Life **2013**, *3*, 1-x manuscripts; doi:10.3390/life30x000x

OPEN ACCESS

life

ISSN 2075-1729
www.mdpi.com/journal/life

Article

Life begins on primordial dark matter planets

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Received: / Accepted: / Published:

Abstract: A scenario is described for the beginning of life based on hydro-gravitational-dynamics (HGD) cosmology, where the dark matter of galaxies is Earth-mass primordial-gas planets in proto-globular-star-cluster (PGC) trillion planet clumps. Modern fluid mechanics explains the big bang as the first turbulent combustion, producing 10^{80} H-^{4}He gas planets in 10^{68} clumps at 10^{13} seconds (0.0003 Gyr). Stars form and explode 10^{12} s later with no dark ages, promptly seeding the planets with C, N, O etc. first chemicals needed for critical temperature water oceans to condense and host first life formation at 10^{14} s (0.002 Gyr) in a biological big bang (BBB). Because all stars form by planet mergers, life information is transmitted and homogenized on cosmic scales to the present time 13.8 Gyr. The Hoyle-Wickramasinghe cometary panspermia mechanism is explained and supported by HGD theory, and by all observations.

Keywords: Cosmology; Astrobiology; Biological-Big-Bang; Dark-Matter-Exoplanets

1. Introduction

The formation of life is a long-standing mystery that is at last yielding to solution by modern fluid mechanics and modern cosmology, and by observations of primordial and living extraterrestrial life in meteorites. Modern fluid mechanics is needed to understand the big bang origins of the Universe with new and revised theories of turbulence, fossil turbulence and fossil turbulence waves. Modern cosmology requires these tools to construct hydro-gravitational-dynamics HGD cosmology to replace the previous ΛCDMHC cosmology and its obsolete ideas of star and planet formation. Old cosmology makes life virtually impossible anywhere. New cosmology makes life not only possible but inevitable, early, widespread, and homogeneous on cosmic space-time scales.

According to old cosmology the universe began with a big bang 13.8 billion years ago, driven by the anti-gravitational forces of dark energy invented by Albert Einstein to produce a static universe within his theory of general relativity. Einstein was correct to renounce his cosmological constant Λ with its unfortunate implications concerning anti-gravitational forces and the existence of dark energy. Neither exists and neither is needed. The negative stresses that Λ supplies to extract mass-energy from the vacuum are better explained as the result of inertial-vortex forces produced by the big bang turbulence of HGD cosmology.

Old cosmology relies on cold dark matter (CDM) to produce gravitational structures, but no such CDM material exists. Even if it did, it is fluid mechanically impossible for it to hierarchically cluster (HC) to form CDM clumps of growing size as gravitational potential wells to collect the baryonic (ordinary) primordial plasma of hydrogen and helium produced a few minutes after the big bang. This is the standard model. Hundreds of millions of dark ages years are needed for enough gas to concentrate in these hypothetical CDM clumps (halos) to produce the first star, the first planet, and somehow against grotesque odds, the first life. As shown in Figure 1, the dark ages without stars after the big bang extends to about four hundred million years. Temperatures are ~25 K and the Universe has vastly expanded. Billions are being spent on the James Webb Space Telescope[1] to explore a dark ages period that does not exist.

No life can form until water oceans appear on planets:
old cosmology dark ages last 400 Myr vs 0.3 Myr for new (HGD) cosmology

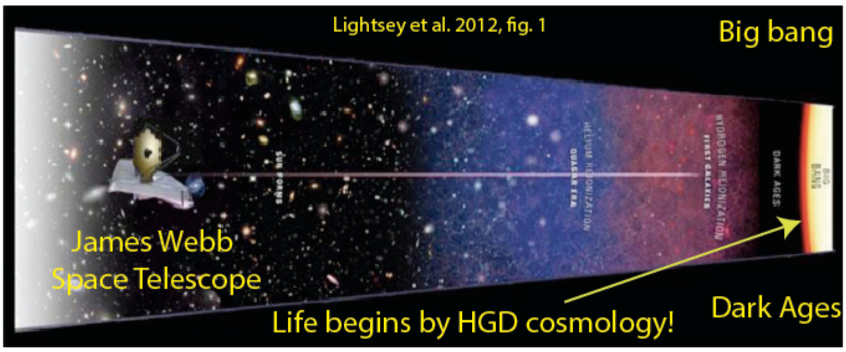


Fig. 1 The history of the evolution of the expanding universe since the Big Bang is shown. The James Webb Space Telescope will explore back into the first light regions at the edge of the cosmic dark ages.

