World Asymmetry and Consciousness

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Abstract

The studies of weak interactions in physics have revealed a prominent, so-called chiral, asymmetry of our world. More widely known is the asymmetry of particles and antiparticles, which is also connected to chiral asymmetry: we know that all neutrinos are left-chiral. The attempts made by many physicists to restore the symmetry between right and left, i.e. to discover "mirror matter", have not been successful. In live beings the asymmetry manifests itself in males and females, the functioning of the right and left hemispheres of the brain, in phyllotaxis, in algebras of genetic alphabets, and other key phenomena. Our world is fundamentally asymmetric, both in the physical and biological sectors. To deal with world asymmetry we have developed chiral algebra that describes skewsymmetric relations. This algebra is proven to successfully work in the physical theory of spin. Particularly it allows to formulate the famous Dirac equation in a new way. Within this new representation we can better understand this equation and also discover the noise immunity mechanisms built in it. Chiral algebra uses the apparatus of biquaternions in isotropic basis with new types of multiplication and conjugation. Another application of chiral algebra is a model of the genetic code built by the author. This model reflects the genetic code internal symmetries, previously studied in other works. As a result, we put forward the following hypothesis: DNA has a quantum-like biological nature, which is based on an analogue of physical spin, which we call "biospin". The concept of biospin also supports the theory of biological field. We assume that both "inanimate" matter and living beings have field nature. We assume that biological field is a nonlinear extension of electromagnetic field. Within field approach a singularity of the field, having operational and projection nature, becomes the most suitable candidate on the carrier of consciousness. As is known, singularities of electromagnetic field are represented by point-like charge particles such as electron. Paradoxically, these point particles have an internal structure described by spin. Having a structure by dimensionless objects indicates an "exit" to another space. At the biological and other levels, living beings are assumed to possess field singularities. They exist simultaneously in two spaces - inner and outer. Our consciousness, being a field singularity, carries out the connection between these worlds. Inner world is the space of virtual paths or wave functions, while outer world is actual physical or field world.

Keywords: consciousness, singularity, asymmetry, inner and outer spaces, chiral algebra, Dirac equation, DNA algebra, quantum informatics.

1. Introduction

Widely known are such manifestations of biological asymmetry as the difference between males and females, between the functioning of the right and left hemispheres of human brain, asymmetry in the location of the heart and other organs, the common appearance of biospirals in the body, and the distinguished chirality of biomolecules (i.e. all amino acids are left-twisted and all sugars are right-twisted). The famous French naturalist Louis Pasteur, who discovered the phenomenon of chirality of biological structures, asserted that "the life revealed to us is a product of the asymmetry of the world."

On the other side R. Sheldrake tells us about ubiquitous consciousness in the Universe and the inner world shared for all beings: "There is a certain field of images which common to all people. The images of such a field could be information, feelings or behavior pattern. Such fields exist not only in people, but also in animals, birds, insects, plants and even crystals. That is why this or that crystal takes a strictly defined, not arbitrary form." [10]

A similar idea was brought by J. Krishnamurti who asserted that the observer and the observable, so common objects for the modern science and mindset, in reality belong to the same whole: "The thinker, the observer, by it's very nature, introduces an artificial division in consciousness, when in fact he or she is inseparable from the events under observation." [12]

We look into the roots of consciousness in the asymmetrical design of our world which we consider being a combination of two distinguished parts: inner and outer. We all know that each of us has its own internal world. However, the central idea of our study is that, while having our own internal subspaces, we live in the same universal inner world – same way as we live in the same physical world shared by all of us.

We present our vision of the phenomenon of consciousness, based on the field theory and chiral mathematics. First, we will talk about the asymmetry of our world - biological and physical. Then we discuss a division of our world into inner and outer spaces, find proper mathematics, and finally move on to the binding consciousness with singularity which connects the two spaces with each other.

2. The Preamble: Lost Realms of Physics

Antiparticle world

In the scope of physics, well-known is the so-called baryon asymmetry. It is expressed in the fact that our world is inhabited by particles, but there are almost no antiparticles. Antiparticles appear only in exceptional cases and for a short time before the annihilation with particles.

