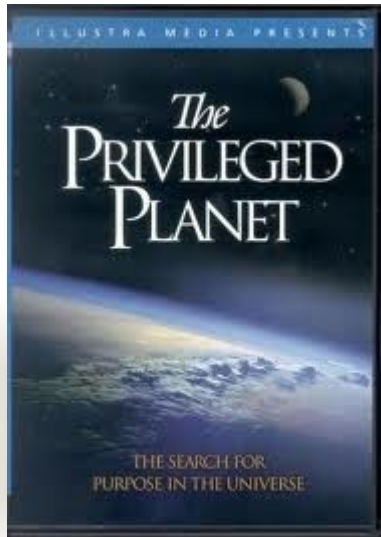


Our Privileged Planet



Dr. Heinz Lycklama

heinz@osta.com

HeinzLycklama.com/messages



Gen. 1:1

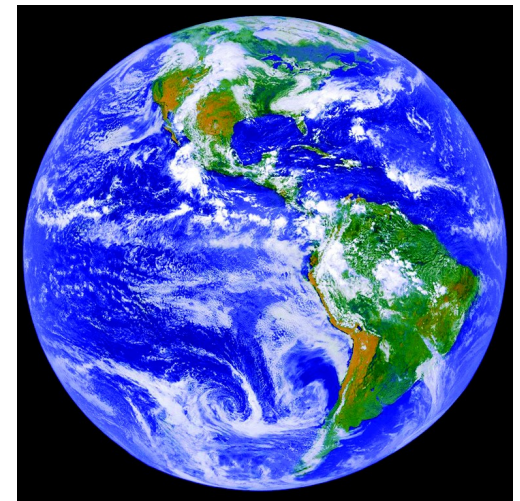
“... is the apparent *grand design* of our universe evidence of a benevolent creator who set things in motion – or does science offer another explanation?”

The Grand Design, Stephen Hawking

Ps. 19:1

Our Privileged Planet

1. Chance, Necessity (Law) or Design?
2. Telling If Something Is Designed
3. The Earth's Location in Space
4. Laws of Science and the Bible
5. Mathematical Probability
6. The Anthropic Principle
 - Universe's Physical Parameters
 - Earth's Physical Parameters
7. Search For Other Planets
8. Earth Is Our Privileged Planet!



1. Chance, Necessity (Law) or Design?



Creation, Evolution and ID

■ Creation

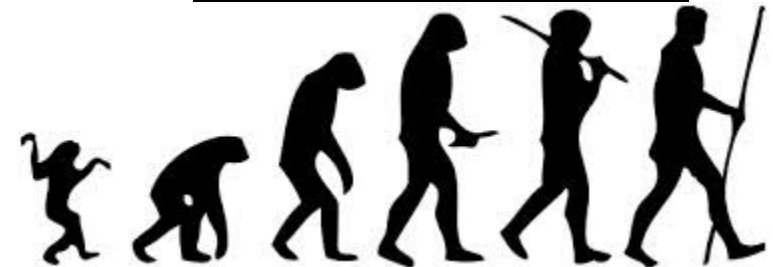
- God created the universe and all life according to its kinds

■ Evolution

- Macro-Evolution
- Molecules -> man
- Mutations, Natural Selection
- Common descent

■ Intelligent Design (ID)

- Information implies intelligent designer
- Irreducible complexity
- Specified complexity



INTELLIGENT DESIGN THEORY



The study of patterns in nature that are best explained as the result of intelligence

2. Telling If Something Is Designed

■ Irreducible complexity

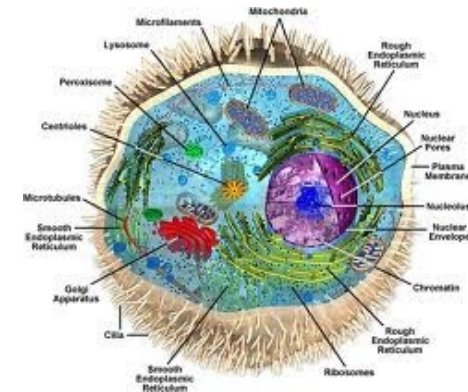
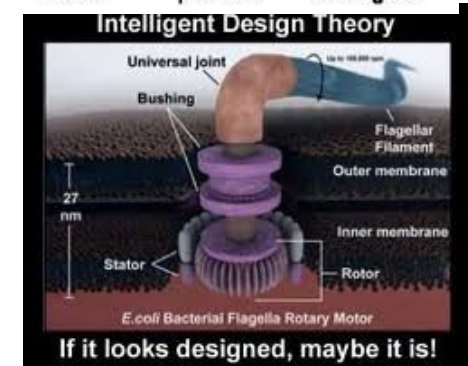
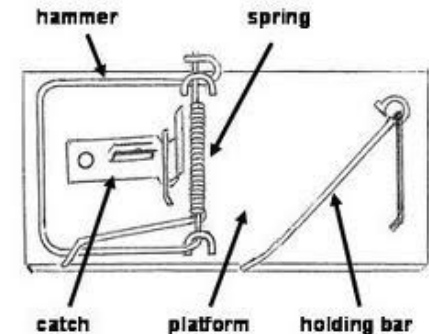
shows design

- Mouse trap, with its 5 parts
- Molecular machines, “all or nothing” functionality, e.g. bacterium flagellum

■ Specified complexity

shows design

- DNA
- Inner workings of the cell
- Information demands intelligence



Design Inference

Col. 1:16-17

- Inference of design -> intelligent source
 - Our experience tells us all manmade information systems and complex machines have an **intelligent origin**
 - We infer that biological systems also require an **intelligent source**
- Following where the evidence leads requires a designer to account for:
 1. Biological information
 2. Irreducible complexity
 3. Specified complexity

Design Inference Filter

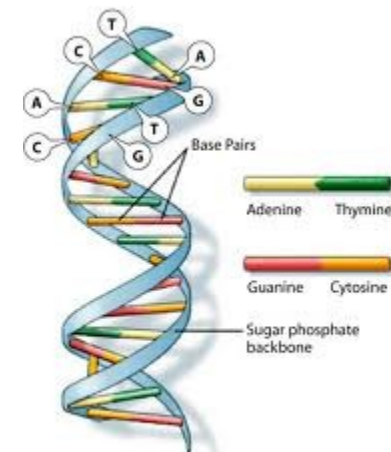
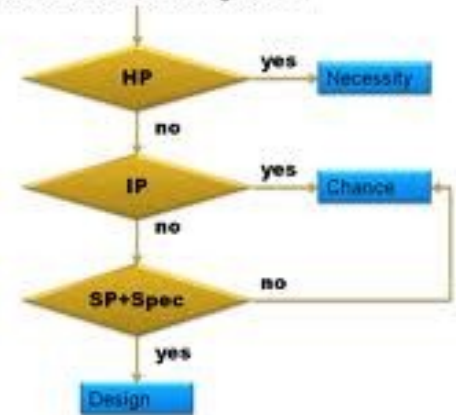
Is an effect the result of a design-cause?

HP – High Probability

IP – Intermediate Probability

SP – Small Probability

Spec – Specification



U.S. National Library of Medicine

Figure: DNA molecule schematic.

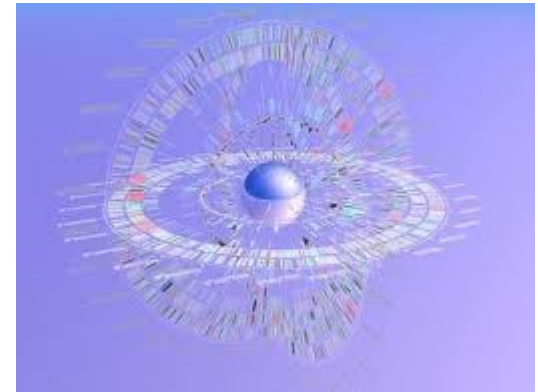
Chance, Necessity or Design?

