Discovering Creation Summary # 3 Cosmology and Astronomy

Before we talk about biology or cave-men lets think about where the universe came from.
1) What happened at the Big Bang? When did it happen? What caused it? How do we know?
2) How did stars form? How did galaxies form? What has space exploration taught us about our solar system? How does that fit with expectations based on evolutionary theory?
3) How likely is it that intelligent life will be discovered somewhere else in the universe? What conditions would need to be met for that to happen?

All scientists today acknowledge the universe had a beginning and is "running down". The standard evolutionary position is that about 14 billion years ago, all the mass and energy in the universe was compressed into a size smaller than a pinhead, and it exploded in what is called "the Big Bang". But, "Where did the pinhead of "stuff" that exploded come from?" **If ever there was nothing (no-thing, no time, no space) then there is always nothing.** Something had to be before the Big Bang. And since scientists agree that matter cannot create matter, the Something had to be immaterial and powerful.

Paul Davies, physicist and evolutionist admits [*The Big Bang] "represents the instantaneous suspension of physical laws, the sudden abrupt flash of lawlessness that allowed something to come out of nothing. It represents a true miracle*…"

Davies chooses to believe the universe came from nothing rather than something.

There is **no explanation for the formation of the first star**. There are over 100 theories about how stars originated – which tells you none of them are convincing. The most widely accepted theory is the "gas nebulae" theory, that **gravity** pulled the hot gas together and compressed it so tightly that the temperature and pressure were enough to create nuclear fusion, like we see as the source of energy in stars today. The problem with that is gravity will not compress gas. In High School we learned Boyle's Law which says gasses expand with temperature, they do not contract. (Gasses will not compress themselves into an aerosol can, nor the center of a star.) "*The origin of stars represents one of the most fundamental unsolved problems of contemporary astrophysics, as it underlies many other questions, on scales from the formation of galaxies to the formation of the solar system. … No current model can reproduce all of the observations.*" Derek Ward-Thompson, Science 295(5552):76-81, 4 Jan 2002

"*If none of us knew in advance that stars exist, frontline research would offer plenty of convincing reasons for why stars could never form*." Neil deGrasse Tyson, *Death by Black Hole: And Other Cosmic Quandaries*, p 187, 2007

Further, there is no explanation for **the formation and shape of galaxies.** "*It has always been difficult for astronomers to explain why stars are clumped into galaxies instead of being spread out uniformly in space … There shouldn't be galaxies out there at all, and even if there are galaxies, they shouldn't be grouped together the way they are … The problem of explaining the existence of galaxies has proved to be one of the thorniest in cosmology. By all rights they shouldn't be there, yet there they sit. It's hard to convey the depth of the frustration that this simple fact induces among scientists*." James Trefil, 1988, The Dark Side of The Universe, New York, Charles Scribners Sons, p.3, 55.

When astrophysicists observe the rotation speed of spiral galaxies—they find that the "arms" in the spiral disks are moving 'too fast'. They are moving so fast that in their assumed lifetimes, which is the lifetimes of their galaxies, of the order of 10 billion years, the galaxies should have disintegrated because their stars should have flown away from the galaxies, which could not hold onto them. The evidence is that the galaxies are much younger than commonly held.

So what is their explanation? Dark Matter, which attracts, and Dark Energy which repels. However, **dark matter and dark energy have never been found, detected or measured**. They are *made up* "entities" to try to explain the universe without a Creator.

In 2004 this led to 33 scientists writing an open letter to *New Scientist,* (now signed by more than 400), saying "*An open exchange of ideas is lacking…", "…doubt and dissent is not tolerated. In no other field of physics would this continual recourse to new hypothetical objects be accepted as a way of bridging the gap between theory and observation"*. *New Scientist*, May 22, 2004
*** Note, Some Creationist Cosmologists say there is evidence that supports the idea of Dark Matter, even though it has not yet been detected.

Blue stars are the biggest and brightest of all "main sequence" stars, but this means they burn up the nuclear fuel very fast, so fast that the biggest ones could not last more than a million years, and the smallest (which burn slower) only around 10 million years. Yet blue stars abound in spiral galaxies, including our Milky Way, This suggests that these galaxies cannot be even one million years old. Evolutionists say these Blue Stars have been formed recently, but no one has ever observed such star formation and there is not a viable mechanism for it to happen.