"Wonderland" of weak interactions

There is also a violation of physical chirality, the symmetry of right and left, observed in weak interactions. Chiral symmetry can be properly understood in the Dirac equation theory. This equation will be considered below. The physicists have been trying for a long time to "restore" the broken symmetry of the weak interactions, but they have failed [1]. Our world is asymmetric by its nature.

Superluminal region

The third "lost realm" of physics is the superluminal sector, i.e. the region of speeds above the speed of light. This sector arises in the theory, for example, in the special theory of relativity and in the Dirac equation. The existence of the superluminal region is explicitly seen in the hyperboloids on the velocity graph of a particle. The upper and lower separated hyperboloids are subluminal, while the lateral connected hyperboloid is superluminal.

In order to solve the outlined problems of physics, we need to introduce another space. However, as it turns out, this space goes far beyond physics - into the realm of consciousness.

3. Inner and Outer Spaces

Inner and outer spaces

We live simultaneously in two worlds or spaces - inner and outer. Inner world is "world behind the mirror" that physicists have been looking for so hard. Inner world reflects outer world in a special way with the help of "mirrors-prisms" of consciousness. Virtual paths and patterns of inner world are projected into outer world by the acting consciousness. When we move from outer physical space to inner virtual space, subluminal speeds become superluminal, the right changes to the left, and time flows in the opposite direction - from the future to the past. The two worlds are separated from each other by a Membrane and connected by singularities. While you may have an intuitive idea about singularity, below we will give more accurate definition for it. The transitions between inner and outer worlds are carried out via fundamental transformations described by a special chiral algebra. We will address this algebra further down.

Virtuality and Actuality

Inner and outer spaces are fundamentally different from each other. Inner space has virtual character as it holds possibilities and potencies for outer space. Different kinds of events occur both in outer and inner spaces. Virtual events happen in inner space. Actual physical events take place in outer space, but these events are developed from possible scenarios and paths in inner world. Quantum mechanical wave function belongs to inner world, physical fields - to outer world. Thus, wave function is immaterial in the usual physical sense. Resuming said above, inner space can be determined as Virtuality and outer space as Actuality.

Inner and outer spaces are perpetually exchanging energy. By their nature, kinematic energy belongs to outer space, while potential energy belongs to inner space. Central for physics variational principle of Lagrange deak with this exchange - as we remember, for a basic mechanical system setup, the Lagrangian is defined as the difference between kinematic and potential energies of the system.

Negentropic flow

Since outer space is the area of actual physical events and operations, any movements or signals in this area are subluminal. This area is characterized by the thermodynamic arrow of time: entropy is always growing here, structures collapse if left alone and everything is cooling down. But the Universe keeps being alive! And this happens precisely because there is inner space that is intrinsically negentropic or matter-organizing. Therefore, in living Nature, which is directly connected to inner world, we have processes that are opposite by its character to those occurring in inanimate nature. Live Nature does not obey entropy "dictate", but instead it gives birth of

beautiful well-structured living beings. The reason behind these phenomena is negentropic flow streaming from inner space to outer space.

Wave-particle dualism

As we noted above, the wave function belongs to inner space, and the physical field belongs to outer space. This separation reflects quantum mechanics wave-particle dualism. It turns out to be based on a dichotomy between the field (in the Maxwellian sense) and the wave function, and thereafter between inner and outer spaces.

The Membrane

The two worlds, inner and outer, are separated from each other by a kind of Membrane. From the above-mentioned division of the kinematic space into subluminal and superluminal regions, we conclude that the Membrane is massless. This means that it is formed by the waves of light and more likely neutrinos. Viewed at different scales, the Membrane has fractal structure.

Universal Now

The present moment is undefined in physics, all moments of time are equally valuable for it. Any point in time can be selected as the current moment. With the introduction of the Membrane separating two spaces, we can determine Now - the current moment of time for each of us. In our vision, the present moment is where the Membrane is. As was shown by Einstein, time flows differently in different areas of space. However, there is always a present moment for each consciousness, and all these moments unite together into one Universal Now for all living beings. There should be no confusion with Newton's absolute time flowing uniformly for the whole Universe. Universal Now is the current moment in whole time flow, which is un-uniform itself. By Aristotle's assertion, time is a characteristic of the flow of events defined by a consciousness. With the concept of Universal Now we connect time flow with all beings' minds activity.

