

Section One

INERT MATTER

An Alternative Approach toward the Origin of the Universe

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The Big Bang is the most accepted theory of how the Universe was born. However, this theory explains only the development of the Universe, not its origination. This paper develops two main ideas: a) that a strong philosophical approach encourages innovative thinking through the sharing of new scientific enlightenment, and b) the origination of “something” from “nothing” without violating the conservation laws. The second idea underlies our Universal Theory of Origination (UTO). The Universe has evolved on cosmological, physical, biological, psychological, and intellectual (human) levels. Our UTO explains how upper-level substances originate from lower-level substances. The origination of the physical level based on the origination of the biological level is described stepwise using a unitary law. We also provide a scope for understanding the origination of the biological, psychological, and intellectual levels. Our hypothesis is supported by a) well-known formal research and experiments, and b) an inference proof that nature behaves in a unitary way from one level to another. In the UTO, a fact can be displaced to another level by changing only the adjectives. A known aspect at one level can be interpreted on another level, giving rise to unknown truths. This work provides the basis of UTO, in turn resolving many open questions such as the origination of the physical world, space expansion, expansion acceleration, looking back in time, and the differences between galaxies.

Keywords: multidisciplinary process, evolution of the Universe, origination of the Universe, expansion of the Universe, cosmology, space

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1. Introduction

1.1 Impact of preconceived notions

The origin of the Universe has been questioned since antiquity, but has remained elusive. Innovative thinking is stifled by many preconceived notions that are ingrained within us and influence our perceptions (Rock, 1985). These perceptual symbols constitute the representations underlying cognition (Barsalou, 1999a) by different computational mechanisms (Barsalou, 1999). Such preconceived notions must be abolished before enlightened science can flourish. A concrete integration of philosophy and science might enhance the impact of science-based philosophy (Pernu, 2008). Under the conservation laws of mass and energy, the total amounts of mass and energy are invariable. Philosophy argues that nature acts in a unitary way; that is, physical and cosmological entities follow the same birth-to-death processes as an intellectual unit (human), a psychological entity (animal), and a biological unit (vegetation). If there is a contradiction between philosophy and science, one should follow philosophy. This paper develops the Universal Theory of Origination (UTO), which explains how physical entities are born and die without violating the fundamental conservation laws. Man Ho Chan argued that the pressure of dark energy would be zero if the total energy of our Universe is increasing (Chan, 2015). Their pressureless dark-energy model basically agrees with current observational results.

1.2 Prevailing models of the evolution of the Universe

Different philosophers have proposed different theories for the origin of the Universe. Examples are the Big Bang theory, steady-state theory, the Big Bounce theory, the ekpyrotic model, plasma cosmology, and numerous metaphysical theories. Among these models, the Big Bang is the most accepted theory. The traditional Big Bang theory posits that before the Universe was born approximately 13.8 billion years ago, space and time did not exist (Pultarova, 2017). Wood considered the Big Bang as the beginning of time, space, matter, energy, along with other initial substances (Grinin, 2018), and that all current and past materials in the Universe came into existence simultaneously. All material was compacted into a tiny ball with infinite density and intense heat, called a singularity. Suddenly, the singularity began expanding, and our Universe evolved. The Big Bang theory has been supported by observations of expanding galaxies, the microwave background, mixtures of elements, and the very distant past. Nevertheless, these inferences are not doubt-free because no observation is based on proven science (Merritt, 2017). Second, the Big Bang theory explains only the development of the Universe, not its origination. The question of origination is thought to lead us to God (Saha & Choudhury, 2016). We propose that origination can be explained without invoking a supernatural event. Third, no alternative explanations for the above observations have been suggested. With regard to Kusenko's theory of antimatter (Kusenko et al., 2015), the presence of energy is not denied, and this energy (cosmological substance) is "something." The present theory is based on a ubiquitously observed natural process. Because it explains the origination, not the evolution of the Universe, the UTO does not contradict reality (with the possible exception of a few disagreements).

1.3 Addition to present knowledge

The presented UTO is an alternative approach for understanding the origination of the Universe. This theory explains the difference between the cosmological and physical worlds. The origination of the physical world (something, the physical material) from the cosmological substance (nothing, no physical material) is explained as a step-by-step process.

The methodology is based on a unitary law connecting the origination of the biological world (something, biological life) from physical substances (nothing, no biological life). The paper provides additional scope for understanding the origination of the biological, psychological, and intellectual worlds. It explains the structure of the elementary particles and their creation from lower-level substances as the raw material. The theory, which is being proved by already-reported experimental results, explains the unanswered questions regarding the evolution of the Universe since the Big Bang.

1.4 Explanation

This paper deals with concepts such as existence, entropy, body, matter, mass, entity, time, and space. These concepts are not limited to the physical world, but are applicable to all known worlds, namely, the cosmological, physical, biological, psychological, and intellectual worlds. For example, the term “existence” embraces cosmological existence, physical existence, biological existence, and others.

