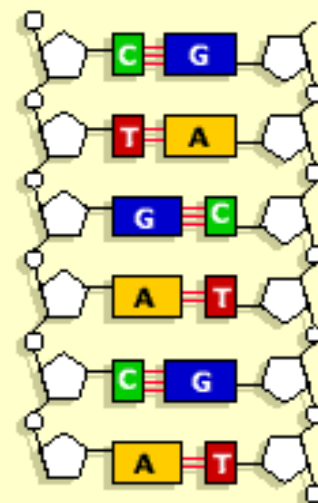
- Athiests have no evidence or information about the beginning of life on the earth
- There is no adequate theory of a mechanism to explain how evolution occurred
 - Mutations are the only offering
 - DNA is the blueprint for construction of all life
- The doctrine requires chance occurrence far beyond the range of reasonable probability
- Evolution cannot explain mind, spirit, values, or conscience

The human genome project

- If we were to put the coded DNA instructions of a single human cell into English, they would fill an 1000 volume encyclopedia
 - three billion chemical “letters” at the heart of nearly all our cells
- The human genome project has created a rough draft of the entire human genetic code
 - will aid medical research into diseases



The DNA base pairs



The double-stranded DNA molecule is held together by chemical components called bases.

Adenine (A) bonds with thymine (T); cytosine (C) bonds with guanine (G). These letters form the "code of life". There are some 3bn base pairs in the entire human genome.

Jacob's genetic experiment

Jacob chooses the speckled, spotted, and dark-colored lambs and goats as his wages from his brother-in-law Laban (Gen 30:29-36)

Jacob tried to use visual cues and physical segregation to enhance his herd (Gen 30:36-43)

Laban and his sons grow suspicious and think Jacob is cheating them (Gen 31:1-2)

Jacob feels he has also been cheated many times. God tells him to go back home. He then reveals a dream he has had to Rachel and Leah (Gen 31:3-12).

"In breeding season I once had a dream in which I looked up and saw that the male goats mating with the flock were streaked, speckled or spotted. The angel of God said to me in the dream, 'Jacob.' I answered, 'Here I am.' And he said, 'Look up and see that all the male goats mating with the flock are streaked, speckled or spotted, for I have seen all that Laban has been doing to you.'"

- The fixity of basic ‘kinds’ of living things is an unchangeable law on earth. There are basic animal and plant groupings and between these there are no links.
- Both man and other creatures have been created by God to coexist in a common environment
- ‘Kind’ is a God-defined quality; ‘species’ and ‘order’ are man-defined qualities.
- Changes within a kind are proven; but there are boundaries between groupings which cannot be crossed
- There are marked boundaries with no inter-breeding

The Heavens Declare the Glory of God

The Final Analysis



Heard Lowry

- Introduction
- A path of reasoning
 - From the universe to our response to God
- The character and power of God
 - Arguments for his existence
 - Miracles
- Man
 - Made in the image of God
 - The moral law within
- The Bible
 - Archeology
 - The Word of God
 - Creation
- Evolution
- The final analysis

The Universe

Psalm 139:8

If I go up to the heavens, you are there; if I make my bed in the depths, you are there.

God is omnipresent in His creation

Ecclesiastes 3:11

He has made everything beautiful in its time. He has also set eternity in the hearts of men; yet they cannot fathom what God has done from beginning to end.