Scratches on cave wall

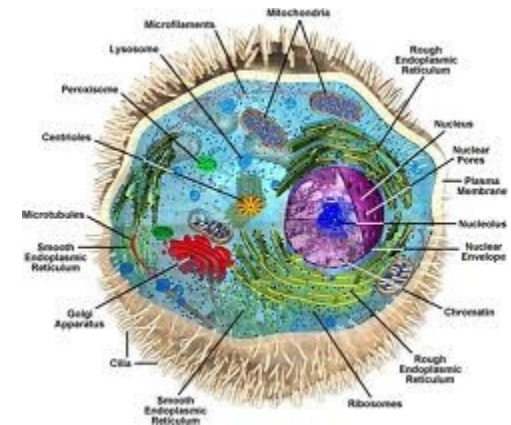


Human genome

3B
Base
Pairs

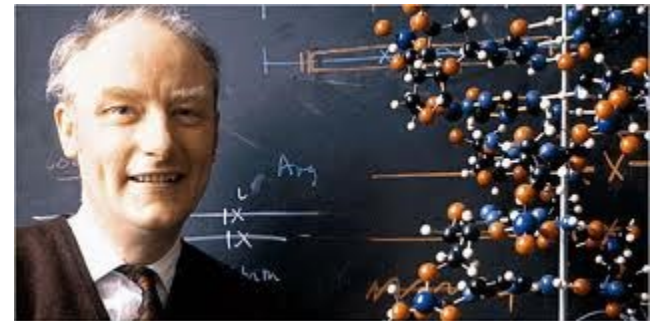


75T
Cells

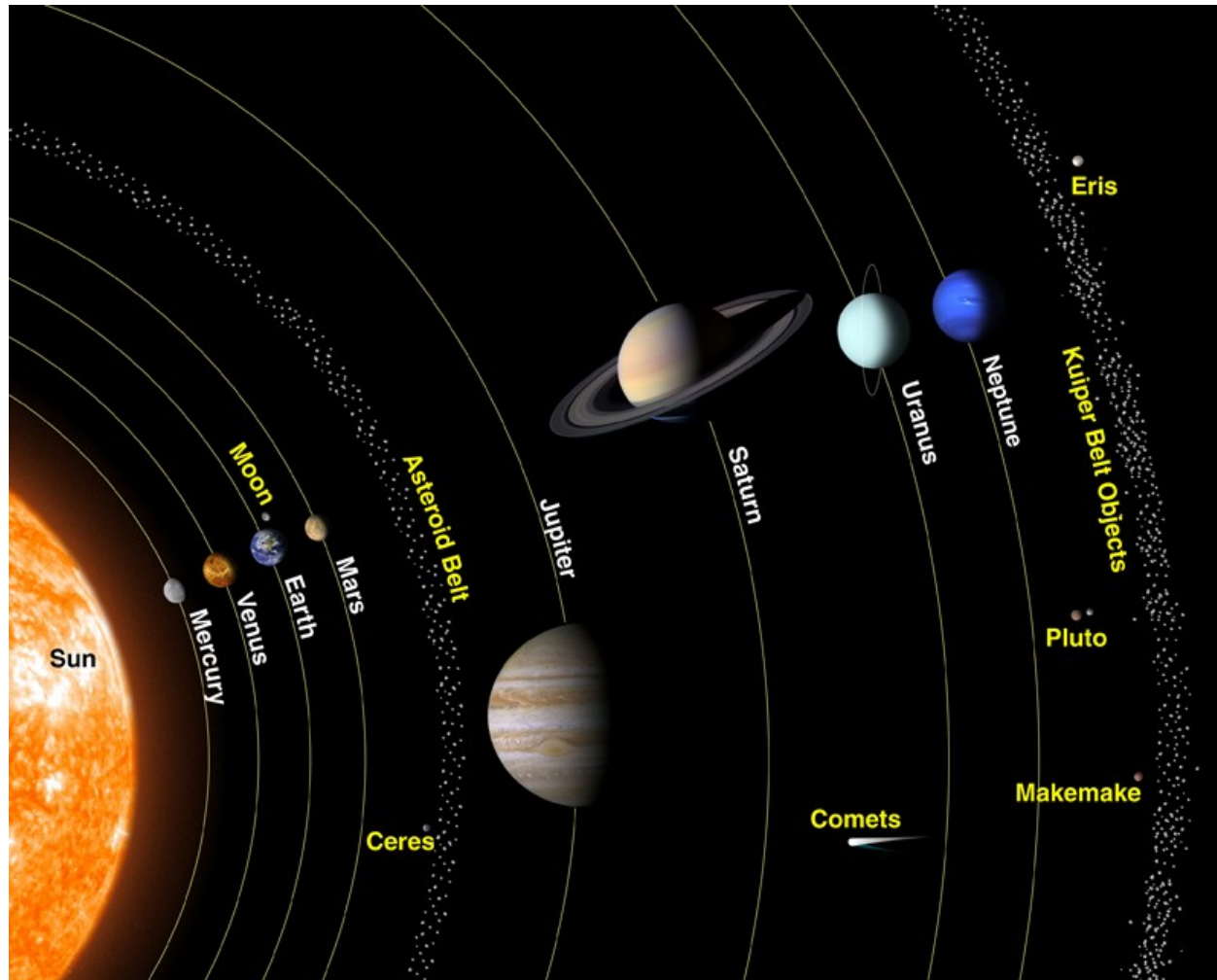


The Evolutionists' Response?

- “Even if all the data point to an intelligent designer, such a hypothesis is excluded from science because it is not naturalistic.”
 - S.C. Todd, Kansas State University Professor
- “Biology is the study of complicated things that have the appearance of having been designed for a purpose.”
 - Richard Dawkins, Oxford Univ. Atheist Biologist
- “Biologists must constantly keep in mind that what they see was not designed, but rather evolved.”
 - Francis Crick, Co-discoverer of DNA



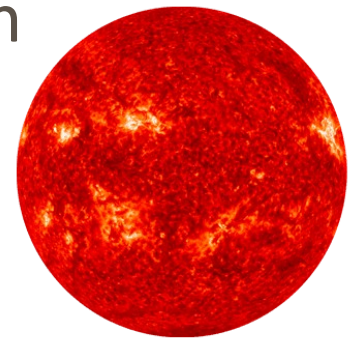
3. The Earth's Location in Space



What Makes Our Sun Unique?

- Gravitational field holds solar system together
- Source of energy & light for life on Earth
- Generates magnetic field that envelopes all planets in solar system
- Sun's heliosphere acts as giant shield protecting planets from galactic cosmic radiation
- Emits precise range of color making photosynthesis possible
- Earth in "Goldilocks zone" of the sun
- Sun's size controls size of tidal waves on earth

Ps. 19:1



Some Facts About Astronomy

- Astronomy – science dealing with study of the sun, the moon, the planets and the stars
- Solar system – sun (a star) plus eight planets
- Stars -> galaxies -> galaxy clusters
- Universe consists of ~100 billion galaxies
 - ~100 billion stars per galaxy
- Solar system is part of Milky Way Galaxy
- Andromeda, our closest galaxy is ~ 2 million light years away
- Proxima Centauri, our closest star is ~ 4.5 light years away