2. Origination of something from nothing

The origination of something from nothing appears to violate the conservation laws; nevertheless, the thought is not new. Alexander Vilenkin proposed a quantum tunneling model that avoids singularity (Vilenkin, 1982). Dongshan He (He et al., 2014) suggested “spontaneous creation.” The present paper newly interprets the words “something” and “nothing.” It argues that the Universe evolved step by step from the cosmological level to the physical level to the biological level to the psychological level, and finally reached the intellectual level. Each level is “nothing” at the next level. Each level is discussed in the following subsections (Fig. 1).

2.1 Cosmological level

Below the cosmological level is the sub-cosmological level, in which the substances are imperceptible and cannot be known, but are supposed as the raw material of cosmological entities. The cosmological entities originating from the sub-cosmological layer possess all cosmological properties, such as cosmological mass (quantum), cosmological volume (unknown), cosmological shape (unknown), cosmological time (unknown), and cosmological space (our so-called space). These properties cannot be understood physically. We know that the cosmological substances, which are the first perceptible substances, exist as photons (radiation), gravitational pull (dark matter), repulsion push (dark energy), magnetic flux (motion), and the cosmic microwave background (CMB). These substances can be available in cosmological space or stored in the physical body. Cosmological substances possess no physical mass, shape, motion, or execution. They are not physical entities but the raw materials of physical entities, and they are activated by physical entities. These activations are in the form of emission, store, and reception of cosmological substance (photon, gravity, etc.) These activations are in the form of emission, storage, observation and exertion of the cosmological substance (photon, gravity, etc.)

2.2 Physical level

The cosmological quantum is “something” at the cosmological level, but “nothing” at the physical level. Cosmological substances (nothing) give rise to physical mass (something) by the Higgs field (Schirber, 2013). The Higgs field enlivens the inbuilt attributes like mass, volume, space, time, etc., and creates a composition called the primary physical entity. The

multiplication of primary physical entities creates physical bodies such as electrons and protons. In a universe with high matter density, clusters of galaxies would continue to grow, and their mass should (on average) increase over time (European Space Agency, 2003), consuming cosmological substances as the raw material. Its products, which are physical entities, contain no biological property.

2.3 Biological level

At the biological level, physical substances evolve into biological cells. The physical substances, which were “something” at the physical level, are “nothing” at this level. Biological cells, which initially emerged from nonliving matter, possess biological mass (life quanta), biological capabilities, biological activities, and other characteristics of living things. The multiplication of biological cells creates biological bodies (vegetation) with no psychological property.

2.4 Psychological level

At the psychological level, biological tissues originate psychological sentiments. The biological substances, which were “something” at the biological level, are “nothing” at this level (Koch, n.d). Psychological substances possess mental mass (emotion quanta), mental capabilities, mental activities, and other psychological dimensions. The multiplication of psychological feelings creates psychological bodies (temperaments or animality) with no intellectual property.

2.5 Intellectual level

At the intellectual level, psychological symbols originate from intellectual logic. The psychological substances, which were “something” at the psychological level, are “nothing” at this level (Crosson, 2016; Shipman, 2010). Intellectual logic possesses intellectual mass (knowledge), intellectual capabilities, intellectual activities, and other intellectual properties.

2.6 Difference between physical and cosmological particles

The differences among intellectual, psychological, biological, and physical phenomena are intuitively apparent, but cosmological phenomena are less certain. The UTO suggests that the physical and cosmological sciences also occupy different levels of nature and cannot be placed in the same paradigm. Psychological properties differ from biological properties, and biological properties differ from physical ones. Hence, before discussing the actual origination process, we must understand the difference between physical and cosmological properties.

1. A physically alive particle (physical matter) consumes a cosmological substance (light) as food, but the opposite is not possible.
2. A photon (unlike a physical substance) is shapeless. The same amount of heat can be stored in objects of various shapes and consistencies (water or an iron ball). All electrons, protons, and other physical particles possess physical mass, physical volume, and physical properties. Photons are cosmological particles with no physical mass, no physical volume, and no physical properties. Elementary particles with physical mass and no mass are categorized as physical and cosmological particles, respectively. Biological mass (habit), psychological mass (emotivity), and intellectual mass (knowledge) also have no physical mass and follow no physical laws.