Figure 1. Time-lines of ΛCDMHG (old) cosmology and HGD (new) cosmology. Planets in clumps appear at 3000 K and can host life at 2 Myr when water oceans condense at 647 K when seeded by supernovae dust from the first stars, according to HGD cosmology.

The 2011 Nobel Prize in physics has been awarded for the claimed discovery that the expansion rate of the Universe has shifted from deceleration to acceleration. Most of the mass-energy of the Universe (70%) is now claimed to be anti-gravitational dark energy by old cosmology, where anti-gravitational dark energy forces drive the accelerated expansion. This claim is falsified[2,3,4,5] by the fluid mechanical arguments of new (HGD) cosmology, falsified by the existence of cosmic life, and falsified by terrestrial life. As shown in Fig. 1, old cosmology predicts a long period of dark ages, at least 300 Myr, compared to only 0.3 Myr for new cosmology. Life of any kind is virtually impossible if the first star and first planet appear in the extremely cold (30 K) and vastly expanded Universe of 300 Myr. Astrophysicists are generally uncomfortable with discussions of life in the universe. For example, at the 2010 Lorentz Center Workshop in Leiden NL, "New Directions in Modern Cosmology", Professor N. C. Wickramasinghe was invited to attend, but was not allowed to speak. See his paper on Censorship, in the Proceedings:

http://journalofcosmology.com/Contents15_files/ProceedingsApr27sml.pdf.

Figure 2 presents a schematic comparison of the evolution of gravitational structure according to new and old cosmologies. As shown in Fig. 2, life should appear promptly after the plasma to gas transition at 0.3 Myr according to HGD-cosmology, when the dark matter planets cool to the 647 K critical temperature of water at about 2 Myr, so that water oceans can condense. Critical temperature water is apolar, so it readily dissolves apolar molecules of organic chemistry in its beginnings such as carbon monoxide and hydrocyanic acid, the building blocks of RNA and DNA. Overfeeding of stars by dark matter planets produces supernovae (red stars in Fig. 2). The oxides of the first chemicals are reduced by the hydrogen planets to give molten iron and nickel cores under molten rocky layers and deep-water oceans that begin to freeze at about 8 Myr as the Universe expands and cools. What fraction of the 10^{80} planets produced by the big bang have life, and even intelligent life, during this biological big bang?

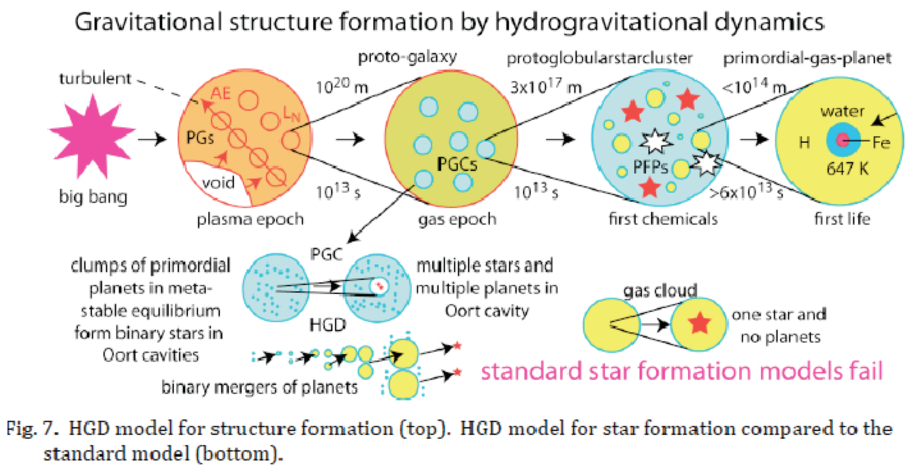


Figure 2. Star and planet formation mechanisms are very different for ΛCDMHG (old) cosmology and HGD (new) cosmology[6]. Critical temperature water oceans condense, seeded with the first chemicals produced by the first supernovae (top) at about 2 Myr. Life is formed and spread by star formation within dense, dark-matter, proto-globular-clusters (PGC) clumps of these planets (center left). Standard star formation models (right bottom) produce a handful of cold and isolated planets per star, making life nearly impossible.