Job 9:8





Galaxies In The Universe

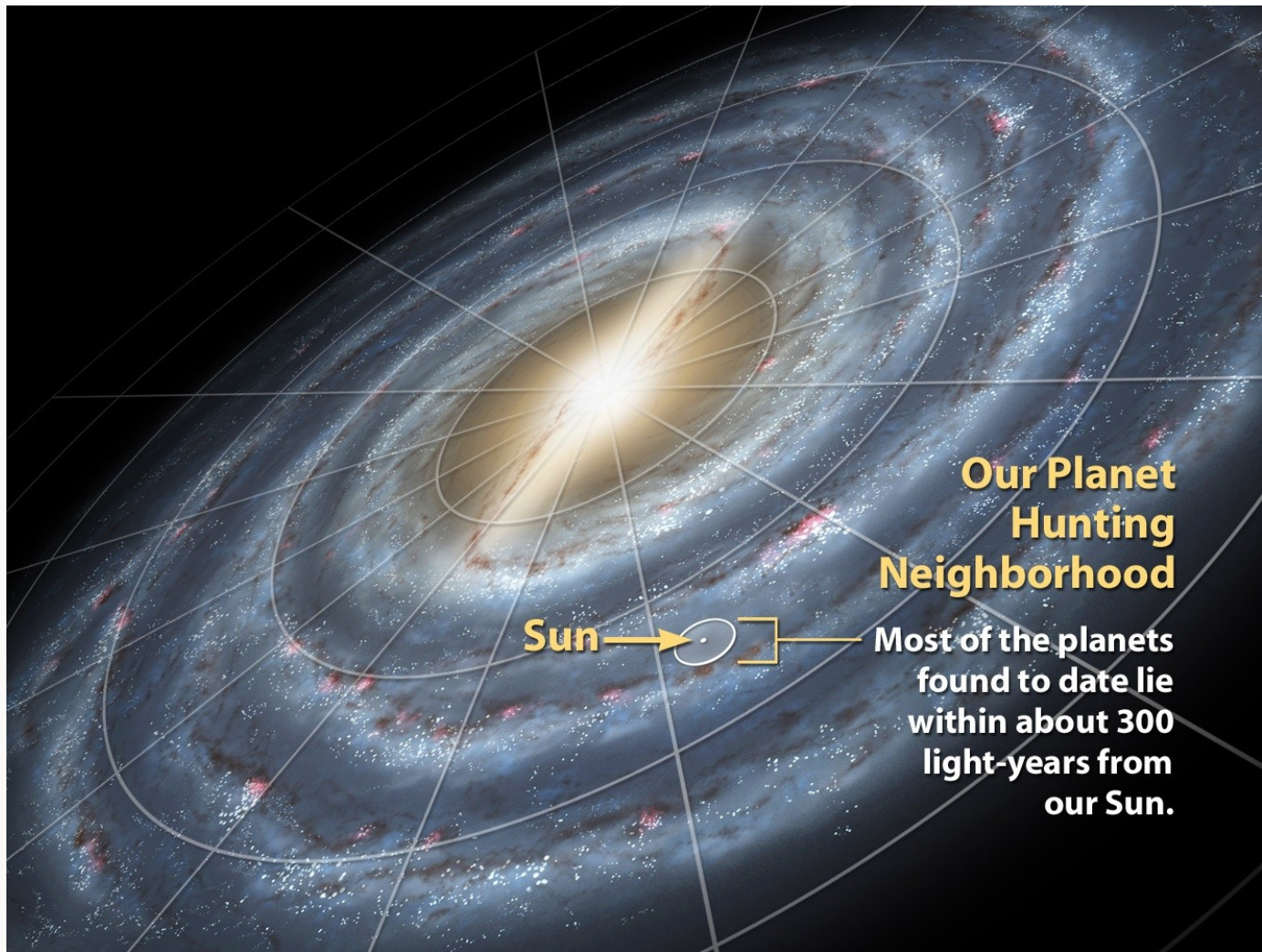
Ps. 19:1
The heavens
declare the
glory of God



Spiral Galaxy



Milky Way Galaxy



4. Laws of Science & The Bible

- Law of biogenesis – life comes only from life **Gen. 1**
- 1st Law of Thermodynamics – the law of conservation of mass / energy ($E = mc^2$) **Gen. 2:1-3**
- 2nd Law of Thermodynamics – the law of entropy, (in a *closed or open* system):
 - Spontaneous processes lead to a decrease in order
 - Energy moves to a lower potential, becoming less available to do work
 - Things move in a direction from order to chaos
- Law of Cause and Effect – every effect must have a cause. The effect cannot be greater, in size or in kind, than the cause **Gen. 1:1**



The Laws of Nature

- Everything in the universe is bound by laws
 - Physics, chemistry, mathematics, life, logic
 - Universal constants, planetary motion
 - Laws of nature are uniform throughout the universe
 - Explain the logical orderly state of the universe
- Consequences of laws of nature
 - Laws require a law-giver
 - Laws of nature are consistent with creation
 - Laws of nature make science possible!

“ordinances of heaven and earth” Jer. 33:25



Laws of Logic

- Transcendent truths
- Depended on by the laws of nature
- Law of non-contradiction
 - Cannot have both “A” and “Not A” at the same time and in the same relationship
 - God cannot contradict Himself, **Num. 23:19**
- Make reasoning possible
 - God is logical
 - Reflect God’s nature
 - Man, created in God’s image, instinctively knows the laws of logic
- Secularist cannot account for these laws

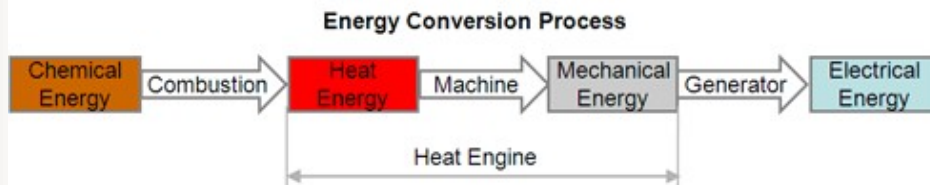


More On The Natural Laws

- The first two laws of thermodynamics are constant:
 1. The total energy of any system remains the same
 2. The entropy of a system increases over time
- Other constant laws include:
 - Law of gravity
 - Conservation of momentum
 - Conservation of electric charge
- Did natural laws evolve?
 - There is no evidence of this
 - Laws of nature are uniform throughout the cosmos

More on 2nd Law of Thermodynamics

- The Second Law of Thermodynamics
 - Increasing entropy (unavailable energy)
 - Order -> disorder (systems left to themselves)

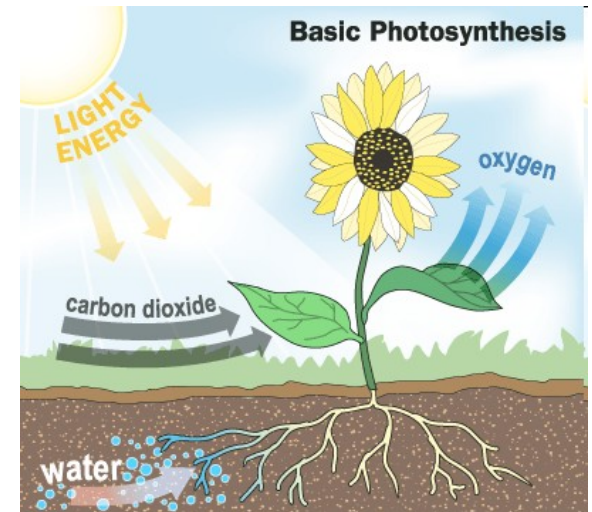
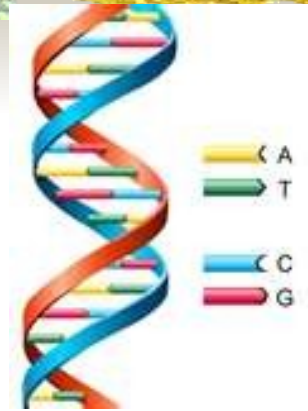


- Evolution requires
 - Disorder -> order
 - Simple -> complex
- What do we observe in nature?
 - Order -> disorder (deterioration)
 - Less available energy over time
 - Increased randomness over time