4. Consciousness as Singularity

Field Singularity

A field singularity is the region of a physical field in which the field value turns into infinity. Examples of physical singularities are electric Coulomb potential and the gravitational singularity. In synergetics, singularity is an attractor of phase space trajectories and the source of "self-organization" of the surrounding world. In the language of mathematics, singularity is an actual infinity, but not in the sense of classical set theory, but in the sense of generalized or singular functions. Being an infinite object, each singularity is unique.

Electromagnetic singularity

We know the Coulomb potential from school: it is an electric field produced by ordinary point-like charges. Paradoxically, such a point-like particle as an electron has an internal structure that finds expression in its spin wave function. This fact indicates that for the electron singularity, there must be an "exit" into a different space from the usual physical one.

Gravitational singularity

Gravitational singularities are represented by white and black holes. The existence of black holes has been confirmed based on numerous astronomical observations and celestial mechanics. A white hole is a black hole reversed in time. It is believed that there are no white holes in the universe, because if there were, then the processes around them would go in the opposite direction compared to black holes and the entropy would spontaneously decrease forming certain structures of matter around. The latter process is impossible for inanimate matter by virtue of the second law of thermodynamics. But if we assume that a white hole has some kind of consciousness, then it could well exist without contradicting the known laws of nature. In this way, quasars or even stars may happen to be white holes.

Biological field

The foundations of the theory of biological (morphogenetic) field were laid by A.G. Gurvich [9]. This theory received great conceptual development in the books of R. Sheldrake [11]. This researcher connects the past of a given individual with its present. This connection is carried out through morphic resonance. Thus, a living organism acts as an integral spatiotemporal formation. Sheldrake's concept also explains at some point the phenomenon of differentiation of the same DNA in the cells of various types.

Organic singularity

Following Einstein's concept of unified field, we consider biological field to be the manifestation of the same field which electromagnetic and gravitational fields contribute to on different scales. Within this approach we conclude

that there exist biological singularities, and the consciousnesses of organic beings has to be attributed to it. Our primary conjecture is that each singularity represents an individual consciousness. Each individual has its own inner world which is a subspace of the universal inner world. This way inner and outer worlds are connected to each other by singularities of different scales. The main way of interaction between singularities-consciousnesses is via light. Consequently, the interaction takes place at the Membrane.

5. Chiral Algebra - The Mathematics of Inner Space

Biquaternions of outer space

Biquaternions represent the native algebraic language of the relativistic theory [2]. The examples of biquaternions are such basic physics quantities as energy-momentum and space-time 4-coordinate. These are algebraic objects of "3+1" metric type. Each biquaternion is a bundle of a complex number and a complex vector.

$$\mathcal{B} = (s, \mathbf{u}), \ s \in \mathbb{C}, \ \mathbf{u} \in \mathbb{C}^3$$
(1)

The algebra of biquaternions is noncommutative. The ordinary or outer product of two biquaternions $\mathcal{B}_1 = (s_1, \mathbf{u}_1)$ and $\mathcal{B}_2 = (s_2, \mathbf{u}_2)$ has the form:

$$\mathcal{B}_1 \mathcal{B}_2 = \mathcal{B}_1 \odot \mathcal{B}_2 = (s_1 s_2 + \mathbf{u}_1 \cdot \mathbf{u}_2, s_1 \mathbf{u}_2 + s_2 \mathbf{u}_1 + i \, \mathbf{u}_1 \times \mathbf{u}_2),$$
(2)

where $\mathbf{u}_1 \cdot \mathbf{u}_2$, $\mathbf{u}_1 \times \mathbf{u}_2$ are scalar and vector products of \mathbf{u}_1 and \mathbf{u}_2 accordingly, *i* is the imaginary unit. Special theory of relativity, including classical electrodynamics, is naturally described by biquaternionic algebra with multiplication (2).

Isotropic basis

Isotropic, or light, basis of biquaternionic space consists of four elements: two null-vectors \mathbf{q} and \mathbf{q}^* , which are complex vectors with square root equal to zero; and two null-quaternions $N = \frac{1}{2}(1, \mathbf{n})$ and $\overline{N} = \frac{1}{2}(1, -\mathbf{n})$ - biquaternions of zero magnitude. All four elements of the light basis are zero divisors. Isotropic basis is required to formulate chiral algebra [7] [8] – mathematics native for the description of chiral spin wave functions and, as we conjecture, for genetic algebra.



