

The logical perception of the Origin of Matter and the outside of the Universe

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Abstract

This paper provides new perception of how matter exists out of total void. A void without description. Due to the existence of the void we conclude that the void has complementary. The possibility that the void complementary is substance e.g. the universe is dismissed and the conclusion is the void complementary represents the total information about all potential scenarios, i.e. stories. Yet, stories are realized within universes and the question remains how the universe exists if the void complementary does not incorporate substance? The conclusion is that matter is a logical state within the void complementary, wherein the universe has complementary such that the total matter of the universe and its complementary collapses timelessly into zero matter i.e. null matter. The complementary universe cannot be void and therefore it carries negative matter. The universe is identified as the inner universe with positive matter having mass ≥ 0 (wherein mass = 0 is recognized as light) and its complementary negative matter with mass < 0 . The complementary universe is everything which is not the inner universe incorporating the outside universe. The complementary universe carries particles that travel at speed higher than speed of light up to infinity and it has an open structure up to infinity. Particles of the inner universe attract each other and are bounded by speed of light resulting in universal close structure. The question: "into what the universe is expanding?" is now being clarified. The universe is expanding into its complementary universe. Furthermore, we concluded that the general relativity theory is not complete in the sense that the theory does not considered forces imposed on the inner universe from outside by its complementary universe.

Keywords: Void, Complementary, Void Complementary, Universe, Universe Complementary, Metaphysics, Logic, Brain, Neural Network, Synchronization, Synchronized Groups, Order, Disorder, Universe expansion, Linear Schrödinger Representation, Frequency, Phase, Hologram Surfaces, Virtual, Reality².

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1. Introduction

The question what is the origin of matter was, and still is, one of the most fundamental issues mankind has been dealing with since it was capable of asking such questions. Theories that matter emerge as a sudden change of a quantum void such as of Casimir effect, quantum phenomenon [1], quantum creation [2], quantum geometry [3], quantum topology [4] does not comply with the basic assumption of total void, a void without description. The basic question being asked in this paper is the existence of matter out of total void.

The idea that matter existence out of void is impossible as discussed in [5], “since it is metaphysical impossible that the universe came into being spontaneously out of nothing” is not entirely correct as shall be explained in this article.

The question if the universe is expanding, to what it is expanding into and if the universe is shrinking, from what it is shrinking or even doing both? This question is connected to the question of how matter exists out of the void and it is considered in the article pursuant the question of how matter exists out of total void.

Understanding that the universe has a complementary universe with real physics and forces put in mind the question: "Is Einstein's General Relative theory complete? in the sense that it contains all potential variables that may influence the local geometry?" As it seems, there are additional external forces imposed onto the universe (inner universe) from its complementary universe, i.e. the outside universe may influence universal structure and topology. Additional questions are considered as part of generalize concept of the relationship between physics and metaphysics including short answers related to dynamic, coordinate system, the location of universes and short description of the brain neural synchronization that enables to store and retrieve virtual information, are considered.

This article is part of a serious of articles exploring the metaphysical space. Following articles, we shall discuss what is the pure consciousness and the possibility of the existence of consciousness in a space lack of physics, i.e. the metaphysical space.

2. The Void and its Complementary

2.1 Axiom: VOID is the only natural state. That is to say, the only thing that exists is void.

The paradox of saying that the only existing thing is the void, means that something does exist even though it is void. The existence of the void is the

paradox of existence, due to its existence there has to be a complementary to the void.

2.2 **Theorem 1:**

The void has complementary.

2.2.1 **Proof:**

Due to the existence of the void there is a complementary to the void.

2.2.1.1 **What would be the void complementary?**

Void complementary means any scenario which is not void. Let's consider three possibilities for the void complementary:

- a) The void complementary is substance, e.g. the universe or just a single atom, as it does not really matter if substance is single atom or the entire universe.
- b) The void complementary is also void!
- c) The third possibility is the one the paper is focused.

If the void complementary is substance, it means that the substance, e.g. even single atom, is complete. That is to say, single atom is the entire universe. This follows, since the complementary of the substance e.g. the complementary of the universe, is void, therefore, the substance is complete and incorporates all possible sort of matter, i.e. positive matter as well as negative matter. Positive matter means matter with mass ≥ 0 and negative matter means matter with negative mass < 0 . Therefore, we define sort of matter:

- **Definition 1:** Positive matter (positive substance):
Positive matter means substance with positive mass ≥ 0 . (mass = 0 is related to light)
- **Definition 2:** Negative matter (negative substance):
Negative matter means substance with negative mass < 0 .

Furthermore, if the positive substance is complete it means the positive universe (i.e. the one that we are living within i.e. having mass ≥ 0) and its physics would be complete universe representing complete physics as well. What does it mean complete physics? It means physics that would reflect any possible scenario due to its completeness. For example, particles that may travel at speed reaching infinity, while complete universe means that the universe would represent any possible matter and any possible volume and any possible

shape and so on. Theorem 2 below is, therefore, to argue that the void complementary is not substance.

2.3 **Theorem 2:**

The void complementary cannot be substance (i.e. single Atom or the Universe).

2.3.1 **Proof:**

If the substance is of positive nature, i.e. having positive mass, then it does not contain negative particles having negative mass and therefore it is not complete. If the substance is of negative nature, reflected by negative mass, then it does not contain positive particles having positive mass, therefore, it is not complete.

If the substance is of both natures i.e. positive and negative, then either the sum of all particles would reflect zero matter i.e. positive matter merged with negative matter resulting in null matter, then in such case the void complementary is not substance. This contradicts the assumption that the void complementary is substance.

If the sum of all particles is positive mass (including the case where the total matter tends to plus infinity) or of negative mass (including the case where the total matter tends to minus infinity) it would reflect incomplete substance, i.e. either more positive substance or more negative substance. Therefore, the void complementary is not substance.

Furthermore, complete substance would reflect complete physics i.e. physics that reflects all possible physical scenarios. According the Einstein General relative theorem, velocity of the positive substance is bounded. This means that the velocity of any particle, including particles of light, is bounded by certain velocity. According to Einstein theory such boundary would be the speed of light. We cannot find in our universe particles who may travel at speed above speed of light reaching infinity, therefore, physics is not complete as well.

Additionally, if the positive universe is expanding, it means the universe does not incorporate the entire potential volume, which in turn means the positive universe evolves. If the positive universe is shrinking, then some space of the universe is dropped down. In both cases the outcome is incompleteness of the universe due to the change in the universe potential volume. In other words, the universe is evolving no matter in what direction expanding, shrinking or doing both.

These arguments contradict the completeness of the universe or its physics. Therefore, the void complementary cannot be substance. Furthermore, the above argument suggests that the universe has a complementary universe which is not void.

2.4 **Theorem 3:**

The void complementary is not void:

2.4.1 **Proof:**

It follows from the definition of complementary and in particular void complementary (everything that is not void). Therefore, the void complementary is not void.

Conclusion: The **void complementary** would reflect total information about any **potential** scenario, i.e. story. For example, total information about potential universes and their living creatures. Yet, these are only **potential** scenarios.

3. The Universe and its Complementary

For a potential scenario, i.e. a story, to be realized, a universe should exist in order to actual execute the story. So how universes exist?