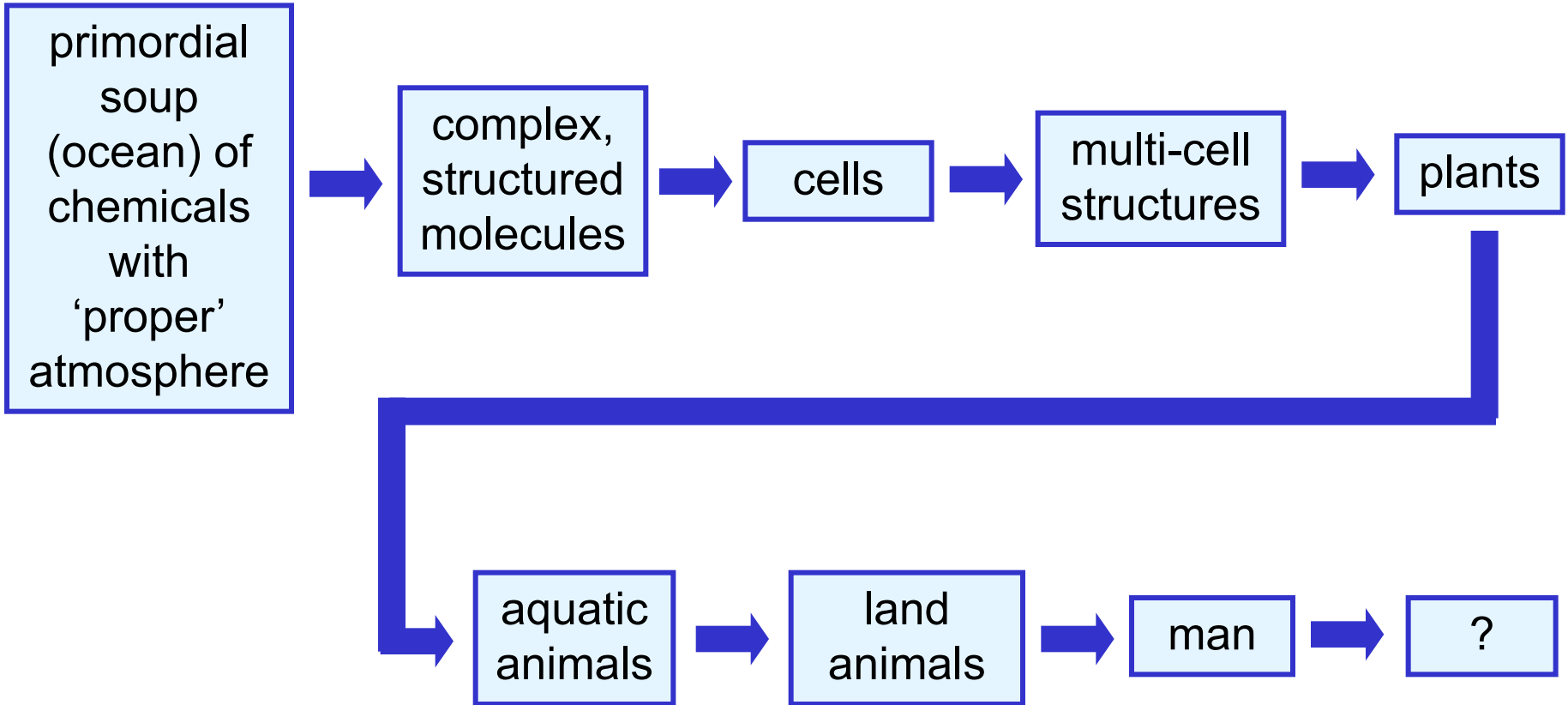
Everything is beautiful....

- There is indeed change which occurs in species
 - Adaptation: changing to accommodate a changing environment
 - Mutation: changes in the genetic information caused by chemicals or radiation; produces new features
- “Survival of the fittest” is a common sense principle
 - Weaker animals do have a lower survival probability
 - “Natural selection” is a restatement of the same thing
 - But some use this to imply that the survival of the fittest produces new species

Is this enough to establish the theory of evolution?

