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Our Habitable Planet – God’s Purposed Creation

by

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Our Habitable Planet — God's Purposed Creation

“Let all the earth fear the LORD: let all the inhabitants of the world stand in awe of Him.” Psalm 33:8

For many years, it has been a common scientific pursuit of man to search for life on other planets, or in other places in the universe, but as of yet, no life has been found other than the life earth supports. Could life exist in any other place than earth? This article will examine two sides of this question: 1) The evolutionary theory of how the universe and life in it came to be and 2) the numerous factors essential for the existence of life. Both will be weighed in the balance of probability. Then a conclusion will be drawn whether life came about by evolutionary forces or by design, guided for a purpose.

Evolutionary Cosmology

Evolutionists believe that time began 15 billion years ago with the detonation of the Big Bang. As a result of that, the whole universe was supposedly filled with helium and hydrogen.¹ It is assumed stars began forming as hydrogen atoms collided at incredibly high speeds, thus generating helium. This is thought to have continued for about 2 billion years. Some stars then became red giants as the supply of hydrogen in their cores diminished, resulting in a drastic increase in interior temperatures. Helium atoms then supposedly began colliding to produce carbon and oxygen. These red giants eventually became supernovae that exploded and sent heavy elements into the surrounding area. (Astronomers view elements heavier than helium as heavy metals,² and the amount of those elements in a given area is called metallicity.³)

Solar systems began forming as interstellar masses collapsed and formed thin, disc-shaped, rotating clouds, with still-developing suns at the centers. One such solar nebula is thought to have become our solar system as the sun fully developed and the gas giants formed. It is assumed that 99% of this cloud was gas, and the rest was dust and rocks. The gas giants absorbed most of this gas during their formation, and what was left

¹ Guillermo Gonzalez & Jay W. Richards, *The Privileged Planet*, 2004, Regnery Publishing, p. 152.

² Peter D. Ward & Donald Brownlee, *Rare Earth*, 2000, Copernicus, p. 43.

³ Charles H. Lineweaver, Yeshe Fenner, & Brad K. Gibson, “The Galactic Habitable Zone and the Age Distribution of Complex Life in the Milky Way,” *Science* 303(January 2, 2004):59-62, p. 59.

eventually separated from the dust and rocks, forming rings around the sun. The matter in these rings eventually collided and thus the other planets, including earth, were formed.

At this point, according to evolution, the earth was far from habitable. Its crust, mantle, and atmosphere still needed to develop, and while that took place, the earth's iron core condensed in the middle of the globe. Then approximately 3.8 billion years ago, earth was ready to support life, and life slowly began to evolve.⁴

This is the evolutionary sequence of events required for life to exist.

Habitable Zones

Our Solar System

It has been proven that life of any form cannot exist on just any planet orbiting any star at any distance. There must be a specific type of planet, orbiting in an exact place around a star of perfect size and type for it to support life. This exact precision is seen in our solar system and it has been discovered that it all had to be just as it is for life to exist. The scientifically proven essential factors that support life on a planet will now be examined.

To support life, a solar system's host star must be of a certain size, mass, and luminosity, all of which our sun is. It has been discovered that the majority of stars in the Milky Way have 90% less mass than our sun, and are much less luminous. The effect that a smaller host star would have on a planet would be that in order to obtain the proper amount of heat to support life, the planet would have to be much closer to the star. At this distance, the gravitational pull exerted by the star would prevent the planet from rotating on its own axis, forcing the planet into a tidally locked orbit, which means only one side of the planet would face the star. The result would be a nearly permanent "day on one side – night on the other" scenario, in which life not could exist.⁵

⁴ Peter D. Ward & Donald Brownlee, *Rare Earth*, 2000, Copernicus, pp. 49-58.

⁵ *Ibid.*, p. 23.