Life is clearly common on the planet Earth, providing a counter example to the standard cosmology and its long period of dark and lifeless ages. Figure 3 shows the non-miraculous standard model for terrestrial life. It is presumed that the basic molecules somehow are produced in space and fall on the Earth, find each other and produce life.

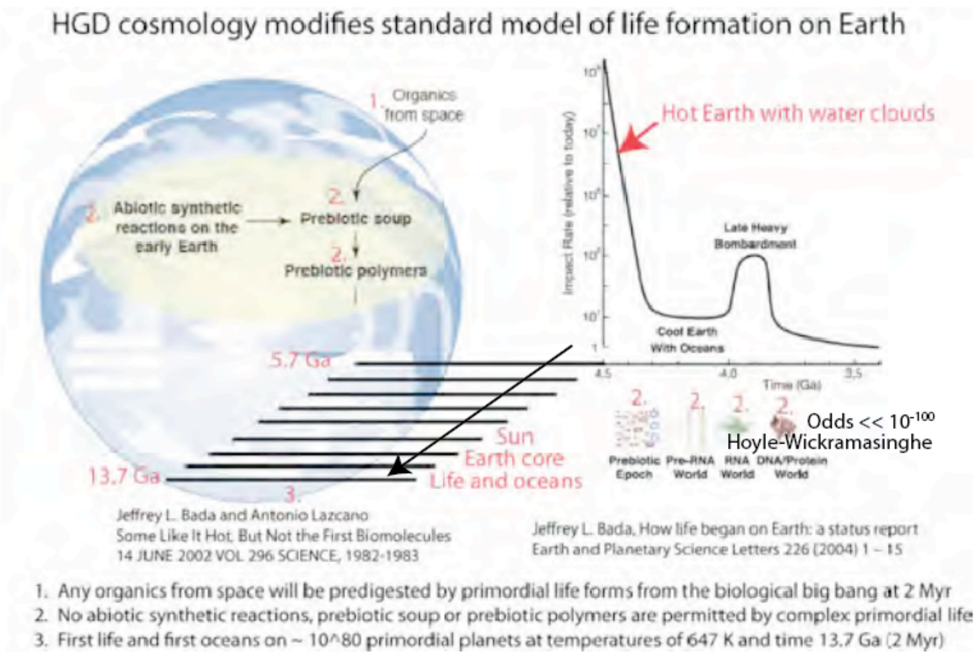


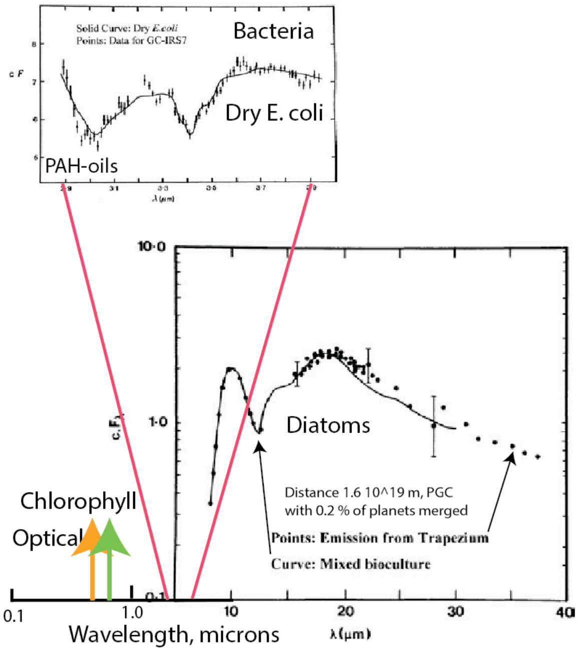
Figure 3. Terrestrial life formation mechanisms are modified by HGD cosmology. It is commonly assumed[13,14] that abiotic organic chemicals arrive from outer space and somehow form prebiotic pools of soup in which life evolves where no laboratory has succeeded. The odds for this scenario are poor ($<<10^{-100}$) according to Hoyle and Wickramasinghe[7]. More likely, from HGD cosmology, the Earth is a Jupiter-planet core, seeded with life repeatedly by cometary panspermia.