3.1 **The existence of Universes**

As discussed in the previous section, the void complementary is a virtual space of total information about any potential scenario, yet it does not contain substance. In that sense, it is not a universe. There is zero matter in the void complementary. By saying: "there is zero matter", we agree that there is no matter, meaning null mater. Zero is one of the potential scenarios existing in the void complementary.

3.1.1 **Why using zero and not other symbol, such as one, to symbolize null matter?**

In terms of mathematics for the purpose of representing null matter e.g. zero matter we may as well use the number one. Zero is the idle element under the additive group (represented by the additive operation). In other words, any real number added to zero remains unchanged and any real number added to its inverse (i.e. negative) shall result in zero.

One is the idle number under the multiplication group (represented by the multiplication operation). In other words, any real positive number greater than zero which is multiplied by one, remains unchanged and any real positive number (A), greater than zero which is multiplied by its inverse number (i.e. by $1/A$), results in one. Since there is a transformation from the additive group to the multiplication group (e.g. e^x) and vice versa from the multiplication group to the adaptive group (e.g. $\log(x)$), it does not really matter if we shall use zero

or one to represent our perception of null matter. Yet as said, zero is more intuitive and well established in most languages. For example, by saying: "this guy has zero money", it is clear that the guy has no money, in that sense he has null money. However, it is not intuitive and understandable to say: "this guy has one money" under the multiplication operation to indicate the same thing. So, as it seems, zero, the idle number under summation operation, is more intuitive and understandable than using one as the idle number under the multiplication operation for our perception.

Humanity uses the idiom zero since ancient times. For example, the Egyptians have used the symbol "nfr (pronounced as nefer), to appreciate beauty, in accounting as zero balance and in construction as level zero.

Yet, when using the symbol zero, its meaning should be carefully understood. For example, when saying zero universes it should be understood there are no universes. By saying that there is zero life, it should be understood that there is no life. However, by saying the temperature today is zero, we understand that there is a temperature and its quantity is zero. This is not the same as saying zero temperature. In such case, it should be understood that the idiom temperature is null. The same applies to the saying zero matter, which means that there is no matter and clearly not that there is matter with mass zero (e.g. a matter that converted into light).

3.1.2 Universes out of null matter

Going back to our assumption that void complementary contains zero matter. This is the key point for understanding the paradox of matter out of nothing and what the outside of our universe is.

Zero Matter - **what does this mean?** If we ask someone: "Can you imagine zero? Can you tell us what do you see inside the zero?". Actually, this question was asked and the answers were: "I see nothing", or "I see dark", or "I see white", or "I see circle". Yet, no one said, I see (+2) + (-2) hooked together indefinitely or in fact timelessly and always maintain zero. Recall, saying zero matter means no matter. This means that within zero there is no sensation of any physical force representing matter, like the force of gravity. So, if the right side of the equation $(+2) + (-2) = 0$, means no matter, no sensation of matter, then (+2) of the left side should represent something, some force, some sort of gravity in an amount equivalent to value 2. Generally, the following equation must satisfy that the total matter is zero:

$$A. \{+U\} + \{-U\} = 0$$

The right side means that there is zero matter, i.e. null matter. The left side is composed of the sum of two distinct parts. $\{+U\}$ represents the inner universe. The inner universe is composed of positive particles (Definition 1 above) having

positive mass including particles with mass zero (light). {-U} represents the complementary universe, i.e. the negative universe (Definition 2 above) which includes all negative particles having mass less than zero (not including zero).

3.2 Definition3: Inner universe:

The inner universe is the positive universe composed by positive matter as defined in definition 1.

3.3 Definition 4: The Complementary Universe:

The complementary universe refers to the negative universe composed by negative matter as defined in definition 2.

The complementary universe is everything which is not the inner universe such as the outside universe. We call negative particles lack of matter symbolized by negative mass. As noted, the left side of equation (A) is composed of two distinct parts indicating that the total matter of the inner universe and its complementary universe collapse into zero matter timelessly (i.e. null matter) representing the right side of the equation.

Once universe exists it should have complementary, it could be that the complementary universe is void, in that case, the universe should be complete, which is not, as discussed in theorem 2 and in the following theorem.

3.3.1 Theorem 4:

A universe complementary is not void (see also theorem 2)

3.3.1.1 Proof:

If the universe complementary is void, it means that the universe is complete. In that sense, the universe should reflect all possible matter, energy, velocity, volume, etc. Physics teach us that velocity is bounded, currently the boundary is defined to be speed of light. Thus, physics is not aware of particles traveling at speed higher than speed of light reaching speed of infinity. Furthermore, inner matter is composed by positive particles, there are no negative particles having negative mass. Therefore, just from this perspective the universe is not complete. Furthermore, the universe is evolving i.e. expanding and/or contracting, therefore, the universe is not complete and the *universe complementary is not void.*

3.3.2 Conclusion:

The inner universe is expanding on the account of its complementary universe and vice versa. The complementary universe is everything that is not the inner universe and that includes the outside of the inner universe.

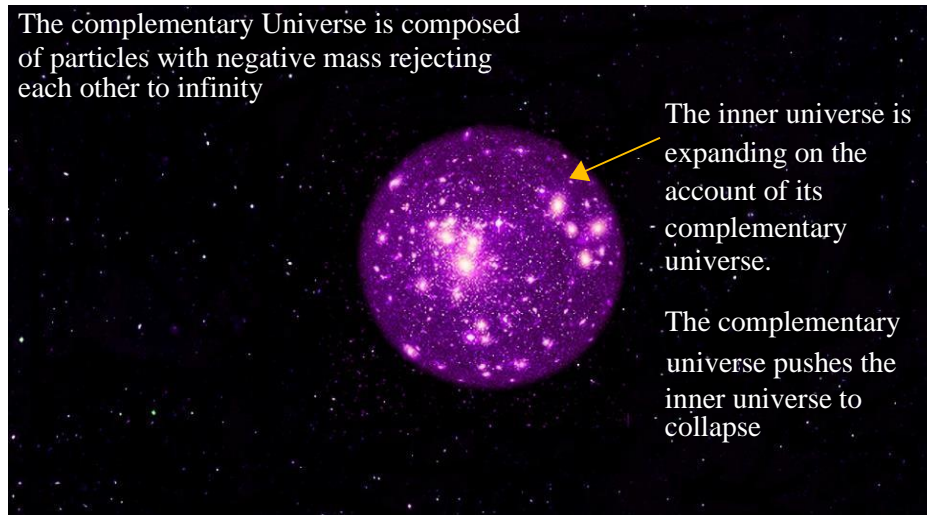


Figure 1: The inner universe is composed by positive matter while its complementary is composed by negative matter. The complementary is everything which is not the inner universe and that includes the outside of the inner universe.

Returning to the void complementary, Eq. (A) is one potential scenario describing universes out of zero matter i.e. null matter. In any situation both universes must obey the virtual metaphysical equation that total matter of the inner and its complementary universe (outer) must be zero resulting in zero matter. Yet, within the Universe $\{+U\}$ matter exists in different scale, shape, density, temperature, pressure, etc., including matter with mass zero representing light. Life, as we are aware of, would be inside the inner universe $\{+U\}$.