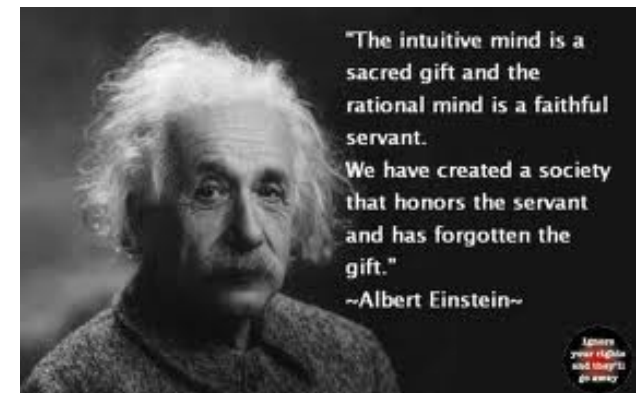
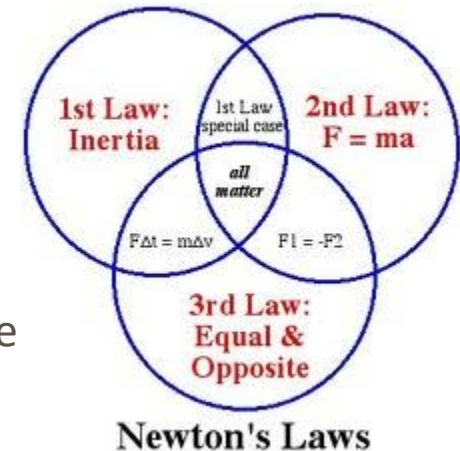
Increased Complexity In Living Matter

- Increased organized complexity in living matter requires:
 1. An open system
 2. An available energy supply
 3. A mechanism for storing and converting the incoming energy
 4. A “program” (information) to direct growth in organized complexity
- Examples:
 - Plant photosynthesis, sun's energy -> proteins
 - Seed -> plant
 - Animal metabolism, energy -> compose diet



Christianity & Modern Science

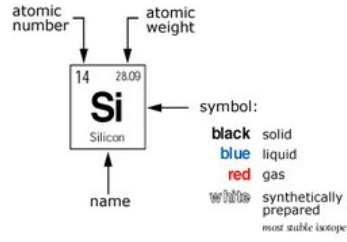
- Modern science originated in Christianity
 - Belief system that supported the scientific method
- Universe is governed by laws -> Lawgiver
 - **Isaac Newton**: “This most beautiful system of sun, planets and comets could only proceed from the course and dominion of an intelligent and powerful Being.”
- The universe is knowable to our minds -> Rational Mind
 - **Johannes Kepler**: “The chief aim of all investigations of the external world should be to discover the rational order that has been imposed on it by God.”
 - “Thinking God’s thoughts after Him.”



Periodic Table of the Elements



1 H Hydrogen																	2 He Helium	
3 Li Lithium	4 Be Beryllium																	10 Ne Neon
11 Na Sodium	12 Mg Magnesium																	18 Ar Argon
19 K Potassium	20 Ca Calcium	21 Sc Scandium	22 Ti Titanium	23 V Vanadium	24 Cr Chromium	25 Mn Manganese	26 Fe Iron	27 Co Cobalt	28 Ni Nickel	29 Cu Copper	30 Zn Zinc	31 Ga Gallium	32 Ge Germanium	33 As Arsenic	34 Se Selenium	35 Br Bromine	36 Kr Krypton	
37 Rb Rubidium	38 Sr Strontium	39 Y Yttrium	40 Zr Zirconium	41 Nb Niobium	42 Mo Molybdenum	43 Tc Technetium	44 Ru Ruthenium	45 Rh Rhodium	46 Pd Palladium	47 Ag Silver	48 Cd Cadmium	49 In Indium	50 Sn Tin	51 Sb Antimony	52 Te Tellurium	53 I Iodine	54 Xe Xenon	
55 Cs Cesium	56 Ba Barium	57 La Lanthanum	72 Hf Hafnium	73 Ta Tantalum	74 W Tungsten	75 Re Rhenium	76 Os Osmium	77 Ir Iridium	78 Pt Platinum	79 Au Gold	80 Hg Mercury	81 Tl Thallium	82 Pb Lead	83 Bi Bismuth	84 Po Polonium	85 At Astatine	86 Rn Radon	
87 Fr Francium	88 Ra Radium	89 Ac Actinium	104 Rf Rutherfordium	105 Ha Hahnium	106 Sg Seaborgium	107 Bh Bohrium	108 Hs Hassium	109 Mt Meitnerium	110 (266)	111 (271)	112 (277)	(113)	114 (285)	(115)	116 (289)	(117)	118 (293)	



Invented
in 1869

58 Ce Cerium	59 Pr Praseodymium	60 Nd Neodymium	61 Pm Promethium	62 Sm Samarium	63 Eu Europium	64 Gd Gadolinium	65 Tb Terbium	66 Dy Dysprosium	67 Ho Holmium	68 Er Erbium	69 Tm Thulium	70 Yb Ytterbium	71 Lu Lutetium
90 Th Thorium	91 Pa Protactinium	92 U Uranium	93 Np Neptunium	94 Pu Plutonium	95 Am Americium	96 Cm Curium	97 Bk Berkelium	98 Cf Californium	99 Es Einsteinium	100 Fm Fermium	101 Md Mendelevium	102 No Nobelium	103 Lr Lawrencium

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Bust of Dmitri
Mendeleev



5. Mathematical Probability

- Chances of getting all heads in a row when flipping a coin?

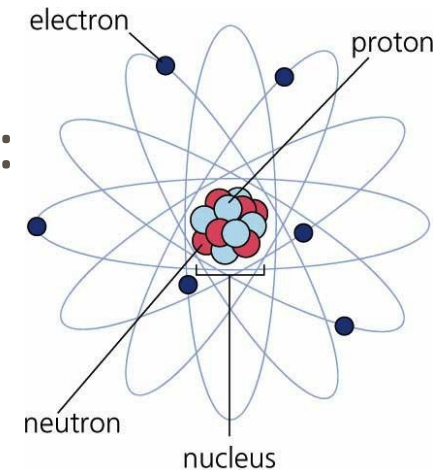


- 1 head
 - 1 in 2 ($\frac{1}{2}$)
- 2 heads in a row
 - 1 in 4 ($\frac{1}{2} * \frac{1}{2}$)
- 3 heads in a row
 - 1 in 8 ($\frac{1}{2} * \frac{1}{2} * \frac{1}{2}$)
- 10 heads in a row
 - 1 in 2^{10} (1024) or 10^3
- 100 heads in a row
 - 1 in 2^{100} or 10^{30}
- 1000 heads in a row
 - 1 in 2^{1000} or 10^{300}

Law of Probability: < 1 in 10^{50} is mathematically impossible

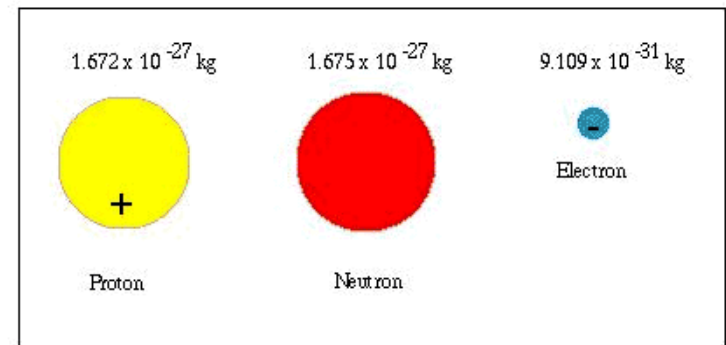
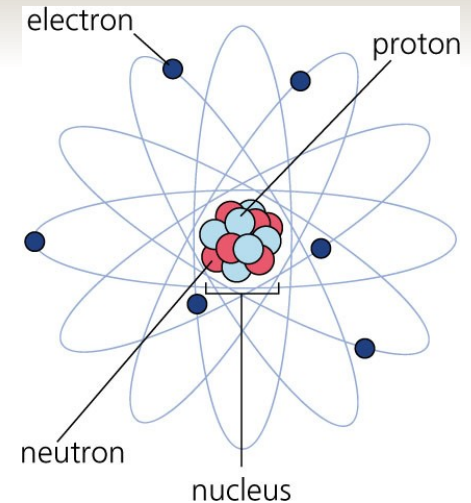
6. The Anthropic Principle