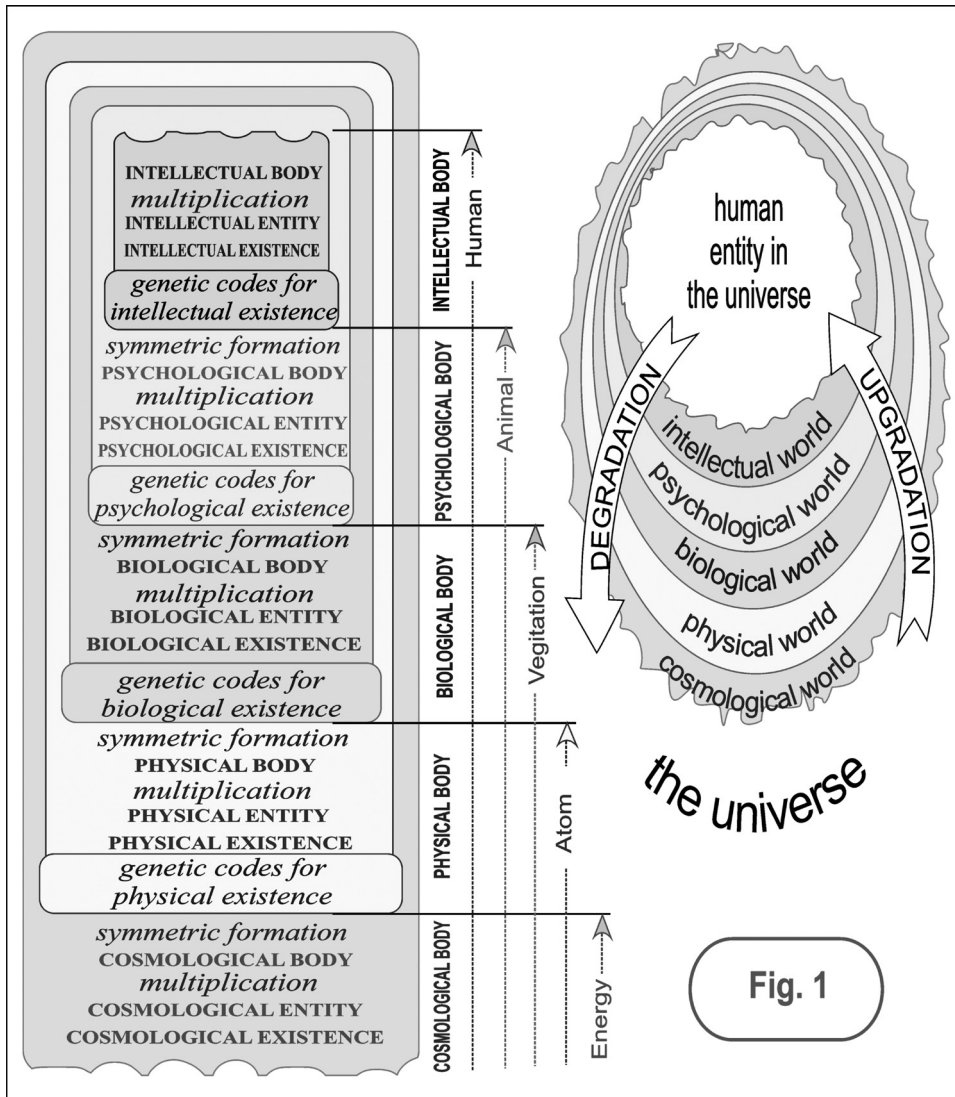


Fig. 1. The Universe is made of several levels. Each level originates from the raw materials of the immediately preceding level. By this process, the Universe develops from the cosmological to physical, physical to biological, biological to psychological, and psychological to intellectual levels.

3. A photon is an electromagnetic wave with an arbitrary wavelength, which can be converted into a particle. A magnetic flux or gravity does not have any shape or size. As photons also carry heat, they can be stored in an arbitrarily shaped physical body (Nieh, 1972).
4. Cosmological substances do not experience physical distance and time. Fraser Cain stated that the emission and re-absorption of a photon occurs within zero elapsed time and zero distance (Cain, 2014). He further stated that “from the perspective of a photon, there is no such thing as time.”

5. An “inertial frame of reference” can be defined only for a physical entity, not for a photon. Quantum theory predicts that a particle (such as a photon) can simultaneously occupy different places and can even inhabit infinitely many places, as do waves (University of Bristol, 2012).
6. Unlike physical particles, cosmological particles such as light, thrust, and gravity cannot be photographed. Light photons themselves exert a photographic effect.
7. Unlike cosmological substances, a sub-atomic particle can receive, store, and emit cosmological substances and can be cooled to -273.15 (Perkowitz, 2008).
8. A cosmological substance consists of pure energy (Madeleine, 2019).