3.3.3 Anecdote: we are living within the equilibrium equation.

As it may sound difficult to understand, we are living within one part of the equilibrium equation (A), in fact, within $\{+U\}$. Our body will be torn apart in $\{-U\}$ due to its force of rejection (i.e. unattraction) causing particles to reject i.e. to push each other in a speed higher than speed of light, up to infinity, as explained in table 1 bellow.

The existence of matter is not magical, it is a logical virtual potential state of the void complementary (i.e. the metaphysical space). The matter cannot exist

without having complementary universe representing anti or opposite characteristic such as mass, in the current perception that is negative mass.

The equilibrium equation (A) presents logically how matter exists out of zero matter. It is important to emphasize that it is not limited just to numbers. Other symbols or mathematical operation may be used as long as the totality of both universes, the inner universe and its complementary universe collapse into null matter i.e. zero matter. Nevertheless, as noted, zero is the most intuitive symbol to be used for this purpose.

4. Realization of stories within universe

4.1 If a scenario exists, then what stops its realization?

In fact, nothing. **Every story is being realized in a suitable universe, just because of its potential existence in the void complementary.** We, at the current situation, realize our own story. We do not know the end of the story but we are walking in the path of the story. While the story exists timelessly it is us determining and experiencing the story right now. Within the story we sense linear time. Yet from the perspective of the void complementary, before birth and after death represent lack of time.

Conclusion: Every story is being realized in a suitable universe, just because of its potential existence in the void complementary and every universe must obey the equilibrium equation (A) maintaining total matter zero. We are executing our timeless story within the inner universe {+U}.

4.2 Definition 7: Illogical story or illogical scenario

Illogical scenario means there is no equation of the form (A) that can realize the scenario.

Example: if the total matter resulting from eq. A is positive i.e. the sum results in a positive matter then such scenario is illogical scenario since the right side of eq. A is zero and the left size is greater than zero. The creation of matter must obey the metaphysical conservation law.

5. The metaphysical space

5.1 Definition 5: Metaphysical virtual space:

*The Void and its complementary is considered to be the **Metaphysical virtual space.***

The Metaphysical space incorporates all information about any potential scenario including the null scenario or the null story.

5.2 **Theorem5:**

The metaphysical space is one complete space.

5.2.1 **Proof:**

- a) If the metaphysical space is void then due to its voidness it is complete.
- b) If the metaphysical space is “void complementary” then the complementary of the “void complementary“ is void. Thus, the “void complementary” is complete. Therefore, the metaphysical virtual space is complete (not evolving).
- c) Uniqueness follows due to its completeness. If there are two metaphysical spaces, it means that the complementary of the “void complementary” is not void, which contradicts the completeness of the “void complementary” and if there are two voids it contradicts the voidness of the void.
Therefore, the metaphysical space is unique.

5.2.2 **Conclusion:** The metaphysical space is unique complete virtual space. It does not evolve and it has no reason or desire to evolve. Yet, within our own story we evolve and our evolution reflects intention.

The paradox of nothing (void) and everything (void complementary) escort any one of us during our entire life, we feel there is something and yet we cannot touch it.

5.3 **Intention:**

Although there is no metaphysical reason for anything, from our perception it is suggested to provide reason to our existence. A personal reason such as:, I want to be educated, I want to be successful, I want to be musician, writer, inventor, I want to experience, I want to have family, children, I want to love and be loved, I want to empower my intention etc. Making beautiful timeless story is a wonderful reason.

5.4 **GOD**

One of the questions that is extensively being asked is: "what is GOD?" [9,10,11,16] and "does GOD intend?" In fact, the definition of GOD in the old

testimony is a mathematical definition or at least logical definition. For example, GOD is one, complete, timeless or has front and rear. Such description suggests that GOD front is the void and the rear is the void complementary. Thus, the metaphysical virtual space perfectly matches the description of GOD as defined in the old testimony.

Does GOD intend? If considering GOD to be the Metaphysical space, then obviously GOD is not intending due to its completeness. Although, as said GOD is the totality, the other question is: "Is GOD aware?". Is our higher consciousness aware without physical body? This issue will be dealt in a different paper, yet, without any further explanation and to our best opinion the answer to both questions is yes and yet depends on each person's state of mind.

5.5 Definition 6: The metaphysical conservation law:

The metaphysical conservation law preserves null matter. That is to say, any form of eq. (A) must collapse into null matter. Existence of universes is a logical state that must obey the metaphysical conservation law.

5.6 Anecdote:

From the *metaphysical perception* the conservation law of null matter does not depend on coordinate system, gravitation, spin, electromagnetic, time and other physical perception. It depends only on the total matter of the inner universe and its complementary collapsing into null matter timelessly. All stories have been realized timelessly and therefore there is no meaning to time. For example, birth and death of a person, plant, sun, galaxy or of the entire universe are all timeless events. In order to understand the meaning timeless, consider the current potential brain memory, all memories up to the current time are potentially there while remembering does not depend on the sequence of the historical events. We can trigger the brain to remember events at age 10, then 5 then 18 and so on. Memories are timeless, although the story may associate to historical time, but the retrieving is independent on time. The metaphysical space incorporates all information about any potential event, we just trigger the brain to pull down timeless information.

6. The summation of total positive and negative matter and the outside of the inner universe

Electron, proton, neutron, atoms, etc., are all positive particles that we have defined to have positive mass in rest, and in the particular case of light, zero

mass in rest. Positive particles are characterized by positive real number called mass, defined by the set:

$$6.1 \quad R_+ = \{ m \geq 0, m \in R \}.$$

The question: "what is it outside the universe?" is considered logically under the assumption that the natural state is timeless void. It is important to note that voidness means indescribable void, as opposite to the quantum void [12,13,14,15,16,17] which is describable. In that sense, as explained in section 2 above, the universe complementary represents negative matter (Definition 2) so that the total matter of the inner universe and its complementary collapses timelessly into zero matter i.e. null matter based on the metaphysical conservation law.

Negative particles are characterized by negative real number representing negative mass as defined by the set

$$6.2 \quad R_- = \{ m < 0, m \in R \}.$$

R_- is a reflection of R_+ centralized over zero mass which represents light. Reflection means both universes has total uncountable infinite real numbers representing positive and negative matter except of zero which is associated to the positive universe. Each universe has its own separate physics.

The virtual merger of all positive and negative matter i.e. the total sum of $R_- + R_+$ collapses into zero mass. But since all positive and negative matter vanished, that particular zero represents zero matter. One may say, the light is turning off, so zero mass becomes zero matter timelessly.

The equilibrium equation (A) in the form of $R_- + R_+$ is a virtual logical scenario i.e. state that enable the existence of universes. There is no description on how the summation is done, only that the outcome must be zero.

The virtual logical equilibrium equation (A) is not limited to summation operation i.e. "+". Yet, as noted above, zero in most, if not all languages, is used to present nothing. This allow us to overcome language barriers. Other forms of equilibrium perception can be formed to replace equation (A) as long as metaphysical conservation law of null matter is preserved.

Cases where eq. (A) does not collapse into zero may indicate a magical creation wherein the right side of eq. (A) represents null matter and the left side of eq. (A) results in either positive or negative total substance. This cannot happen just because it is not logical. That is to say, only cases where eq.(A) collapse into zero reflect substance e.g. universes.