Biquaternions of inner space

The usual algebra of biquaternions does a great job with field theory, or outer space. But how do we get the mathematics of inner space from the mathematics of outer space? To do this, we need a product of biquaternions different from (2). To get such a product, we have to turn the product (2) "inside out". To do that we will use an isomorphism between biquaternions and matrices. Then, remember that usual matrix multiplication has a form:

$$M_1 \odot M_2 = \begin{pmatrix} a_{11} & a_{21} \\ a_{12} & a_{22} \end{pmatrix} \odot \begin{pmatrix} b_{11} & b_{21} \\ b_{12} & b_{22} \end{pmatrix} = \begin{pmatrix} a_{11}b_{11} + a_{21}b_{12} & a_{11}b_{21} + a_{21}b_{22} \\ a_{12}b_{11} + a_{22}b_{12} & a_{12}b_{12} + a_{22}b_{22} \end{pmatrix}$$
(3)

In addition to usual multiplication of matrices

(3), we can introduce their anti-multiplication:

$$M_1 \otimes M_2 = \begin{pmatrix} a_{11} & a_{21} \\ a_{12} & a_{22} \end{pmatrix} \otimes \begin{pmatrix} b_{11} & b_{21} \\ b_{12} & b_{22} \end{pmatrix} = \begin{pmatrix} a_{11}b_{11} - a_{21}b_{12} & a_{11}b_{21} - a_{21}b_{22} \\ a_{12}b_{11} - a_{22}b_{12} & a_{12}b_{12} - a_{22}b_{22} \end{pmatrix}$$
(4)

As we see, contrary to usual matrix product, in anti-multiplication the products of row elements of the first matrix by column elements of the second matrix are not added, but subtracted from each other. Outer type of multiplication of biquaternions \odot corresponds to regular multiplication of matrices (3); inner biquaternionic multiplication \otimes corresponds to anti-multiplication of matrices (4).

Chiral algebra. A remarkable property of chiral algebra are two-sided operators: these operators act on quantities, such as the wave function, from both sides - right and left, and each side is using its own type of multiplication, inner or outer. We will see such operators further in our formulation of the Dirac equation (5). Chiral algebra uses biquaternions as usual relativistic algebra does, but represents them as "2+2" metric type. Hence we figure out specifics of the two spaces: outer space has metrics "3+1" while inner space has metrics "2+2".

Cyclic singularity

Electron as singularity

In the world of elementary particles, the presence of mass signs for singularity. In case of an electron the singularity is presented by point-like electric charge and magnetic dipole. Thus, the Dirac equation describes a singularity in time. As a singularity an electron deals with projections between inner and outer worlds and, as we assume, possesses a kind of consciousness. As we see below, the evolution of the wave function of an electron (or more generally a Dirac particle) is governed by the operators of chiral algebra.

Cyclic representation of the Dirac equation

The Dirac equation, defining the relativistic wave function, place a central role in quantum field theory. This equation describes the wave functions of elementary particles of half-integer spin including electron. By the means of chiral algebra, we obtained the cyclic representation of this equation [8]:

$$P^{-} \odot \overline{D} + D \otimes P^{+} = imF, \qquad (5)$$

(6)

where F is the particle biquaternionic wave function, $D = (\partial_t, \nabla)$ is 4-gradient biquaternion operator, and \overline{D} is its vector conjugated operator. In isotropic basis 4-gradient looks like: $D = 2(\mathbf{q}\partial_\beta + \mathbf{q}^*\partial_\alpha + N\partial_\xi + \overline{N}\partial_\eta)$. \widetilde{F} denotes a special cyclic permutation of the components of the electron's wave function in isotropic basis $F = \mathbf{q}f_\alpha + \mathbf{q}^*f_\beta + Nf_\xi + \overline{N}f_\eta$:



The transformation F is called cyclic conjugation. \odot is outer product, \otimes is inner product of biquaternions in chiral algebra. P^- and P^+ are left-chiral and right-chiral components of the wave function F correspondingly so that $F = P^- + P^+$. In isotropic basis left and right chiral states get clear expression: $P^- = \mathbf{q}f_{\alpha} + Nf_{\xi}$, $P^+ = \mathbf{q}^* f_{\beta} + \overline{N}f_{\eta}$.