The theory of evolution: standard concept

Life has come into being through a certain process



I hope to show you that evolution does not have a fin to stand on

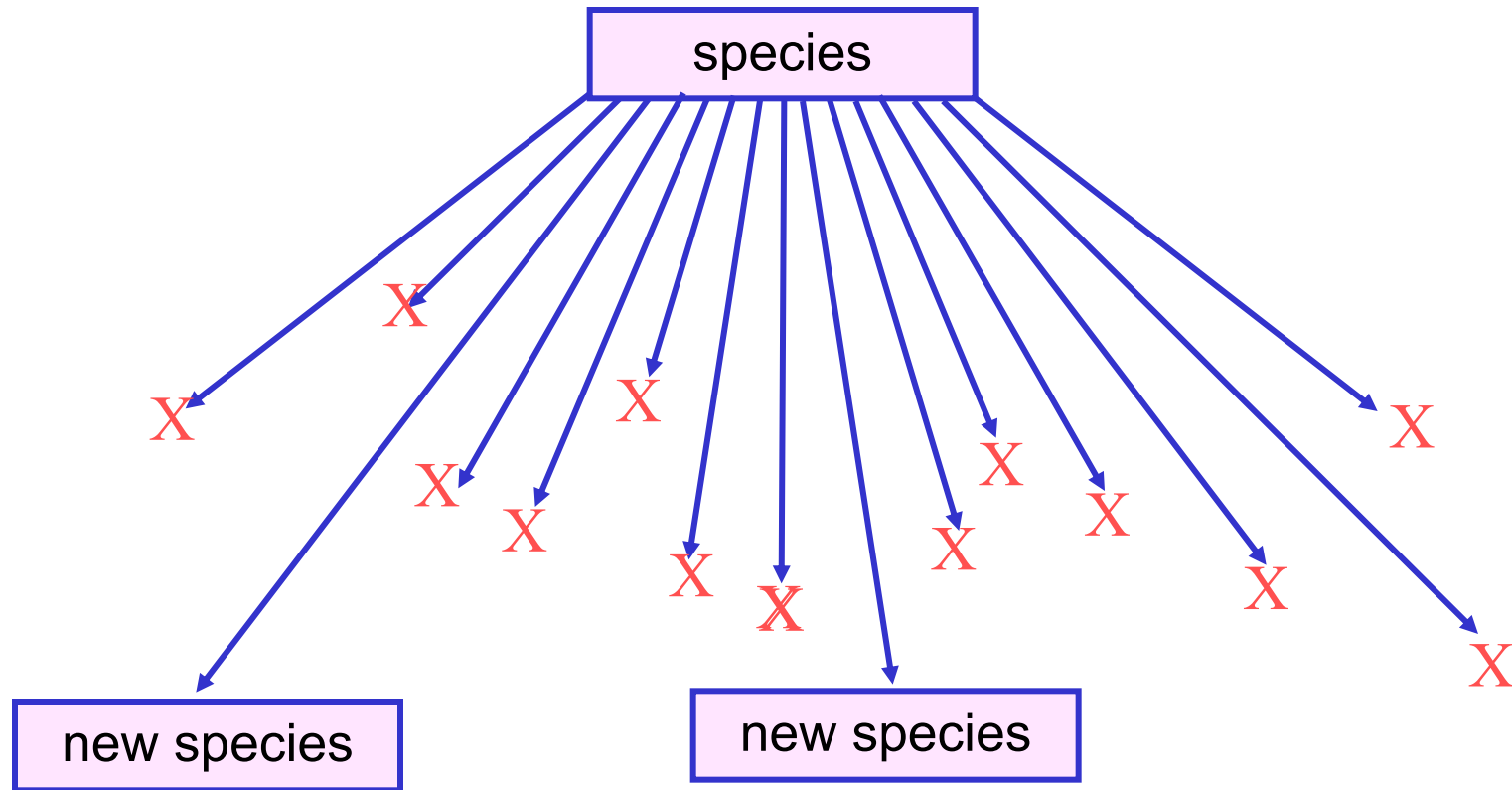
What would drive life to evolve?

- Why would a cell evolve from raw chemicals?
- Life comes from Life (physical or spiritual)
- Why does life strive to live, if there is no higher dimensional life force?
- What is the driving force of evolution?