Neutron stars in globular clusters Globular clusters are compact, ball-shaped groups of stars at the center of a galaxy. They supposedly contain "very old" stars. Astronomers have seen many fast-moving neutron stars in globular clusters. These are thought to arise from supernovas (exploding stars) within the cluster, where a neutron star is created that is "kicked out" at very high speed. With the compact sizes of globular clusters and the high speed of the neutron stars, all neutron stars should be ejected from such clusters in less than two million years. Many globular clusters should have emptied in a few thousand years. A major study of this so-called "retention problem" called it a "long standing mystery". Astrophysical Journal 573:238-305, 2002

Binary Clusters - Most "stars" are actually clusters of stars (normally two stars - "binary clusters") that orbit around one another. Our Galaxy has billions of binary clusters. Astronomers tell us they started out at a distance from one another, then pulled together by gravity and "magnetic braking" (like skaters spinning slower when their arms spread out, the gases of one star reach out to the other and cause the slow down) and when in binary proximity they are called "contact binaries" and believed to be the "senior citizens" of the universe requiring in excess of 10 billion years to reach this condition. Based on evolutionary assumptions, there should be very few fast spinning stars left. They should mostly be slow and in "contact" by now. Since 1990 study has shown that slow down and contact is observed in months, years and decades, and at a rate 400 times faster than previously thought. At maximum 55-250 million years before collapsing into a contact binary. That sounds like a lot, but is only 1.8% (0.018) of the 13.8 billion required by Big Bang cosmology.

Our solar system

Our sun and planets supposedly formed 4.5 billion years ago by gas clumping together (like "dust bunnies") which grew larger till they formed planetessimals and then the actual planets. But that is impossible. Dust bunnies will break up and never turn into rock.

Slow rotation of our sun

One problem with our solar system being formed by the gas nebulae theory can be shown by accomplished skaters spinning on ice. As skaters pull their arms in, they spin faster. This effect is due to what physicists call the Law of Conservation of Angular Momentum. Angular momentum = mass x velocity x distance from the center of mass, and always stays constant in an isolated system. When the skaters pull their arms in, the distance from the center decreases, so they spin faster (or else angular momentum would not stay constant). In the alleged formation of our sun from a nebula in space, the same effect would have occurred as the gases contracted into the center to form the sun. This would have caused the sun to spin very rapidly. Actually, our sun spins very slowly, (once every 25 days) while the planets move very rapidly around the sun. In fact, although the sun has over 99 percent of the mass of the solar system, it has only 2 percent of the angular momentum. This pattern is directly opposite to the pattern predicted for the nebular hypothesis. Evolutionists have tried to solve this problem, but a well-known solar system scientist, Dr Stuart Ross Taylor, has said in a recent book, 'The ultimate origin of the solar system's angular momentum remains obscure.'

Our space exploration has discovered that **none of the planets are what the evolutionary scientists predicted**. For instance,

The presence of a significant magnetic field around **Mercury** is not consistent with its supposed age of billions of years. A planet so small should have cooled down enough so any liquid core would solidify, preventing the evolutionists' 'dynamo' mechanism. See also, Humphreys, D.R., *Mercury's magnetic field is young*! Journal of Creation 22(3):8–9, 2008. Also, the magnetic field is decaying with a half-life of ~320 years, which means it had to form just a few thousand years ago, and not millions or billions.
The temperature on Mercury reaches 430 degrees Celsius in the day, but drops to -170 degrees at night. So the discovery of relatively large concentrations of elements like sulfur and potassium was a huge surprise because they are the so-called volatile elements – they boil away easily, so should only be found much further out in the colder reaches of the solar system. This prompted British scientist Prof Brian Cox to say in 2019, "Mercury is an enigma, and discoveries like these have forced us to completely rethink our theories about the formation of the planets."

Earth's magnetic field decreases by half every 1450 years, which means 20,000 years ago earth would have been so hot it would boil water off the earth and allow for no life. The small number of craters on **Venus** make it appear quite young. The unexpectedly large amounts of argon, xenon and krypton on **Jupiter** have caused scientists to say it must have formed 3 billion miles further away from the sun and then come closer, but they also admit there would not have been enough other material further out to form a large planet. And it has **moons** that are extremely geologically active and impossible to harmonize with being 4.5 billion years old.

Another problem with the nebular hypothesis is the formation of the gaseous planets. According to this theory, as the gas pulled together to form planets, the young sun would have passed through what is called the T-Tauri phase. In this phase, the sun would have given off an intense solar wind, far more intense than at present. This solar wind would have driven

excess gas and dust out of the still-forming solar system and thus there would no longer have been enough of the light gases left to form Jupiter and the other three giant gas planets. This would leave these four gas planets smaller than we find them today.