The complementary universe is everything which is not the inner universe and that include the outside of the inner universe. The inner universe is expanding into the complementary universe and if the inner universe is shrinking it is

shrinking from its complementary universe or doing both locally (in some local area) or globally (over the entire inner universe).

6.3 Attraction vs. Rejection and their consequences

Particles of {+U} declare their existence by attracting other particles. We refer this attraction to the gravitation force; we may call it the force of LOVE. After all, our body is composed by particles as well. Attraction generate planets, suns and galaxies resulting in closed structure, while unattraction result in open structure with particles pushing each other to infinity in velocity much greater than speed of light up to infinity.

Attraction, i.e. gravitation causes particles to unify into solid structures while the initial explosion causes the universe to expand. Without expansion, the universe would not cool down after the big bang. Cooling down causes particles to unify into solid structures. As long as the universe is expanding it still in a process of cooling down. Once the universe will stop expanding, the complementary universe will start to push the inner universe to collapse into itself, meaning the inner universe will start to shrink.

The balance between the forces of the inner universe and its complementary universe determines the evolution of the universe to expand, shrink, develop deformed structures and so on. When the inner universe is expanding the complementary universe is kind of shrinking, but it never really shrinks since its boundary is open to infinity. Why? As mentioned, negative particles push each other to infinity, creating an open structure up to infinity. Positive particles within the inner universe attract each other creating closed structure. Unequalled local pressures from outside towards inside and from inside towards outside may result in local deformations as presented in figure 2 below.

In case the outer pressure overcome the overall expanding pressure, the inner universe may start to collapse. In such case, the universe may collapse into singularity which may result in new universal initialization i.e. like the big bang explosion with new initialization conditions [19,20,21,22,23]. These new conditions determine the way the universe will evolve, i.e. matter may diffused in different ways than the ones we are aware of today. Yet, starting the universe with a huge explosion would not be the only logical possibility, other theories may apply as well [1,2,3,4,5,12,13,14,16,17,23,24,25,26, 27].

In case the inner pressure overcome the outer pressure, the inner universe may continue to expand. Yet, the outside local pressures imposed onto the inner universe may not equality diffuse resulting in deformed shape (i.e. asymmetrical shape).

6.4 **Dynamics: If all real positive numbers (mass ≥ 0) represent matter in the inner universe, what cause to a dynamic?**

Dynamic is generated due to potential and potential results from the difference existing between various numbers representing different scale of matter (big versus small), different temperature (cold versus hot) or different pressure (high versus low). These differences are the natural state causing dynamic. **Furthermore, potential differences within the inner universe may result in disappearance and reappearance of particles or energy into the complementary universe and vice versa.** For example, two particles carrying positive mass under certain force, heat and pressure may result in negative mass. The outcome of this mass exchange is disappearance of a particle into the complementary universe. **Yet, since total matter in each universe is infinite and uncountable there will never be too short or too much matter.**

As discussed above, any potential scenario represents state of matter being realized in a specific universe. For example, universe that collapses into quantum scenario that cause the universe to restart itself in a big bang or other logical way or the universe may collapse into universal white dwarf (universal white dwarf means the entire universe become white dwarf) or into universal black hole (the entire universe become a blackhole), as long as these scenarios are logical there are suitable universes realizing these scenarios.

Currently, at this moment, we are experiencing a scenario that our universe is still expanding while cooling down after the big bang or another logical scenario. Whatever state the universe is, life can be realized only when the universe or part of it is at certain order enabling life. **No matter at which state this or any other universe is, the equilibrium equation (A), that total matter of the inner universe and its complementary universe collapse into zero, is fulfilled.**

6.5 **Incomplete Physics:**

From the equilibrium equation (A), the left side is composed by two distinct parts, each one has its own physics, would such physics reflect complete physics? This can definitely be concluded since the left side of the equilibrium eq. (A) is composed by two distinct parts, each part completes the other part, therefore, each part consists of incomplete matter, i.e. positive matter versus negative matter resulting in incomplete physics. This issue was also discussed in the previous theorems (2,3,4).

The collapse of the total inner universe and its complementary universe into total zero matter is not depending on a coordinate system, frequency, pressure, temperature, time, etc. It is a timeless state that depends only on the sum of the

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total matter of the inner universe and its complementary. Nonetheless, within the inner universe as well as its complementary universe (the outer) the sensation would be real physics associated with a perception of various spatial-temporal-frequency coordinate systems.

The characteristics of the inner universe $\{+U\}$ and its complementary universe $\{-U\}$ are summarized in the following table. Each physical characteristic of the inner universe has a complementary characteristic in the complementary universe and vice versa, except of the idle zero number that is associated to light within the inner universe and has no complementary characteristic in the complementary universe.

The merger of both physics (the inner and its complementary) collapses into the zero mass. As noted above the collapse of the total matter is into light, but since matter of the inner universe and its complementary vanish then that particular zero mass is in fact zero matter representing the null physics.

Inner Universe $\{+U\}$	Remark	Complementary Universe $\{-U\}$	Remarks
Positive matter i.e. mass $m \geq 0$	Uncountable endless particles of positive matter in various size, density or heat	Negative matter i.e. mass $m < 0$	Uncountable endless particles of lack of matter
Attraction (Gravity, Love)	Generating galaxies, suns and planets	Rejection	Pushing each other to infinity
Closed structure	Impossible to leave the universe.	Open Structure	No geometrical structure.
Bounded Velocity	According to Einstein Theory velocity is bounded by speed of light.	Unbounded Velocity	velocity is above speed of light and may approach infinity.
Light	Within the inner universe.	No light	Anticipating that all matter is spread up to infinity.
Other forces like spin, electromagnetic, nuclear, etc	Within inner universe	Not yet have been considered	Could be a distance collision that

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			may result in various forces.
Pressure towards outside.	The general forces resulting from the initial explosion produces forces towards outside. When the universe is expanding the inner forces overcome the outer collapsing pressure. The universe may expand, shrink or collapse into singularity. This state of dynamic is depending on the balance of overall forces induces by inner universe and its complementary.	Pressure in all directions.	Complementary universe pushes the inner universe to collapse into itself.
Symmetrical vs. asymmetrical evolution.	The universe may evolve local structural deformation resulting from unbalanced local pressure induced by the inner universe and its complementary. Symmetrical structure would be when all forces are at equilibrium state.	No geometrical structure.	Due to open structure up to infinity where particles refuse to unify, there is no geometrical structure.
Substance may disappear and reappear. Negative matter may appear as long as the metaphysical conservation law is preserved	A collision of positive particles under certain forces, gravitation, heat, pressure, spin, electrical field, etc., may produce negative particle having negative mass. Such particle	Substance may! disappear and reappear.	It could be in a distance collision of negative particles which may result in positive particles (mass ≥ 0) which will vanish from the

	will vanish from the universe into its complementary universe.		complementary universe into the inner universe.
Never too short in substance.	Due to the fact that matter is represented by all real numbers greater or equal to zero.	Never too short in substance.	Due to the fact that lack of matter is represented by all real negative numbers.
Universal boundary.	The boundary is composed by zero matter, representing the void complementary. Considering the sum of $R_+ + R_-$ where $R_+ = \{m \geq 0, m \in R \text{ (Real numbers)}\}$ and $R_- = \{m < 0, m \in R \text{ (Real numbers)}\}$. Only sum resulting in zero are considered logically wherein, the collapsing into zero represent zero mass which is light, however, since all sort of matter (positive and negative) vanished, i.e. it is like turning off the light, this zero represents zero matter, i.e. null matter as well as null physics.		
The virtual metaphysical law of the preservation of null matter.	The virtual equilibrium equation $\{+U\} + \{-U\}$ is timeless zero. It does not depend on any sort of coordinate system, gravitation, time, frequency, etc. It relays on the sum of all negative and positive matter resulting in null matter. Cases where the sum is not equal to zero are illogical and would not realize.		