The theory of evolution: new species

Random changes yielding new species

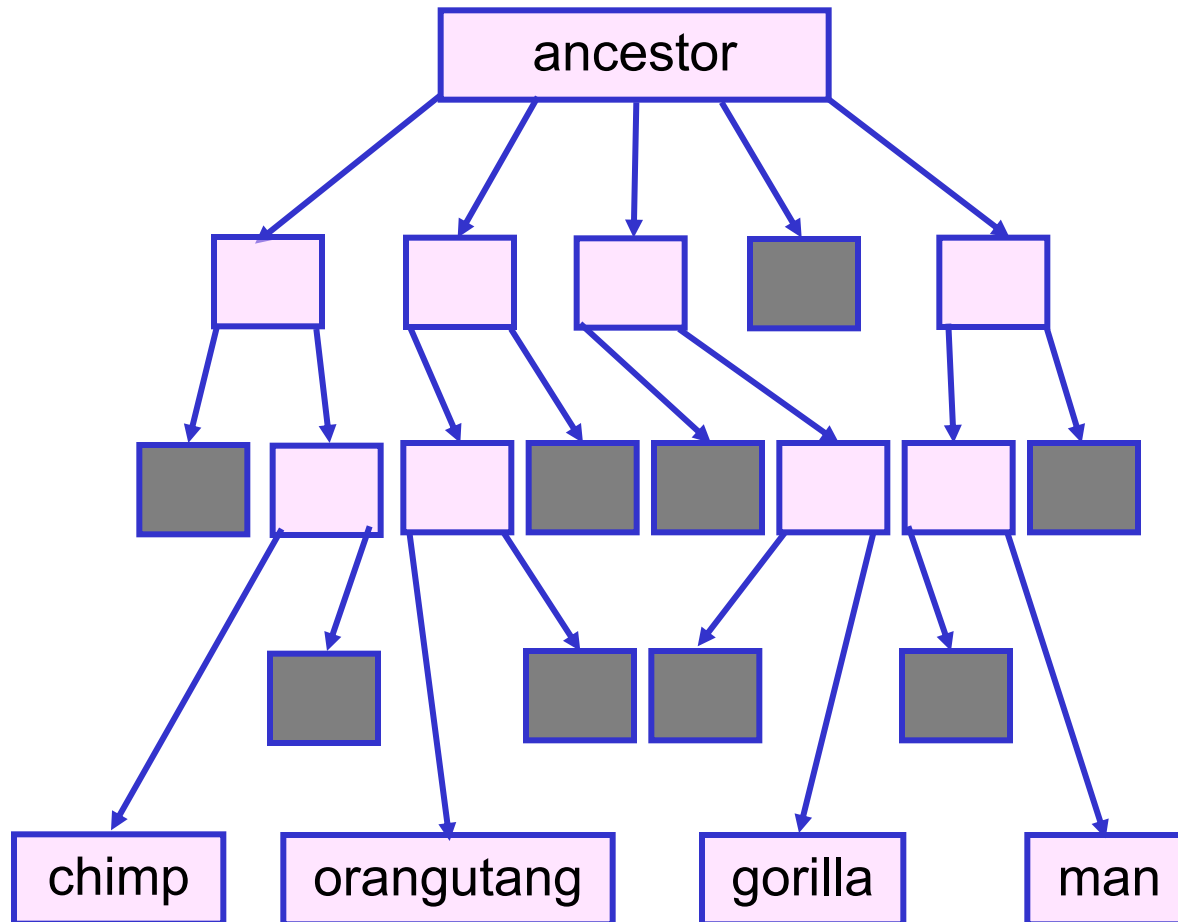
Survival of the fittest weeds out most new entries



