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Extraterrestrial life contradicts dark energy

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ABSTRACT

Extraterrestrial life contradicts the Cold Dark Matter (CDM) Hierarchical Clustering (HC) model for cosmology, as well as its dark energy extension (by the 2011 Nobel Prize in Physics) to include an accelerating expansion of the universe (ΛCDMHC). The expansion is driven by the antigravitational property of dark energy that justified Einstein's cosmological constant (Λ). CDM stars appear only after a dark-age period lasting 300 Myr, rendering cosmic scale extraterrestrial life problematic. Turbulence stresses of Hydro-Gravitational-Dynamics (HGD) cosmology during the big bang are powerful but temporary, so CDM and dark energy Λ are unnecessary. Superclusters fragment at 0.03 Myr. Hydrogen planets in proto-globular-star-cluster (PGC) clumps fragment protogalaxies at the transition to gas (0.3 Myr). The density at 0.03 Myr is preserved by old globular clusters (OGC) as a fossil of first fragmentation. Infrared observations support the HGD prediction (Gibson 1996) and quasar microlensing observation (Schild 1996) that the dark matter of galaxies is Earth-mass gas planets in dense PGC clumps. Water oceans seeded by dust of the first exploding stars at 2 Myr hosted extraterrestrial life spread on cosmic scales. Life anywhere falsifies dark energy.

Keywords: Cosmology, star formation, planet formation, extraterrestrial life.

1. INTRODUCTION

Rapid advances in space telescope technology are now resolving questions troubling cosmology and biology for thousands of years. Where did life come from? Where did the universe come from? The questions are coupled. The present paper suggests the 2011 Nobel Prize in Physics (that vindicates dark energy and cold dark matter cosmology) is falsified by convincing proof of extraterrestrial life. The generally accepted concept that life is confined to Earth and has evolved entirely on Earth is falsified by an abundance of evidence supporting the Gibson (1996) and Schild (1996) Hydro-Gravitational-Dynamics (HGD) cosmology that predicts a biological big bang at 2 Myr. From HGD cosmology large proto-galaxy-clusters and finally proto-galaxies fragmented during the plasma epoch from photon-viscous forces and weak turbulence neglected by the standard ΛCDMHC cosmology. At the 0.3 Myr plasma-to-gas transition the kinematic viscosity ν decreased by a factor of 10^{13} and the fragmentation decreased to Earth-mass. All the hydrogen and helium produced by the big bang became hot-gas-planets in Jeans-mass-clumps of a trillion planets from which globular star clusters form if all the planets of the clump merge to form stars. These clumps are termed Proto-Globular-star-Clusters (PGCs). Instead of merging, most of the 10^{80} planets in PGC clumps are now frozen and persist in metastable equilibrium as the dark matter of galaxies. They hosted life in the beginning.

Initially the planets were 3000 K hot hydrogen and helium-4 above the boiling points of stainless steel and rocks. Mergers produced larger planets and eventually the first stars, as well as most of the lowest frequency energy detected in the cosmic microwave background (CMB). Evidence of extraterrestrial life is overwhelming and continues to accumulate, Pflug and Heinz (1997), Engel and Macko (2001), Hoover (2011) among others. A summary of Wickramasinghe-Hoyle cometary panspermia evidence and theory is given in Volume 16 of the Journal of Cosmology (http://journalofcosmology.com). Fluid mechanics and HGD cosmology vindicate cometary panspermia in complete detail (Journal of Cosmology Volumes 15, 17 and 18). The existence of life is impossible according to the standard ΛCDMHC cosmology, as shown in Figure 1 from Riess (2006, fig. 1).

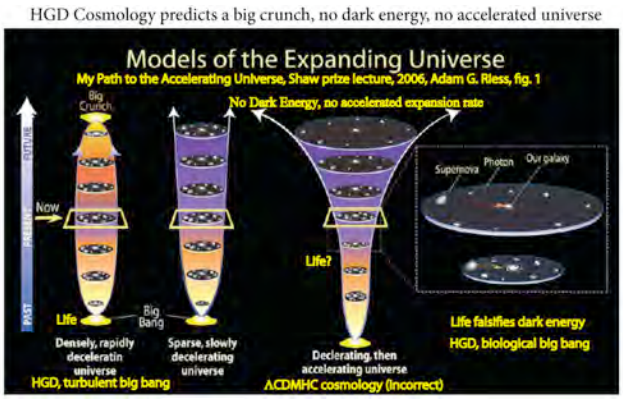

Figure 1. Models of the expanding universe, Riess (2006) fig. 1, comparing HGD cosmology (left) to ΛCDMHC cosmology predictions (right). Dark energy and the accelerated expansion of the universe are falsified by the existence of life, Gibson (2011), Gibson and Schild (2011).