Table 1: The characteristic of the inner universe vs. its complementary universe.

7. Universal Coordinate system and Time

A universe can be presented by various spatial-temporal-frequency coordinate systems. From the metaphysical perception there is no substance, therefore, it does not matter if we present particles as strings, wave, mass, spin, electromagnetic, etc., as it is related to our perception of the universe.

Currently there are two theorems describing the universe, general relativity and quantum mechanics. New theories, of super strings, are emerging during recent decade, in an attempt to combine both theories into a single theory that will apply for large scale bodies as well as for tiny elements. The difference between the two currently existing theories results from the mathematical tools used for each. General relativity is supported by differential geometry, which relies on the basic assumption that all structures, i.e. manifolds, are smooth. These manifolds determine the local geometry resulting from the local gravitational forces of the local large-scale bodies (galaxies and suns). Differential geometry is a mathematical tool suitable to be used for macro physics but not for micro physics, as the movement of small particles, such as

electrons, is so fast and so fluctuated that there is certain uncertainty to locate adequately a particle location its movement (momentum). We may find uncertainty in many aspects of predication. Uncertainty is not limited just to particle location vs. its momentum. In fact, uncertainty is in every aspect of life as well as of science. For example, in signal processing, sampling a signal over time more and more precisely requires more and more frequencies. To predict the future of a share price, to predict the next day and so on. Uncertainty, means incomplete. One may reduce the surprise of the next day by living highly predicted life, i.e. an average life, no surprises. On the other side making and unpredicted life so fluctuated shall result in complete unstable life. This issue is to be discussed in the following sections.

General relativity represents an average or smooth behaviour of large scale bodies resulting in small surprises and highly predicted location and momentum. On the other side, very tiny particles are high fluctuated represented by quantum mechanics theory, which may tell us the probability of a particle location versus its momentum. Both theories complete each other, as one is dealing with smooth behaviour and the other with fractional behaviour. A theory that unified macro as well as micro behaviour would provide a new perception of gravitational matter in every scale.

String theory is a one dimensional objects called strings. The idea is to describe how strings propagate through space and interact with each other. In scale larger than the string scale, a string looks just like an ordinary particle, with its mass, charge, and other properties determined by the vibrational state of the string. In string theory, one of the many vibrational states of the string corresponds to the graviton, a quantum mechanical particle that carries gravitational force. A string theory is a theory for quantum gravity.

String theory has been applied to a variety of problems in black hole physics, early universe cosmology, nuclear physics, and condensed matter physics, and it has stimulated a number of major developments in pure mathematics. Since string theory potentially provides a unified description of gravity and particle physics, it is naturally to consider it as the theory of everything. Nonetheless, it is not known to what extent string theory reflects the real world.

Superstring is supersymmetric string theory. It is the version of string theory that accounts for both fermions and bosons and incorporates supersymmetry to the model of gravity. (of note, fermion is a particle that has an odd half-integer spin (like $1/2$, $3/2$, etc., such as quarks, leptons and certain composite particles, such as protons and neutrons. Bosons are those particles which have an integer spin (0 , 1 , 2 ...)).

Development of a steady state quantum field theory resulted in infinite possibilities. Physicists developed a renormalization technique to overcome these infinities. Yet, this approach works for electromagnetic, strong nuclear and weak nuclear forces, but not for gravity. Therefore, unified theory for

quantum gravity requires additional consideration. The work on string theory for all scale particles is not yet completed.

This paper is not aiming to discuss how to present matter in various gravitational resolution, rather, to provide a new perception on how matter exists out of the void, what is outside the universe and to argue that Einstein General Relativity theory may not be a complete.

Therefore, we simplified four-dimensional functional coordinate system, which describes universal global location and a certain global time reference. The components coordinate system $X = (x,y,z)$ are functions of the local gravity, local inner pressure and local complementary pressure in the area surrounding the coordinate (x,y,z) neglecting other potential variables such a spin

A simple example is of a punched basketball from the outside (Picture 2.A) representing the complementary pressure which overcome the internal pressure towards the ball envelop. The coordinate (x,y,z) is no longer in its original location, it was moved to a new location as a result of the local physical forces imposed from the basketball complementary (e.g. the universe complementary) as well as of the basketball internal air pressure (e.g. initial big bang explosion) and of the local basketball structure such as the basketball material density nearby the local coordinate (x,y,z) , e.g. this may be considered as the local gravitational forces of the surrounding area near the coordinate (x,y,z) .

Figure 2.A presents local deformation nearby the coordinate (x,y,z) where the deformation resulted from local unbalance outer (complementary) and inner pressures of the basketball. Picture 2.B shows that the entire basketball was deformed by unbalanced pressures induced from the outer and inner pressures of the basketball.

The example shown in Figure 2 emphasizes that coordinate system may be affected by various physical variables. Some of those variable forces were not considered in Einstein General Relativity theorem, particular the pressure induces from the complementary universe towards the inner universe trying to squeeze the inner universe to collapse into itself. Additional potential external variables related to spatial frequencies as well as phase (Eq. B, C bellow) have not been considered in Einstein General Relative theory due to the assumption that all forces are coming from within the inner universe itself without considering external forces except of the universal gravitational constant G , as shall be considered in the following section.

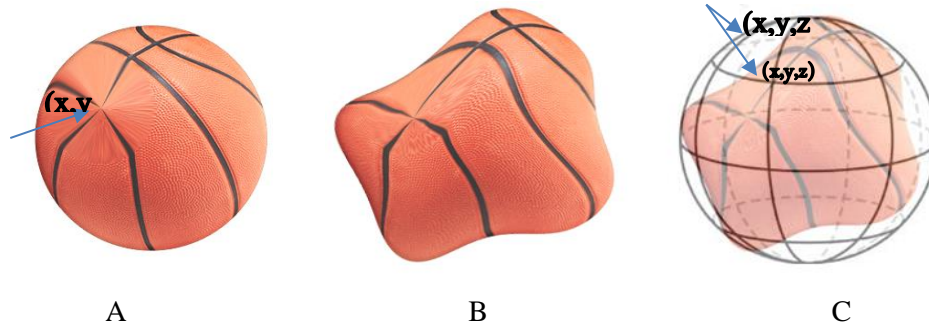


Figure 2:

- a) A basketball was deformed locally as a result of the complementary pressure (outside the ball) resulting in a change of the coordinate location from a ball sphere into locally deformed ball sphere. The expansion of the inner universe initiated from potentially the big bang explosion is simulated by the inner air pressure inside the ball. In both cases the outcome results in expansion. The ball local surface density may relate to the local density of matter resulting in local gravitational forces or lack of gravitational forces in the surrounding area nearby the coordinate (x,y,z) . The rest of the ball was not affected.
- b) The entire basketball was deformed resulting from unbalanced external and internal pressures resulting from differences between the inner and the outer pressures. In a similar perspective, the inner universe can entirely be deformed due to the external forces versus the internal forces.
- c) The inner positive universe after deformation versus the initial spherical shape. The spherical coordinate (x,y,z) is no longer located on the sphere, it has moved into different location. The deformation is a result of unbalanced external (complementary) and internal pressures.