Main text paragraph As shown in Fig. 3, life on Earth according to HGD cosmology does not obey the standard model of terrestrial biology, where life is formed from abiotic organic chemicals that arrive from outer space and somehow form life. The three claims of HGD listed at the bottom of Fig. 3 are subject to experimental testing. All pass. All indications are that organic chemicals arriving from outer space are not abiotic but are already predigested by life forms on this and the other $\sim 10^{18}$ dark matter planets of the Milky Way, probably numerous times. During the biological big bang from 2-8 Myr, extremely efficient means were developed to process carbon into life forms.

2. Observations

Figure 4 shows some of this evidence, from N. Chandra Wickramasinghe's book[7] (second edition, Chapter 13) about his work on astro-biology with Fred Hoyle. Emission spectra were collected (clandestinely by Chandra's brother in Australia, a noted astronomer) from the bright nearby star cluster Trapezium and compared to spectra of bacteria and diatoms measured in the laboratory. As seen in Fig. 4, the match is perfect. Near the optical band of frequencies, PAH (polycyclic aromatic hydrocarbon) and chlorophyll signals are found that leave little room to doubt that living organisms exist on planets fried by stellar supernovae to produce the observed interstellar dust.

Wickramasinghe, A Journey with Fred Hoyle, 2nd Ed. Chapter 13



Interstellar dust spectra match precisely with spectra of terrestrial organisms

Figure 4. Spectral evidence of life in the interstellar medium, Wickramasinghe (2013)[7].

Table 1. Temperature versus time in the Universe

3000	0.3	Gas protogalaxies on fossil turbulence vortex lines[2,3,4,5,6,8,10], PGCs, merging H-^{4}He earth mass planets, Jupiters, stars, supernovae, first chemicals to seed planets, producing water in atmospheres, and magma coated, liquid iron-nickel cores in the Jupiters.
647	2	Critical temperature of water, planet oceans condense, star dust seeds planets with necessary nutrients for life to form, development of organic chemistry shared by planet mergers to form stars, formation of DNA, RNA and last universal common ancestor LUCA molecule.
Temperature, T, K	Time, t, Myr	Physical processes
10,000	0.03	Plasma protosuperclusters, protosupercluster voids, protogalaxies. Baryon density at fragmentation time 10^{12} s (0.03 Myr) matches that of globular star clusters, $4x10^{-17}$ kg/m^3, and dark-matter proto-globular-star cluster PGCs. Weak turbulence is produced at gravitationally expanding voids, limited in speed to < sonic ($3^{-1/2}$ *c*) velocity.
273	8	Water freezes, rate of evolution slows, life spreads by supernovae and galactic nuclear jets, and homogenizes on cosmic scales.
30	300	ΛCDMHC first star, no planets, no water, no life.

25	400	ΛCDMHC, rare planets, little water, no life.
2.7	13800	Present time, Now

Figure 5 shows a log-log plot of the temperature in K, as a function of time in Myr, showing the major differences expected for HGD cosmology versus ΛCDMHC cosmology with respect to the formation and spread of life. The values and physical process are listed in Table 1. As shown in Fig. 1, a long period of 300-400 Myr termed the dark ages is expected for ΛCDMHC to produce the first star. From Fig. 5, the temperature decreases from the range 647 K to 273 K of the biological big bang BBB event expected from HGD cosmology due to the appearance and finally freezing of liquid water, to the 30 K to 25 K temperature range of the Universe existing when the first stars and planets appeared by old cosmology. Life formation by old cosmology seems quite impossible. It is too cold, it is too dark, there is no liquid water, and there are only a handful of planets per star, not the 30,000,000 earth mass dark matter planets required by HGD cosmology[9].

Huge quantities of water appear on the hot hydrogen planets of HGD cosmology soon after the planets are formed at 0.3 Myr. The first chemicals are formed as oxides from supernovae when planets overfeed the stars they created by binary mergers, Fig. 2. The hot hydrogen reduces these oxides to metals (iron and nickel), magma, and water layers of the planet.