If the star had more mass or was any larger, the planet would have to be much farther away as the star would be far hotter and would generate much more ultraviolet radiation which could strip the planet of its hospitable atmosphere.⁶

Even if a star were to be the same size as our sun in another solar system, the distance of a terrestrial planet from its host star is also crucial for life. The precise planetary orbital region necessary to support life is known as the Circumstellar Habitable Zone (CHZ), and is loosely defined by the constant presence of liquid water on the planet.⁷ However, there are many more requirements for life than just liquid water. A terrestrial planet that can support life needs an oxygen/carbon dioxide based atmosphere. Oxygen is necessary for carbon-based life to exist and carbon dioxide keeps a planet's surface heat from escaping into space.⁸ Additionally, that atmosphere must be protected from being stripped away by radioactive solar winds. This protection is provided by a strong planetary magnetic field which is the result of a rotating electrical current generated by an outer core of flowing liquid metal.⁹ Additionally, an ozone layer is also necessary to filter out a type of biologically damaging ultraviolet radiation known as UV-B.¹⁰

The planet needs to rotate upon its own axis to produce days and nights and this axis must be at a precise angular tilt (between 22°-24°) to create annular seasons. The planet also needs a moon of sufficient size and mass to exert the necessary gravitational stabilizing effects on the planet to maintain the appropriate axial tilt.¹¹

Our Galaxy

Just as there are many factors required for life to exist in a solar system, likewise there are many essential factors for life in a galaxy in which a habitable solar system exists. A habitable solar system must orbit in a spiral galaxy and in a precise place within that galaxy. Any other type of galaxy, such as an elliptical or

⁶ *Ibid.*, p. 23.

⁷ Guillermo Gonzalez & Jay W. Richards, *The Privileged Planet*, 2004, Regnery Publishing, p. 127.

⁸ *Ibid.*, pp. 130-131.

⁹ Vishnu Varma, "What creates Earth's magnetic field?," <https://cosmosmagazine.com/geoscience/what-creates-earth-s-magnetic-field> (Accessed April 29, 2018).

¹⁰ "Science: Ozone Basics," <http://www.ozonelayer.noaa.gov/science/basics.htm> (Accessed April 29, 2018).

¹¹ Guillermo Gonzalez & Jay W. Richards, *The Privileged Planet*, 2004, Regnery Publishing, p. 4.

irregular galaxy, would not provide the environment necessary for life, for the same reasons that life cannot exist in the galaxy's spiral arms or galactic center, which will be discussed shortly.¹²

Our solar system is found in a region of the Milky Way known as the Galactic Habitable Zone (GHZ), between two of the major spiral arms of the galaxy. This region provides the clearest skies – a large area relatively free of stars and supernovae, stellar dust, and molecular clouds. In order for a habitable solar system to remain within the GHZ, it must orbit in the co-rotation radius of the galaxy. This means it is orbiting at the same rotational rate and direction as the galaxy, and thus never crosses the spiral arms which would be an annihilating experience.¹³

A habitable solar system could not exist in the galactic center due to the extremely high density of stars. A dense stellar concentration generates high levels of radiation which would bombard the habitable planet, stripping it of its ozone layer and atmosphere. There would also be an increased gravitational pull on the solar system which would distort, and possibly destroy, the planet's orbits.^{14, 15} Neither could a habitable solar system exist within the galaxy's spiral arms as they contain Giant Molecular Clouds, a high density of stars, and experience a high frequency of supernovae, all of which are destructive to life.

The Improbability

The evolutionary sequence of events necessary, and the scientific list of factors essential for life to exist, have both been examined. Some explain these events and factors from such naturalistic worldviews as the

¹² *Ibid.*, p. 144.

¹³ Rich Deem, "The Incredible Design of the Earth and Our Solar System," www.godandscience.org/apologetics/designss.html (Accessed April 16, 2018).

¹⁴ *Ibid.*

¹⁵ Charles H. Lineweaver, Yeshe Fenner, & Brad K. Gibson, "The Galactic Habitable Zone and the Age Distribution of Complex Life in the Milky Way," *Science* 303(January 2, 2004):59-62.

Copernican Principle, which is explained by one author as “we should assume that there is nothing special or exceptional about the time or place of earth in the cosmos...we are not here for a purpose, and the cosmos is not arranged with us in mind. Our metaphysical status is as insignificant as our astronomical location.”¹⁶ However, considering the large number of galactic, solar system and planetary requirements for the mere existence of a habitable planet, can we reasonably conclude that such a multiplicity of factors could be so amazingly and precisely balanced into one unifying life-supporting system to have simply just happened without reason, purpose, or design?