The functional spatial coordinate system $X - (x,y,z)$ may incorporate the following variables: local gravitation forces (Einstein Relative Theory), inner pressure induced from the universe origin at the current time near by the coordinate (x,y,z) , complementary forces induced onto the inner universe, external spatial frequency and phase stamping the inner universe matter.

Any coordinate system may evolve (change) in time and therefore influence the spatial location. For example, a coordinate (x,y,z) at time t_k may disappear at time t_p as shown in figure 2C.

The time “t” is considered to be universal time reference initiated in the moment of a major event such as universal singularity resulting in a big bang or other event that may restart the universe or may provide time reference. Within

the inner universe, each galaxy may have its own time reference relative to the day of its local creation.

7.1 Does Einstein General Relativity Theory Complete?

From our perspective the computation of the gravitational manifold based on Einstein General relativity does not take under consideration external opposite gravitational forces imposed onto the inner universe from its complementary. Such forces may push the universe to collapse into itself or may result in local structural deformation as shown in figure 2 above. Therefore, to our best opinion the General Relative Theory is not complete.

8. Where the universes are located?

Based on the above and considering the perception of the equilibrium equation (A), without derogating of any other potential perception of particles of matter, i.e. as a strings, etc., spatial-temporal-frequency and phase location may be added to provide perception of multi universes (inner and outer) by utilizing linear Schrodinger representation in the following way [6]:

$$\begin{aligned} \text{B. } \{+U_{\xi}(X, t, \Omega_i, \omega_i, a_i)\} &= \exp(-i\xi(\Omega_i X + \omega_i t + a_i))\{+U(X,t)\} \\ \text{C. } \{-U_{\xi}(P, k, \Omega_o, \omega_o, a_o)\} &= \exp(-i\xi(\Omega_o P + \omega_o t + a_o))\{-U(Y,k)\} \end{aligned}$$

Wherein (B) and (C) must satisfy the following equilibrium state:

$$\text{D. } \sum [\{+U_{\xi}(\text{Positive matter})\} + \{-U_{\xi}(\text{Negative matter})\}] = 0$$

The pair $(X,t) = (x,y,z,t)$ indicates functional coordinate system that depends on various variables such as the complementary forces which are imposed on the inner universe, inner gravitational pressure and topology

$(P,k) = (P_x,P_y,P_z,k)$, is a global complementary functional coordinate system incorporating k time reference. However, it may be possible to use the same coordinate system (X,t) to describe the complementary coordinate system once identifying that the both universes share same origin. For coordinate X within $\{+U\}$ the outer coordinate P results in null and for P within $\{-U\}$ the inner coordinate X results in null. In addition, both universes can share same time reference. It just a perception how to look over things, nothing more.

Ω_i, Ω_o represent frequency vectors associated with the inner and outer global coordinate system X and P respectively. “i” stands for the inner universe and “o” stands form the complementary (outer) universe. The dot product $\Omega_i X$ refer to $(\Omega_x X + \Omega_y Y + \Omega_z Z)$. ω_i, ω_o represent frequency factors associated with the

inner and outer global time reference t and k respectively. a_i , a_o refer to bias in the inner and outer universes respectively.

It is important to note that eq. (D) means that the total matter of both universe collapse into zero matter independently of any of spatial-temporal frequencies coordinate system incorporated within the inner universe coordinate system i.e. (X,t) or within the void complementary (outside the inner universe) i.e. $\exp(-i\zeta(\Omega_i X + \omega_i t + a_i))$. Furthermore, eq. (B) and (C) are potential logical i.e. feasible information of the metaphysical virtual space (i.e. void complementary) then such structures are realized.

Equation (B) indicates that it is possible to vibrate or influence matter, energy and time from the metaphysical space. General saying, it is possible to influence any universe. For example, $\exp(-i\zeta(\Omega_i X + \omega_i t + a_i))$ may vibrate the coordinate system “ X ” and time “ t ” or to multiply the universe by certain constant. Einstein relative theory have considered a universal constant G , such constant can be achieved by multiplying the universe with $G = \cos(a_i)$.

From the metaphysical virtual space, as consciousness intention, it is possible to influence matter within the universe.

Figure 3 below presents inner universes $\{+U\zeta\}$ located on a two-dimensional distinct virtual surface hologram (for simplicity) with each disk located on virtual phase axis wherein the inner universes satisfy Eq. (D).

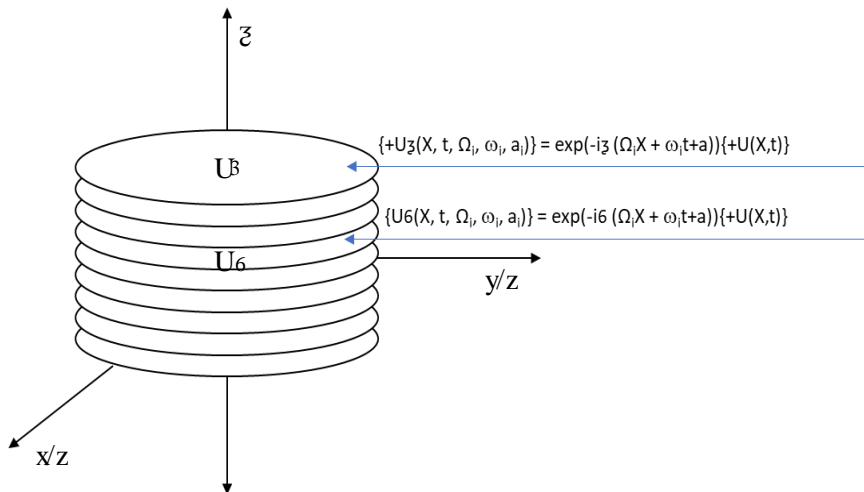


Figure 3: Each inner universe $\{+U(X,t)\}$ is located over distinct virtual phase hologram surface located at ζ . Due to drawing limitation of multi axis the Global coordinate system (x,y,z) is projected onto 2D coordinate system $(X/Z, Y/Z)$

As can be seen, traveling between distinct positive inner universes requires to locate the right phase and the time of the desired inner universe. However,

since these parameters are controlled virtually from the metaphysical space, it is suggested that one must be pure consciousness with powerful intention to locate the appropriate universe and its desired phase and time. Yet, pure consciousness is not part of the current paper, it will be discussed in another paper.