Life fails in the standard CDM model because CDM structure forms slowly as plasma epoch CDM condensations hierarchically cluster HC to form massive (mythical) CDM halos. The first star appears after 300 Myr, and the first planet even later. By this time the temperature of the expanding universe is below the freezing point of hydrogen (13.8 K). Even if life were to form, it would be rare and local, with no means of transportation on a cosmic scale. The probability of life is about one part in 10^{6500} following ΛCDMHC cosmology. From HGD cosmology it is inevitable.

Life succeeds in HGD cosmology for fluid mechanical reasons, starting with the big bang. The Einstein cosmological constant Λ is needed during the big bang to supply the enormous anti-gravitational negative stresses relevant to the small Planck length 10^{-35} m, Gibson (2004, 2005), but only briefly.

Figure 2 illustrates the mechanism. Turbulence is defined by the inertial vortex force, and always cascades from small scales to large as shown. Powerful dark energy vortex forces extract mass-energy from the vacuum while a gas of Planck particles and anti-particles are extracted according to Einstein's general relativity theory. Much larger negative stresses occur when gluon viscosity becomes possible at 10^{-27} seconds, leading to inflation, Gibson, Schild and Wickramasinghe (2011). The signature of big bang turbulence is found at the largest scales of the cosmic microwave background signals CMB from the space satellite WMAP-5 observations, Gibson (2010).

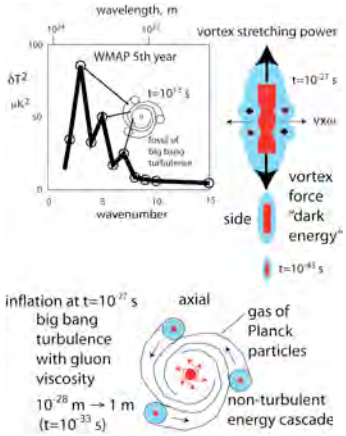

Figure 2. HGD mechanism for extracting mass-energy from the vacuum depends on turbulent combustion at Planck scales, which is highly irreversible and temporary. No permanent dark energy is needed. The cosmological constant Λ is zero.

The theory of planet fragmentation is reviewed in the following Section. Key observations are shown, followed by some Discussion and Conclusions.

2. THEORY

The key to understanding why there is no dark energy is to understand where the planets came from. Only a few came from stars. Planets come from proto-galaxies, which fragmented entirely into planets at the plasma to gas transition. One must recognize the importance of kinematic viscosity to gravitational structure formation. At the beginning of the gas epoch all conditions were well known. The density ρ and rate of strain γ were preserved as turbulent fossils with the values (γ_0, ρ_0) existing at the time of first fragmentation 10^{12} seconds. The composition was that of the primordial gas, 75% hydrogen and 25% helium-4, so the kinematic viscosity is easily computed from the temperature of plasma to gas transition 3000 K. From HGD cosmology the viscous gravitational scale $L_{SV} \sim (\gamma\nu/\rho G)^{1/2}$ was about 10^{14} meters because γ_0 was 10^{-12} s^{-1} and ν was 10^{13} m^2 s^{-1}, with ρ_0 10^{-17} kg m^{-3}. Thus the mass of fragmentation L_{SV}^3 ρ_0 was 10^{25} kg, or approximately Earth mass. The Jeans mass was a million solar, or about 10^{36} kg. All the ordinary baryonic mass of the universe was thus converted to gas planets at the time of transition 10^{13} seconds. These clumps of a trillion planets appeared before any stars, and were the raw material of the first star in a gravitational free fall time of 10^{12} seconds after transition at 10^{13} seconds.

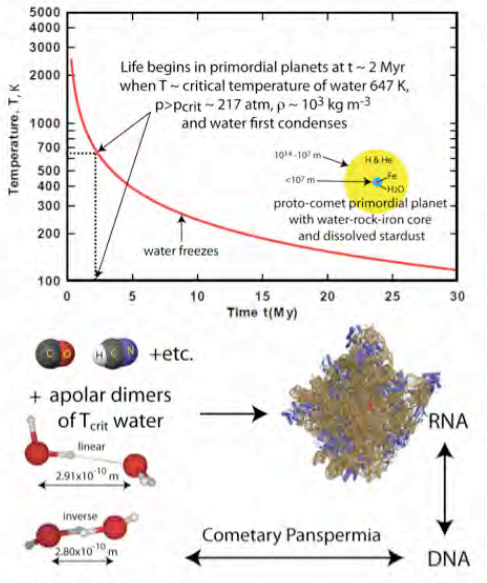

Figure 3. Formation of life according to HGD cosmology. The first oceans condense at 2 Myr when the universe temperature matches the critical temperature of water 647 K. Critical temperature water is apolar, so abiotic materials of organic chemistry like carbon monoxide and hydrocyanic acid can easily dissolve. Stars form by mergers of planets in their PGC clumps. Stars die from overfeeding of stars by planets. Supernovae spread oxides to the planets, which are reduced by hydrogen atmospheres of the planets to form deep-water oceans and iron-nickel rock-coated cores. Complex self-replicating, auto-catalyzed, organic chemicals (life) such as RNA and DNA molecules evolve until 8 Myr when the planet oceans freeze, Gibson, Wickramasinghe and Schild (2011).