Astronomy Magazine said "*Psst. Want to know a dirty little secret?* ***Neptune and Uranus*** *don't exist*" – at least they shouldn't by any model they can figure out. They are too far away from the sun for such large mass to form, and not enough time in the age of the solar system. **Uranus and Neptune** also have magnetic fields, but they should be long 'dead' if they are as old as claimed according to evolutionary long-age beliefs. Interestingly, the standard view of solar system evolution, the nebular hypothesis, fails to explain such large planets so close to a star—because gas giants should form in the cold outer parts of the supposed gaseous nebula.

July of 2015 the New Horizons space probe carefully explored **Pluto**. *National Geographic* reported that surface images stunned scientists with evidence of glaciers, geysers, and mountains of ice 11,000 feet high, rivaling the Rockies. The landscape "looks relatively young—so young, in fact, that it suggests the planet is still geologically active." Large areas devoid of craters are seen, implying recent resurfacing. But Pluto was supposed to be long dead of any geologic activity. The geologist for New Horizons remarked, "The discovery of vast, craterless, very young plains on Pluto exceeds all pre-flyby expectations."

There should be no atmosphere on Pluto. It has insufficient gravity to hold an atmosphere. But it is there. The atmosphere of Pluto is also young. Scientists measured the escape rate of nitrogen at 500 tons per hour. That's 500 times the rate at Mars. All of Pluto's nitrogen should have been depleted eons ago.

Comets are dirty ice balls that travel around our sun till the sun's gravity pulls them in and they burn up. We know from their trajectories that no comet should last more than about 10,000 years, but we still have comets. How do evolutionists explain that? They say the comets come from the Oort cloud. What is the Oort cloud? Nothing. At least it has never been found. It is a made up construct to give a reason to still have comets 4.5 billion years after the formation of the solar system instead of having to face the alternative, that comets are a strong evidence that our solar system is less than 10,000 years old. The theory takes precedence over any data that would challenge it.

What about life on other planets?

Since 1960 there have been millions of dollars spent on the Search for Extraterrestrial Intelligence - (SETI) with no results. We hear frequent news stories about finding traces of water on planets or their moons, with the hope/belief that where there is water, life could have formed. We will see in the next section that although water is necessary for life, life could not have formed in water anywhere, but here we want to examine **what kind of location would be required for life to survive.**

1. **Type of star** - Our sun is a Spectral Type G2 Main Sequence Star. 90% of stars in our galaxy are smaller Red Dwarf stars with a smaller potential habitable zone.
2. **Within circumstellar habitable zone** - If earth were 5% closer to the sun it would be just like Venus, with temperatures to 900°F If it were 20% farther from the sun it would be as sterile as Mars. A planet would have to be closer to a Red Dwarf star, and increased gravity would lock its rotation into synchronization with its orbit so that one side was always facing the sun, getting too much radiation for life and the other always away from it, being too cold for any life. Even other stars like ours have super flares with 10,000,000 times the

energy of ours about once per century. Our sun is superbly designed for stable life!

3. **Moderate rate of rotation** - for temperature stability, life.
4. **Within the Galactic Habitable Zone** - Our location in the galaxy is just as amazing as our location in our solar system. We live in a spiral galaxy about halfway between the center and the edge. The center of the galaxy would have way too much radiation. The outer edges have other problems. The earth is made of iron, magnesium, silica and oxygen. These elements are much less on the outer parts and would not be able to make earth size planets.
5. **Water** - Even though life cannot form in water, water is essential for multicellular life. Water is a solvent, especially for nutrients, and unmatched ability to absorb heat, which helps control the surface temperature of the earth.
6. **Ratio of liquid water to land mass**. 2/3 of the earth's surface is oceans.
7. **Nearly circular orbit** to have liquid water (which many planets do not have).
8. **Orbited by a large moon** - Our moon is 1/4 size of earth, providing a strong gravitational pull that keeps the earth's axis stable at 23° which gives us stable temperatures and allows water and life. It also causes tides to circulate the warm and cold waters in the oceans. Without the tides the oceans would be dead and there would be no life on earth. The moon also provides much protection from meteorites, comets, asteroids, which would likely be pulled into it instead of earth.
9. **Nearby Gas Giant Planets** to protect from space debris.
10. **Oxygen rich atmosphere -** Our atmosphere - 78% nitrogen, 21% oxygen, 1% carbon dioxide, gives us a temperate climate, protection from the sun's radiation and gases necessary for liquid water and complex life. Of the 70 planets and moons in our solar system the earth is one of seven bodies enveloped by a thick canopy of gas, yet only earth can sustain complex life, and only earth has a transparent atmosphere. We have very little carbon in our atmosphere. The cloud of gas around Saturn's largest moon resembles the atmosphere of Neptune, Uranus, Saturn, Jupiter and Venus. None of the stars would be visible and even the sun would be shrouded in clouds.
11. **Correct mass** so gravity was not too much or too little.
12. **Terrestrial planet** - a gas planet would not support life.
13. **Plate tectonics** - Earth's crust is 4 to 30 miles, "paper thin", with more than a dozen tectonic plates constantly in motion, regulating the planet's interior temperature, recycling carbon. Liquid iron core generates a magnetic field, which shields us from radiation and is essential to complex life. If earth were smaller the magnetic field would be less and the solar winds would strip away our atmosphere and we would receive lethal doses of radiation.
14. Electron mass, proton mass, atomic mass, strong nuclear force, weak nuclear force, speed of light, cosmological constant, gravity, mass of the universe. All are necessary and finely calibrated. Without gravity there would be no planets or stars. Without the strong nuclear force nothing would hold protons and neutrons together, so there would be no atoms and no chemistry. Without the electromagnetic force there would be no bonding between chemicals. Would be no light. Wipe out just one of those laws and there would be no life. If these constants were adjusted even a tiny bit there would be no life. For instance, if gravity were increased just a tiny bit there would be no object larger than a pea without being crushed.