There are so many factors that all have to be in place at the same time in order for life to begin and be sustained on earth. If the universe, with a spiral galaxy and solar system in the perfect place in that galaxy to support life did form out of randomly collapsing helium clouds, then this process would have had to produce a countless number of factors correctly in precisely the right order for the system to have been a success. Some astronomers have brought into perspective the possibility of each of the factors being in place simultaneously in order for one planet to sustain life. If each of at least 20 factors is given a one in ten possibility of happening the result is a 1 in 1,000,000,000,000,000 chance.¹⁷

To give an example of the incredible improbability of just one of these factors randomly occurring, consider the evolutionary explanation of the formation of a single carbon atom within a star. Three helium atoms had to collide within a fraction of a second, with the first two forming a highly unstable beryllium-8 isotope, then, less than one billionth of a second later the third helium atom must hit the couplet before it radioactively decayed.¹⁸ Is this reaction, which is the result of extreme precision and immense energy, likely to happen even once, much less the billions of times necessary to generate enough carbon to support the spontaneous generation and continued existence of life?

¹⁶ Guillermo Gonzalez & Jay W. Richards, *The Privileged Planet*, 2004, Regnery Publishing, p. 248. ¹⁷ *The Privileged Planet* DVD, Illustra Media, 2004.

¹⁸ Peter D. Ward & Donald Brownlee, *Rare Earth*, 2000, Copernicus, p. 40.

The Purpose

As one considers the universe, and our solar system in particular, from the point of view that it evolved, or was created by God, the fact that each factor had to be there in perfect order is recognized. The evolutionary theory that it all just happened does not seem possible. Outer space is too big and the universe too vast for one star and planet to have come to be in the perfect place and exactness for life to be. There are too many essential requirements for this galaxy to have formed with no purpose. For innumerable actions to coincidentally have taken place and resulted in our planet being able to sustain a diversity of life is astronomically improbable. It is clear that the earth, the solar system, and the entire surrounding universe were designed, were intentionally put in place, and were perfectly orchestrated for a purpose.

The Bible says that in the beginning, the everlasting JEHOVAH God created the heavens and the earth. He placed the earth in a very specific and special place in the universe, and then, on the sixth day, God made man with a living soul, by breathing the breath of life into him.¹⁹ God placed life, including man, on this habitable planet that is in the clearest place in our galaxy so that we can look out into the vast universe, and appreciate the immenseness of God's purposed creation. In every living soul that God creates, He places knowledge of Himself, and gives us creation as an evidence that He exists.²⁰ We are able to see and study the stars so that we can learn about the greatness of our God – that is if we are willing to listen to what the stars have to tell us.²¹

God created the whole universe for Himself²² and for His pleasure,²³ however He also chose to create man so that He could have friends,²⁴ and someone to love, and someone who would worship Him. God also created us so that we would seek after the LORD and find Him.²⁵ Man was created to live for God, for His pleasure, and for His glory.²⁶

Our habitable planet was unquestionably created by God, with purpose!

¹⁹ Genesis 1.

²⁰ Romans 1:19-20.

²¹ Psalm 19:1-3.

²² Colossians 1:16.

²³ Revelation 4:11.

²⁴ James 4:8a.

²⁵ Acts 17:26-27.

²⁶ Isaiah 43:7.

“So God created man in His own image, in the image of God created He him; male and female created He them... And God saw everything that He had made, and behold, it was very good.” Genesis 1:27, 31

Conclusion

In the vast expanse of the night sky, there is one galaxy that stands out among all others – the Milky Way – our home galaxy. Nestled in just the perfect place between two arms of our spiral galaxy is a solar system having every factor necessary to sustain life.

Evolutionists believe this wonderful structure came about by a chance sequence of precise events over billions of years and yet the numerous factors that need to be in place make such an event highly improbable. God said that He created the earth to be inhabited, and purposely designed the earth, the solar system, and the Milky Way in such a way that they would work together to support complex life. We are here to love God and to bring glory to Him by studying His works and marveling in His spectacular creation.

“For thus saith the LORD that created the heavens; God Himself that formed the earth and made it; He hath established it, He created it not in vain, He formed it to be inhabited: I *am* the LORD; and *there is* none else.” Isaiah 45:18

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