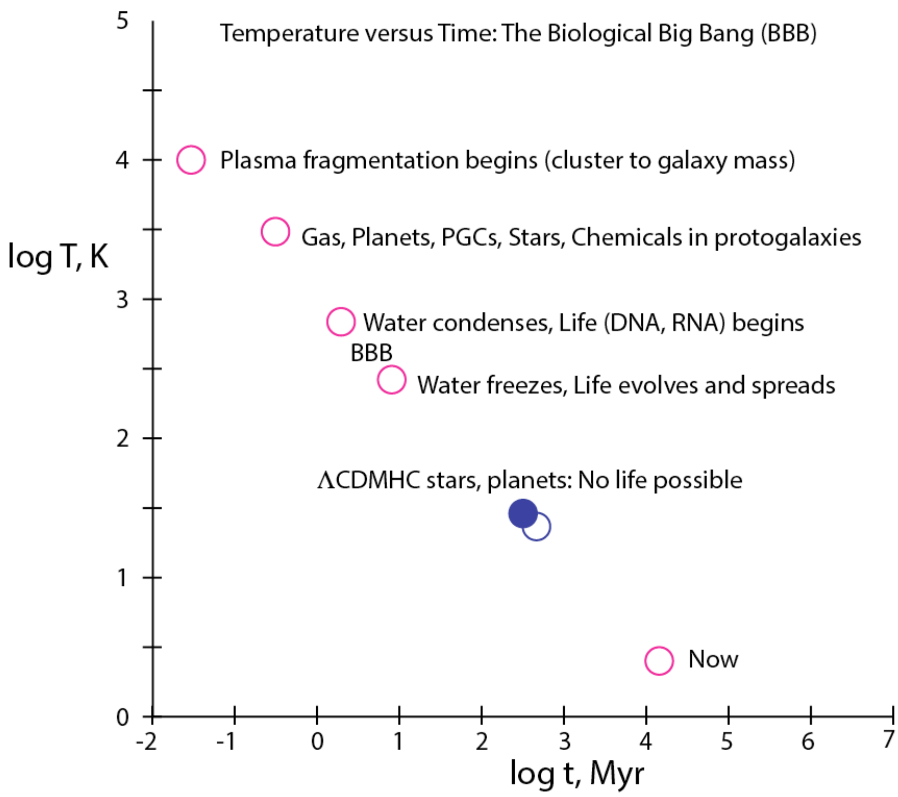


Figure 5. Temperature versus time for HGD cosmology (red circles) compared to ΛCDMHC cosmology (blue circles) for the data shown in the Table.

Meteorites have been collected that clearly contain not only fossils of extraterrestrial life, but several species of extraterrestrial life itself[9]. Cometary panspermia should now be considered an observational fact (see http://journalofcosmology.com/JOC22/indexVol22CONTENTS.htm).