- The Anthropic Principle states that the universe appears to be carefully designed for the well-being of mankind
- Some evidence found in nature:
 - Mass of proton
 - Gravitational force
 - Strength of electrical charges
- How is total Solar Eclipse possible?
- More than 100 precise universal constants
- Role of gaseous planets: Saturn and Jupiter



Mass of Proton

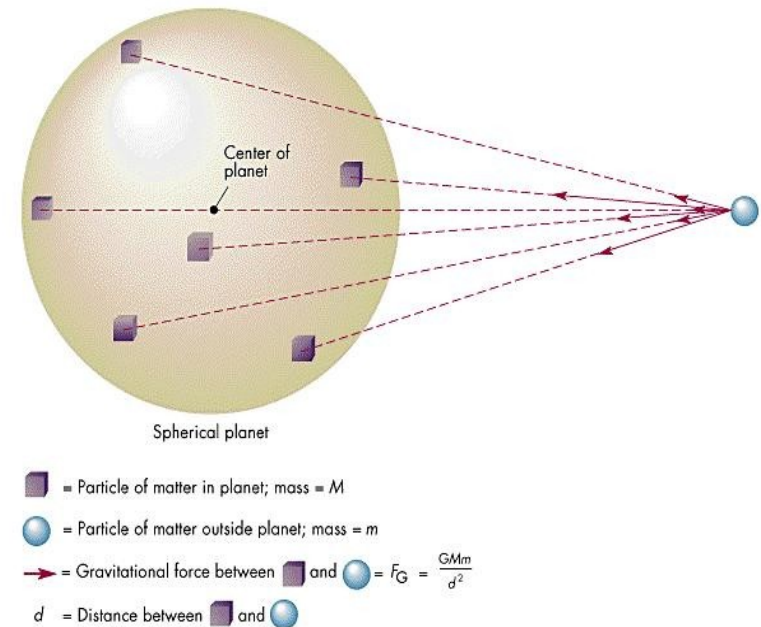
- Mass of proton is chosen for stability
- Mass of free neutron is slightly heavier than that of a proton, and it decays to a proton, electron, and an antineutrino with a half life of 12 minutes. Free neutrons cannot persist in nature.
- If the mass of a proton were increased by just 0.2 %, it would decay into a neutron, a positron and a neutrino. This decay does not occur - if it did, hydrogen could not exist. Hydrogen is the dominant element of the universe. Without it, the universe could not exist



Evidence of a precise design!

Gravitation Force

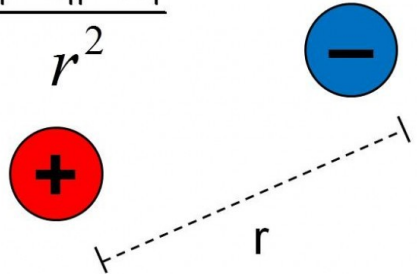
- Gravitation force is inversely proportional to the square of the separation distance between the two masses. This fundamental force holds the universe together, controlling the orbits of all members of our planetary system.
- $F = G * M * m / d^{**2}$ - Why is the number **2**, and not **1.99** or **2.01**? Any value other than **2** would lead to an eventual catastrophic decay of orbits and of the entire universe



Evidence of an essential design!

Strength of Electrical Charges

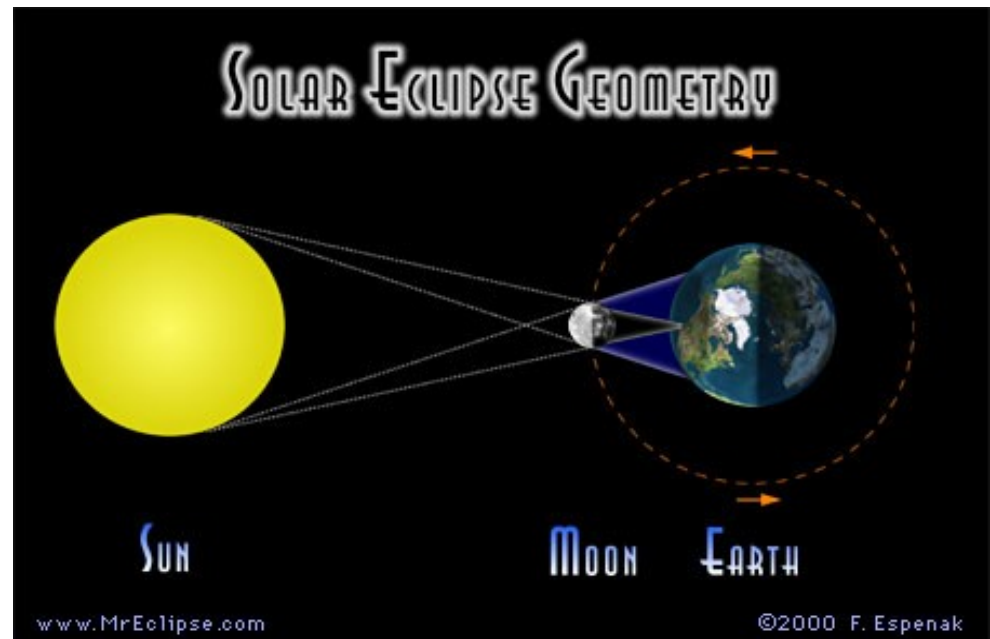
- The strength of electrical charges, i.e. the Coulomb force varies as the inverse square of the distance between the charges. Since the electrical force is much stronger than the gravitational force, it has been measured to an accuracy of 16 decimal places to be 2.0000000000000000

Coulomb's Law	
$F_e = k \frac{ q_1 q_2 }{r^2}$	

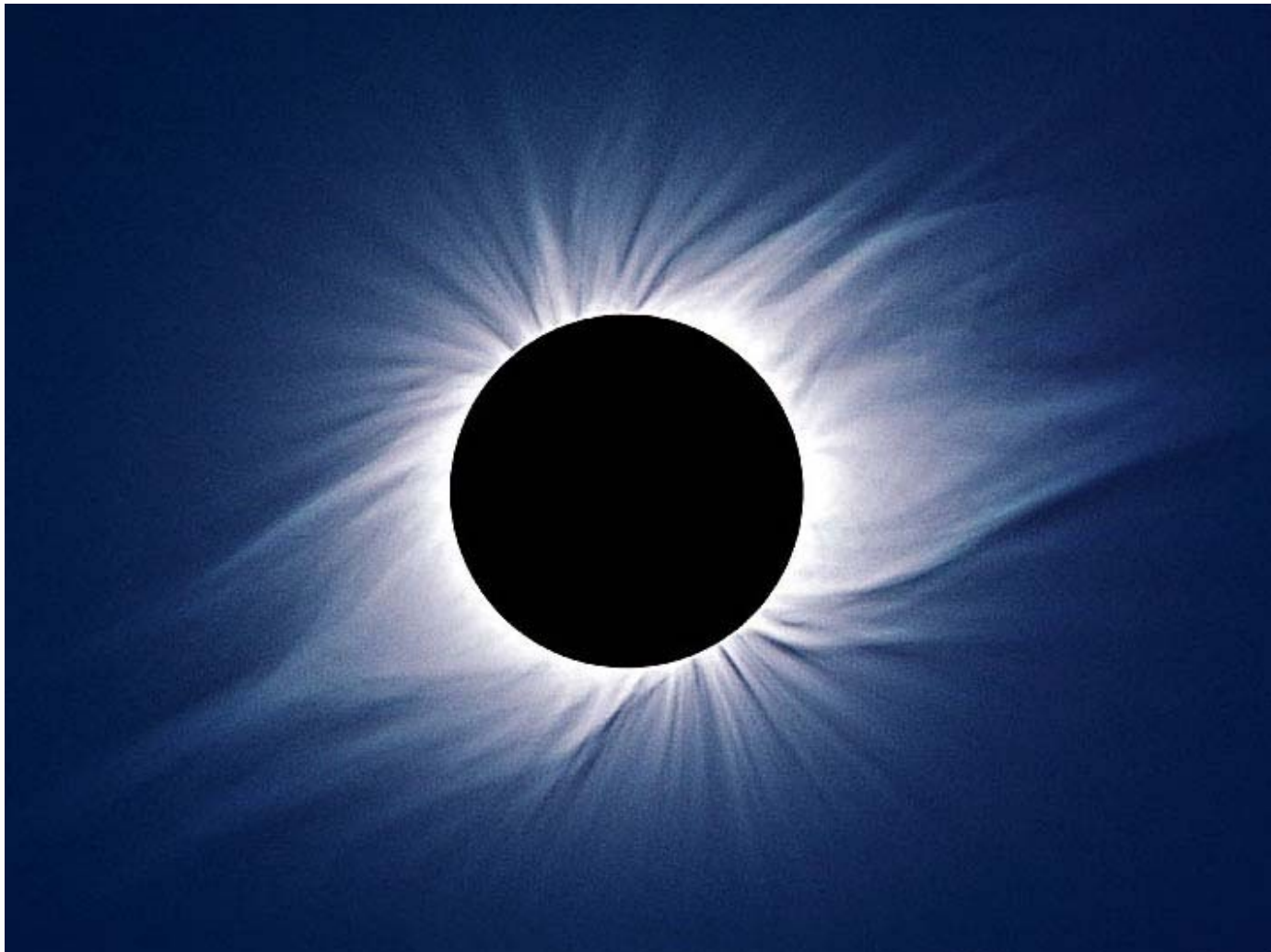
This reflects God's purposeful planning!