2.7 Application of unitary law of nature

The UTO suggests that all entities at every level originate in a parallel process. Lancelot Whyte recognized that the unitary method could simplify the three basic sciences: matter (physics), life (biology), and mind (psychology) (Whyte, 1948). Howard Robinson believed in only two kinds of substance: material body, which is defined by the extension, and mental substance, which is defined by thought, which, in this context, is more or less equivalent to consciousness (Robinson, 2004). We referred to them as “physical” and “intellectual” substances, respectively. Britannica (Augustyn et al., 2017) acknowledged a common science for the biological and physical worlds. The phenomenon is supported by many circumstantial pieces of evidence. All entities consume substances in their immediately preceding layer. An intellectual entity (human) hungers for psychological symbols, a psychological entity (animal) hungers for bio-chemicals (Encyclopedia Britannica, 2020), a biological entity (vegetation) hungers for physical substances (such as CO_2 and nutrition), and a physical entity (atom) hungers for cosmological substance (such as light). The author suggests that intellectual time (concentration), psychological time (courage), biological time (effort), and physical time are separate. Leonid Martyushev distinguished among biological time, psychological time, historical time, and physical time (Martyushev, 2017). The number of levels in the Universe is theoretically infinite, but what we observe is limited by our perceptibility. We cannot understand levels above the intellectual level or below the cosmological level. All known or unknown levels are like inflated balloons nested inside their immediately preceding layer. The innermost known balloon is the intellectual level, and the outermost known balloon is the cosmic level describing our complete Universe. Theoretically, the origin begins at the lowest unmarked level. Our first perceptible level is cosmological, from which development is perceptible.

The UTO propounds that the Universe was originally a cosmological world with no physical entities. Over time, the physical entities (galaxies) were born, one by one, and created our present Universe. After that, nature originated biological trees, psychological animals, and intellectual humans, layer by layer. All are evolving, living, and dying. This is a regular process. The author argues that if the same rules apply at all levels, the physical level should follow regular analogous processes. Each galaxy will live for trillions of years with its binding energies (Schirber, 2013), will be aged, and eventually will die. After dying, it will release a huge amount of cosmological substances in the form of dark energy, dark matter and photons, providing raw material for new galaxies. Sometimes it is called a supernova.

3. Methodology: Origination of the physical world

3.1 Use of inference proof

The mysteries of the Universe cannot be solved by direct evidence. Philosophy says when the direct proof is unavailable, we can formulate an inference proof assuming that logic behaves in a unitary way on all entities. This logic is the relationship between cause and effect. All observed events are associated with a past cause, which is hidden. Therefore, by knowing the relation between cause and effect, an unknown cause can be interpreted based on the known effect. We are fully aware of how biological bodies emerged from physical substances. Assuming the same process and applying the inference proof, we can understand how physical bodies emerged from cosmological substances.

As explained above, there are five known levels of the Universe. All levels follow nature in parallel ways. Although we currently have “some” knowledge on each level, we lack “all” knowledge on any one level. A known part of one level can always be extrapolated to the unknown part of another level by changing only the adjective (e.g., from “cosmological” to “physical”). If an aspect is known at one level, we can easily interpret another level to reveal an unknown truth (see Fig. 2).

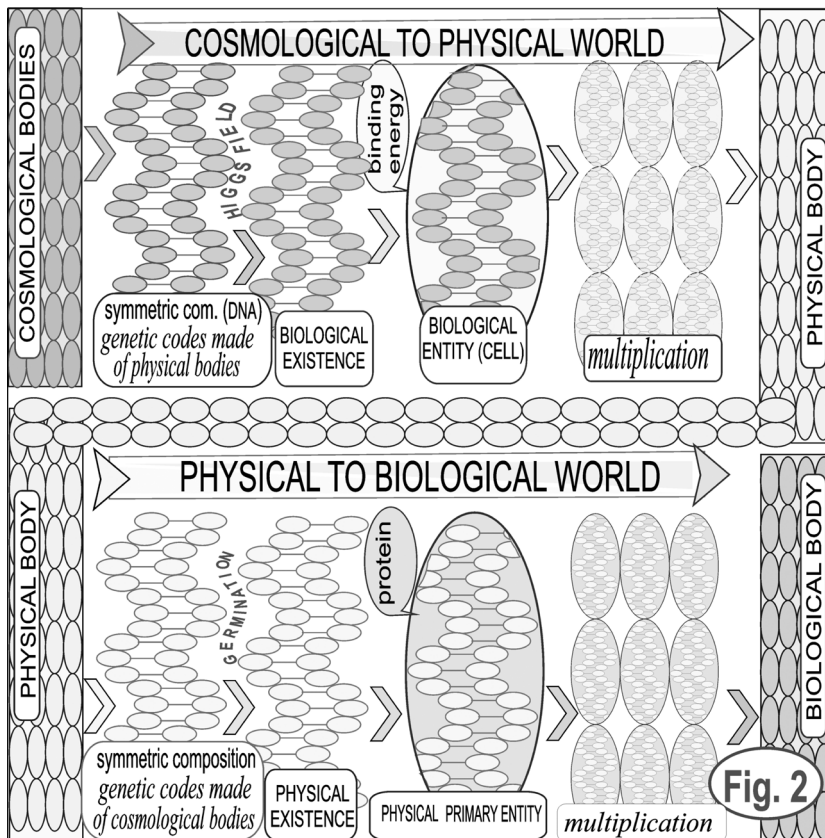


Fig. 2. The origination of biological entities from physical substances is well known. By the same process, we can understand the origination of physical entities from cosmological substances.