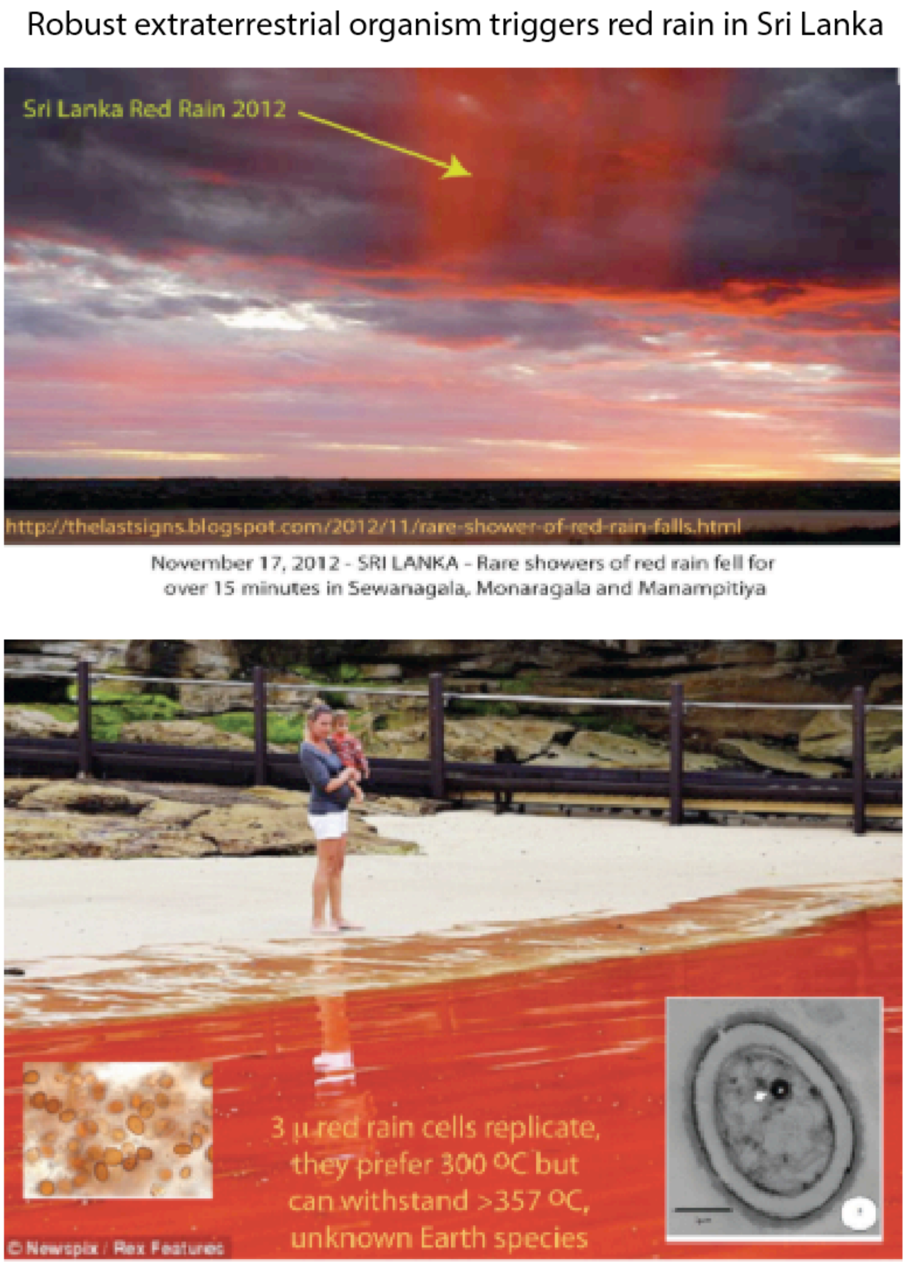


Figure 6. Meteorites in Sri Lanka emit a robust extraterrestrial organism that nucleates red rain. Several other extraterrestrial organisms were found in the meteorite samples, including living and fossilized diatoms (see http://journalofcosmology.com/JOC21/indexVol21CONTENTS.htm).

4. Conclusions

Application of fluid mechanics to cosmology reveals a significant difference in the prediction of gravitational structure formations and the formation of life. Gibson (1996)[10] proposed fragmentation at the plasma to gas transition into clumps of planets as the dark matter of galaxies, confirmed by observations of Schild (1996)[11], contrary to the standard ΛCDMHC scenario. Star formation and star supernova result immediately by the HGD cosmology, but are delayed for hundreds of millions of years of dark ages if one relies on cold dark matter to produce stars with only a few planets per star rather than 30,000,000. The existence of life proves the ΛCDMHC scenario fails, and should be abandoned in favor of HGD cosmology, where life is early, homogeneous, and wide spread on cosmic scales.

If one admits that the dark matter of galaxies is Earth-mass frozen primordial planets that have hosted life for most of the life of the Universe, what then? It follows that during the period when the planets were hotter and more densely packed; the evolution of life would be more rapid, more widely spread by star explosions and galaxy jets, and more rapidly homogenized. If intelligent life evolved on some of the 10^{80} planets of the cosmological big bang during the 2-8 Myr interval of the biological big bang, it might wish to communicate its history to other forms of intelligent life. Knowing the limitations of radio waves compared to the durability and immense information content of DNA molecules, sentient life forms would most likely choose to code their messages into the DNA genome of robust microorganisms. Clearly genome sequencing of the more durable of extraterrestrial organisms, such as the Sri Lanka and Kerela red rain (Fig. 6), is the most efficient means of exploration for information about our ancient ancestors[12].

Acknowledgments

The author acknowledges commentary on this manuscript from Chandra Wickramasinghe, Rudy Schild and Theo M. Niewenhuizen.

Conflict of Interest

The author declares no conflict of interest.

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