Mutations must happen frequently for evolutionary success

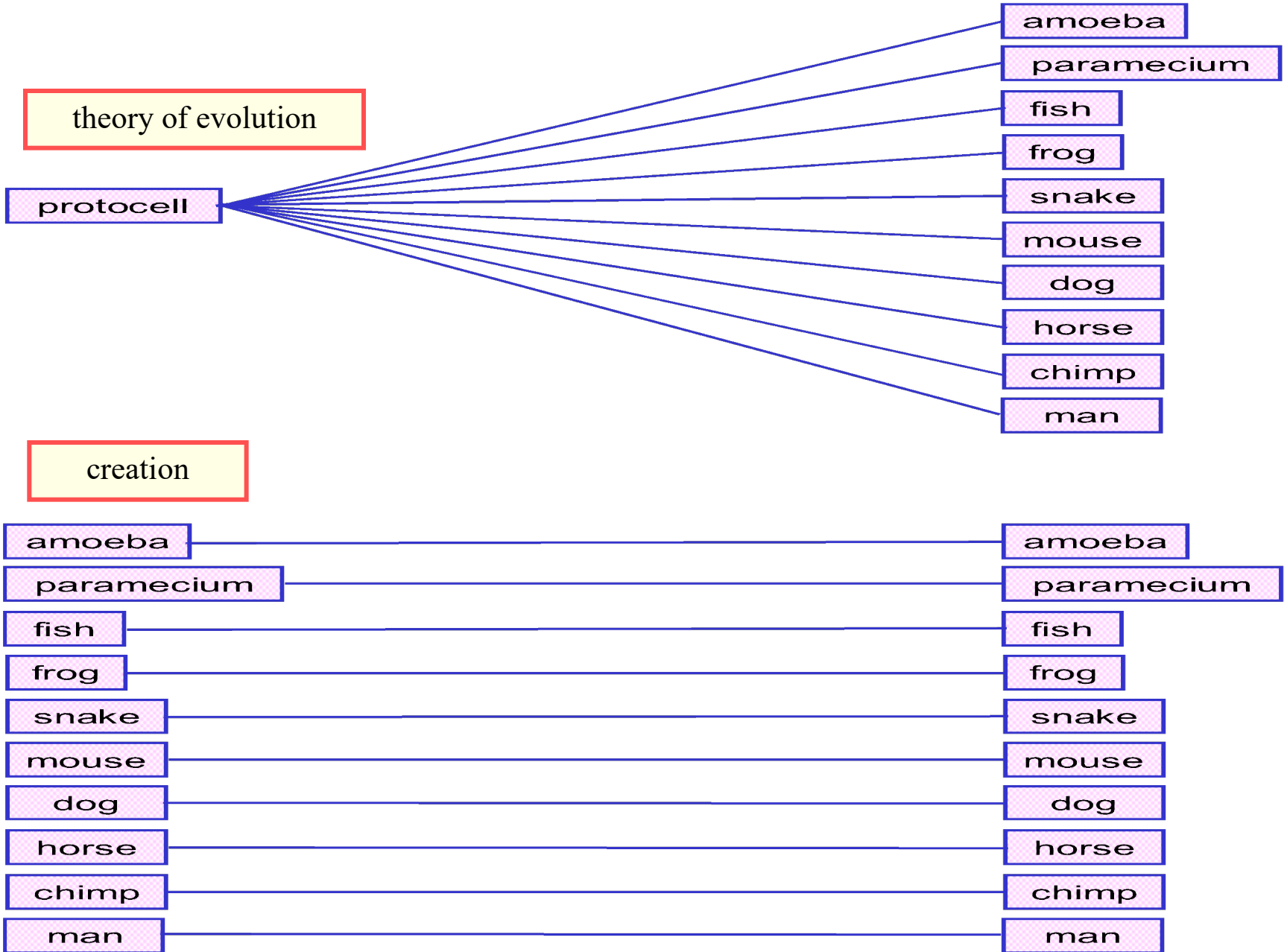
The common ancestor idea

The explanation of why man is so different from a chimp



This idea is used to hide the lack of gradual links between species

Creation: like railroad tracks



Mutations – the supposed mechanism

- Changes in living things are brought about by mutations of the genes; these can be caused by chemicals, cosmic rays, etc
- In more than 99 percent of cases the mutation of a gene produces some kind of harmful effect, some disturbance of function, like cancer
- Mutations rarely occur. Most genes mutate only once in 100,000 generations or more. Researchers estimate that a human gene may remain stable for 2.5 million years
- Mutations never produce anything really new or original in the organic scheme; new organs have never been observed
- Search for the one cause of evolution has been abandoned. It is now clear that evolution has no single or simple cause
- How can evolution explain the development by stages of an organ that seems to confer no survival advantages in its primitive stages, but only when fully developed?
- There is a DNA repair mechanism

How many people do you know that have been hurt by cancer?
How many people do you know developed a useful new organ?

- Sheep with horns and sheep without horns: which is fitter?
- The dog, of course, does not have morals, but he has something similar: love for someone else. This shows a principle much stronger than any kind of 'survival of the fittest'. Who can explain the sacrifice of a dog's life to save his master by the 'survival of the fittest'?
- If evolution is true, then why is the human baby much more dependent for a much longer time than other 'lower' animals?
- Evolution implies new-born children would be better able to take care of themselves as we go up the evolutionary ladder. But this is not the case. The reason babies are so unable to protect themselves is that God designed a system where emotional development took longer

- The weakest point in this explanation of life's origin is the great complexity of the initial entity which must form, apparently by random fluctuations, before natural selection can take over. Charles B. Thaxton
- If one counts the number of trial assemblies of amino acids that are needed to give rise to the enzymes, the probability of their discovery by random shufflings turns out to be less than 1 in 1 with 40,000 zeroes. Henry Morris
- Chance of random formation of complex molecule (protein): 1 out of 1 followed by 160 zeroes
- Time required for above by reason of chemical kinetics: 1 followed by 243 zeroes (in years)

Evolution is opposed by the second law of thermodynamics:
Everything tends towards more disorder

- Evolutionists have no problems with such low probabilities; after all our existence “proves” it had to happen
- This is not like a lottery, where your individual chances are miniscule, but the game is set so that someone wins
- Or the odds that a person with your particular characteristics was born; someone was indeed born

Low probability makes evolution an extremely poor bet

Sexual development

How do two freshly evolved beings of the same “kind” meet so that they can propagate?