Total Solar Eclipse

- Sun completely obscured by moon
- Visible from narrow track on surface of earth
- Total eclipse possible because:
 - Sun's distance from earth is ~ 400 times moon's distance
 - Sun's diameter is ~ 400 times moon's diameter
- Total eclipse by design?



Total Solar Eclipse



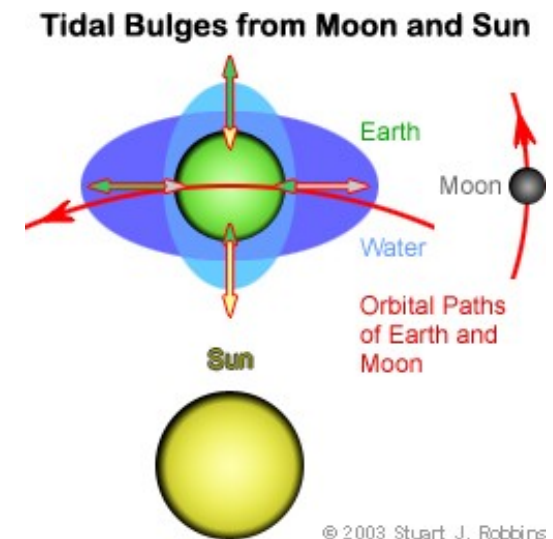
Universal Fine-Tuned Parameters

- For the universe, 35+ parameters:
 - Numerical constants in equations for gravity, electromagnetism, strong and weak nuclear forces
 - Ratio of proton to electron mass
- For our galaxy, solar system, earth, 66+ parameters:
 - Distance from the sun
 - Size, temperature, & type of sun
 - Size, axial tilt, rotation speed, moon, & composition of earth
 - Stability of Saturn and Jupiter

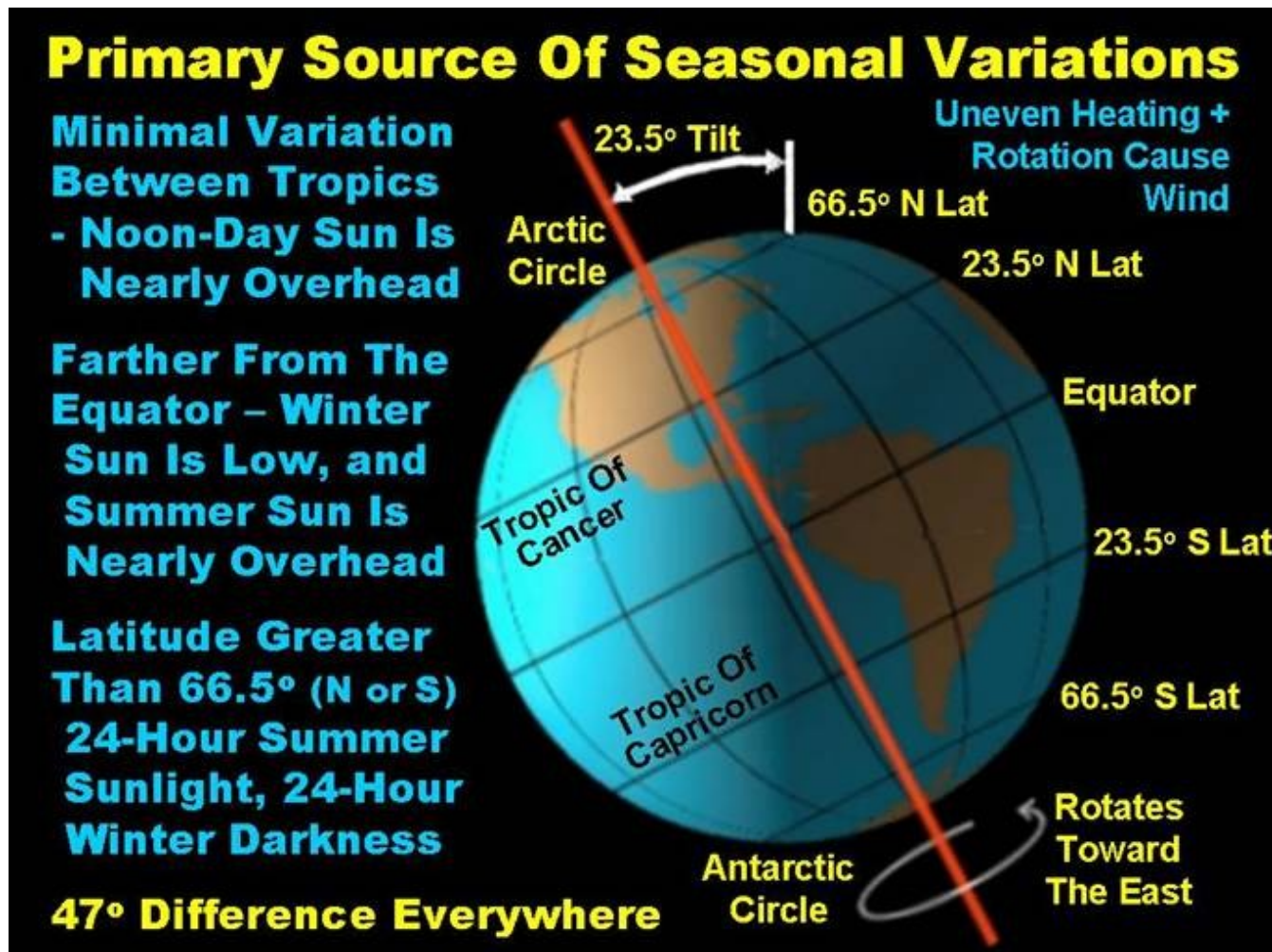


Some Unique Earth Attributes

- Only planet known to have plate tectonics
- Strong magnetic field to deflect harmful radiation
- Tilted at 23.4 degrees for optimal seasons
- 70% of earth covered with water
 - Water is essential for all known life
 - Right distance from sun to be liquid
 - Atmospheric pressure just right
- Contains diverse living organisms
- Protective layer of ozone
- Moon at right distance to induce tides