Donald Brownlee principal investigator with NASA Stardust mission wrote a book called *Rare Earth*, to show that earth is actually a very special place and not common. Microbial life might exist elsewhere in the universe but the likelihood of complex life is extremely small. He says the entire universe is hostile to life. All these factors together make earth like a big complex organism which is required to sustain complex life. Brownlee says we won the cosmic lottery.

Difficult problems

The most difficult problem for a creationist is how we can see the light from stars 13 billion light years away if God created everything only about 6000 years ago. However, that is not only a problem for young earth creationists, but also for those who believe the universe is 14 billion years old. When scientists measure the "cosmic microwave background" (CMB) – the temperature of the universe (not the actual stars, but all the space in between) it is a constant 2.7 degrees Kelvin. Which means that energy (in the form of light) from the big bang has traveled back and forth across the universe enough times for the temperature to even out. Scientists believe the farthest galaxies are some 13 billion light years away, but even assuming the earth is in the center of the universe, there are others 13 billion light years away in the opposite direction – at least 26 billion light years across. So, how can the whole universe be the same temperature if there has not been enough time for the light and energy to be exchanged? Light had to travel at a speed faster in the past than it travels now to get to a uniform temperature. Scientists refer to this as the "horizon problem".

To answer this some creationists point to the fact that when God created the world he made mature plants and animals, yet they were only minutes old. And when Jesus turned the water to wine he made "aged" wine. So God could have made stars and starlight "on the way". However, to see a supernova, for instance, from a source greater than 6000 light years away God would have had to create light from a star and supernova that never existed. That would suggest we cannot trust much of what we are seeing – a false history. So, other creation scientists recognize Einstein's theory of relativity shows that the speed of light can be altered by gravitational forces and believe the answer lies in physics that we have not yet understood. Both creationists and evolutionists continue to try to solve this problem.

The distance from the earth to the sun is ~93,000,000 miles. If that distance were the thickness of a sheet of paper, the distance to the next closest star in our Milky Way galaxy (Alpha Centauri, which is 4.37 light years, or 25 trillion miles) would be a stack of papers 70 feet high. And to reach the other side of our galaxy would be a stack of paper 310 miles high. And there are billions of other galaxies farther away.

Here is a problem for those who believe life came from outer space, if we assume Alpha Centauri (the closest star) had a planet where life and intelligent beings evolved by chance and decided to come here, how long would it take for life to get here – the closest possible distance?
The Saturn v rocket, the most powerful to ever go into space is 363 ft high, weighed 6.5 million pounds, has 160,000,000 horsepower, a speed about 18,000 mph to escape earth's gravity, (using 40,000 pounds of fuel per second during launch). A space ship of that power coming from Alpha Centauri would take over 70,000 years to get here.
So, the only way to get "life" here would require *enormous* speed. For example, at 1/3 the speed of light, (216,000,000 mph) it would still take 13 years to reach here. This is about 10,000 times the speed of the Saturn V rocket. However, there is a huge problem: several important quantities depend on the *square* of the speed. This includes the energy needed to reach that speed—and the energy of any collision at that speed, and the 'lurching' force when the craft turns.
So, a starship of the same mass as the Saturn V (let alone the huge ships of sci-fi) would need

100 million times the energy. And a collision with even a grain of dust would be like a ton of TNT exploding. Also, if the spacecraft had to turn even as gently as the diameter of our solar system (over 6,000,000,000 miles), the lurching would mean fatal ‘g-forces’ on all the crew. So when people *believe* life came from space, they have no idea of the factors necessary for that to happen.