- must have opposite sexes that have evolved the same way
- must exist at the same time, living long enough to find each other
- must be close enough in proximity to find each other
- must be good conditions for the new “kind” to thrive

- Consider the complexity of a structure which can reproduce itself, and become more complex without losing its reproductive ability
- How did this ability to reproduce come by chance?

- Instinct in animals; how could this have come about by chance?
 - the ability to make nests of a particular form for the first time without external instructions
 - the ability of animals, especially birds and fishes, to navigate and find their way home
 - distinctive songs that were never taught
- Mutual dependencies between organisms (e.g., where the bee must pollinate the flower, and the flower nourishes the bee): chance?
- The same forms of life come into being in isolated parts of the world? If evolution is so probable, it would spring up with great differences in structure
- Evolution would imply the very same hormones in each animal, up to a point. But the hormones for different animals can be totally different.
- Why is there not an orderly progression of diploid chromosome numbers as organisms become more complex?
- Why is there absolutely no evidence of organisms with 2, 4, or 6 cells, which would be essential in the evolutionary scheme?

- People believe in evolution because they have been told that intelligent people believe in evolution: It is the story of the emperor who wore no clothes
- ‘All reputable biologists have agreed that the evolution of life on earth is an established fact’. ‘Anyone who believes in creation is not a scientist.’ Examples of evolutionists’ proof by ridicule and humiliation of the opponent.
- Huxley: ‘We all accept the fact of evolution ... the evolution is no longer a theory. It is a fact.’

We must not ridicule evolutionists, as evolutionists ridicule creationists, but provide solid and reasonable arguments to counter them.

The moral implications of evolution and creationism¹²

- Which belief promotes morality?
 - The moral repercussions of evolution: the survival of the fittest (if you stand in the way of my food, it is right that I kill you to prevent you from getting it)
 - The moral of Christianity is the opposite: service (the laying down of your life for others, sacrifice so that others might live)
- What is the view of man in each?
 - In the evolutionist view, man is an insignificant cog in a large machine
 - in the Christian view, God loves man personally
 - but man is not the center of the universe
- Evolution does not require an ecological respect for nature (or respect for anything, for that matter)
 - just take what you need and don't worry about anyone else
- Atheists object to morality because it interferes with their freedom (especially sexual)

The political implications of evolution

- Evolution was used as a weapon against the tyranny and authority of the church
- Karl Marx felt his own work involving socialism to be an exact parallel in the social world to Darwin's work in the biological world. Marx wanted to dedicate Das Kapital to Darwin
- The survival of the fittest and the idea of the 'Superrace' as promoted by Hitler are closely related

People use evolution for their own purposes, to achieve their own (selfish) agenda.

- The transition from ape to man is not documented by the fossil record. Whole likenesses including facial features are produced from fragments of bones assumed to be head bones, and the result, although primitive looking, is not that much different from people today.
- If evolution is true, then why has the human brain been decreasing in size since Cro-Magnon man?
- Recorded history is no more than 6000 years old. A strange coincidence? Civilization appears with great suddenness.
- Man's intelligence seems to have not changed significantly over the years.

If man evolved, then there is no point at which he became in the image of God or received a soul. There is no sin, no promise of a Saviour or life after this.

The Bible is very clear that man is a special creation.

“the LORD God formed the man from the dust of the ground and breathed into his nostrils the breath of life, and the man became a living being.”

(Genesis 2:7)

In short, what evolutionists ask of us is an act of faith.

But it is in fact under the guise of a sort of revealed truth that the idea of evolution is generally put forward.

Which requires more faith:

Creationism or Evolution?

- Evolutionists reject miracles because they are not a part of our everyday experience.
- Neither is spontaneous generation, but evolution hangs on to it.