Earth's Axial Tilt



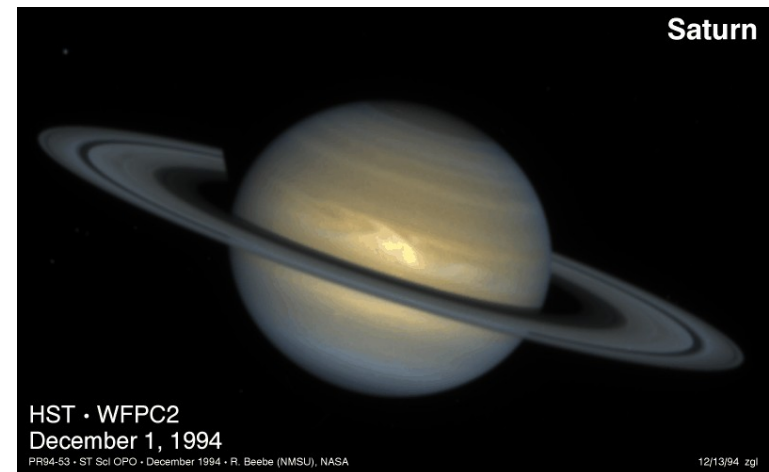
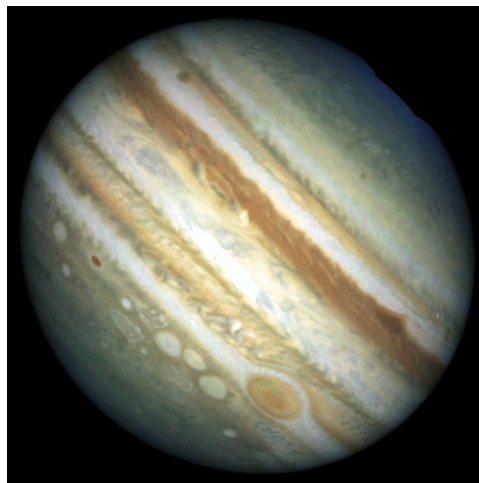
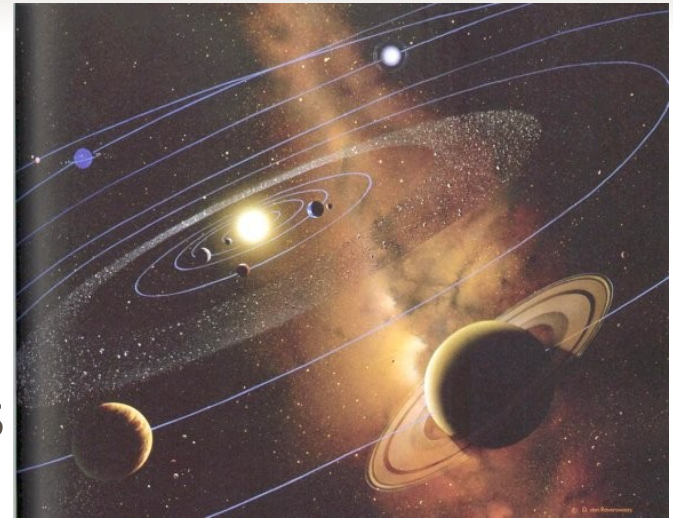
More Critical Earth Constants

- 122 very narrowly defined constants identified
 - Oxygen level in earth's atmosphere ~21%
 - Earth's position in solar system, galaxy, universe
 - Earth's magnetic field
 - Thickness of Earth's crust controls release of oxygen
 - Earth's size, rotation, tilt
 - Rotation rate of Earth controls temperature differences
 - Tilt of earth at 23.4 degrees is just right
- Probability of 1 chance in 10^{138} (ZERO/NIL)



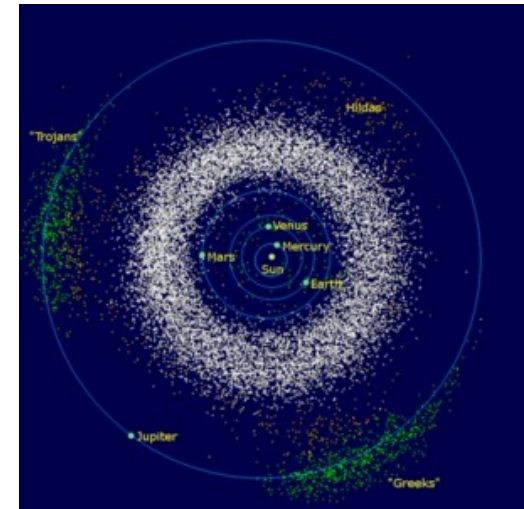
Jupiter and Saturn

- Planets have regular orbits
- Jupiter gravity force strong
 - Protects earth from comets
 - Draws comets by gravity
 - Throws comets out of solar system



Jupiter's Role & Our Galaxy

- Jupiter acts as a comet and asteroid magnet shielding earth from catastrophic collisions
- Our sun is located between spiral arms of the Milky Way Galaxy where there are fewer stars (less harmful radiation and disruptive gravity) and less gas and dust (we can see the rest of the galaxy and universe)






7. Search For Other Planets

- Probability of fine-tuned parameters occurring by chance:
 - For 80 fine-tuned parameters, prob. = 10^{-53}
 - For 128 fine-tuned parameters, prob. = 10^{-166}
- How Many Planets?
 - 10^{22} – Upper limit for number of stars in the universe (10^{11} galaxies x 10^{11} stars per)
 - Assume 1 planet per star
 - Therefore 10^{22} planets in the universe




Current Planet Search Results

- Since 1996, over 500+ planets outside our solar system have been found
- Only 5% of stars have planets
- The planets are either too large, too close to their star, or with too erratic an orbit to harbor life
- Have the probabilities changed?
 - Getting smaller




“As we survey all the evidence, the thought insistently arises that some supernatural agency - or rather Agency - must be involved. Is it possible that suddenly, without intending to, we have stumbled upon **scientific proof** of the existence of a Supreme Being?” Was it God who stepped in and so providentially crafted the cosmos for our benefit?

George Greenstein



"...how surprising it is that the laws of nature and the initial conditions of the universe should allow for the existence of beings who could observe it. Life as we know it would be impossible if any one of several physical quantities had slightly different values."

- Professor Steven Weinberg
(Nobel Laureate in High Energy Physics [a field of science that deals with the very early universe], writing in the journal "Scientific American".)



A common sense interpretation of the facts suggests that a superintellect has monkeyed with physics, as well as with chemistry and biology, and that there are no blind forces worth speaking about in nature. The numbers one calculates from the facts seem to me so overwhelming as to put this conclusion almost beyond question.

Fred Hoyle, Astronomer



What Does Evolution Say?

- Evolution is unable to deal with such permanent properties of nature
- Max Planck (1858-1947), a Nobel Prize winner and founder of modern physics, stated:
 - “According to everything taught by the exact sciences about the immense realm of nature, a certain order prevails - one independent of the human mind ... this order can be formulated in terms of purposeful activity. There is evidence of an intelligent order of the universe to which both man and nature are subservient.”

Design supports Creationism

8. Earth is Our Privileged Planet!

■ Anthropic principle

- 100+ unique physical constants

- *The Privileged Planet*,

Gonzales & Richards

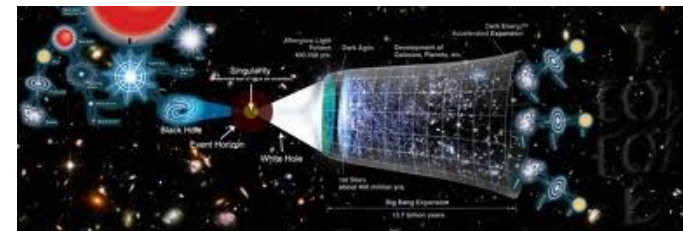
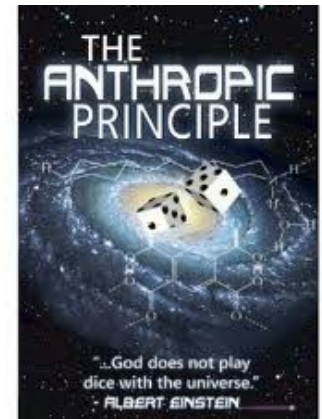
1. Earth uniquely situated to sustain complex life
2. Earth uniquely situated to observe the universe