3.2 Origination of biological bodies (known facts)

- a) Before biological entities evolved, the world was all physical and biological mass, biological space, and biological time was absent. Physical compositions existed in many forms: O_2 , CO_2 , C_xH_y , and other known or unknown molecules (substances).
- b) Among the various types of molecules, a specific symmetric molecule (DNA) developed. The DNA molecule composes the genetic codes and resides in the cell nucleus. It is known as a biological seed.
- c) When the biological life field enters the seed, biological germination occurs.
- d) Germination converts the seed into a biological existence.
- e) A biological existence has no biological livingness. It acquires protein (physical binding forces) and creates its own primary biological entity called a “cell.” This newly formed biological life has all the biological properties.
- f) Governed by biological entropy, the cells multiply and create a biological body (a vegetative body).
- g) In this way, biological life (something) arises from physical substances (nothing).
- h) A biological cell is made of two parts: the nucleus (Guo & Fang, 2014), containing the genetic code, and the cell body (Baluska et al., 2004), responsible for the shape and activity of the cell. As the nuclei replicate and create new cell bodies, the biological body forms as dictated by the nuclei’s genetic code.
- i) In this way, a biological body forms. The human biological body is composed of blood cells, bone cells, muscle cells, and many other cell types, all different but containing the same nucleus with the same genetic code having the same mapping to the human form.

3.3 Origination of the physical body (the UTO)

We now change the appropriate adjectives to describe the evolution of the physical body. All expressions are based on conceptual extrapolation and inference proof (see **Fig. 3**).

- a) We hypothesize that before physical entities evolved, there was no physical mass, physical space, or physical time, and the world was all *cosmological*. The cosmos is composed of dark matter, dark energy, the CMB, photons, and other known or unknown energy fields (substances).
- b) Among the various types of energy fields, a specific symmetric composition (SSC) was developed. The SSC comprises the “genetic codes” within the “nucleus” and is known as a physical seed.
- c) When the Higgs life field enters the seed, physical germination occurs.
- d) Germination converts the seed into physical existence. The physical existence has no inertial value.
- e) Physical existence has no physical livingness but is brought to life when an elementary particle is formed. Interaction with the Higgs field enlivens to a self-operating elementary physical particle (Hebert, 2012; Okada, 2007) held together by binding energy (Schirber, 2013; Gray & Mansoulie, 2018). This origination of physical matter is accompanied by the origination of physical space and time (James, 2021). As time evolves, the entropy of the system increases (Tuisku et al., 2009).
- f) These primary physical particles (quarks, gluons, and other sub-atomic particles) assemble into physical bodies. For example, a proton comprises a swarm of quarks and gluons (Cho, 2010).