Moving from one desired phase to another desired phase is possible by using the following equations ([6]):

$$E. \quad \exp(-i\eta(\Omega_i X + \omega t + a)) \{ +U_{\zeta}(X, t, \Omega_i, \omega_i, a_i) \} = \{ +U_{\Theta}(X, t, \Omega_i, \omega_i, a_i) \} \quad \text{where} \\ \Theta = \eta + \zeta.$$

While we are located within the inner universe and within a physical body, in order to travel between positive inner universes located on two distinct phases (figure 3), it would require to generate wormhole connecting the two universes as presented in Figure 4 below. Matter within universe A may be associated with frequencies Ω_{iA} and ω_A and matter within universe B by the frequencies Ω_{iB} and ω_B . Therefore, it may require the body to adjust itself when moving between universes.

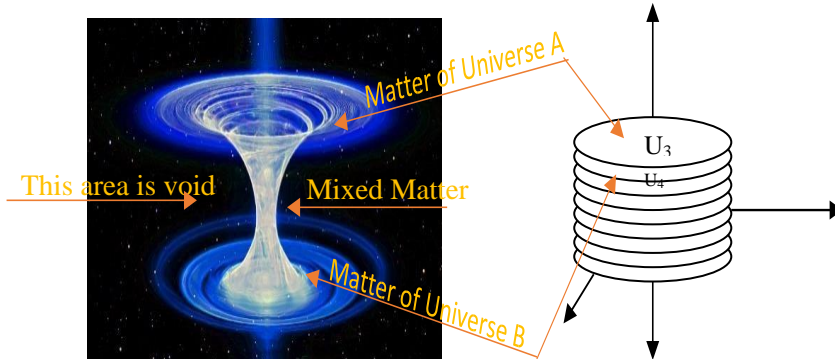


Figure 4: A wormhole connecting two distinct positive inner universes each one is located on distinct phase hologram surface. Matter of the inner universe A is protracted into inner Universe B and matter from inner universe B is protracted into inner universe A. Outside the wormhole there is void since matter exists only within universes, wherein each universe A and B obeys the virtual equilibrium equations (A) and (D). As noted, the conservation metaphysical law does not depend on the coordinate system nor on the added frequencies or time.

Based on eq. (A, B, C, D) above, we summarise that universes do not have physical location; each inner universe is located virtually on a distinct hologram surface. Only inside one of the parts of the equilibrium equation, for example within $\{+U(X,t)\}$ there is a physical sensation of matter, location and time.

9. An anecdote about brain neural network

Basic neural operation would be one of the following states: idle, receiving charge, transmitting (firing) charge.

Computer memory is composed by zeros and ones coded in bits and bytes. What information these zeros and ones telling us without executing a dedicated software to synchronize these zeros and ones into harmonic information.

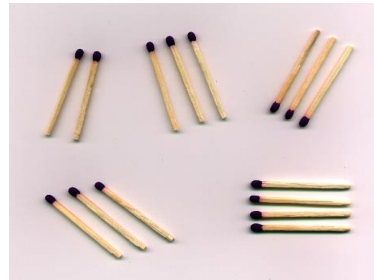
What does a neuron tell in idle, receiving or firing state? As of the case of the software computer synchronizing the zeros and ones into information, the brain synchronizes neuronal activity into information. What it means synchronize neural activity?

Figure 5A demonstrates matches thrown randomly on a table. Order is achieved by setting groups of matches according to their common angle.

Matches at identical angel form a synchronized group with a synchronization angle equal to Δ . The group intensity is considered the total matches within each group.



Figure 5: A: Disorder Matches



B: Each group is represented by the angel and the number of matches.

Considering single match as a neuron, the group angel may represent the synchronization element and the number of neurons within the group or the total potential charge fired by the group as the group intensity.

The brain neural synchronization may be presented in a similar way to universes virtual location by the linear Schrödinger representation as follows ([6], [7], [8])

F. $\exp(-i\eta(\lambda X + \mu t + a))N_{\Delta}(X,t)$

wherein $N_{\Delta}(X,t)$ presents a neuron associated with a synchronized group of neurons having synchronization factor Δ , virtually stored over a hologram surface $\eta = \Delta$. The coordinate $X = (x,y,z)$ represents the neuron spatial location. λ represents spatial frequency vector associated with the neuron at location X while the λX refer to vector dot product. μ is a frequency associated with time and “a” shift phase constant.

For example, all neurons $N_{1.34}(X,t)$ having synchronized factor $\Delta = \eta = 1.34$ form a synchronized group of neurons. That synchronized group of neurons form a neural pattern related to certain event.

Additional variables may include in the mathematical consideration, such as the group intensity, i.e. number of neurons participating in the group, total temporal charge released by the group (i.e. temporal charge means charge per unite time) and certain constrains such as the group topology, for example, group of neurons having identical η and are within $L = \{ (X,Y): |X-Y| < d, d>0 \}$. Other topologies may consider such as association rather than distance. It is important to note that single neurons may synchronize with various groups of neurons.

Information is retrieved by linear combination of groups of synchronized neurons virtually stored over various distinct hologram surfaces. The way information is stored is that each group of synchronized neurons has its own neural connections reflecting certain distinct phase hologram surface Δ . The synchronized Δ group is virtually stored over the hologram surface marked by Δ . A virtual linear combination over various hologram surfaces retrieve the information stored. This means, to remember is to recreate the neural patterns associated with the historical events.

Pictures 5 presents the general idea of synchronize temporal groups of neurons.

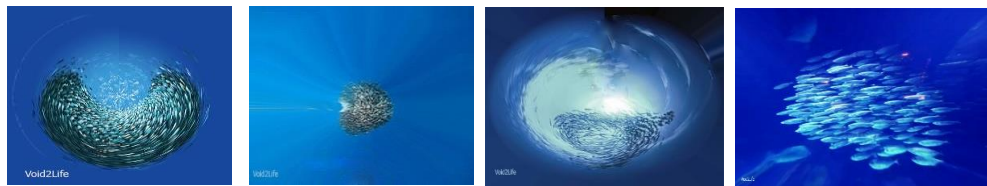


Figure 6: Each picture represents different synchronized school of fish. Considering each fish as a single neuron associated to its current synchronized group. Each synchronized group has its own pattern.

As noted above, single neuron can participate in various temporal groups depending on the stimulus. This characteristic enables large variation of synchronized groups of neurons.

9.1 How do we "download" information?

The retrieving process is achieved by recreating or re-stimulating existing groups of neurons in a certain linear combination. We may consider the retrieving process as linear combination of synchronized neurons stored virtually over different hologram surfaces.

Although memory depends on existence of synchronized groups of neurons, unexperienced sensation such as images, voices, smell, taste and feeling can be created by synchronizing new groups of neurons without experiencing real sensation. This may occur in dreams, whether as random or intended dreams, wherein groups of neurons are being synchronized without being experienced in reality.

Whenever existing groups of synchronized neurons are recreated, it is treated as memory, otherwise it is considered as new learning, imagination, ideas, dreams, illusion and so on. Groups of synchronized neurons create a neural pattern and these pattern associate with certain sensation including internal control of the human body.

Intention is the key for downloading metaphysical information. Intention may trigger the neurons to synchronize in such a way that it provides the desired sensation. It is beyond the scope of this paper addressing issues relating to the pure consciousness coupling with the brain neural network.