Christian Evidences: The Final Analysis

We have started with basic principles of the universe and reasoned through to the existence of God.

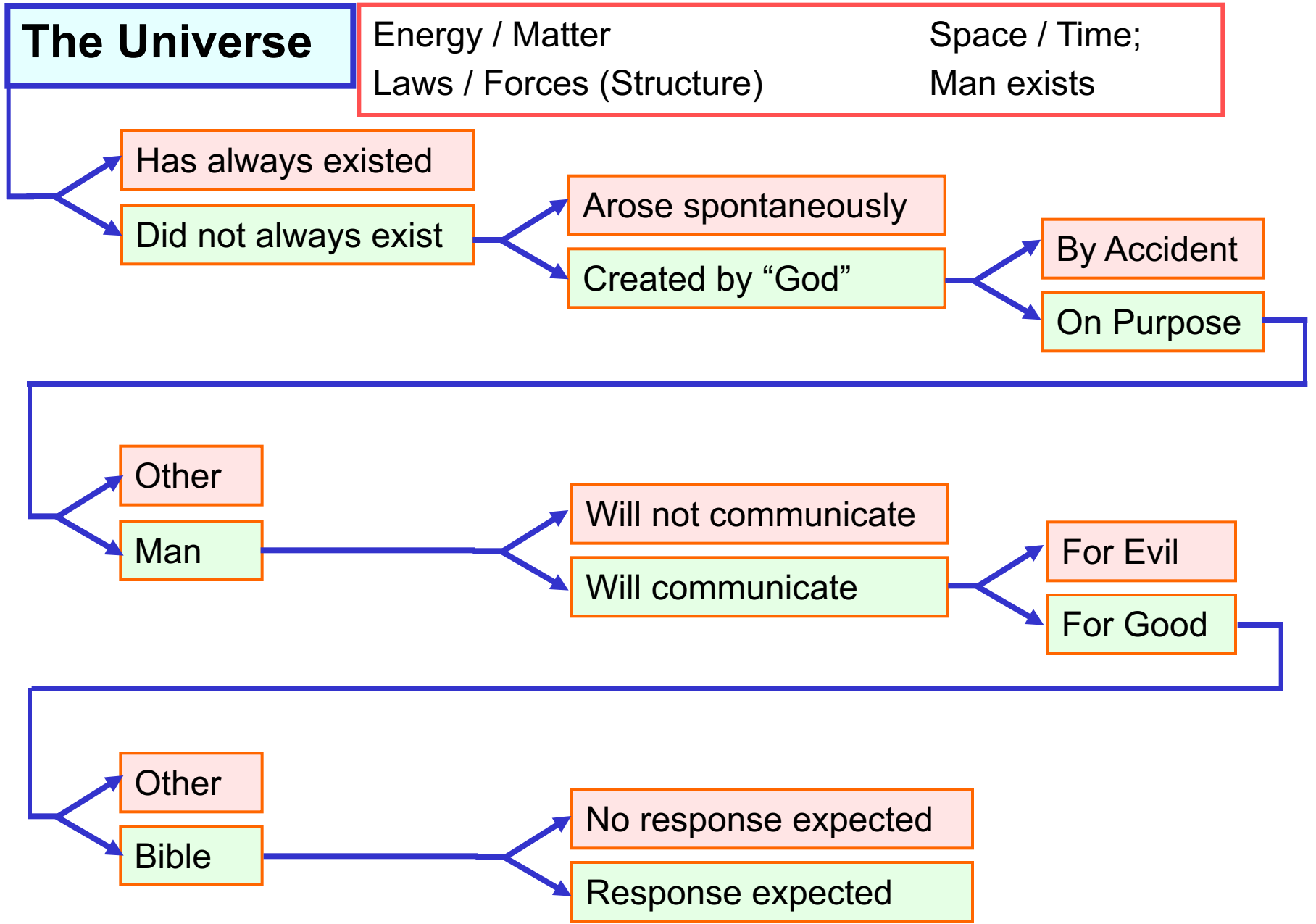
- We have seen that God is apart from physical law, not controlled by it because he created it.
- Thus, no physical process can show that he does not exist
- He need not have a beginning or an end
- He is awesome, as reflected in the extent and power of the universe
- The Design of the Universe and the Living Minds in it demand a designer: God!
- God created the universe for the purpose of having a relationship with man