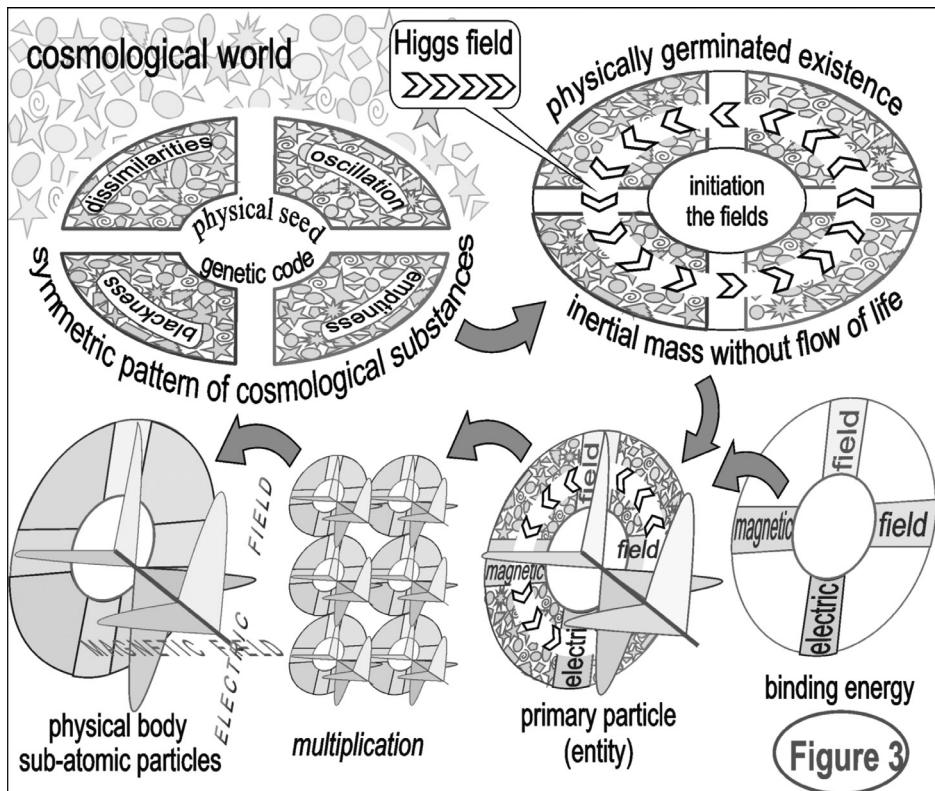


Fig. 3. Hypothetical diagram of symmetric pattern formation in the cosmological world. In the presence of a Higgs field, a nonactivated inertial mass is formed. After adding binding energy, the inertial mass converts to an active unit that multiplies and evolves into a physical body (a boson or some other sub-atomic particle).

- g) In this way, a physical body (something) is created from cosmological substances (nothing).
- h) As shown in **Fig. 3**, a physical entity is composed of two parts: the nucleus containing the entity's genetic code and the body responsible for the shape and activity of the entity. As the nuclei replicate and create new entity-bodies, the physical body forms as dictated by the nuclei's genetic code.
- i) In this way, a physical body (such as a proton or electron) is originated. For example, a proton is composed of many unknown primary entities, all different but having the same nucleus containing the same genetic code with the same mapping to the proton form.

Above, the origination of physical substances was inferred in a thought experiment. However, the physical world is clearly composed of entities from the cosmological world. When a physical particle originates or dies, the amount of cosmic matter does not change, and the laws of conservation are preserved. In nuclear fusion, the physical mass partly converts to energy (cosmological substance), which is released without changing the cosmological quantum.

4. Proofs and discussion

4.1 Summary of the proposals

The UTO proposes that cosmological space is universal and that different cosmological substances emerge through different sequences. Some of these sequences acquire Higgs fields and give rise to physical mass (see **Sect. 3.3**). This process may be considered as the origination of singularity. Evolution from a singularity can be understood through the Big Bang theory.

4.1.1 “Something” from “nothing”

We know that a seed has no biological existence; it is just a physical quantum. However, when it germinates, it gets a biological existence. Alternatively, if we cut the root of a plant, it will lose its biological existence. We can see that the physical quantity remains the same in both cases, and conservation law remains intact. This example shows how biological life can be originated or killed without affecting the physical quantum. The same argument is applicable to physical entities. Physical life is originated or killed (nuclear fusion) without affecting the cosmological quantum. The entities of each level are generated using the substance of successive lower levels as their raw material. Before germination, the entity does not have any existence, and after germination, it gets the existence. In this way, the “something” originates from “nothing.”

4.1.2 Continuance in origination

However, unlike the Big Bang, the Universe did not originate from one burst in the UTO model. Our argument is closer to the steady-state theory, in which new stars and galaxies are formed while the old ones die. The continuous birth-death process occurs at all other levels of the Universe. Intellectual humans, psychological animals, and biological plants are all born and die after a certain time. An entity perceives space and time only during its lifetime. Declaring that space and time did not exist before the Big Bang is an over-generalization. Rather, we should state that “our” physical space and time did not exist before “our” own galaxy formed. The cosmological space already existed. At the time of our origination, millions of galaxies were already present, some of which were old enough to feed. Cosmological substances regularly originate as they do in other levels. The theory predicts that the originated cosmological substance increases the cosmological density of space, thus populating the cosmological world. This populated space increases the time of travel and creates the expansion of space. The CMB and dark energy are parts of the continuously originating cosmological substances.

4.2 Presence of cosmological space

Psychological activation occurs in psychological space (sentiments), which is created within biological space (Encyclopedia Britannica, 2012). Analogously, biological activation occurs in biological space (organs), which is itself created in physical space (molecules), and physical activation occurs in the physical space created in cosmological space. The Michelson and Morley experiment attempted to explore a physical space within the cosmological medium, called the ether (Michelson & Morley, 1887). Physical space, which embodies electromagnetic waves and gravitation or repulsive thrust, should not be confused with cosmological space, in which physical entities exist and create waves and thrusts.