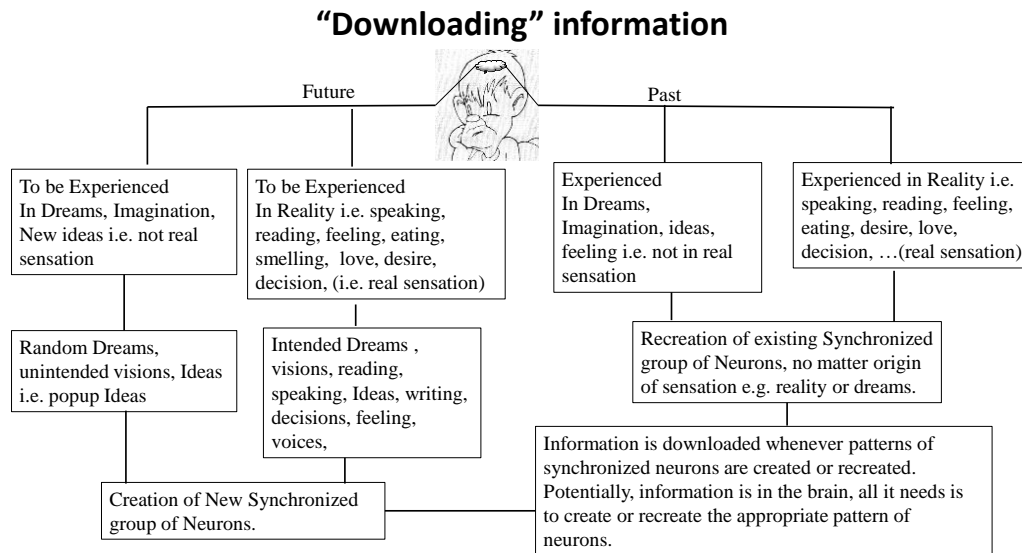


Table 2: Past depends on recreating neural patterns acquired during life. These patterns may have been acquired by real experience or by other sensations like dreams, imagination. Future is the potential to create new patterns of groups of synchronized

neurons either by real sensation or virtual sensations such as in dreams or imagination whether randomly or intended. Whenever neural pattern is created sensation is established no matter the source (real life experience, popup idea, dreams, imagination, etc.). Memory can fade if not being used or if there is certain biological hardware problem like blood supply.

9.2 Why we do not remember all our experiences all the time?

Although all memories are potentially existing within the brain neural network up to the current moment, we do not experience the entire memory every moment, unless the brain is triggered to remember i.e. to recreate or re-stimulate the neural patterns associated with that event.

Why the computer does not play its entire memory all the time, unless there is a request. The simplest answer would be minimal energy spending. There is no need to overload the system, e.g. the system may crash and/or there is no request. We remember when we need to remember, when the brain is triggered to retrieve information. We can remember in disordered manner, age 20 then age 5 then age 10 and so on. Once stories are stored as brain neural patterns, time is irrelevant.

Considering the metaphysical virtual space, total potential information is there, once the brain creates synchronize neural patterns information is retrieved or downloaded from the metaphysical space. Retrieving order is irrelevant just as retrieving order of brain memories is irrelevant. Potentially everything is there and we just need to trigger the brain to pull down information.

Based on the above, it seems brain neural synchronization and universes virtual location may have similar hologram surface presentation. When saying everything is in the mind, it is pretty good suggestion. Potentially there is no limitation to generate groups of synchronize neurons reflecting information beyond reality.

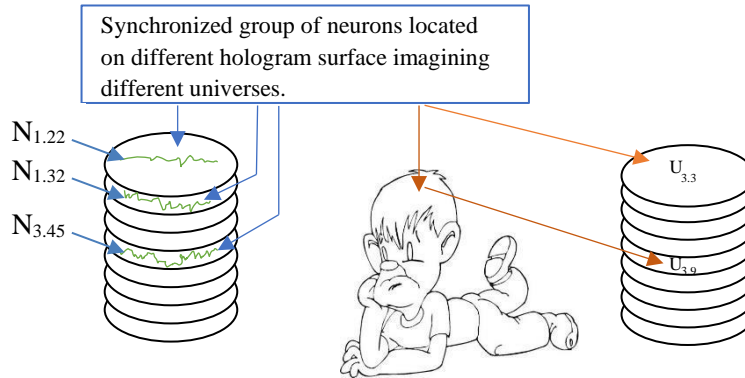


Figure 7:

Synchronized groups of neurons virtually stored on hologram phase surfaces in a similar way the universes are virtually located on hologram phase surfaces.

10. Conclusions

Void is the natural state and due to the existence of the void, a void complementary exists. The void complementary does not incorporate substance. The void complementary represents the total information about any potential scenario, i.e. any potential story. A potential story can be realized only within real universe.

The existence of universes (substance) is a logical state of the void complementary in which the existence of matter must satisfy the metaphysical conservation law of null matter. The metaphysical conservation law was presented by an equilibrium equation of two sort of matter, the positive matter having mass greater or equal to zero and the negative matter having mass less than zero wherein the total matter i.e. the positive and the negative collapses into zero matter timelessly.

The equilibrium equation exists as potential information in the void complementary and it is realized since there is nothing stopping its realization. As noted, the void complementary incorporates all possibilities, for each possibility there is a universe realizing it, otherwise, the possibility would be illogical and therefore would not realize.

The inner universe is expanding into its complementary universe, wherein, the complementary universe carries matter with opposite characteristic in order to satisfies the metaphysical conservation law of null matter.

We anticipate that negative particles reject (push) each other to infinity, while positive particles attract each other representing the force of gravity or force of love.

Although, the equilibrium equation (A) is based on the additive group due to the perception that the total matter (i.e. sum) of the inner universe and its

complementary universe is timeless zero. It is possible to symbolize the equilibrium eq. (A) by other group structure or other symbols as long as the perception is logic in the sense that the outcome shows null matter.

With regard the complementary universe, it is most likely impossible to make life in the form we are aware of, due to the dispatching structure, while within the inner universe particles of matter attract each other. As it seems we are living within the inner universe of the equilibrium equation (A).

The metaphysical virtual space is defined to be the void and the void complementary representing timeless, complete and unique virtual space. At current moment, we are determining and experiencing our metaphysical timeless story within the inner universe. Life may exist within each part of the equilibrium equation. Yet, most likely life as we aware of, cannot exist in the complementary universe, the body will be torn apart.

We have discussed the idea that there are infinite uncountable universes, each located on a virtual hologram surface. From the metaphysical point of view a way to travel between inner positive universes requires consciousness intention. However, traveling between positive universes from within requires to generate sort of wormhole that connect between the two distinct positive universes.

We approached the idea how information is created and retrieved by the brain neural mechanism, wherein, synchronized groups of brain neurons have virtual storage structure as distinct hologram surfaces in a similar way to virtual storage (location) of universes over distinct holograms surfaces. Whenever brain neural patterns are created or recreated i.e. as groups of synchronized neurons, metaphysical information is popping up.

Following this paper, we plan to expose the next paper discussing the question, what is pure consciousness? Does pure consciousness can be aware without physical body. Furthermore, experiencing the metaphysical space out of the body, is it a real sensation, dream or a wishful thinking or maybe only those who have experienced pure consciousness metaphysical tour can tell us.

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