As shown in Fig. 3, evolution continues after 8 Myr in submerged ocean layers, but at a reduced rate. Information about the millions of possible organic chemical reactions, as well as progress toward the most competitive living organisms, proceeds among the 10^{80} primordial gas planets in their PGC clumps. Within the clumps, information is shared by planet mergers from which stars are formed. Between clumps, information is shared by supernovae. Between galaxies, information about life and organic chemistry is shared by the powerful jets of active galactic nuclei. The density then was a million times what it is now. The maximum number of planets with temperatures perfect for the evolution of intelligent life as we know it on Earth occurred at 5-10 Myr. With so many eligible planets, both life and intelligent life were not only possible, but inevitable. Information about the earliest evolution is presumably locked in the DNA of extraterrestrial life that rains on the Earth in tons per day. The first place to look for communications from the earliest

intelligent life is clearly in the DNA of extremophiles capable of surviving to tell the story of organisms with the technology and intelligence to lock it there.

3. OBSERVATIONS

The most telling observations about dark energy are those from the Helix Planetary Nebula, as shown in Figure 4. Helix is the nearest PNe to Earth, and serves as a generic example of star formation from planets, galactic dark matter, interstellar life, and a counter example to dark energy for HGD cosmology.

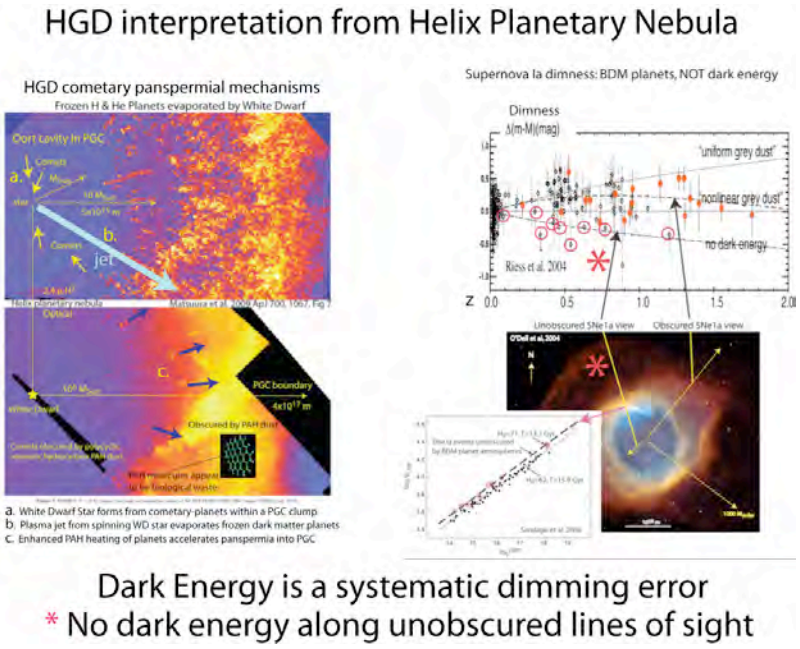

Figure 4. Helix planetary nebula and the dark energy hypothesis. A white dwarf star is at the center, which illuminates the Oort cavity planets by a powerful plasma jet. Optical images (bottom left and right) are obscured by PAH dust formed when planets with life are fried by the jet (blue arrow). An infrared image from Spitzer space telescope (upper left) reveals thousands of PFP planets of our Earth-PGC, partially evaporated by the jet. Proto-comets of cometary panspermia can be seen moving toward the star, feeding it to supernova Ia mass of 1.44 solar. If the supernova line of sight is unobscured by any planet atmosphere (asterisks, top right) then no dark energy is indicated. Thus, dark energy is a systematic dimming error.

4. CONCLUSIONS

The conclusions are clear. Dark energy does not exist, and has never existed. It is not 70% of the mass-energy of the universe, it is 0%. Cold Dark Matter does not exist, and has never existed. It is 0% of the mass-energy of the universe. Neither of these concepts are needed in cosmology, astronomy, or astrophysics. It is time to look carefully at the space telescope observations to see if these beautiful and expensive observations support or falsify the predictions of ΛCDMHC cosmology.

5. DEDICATION

This paper is dedicated to the memory of Minoru Freund, whose pioneering work in infrared cosmology and interdisciplinary science laid its groundwork, and whose courage inspires the next steps. See http://mino.seti.org/.

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