4.2.1 Structure of cosmological space – What we call “empty space” is not actually empty (Davies, 2011) but is filled with the CMB, dark energy, dark matter, and other invisible constituents. These constituents are homogeneously distributed unless they self-interact (NASA/WMPS Science Team, 2007). The underlying homogeneous vacuum of the Universe

has small positive energy defined by the so-called cosmological constant (Steinhardt & Turok, 2006). According to quantum mechanics, space is filled with countless “virtual” particles that rapidly appear and disappear like an invisible display of fireworks (Folger, 2008). This sea of cosmological substances is the cosmological space that supports electromagnetic waves and gravitation along with dark energy, dark mass, the CMB, and possibly unknown ingredients. These cosmological ingredients distort the homogeneity of the spacetime fabric. Dark energy and dark matter increase and decrease the spatial fabric density, respectively, causing spatial expansion and contraction (gravitation) respectively. If we consider the velocity of light to be constant, these are the densifying and dilation of spacetime fabric.

4.2.2 Physical space – In practical terms, physical space is the embodiment of electromagnetic waves and gravitation, and cosmological space is the “sky”. The cosmological space is the medium through which the physical spaces of two physical objects interact. It facilitates the propagation of electromagnetic waves and creates gravitational pull when its density decreases. In other words, all physical objects generate their own electromagnetic waves and gravitational pulls in spacetime. The phenomenon is like a plant, which generates biological space and time through the medium of physical molecules.

4.3 Origination of cosmological entities

The UTO propounds that biological entities originate from the physical substances birthed by cosmological substances. Hence, we can safely infer that cosmological entities originate from sub-cosmological substances. All of these originations are both regular and continuous. Observations of the CMB and expanding space have proven that dark energy is continuously increasing (Siegel, 2018). This fact (which will be discussed later) confirms that space continuously originates cosmological substances.

4.3.1 Availability of CMB – The origin of the CMB is currently undetermined (Fahr & Sokaliwska, 2015), but would be resolved by knowing the origination of cosmological substances. The CMB is a cosmological substance that is regularly available because it originates regularly.

4.3.2 Expansion of space – The expansion of space is a well-known phenomenon (Grøn, 2018). When we say that space is expanding, we do not mean that galaxies are separating (Chervon et al., 1996), but that the travel time between two galaxies is increasing. That is, space may create what we experience as time (James, 2021). In the UTO, this phenomenon is explained by the densification of the spacetime fabric as dark energy is produced (Baltay, 2014) (Siegel, 2018; Baltay, 2014). The propagation time of light through the cosmological fabric depends on the density of the fabric. If the fabric density is low, the distance (travel time) between two galaxies decreases; conversely, if the fabric is dense, the distance (travel time) will increase. As the cosmological substance (dark energy) is regularly originated, the distances among the galaxies are also increasing, as confirmed by redshift observations.

4.3.3 Proportional origination of cosmological substances – The UTO argues that as the cosmic matter is being homogeneously generated throughout the Universe, the mean distance between two separating astronomical objects is proportional to their separation distance. This fact, which was noted by Edwin Hubble (The University, 2014), cannot be explained by the Big Bang. If the Big Bang is correct, but all astronomical objects are moving away from us at the same rate, then the Earth must be located at the center of the Universe, which is extremely unlikely!

4.3.4 No expansion of space within a cluster of galaxies – The massive bodies in space continuously consume dark energy; therefore, to maintain their homogeneity, these bodies

must replace their dark energy with dark matter. Dark energy sources the gravity that binds galaxies or clusters of galaxies as the Universe expands. In a cluster of galaxies, the time dilation created through dark matter balances the time speedup through dark energy, so the cluster is stable against expansion (Greshko, 2020).

4.3.5 Bending of electromagnetic waves – If a body in space is sufficiently massive, its dark-matter production will be proportional to its mass. Dark matter dilates the spacetime fabric, providing a smooth and short pathway to the light passing near the body's surface. The light then bends toward the massive body, as proven in several experiments.

4.3.6 Accelerating the origination speed of cosmological substances – Population accelerations are commonly observed in intellectual humans, psychological animals, biological vegetation, and physical matters (European Space Agency, 2003). Similarly, the population of cosmological substances proceeds in quantum increments, thereby accelerating the expansion of the distance between two galaxies. This phenomenon was discovered by Edwin Hubble in 1929 (Kragh & Smith, 2003) and was experimentally observed by Saul Perlmutter and Adam Riess (Martínez, 2009).

4.4 Ages of different galaxies

The UTO suggests that the galaxies in the Universe evolved at different times and hence have different ages. Galaxies are regularly originating, living, and fading, as predicted by the steady-state theory. We are beginning to understand how galaxies and their stars are born, change, and eventually die (NASA, 2019).

4.4.1 Some galaxies are older than us – Some galaxies already existed when our own galaxy was born. When calculating the age of the Universe, we use the evolution of our galaxy as a baseline.

4.4.2 Difference in galaxies – Experiments have confirmed that galaxies are widely variable. The UTO suggests that this difference is caused by age differences among the galaxies (Wollack, 2019).