Only God can explain the structure that defines the universe

- We take the Bible as God's communication to study it and begin our relationship with God
- The Bible is indeed the Word of God.
- Jesus is the ultimate means of projecting God to us
- The Creation account and 'science' do not conflict – only interpretations of the Bible and theories of science do
- The universe has suffered several significant changes since its creation
 - “In the searing heat of that first moment, all the evidence needed for a scientific study of the cause of the great explosion was melted down and destroyed.” Robert Jastrow
- The flood was world-wide and caused many changes
- The probability that evolution depends upon is too small to calculate

We must remember that God is a personality, not just a Law

The most reasonable approach



The process of belief

Man is divided into two basic camps: those who allow things that exist beyond the physical and those that don't

- Much of the 'evidence' on either side is simply a result of these primary beliefs
- We must be able to look at the evidence and decide for ourselves, in spite of our prejudices
- We must not be swayed by pressures from other people, especially 'scientists', when our soul is at stake
- We must also remember that many prominent scientists do believe in a Creator God
- Athiests and evolutionists take a simpleton's view of God and Christianity, and then prove that it isn't true. They cannot deal with the real thing.

The scientific method is not sufficient to cover all the possible causes of the universe

Finding meaning out of it all

- Athiesm and Evolutionary thought provide a mechanism to escape from moral responsibility
 - there is no purpose in life
 - there is no real possibility of a peaceful world (survival of the fittest)
- Belief in God provides a life of peaceful assurance that something better awaits the Christian
 - one is morally responsible, however
- God is the ultimate Good in the universe that we can search for and cling to
- Love is the only way to the world's ultimate survival

These thoughts should lead to some kind of decision about the way you want to live your life

A point of tension

- A point of tension occurs when man cannot live by his own system of logic.
- Most people hide this point of tension by not thinking about it at all, but it affects the inner peace of their system.
- We must investigate fully our way of thinking about God and the universe to eliminate this tension, which Francis Shaeffer calls the point of despair.
- Man cannot live to his fullest in any system except God's.

Hopefully, this understanding of the presence and power of God will improve your faith and help you look to Christ as representative of God and our Savior

Reaching for the next level

Evolution implies that a being greater than man will evolve, a superman.

Christianity says that man reaches his ultimate in Christ, who was the real superman.

God will touch each of our lives if we reach out to Him



Now for the TEST!

Always be prepared to give an answer to everyone who asks you to give the reason for the hope that you have.

1 Peter 3:15

- Thinking about this now will help you at a later time when you need to review it.
- Write down the reasons for your beliefs so that you can rethink them when doubts are present.
- Review them from time to time to re-establish the foundation of your faith

You have to take the test every day of your life!

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- **Many more web sites were used (and pictures stolen!)**
- **Thanks to the many people who work to share their thoughts and don't get the credit they deserve!**
- **Some of these sites ask for a donation, but it works the same if you just donate your time or money to some Good cause.**

God knows our thoughts

The thoughts exist in the higher dimension?



Good vs Evil

Why does God allow Evil in the Universe that He created?

- The existence of a quality implies that there exists an opposite quality by which it is contrasted
 - Good and evil are directly related to free will
 - God wants us to choose him over evil
 - Satan has chosen evil, and represents a personification of it that trips us up
 - But God is Supreme and will triumph in his good time

Suffering

Why does God allow His people to Suffer?

- How could a good God allow suffering?
- We must accept the principle of Evil as existing in this world
- This is in part due to the fall of man, and choice
- As in the story of Job, God wants those who can love and worship him in spite of trouble
- God does not cause us to suffer, but Satan and sin
- God can isolate us from that (in heaven) when we live 'in' him

Parable of the wheat and the tares

Separation at the last

God put out a pure (Good) product; Now He sits back to wait and see if man can emerge from the corruption of it

Relativity

- Ether
 - Michelson-Morley experiment
- Constant speed of light
- $E=mc^2$
- Contraction
 - Projection image
- Curved space-time
 - Gravity: Rubber sheet
- Black Hole
- Escape velocity
 - Rocket
 - light
- Light: mass or spatial curvature?
- How do you see a black hole?
 - X-rays from tidal forces ripping apart atoms