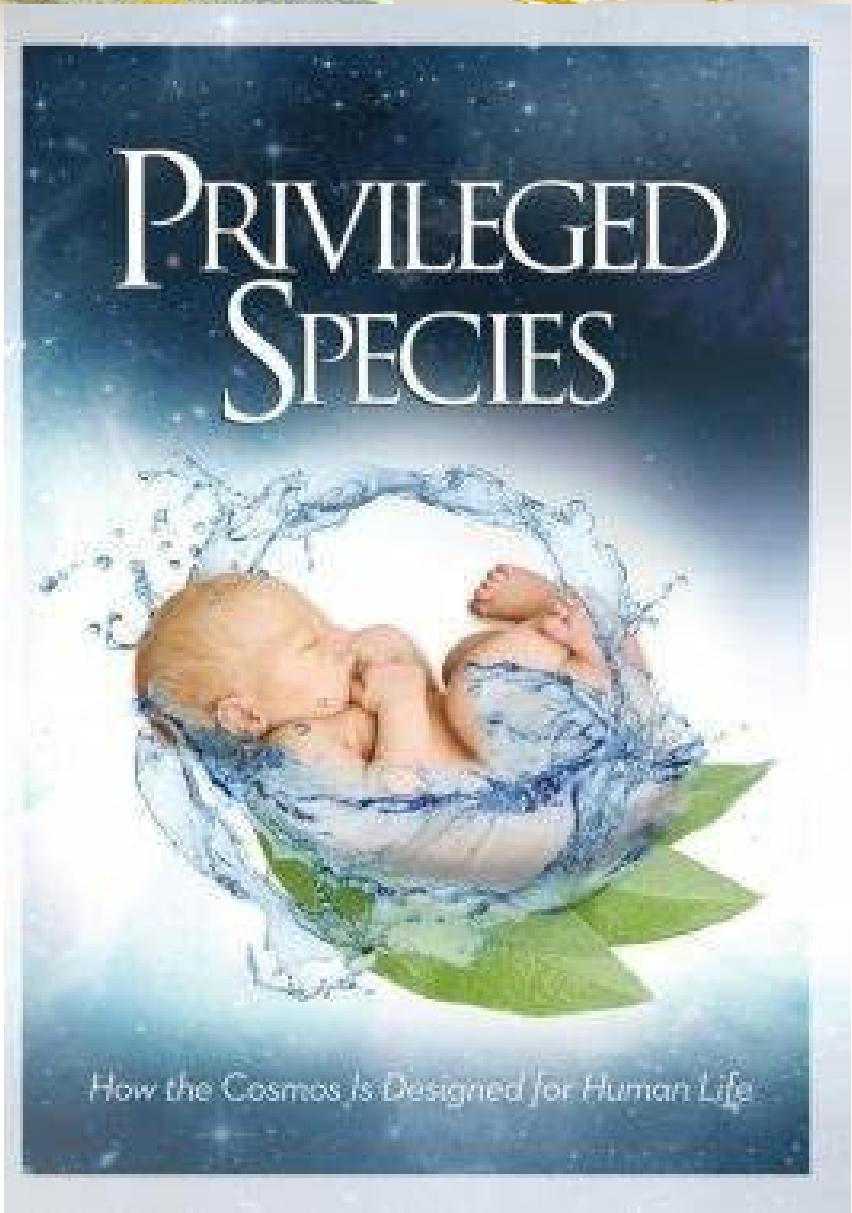
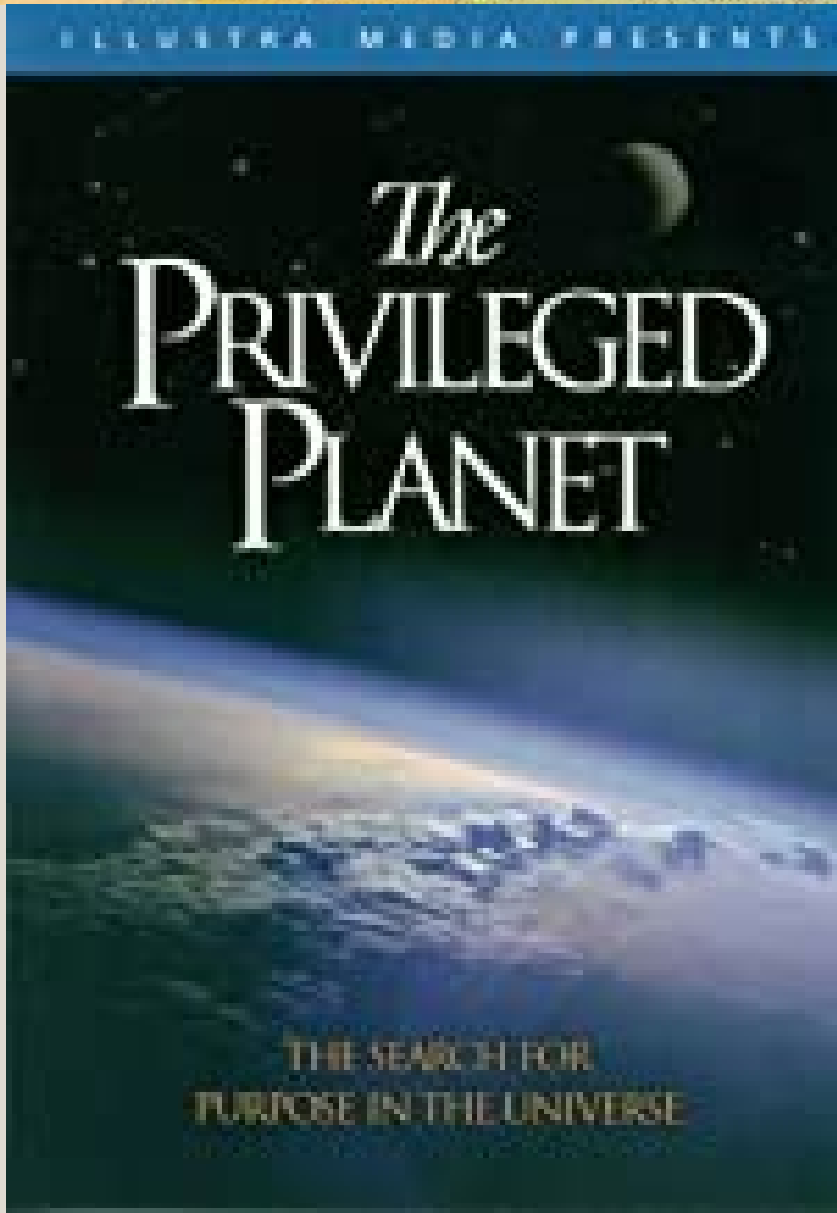
- *Privileged Species*, Discovery Institute

■ The multiverse as an explanation?

- *There Is a God*, Antony Flew

- “So multiverse or not, we still have to come to terms with the origin of the laws of nature. And the only viable explanation here is the divine Mind.”





Earth Was Designed For Us!

Gen. 1:1

Gen. 1:26

Ps. 19:1

**Thank you
for your
attention!**

Is. 1:18

Ps. 14:1

“One of the fundamental themes of Christianity is that the universe was built according to a rational, intelligent design.”

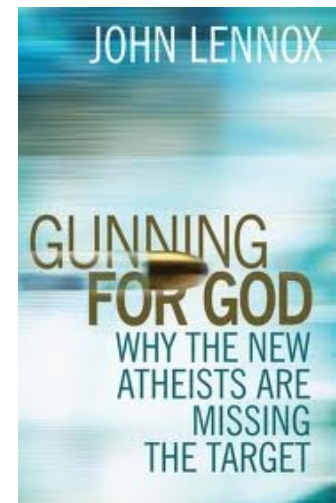
John Lennox

Dr. Heinz Lycklama

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HeinzLycklama.com

HeinzLycklama.com/messages





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- Probability's Nature and Nature's Probability, Don Johnson
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