4.4.3 Difference in activating speed – The UTO argues that the entropy of the Universe was initially high while the spatial fabric density was low. Therefore, the old observable galaxies move at high speed, whereas the young galaxies move more slowly, as also confirmed by NASA (NASA, 2019; NASA/WMPS, 2007).

4.5 Spatial homogeneity

The UTO suggests that cosmological substances are naturally created from sub-cosmological substances and give birth to physical substances. The Universe so created should be homogeneous in many respects, as already proven (Maartens, 2011).

4.5.1 Origination of the Universe within the same cosmological space – The cosmological space is completely homogeneous and is the source of all evolution. Therefore, the Universe is homogeneous in all directions, as revealed in data from the Cosmic Background Explorer and the higher-resolution Wilkinson Microwave Anisotropy Probe (Dooling, 2013).

4.5.2 Uniformity of the Universe – On distance scales exceeding 150 Mpc, the Universe presents similar patterns in different parts; furthermore, there are no preferred directions or locations (Postman, 2006). This finding proves that all galaxies originated at their designated places. Similarly, the leaves on a bush are symmetrically arranged by nature, confirming that the placement of galaxies is a natural process. At the center of any large galaxy is a massive black hole around which the stars rotate. Analogously, all planets rotate around their sun, all moons rotate around their planet, and all electrons rotate around their nucleus. The rotation occurs at all levels, and the complete Universe is a self-operated, balanced system.

4.6 Removal of doubts.

1. Modern science considers physical and cosmological particles in the same paradigm and considers cosmological particles as the fundamental unit of the physical world. The author has explained the difference between both worlds in detail; refer to para number 2.6. The idea that physical worlds execute all their activities through cosmological substances is true; however, it does not mean that both belong to the same world. We can see that the biological world activates through its organs made of physical molecules, and both belong to different worlds. The theory explains that all levels of worlds activate through the successive lower-level worlds. The same phenomenon is applicable to the physical world too.

From a Higgs boson to a black hole, all are physically living entities. From Bacteria to a dinosaur, all are psychologically living entities. From an ignorant to Albert Einstein, all are intellectually living entities. All intellectually living entities are based on a psychologically living world; all psychologically living entities are based on a biologically living world; all biologically living entities are based on a physically living world. In the same way, all physically living entities are based on a cosmologically living world.

If a man loses his intellectual entity, he becomes a psychological animal (mad person). When he goes into a coma, it becomes a biological (vegetable) entity. When he dies, it becomes a physical (molecules) entity. It can be seen that after one level of death, it falls to a lower level. Therefore, if we kill the physical state (nuclear fusion), we get a cosmic state (energy), which has to be considered a still-lower world.

2. The purpose of this paper is not to criticize or support any theory. The paper tries to collect logical ideas from all possible sources. The author has taken advantage of physical science as well as biology, psychology, and logic theories.

3. Why different rules are applicable for electrons and protons and for the planets and galaxies is a question. The author submits that both come in the same paradigm, which is the physical level. We are still unaware of many physical laws, for example, the law of antigravity (repulsion), which might apply to small bodies.

5. Conclusions

Modern cosmology faces many unanswered questions. Why has the real truth not been revealed? Philosophy argues that truth hides behind our unavoidable preconceived notions. For example, the conservation laws of mass and energy become mysterious when observing the origination of dark energy in space. It seems that our Universe is not limited to physical mass or cosmological energy, but also embodies biological lives, psychological animals, and intellectual humans. The intellectual brain is sourced from symmetric psychological emotions, the psychological mind originates from symmetric biological tissues, biological life originates from symmetric physical molecules (DNA), and physical life emerges in symmetric cosmological energy fields. Finally, cosmological substances such as dark energy originate from symmetric sub-cosmological substances that are imperceptible, but they obey conservation laws. This concept is philosophically logical but cannot be experimentally demonstrated. If philosophy conflicts with science, we should obey philosophy because philosophy is the mother of all sciences. In the UTO, the origination of dark energy in space is no longer mysterious.

How did the physical world originate? The paper suggests that we know how biological life originated from physical matter and that physical matter analogously originated from cosmological energy fields. Therefore, we need merely convert “biological” to “physical” and “physical” to “cosmological.” The origination process is explained in the unitary framework.

All evidence of the Big Bang can be explained within the context of the proposed theory. Modern science believes that dark energy causes the expansion of space observed in redshift experiments. This paper suggests that space expansion is equivalent to increasing the fabric density of space. A dense space fabric will decelerate light, thereby increasing the travel time (i.e., distance) between two objects. We always measure distances by time rather than by a distance unit. Our UTO resolves many unanswered questions on the Universe's origin and evolution.

Our conclusions approximate those of steady-state theory, which posits that clusters of galaxies are constantly emerging rather than born from the Big Bang. Each galaxy has its own mass, space, and time, which persist only during the galaxy's lifetime. Meanwhile, the CMB is continuously generated along with dark energy.

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