Noise-immunity

In Cartesian coordinates, the cyclic conjugation is expressed in terms of a complex Hadamard matrix H_4 . As is well known, Hadamard matrices work in noise-suppressing algorithms of discrete information transmission. Specifically, Walsh functions used for signal encoding are constructed on their basis. The presence of Hadamard matrices in the Dirac equation indicates the informational aspect of this equation and also sets the bridge between this equation and the genetic code.

Linear and cyclic times

The direct gradient D is associated with the change of the wave function forward in time, while the reverse gradient $-\overline{D}$ is associated with the change of the wave function backward in time. Therefore, from the representation (5), we can conclude that the Dirac equation describes the relationship between linear and cyclic times that characterize the development of the wave function of a Dirac particle. Thus, we see how time flow is handled by a specific type of consciousness-singularity represented by a particle, as well as we obtain the vision of cyclic nature of singularity.

DNA and consciousness Genetic code The DNA code of all organic beings is universal, it is built on the basis of four nucleotides A, T, C, G (their nitrogenous bases) and their chains - duplets, triplets, and so forth. Each amino acid is encoded by one or more triplets-codons. In the case when the same amino acid is encoded by different codons, we are talking about redundancy of the genetic code. DNA nucleotides are split into complementary pairs in such a way that in the DNA double helix, each nucleotide on one branch corresponds to a complementary nucleotide on the other branch. Universality, redundancy and complementarity are the basic properties of the genetic code of living beings.

Matrix genetics

Yu.B. Rumer was the author of the first work that revealed the symmetries of the gene code, based on so-called strong and weak duplets-roots [3]. The Rumer's division was independently discovered by S.V. Petoukhov and became one of the bases of his theory of matrices of genetic inheritance [4][5]. Petoukhov genetic matrices clearly show a hierarchical fractal-like system of genetic code based on interconnected symmetric ensembles of nucleotide multiplets.

Algebraic model of DNA

Based on chiral algebra of biquaternions, we have constructed an algebraic model of gene nucleotide structures [7]. It happened that our chiral algebra provided the opportunities for adequate description of the basic amino acid coding scheme. Our algebraic model gave a complete or partial algebraic representation of such properties of DNA as complementarity, redundancy (degeneracy), strong and weak roots-duplets, and various symmetries, underlying the genetic code. In this way we were able to see the genetic code being a native application of chiral algebra in biology. In our model four nucleotides become a basis of biquaternionic space of genetic structures.

Biospin

In the original design of our model of the genetic code the biquaternions of nucleotides are left and right chiral states – we already saw them in the Dirac equation. According to spin logic each nucleotide may have a certain "spin" projection in the direction of one of three space axes. Figure below shows one of possible scenarios which fits our genetic model:



Fig. 3. Possible chirality-spin configuration of nucleotide biquaternions

Quantum informatics

A quantum information approach was already applied to the study of the genetic code, founded on the application of wave functions to the gene code [6]. Such wave functions determine the probability of certain nucleotide sequences to occur in a given DNA chain. It is noteworthy that 2-qubit nucleotide systems serve as the computational basis of this model, which in turn indicates a certain spin-like nature of nitrogenous bases and their multiplets. The concept of biospin supports this idea, whilst chiral algebra provides a new language for quantum informatics in general.

DNA and consciousness

Chiral spin-like and informational character of DNA genetic structures manifests its relation to the individual's consciousness. Out approach supports the ideas represented in [13], that DNA is the source of biological field, also serving a "gate" of our consciousness.

6. Conclusions

Let us outline the key features of our concept of consciousness:

- We all live in the same universal inner virtual world same way as we live in the same outer physical world. Both spaces are shared by all of us.
- Every living being has its own subspace in the outer world their organism, and its own subspace in the inner world.
- The inner and the outer subspaces of an individual are connected together by a field singularity which represents their consciousness.
- By virtue of consciousnesses of living beings, inner and outer worlds are united into one whole world.

- Consciousness cannot exist by itself it is the core property of a living being.
- Inner world is described by special mathematics chiral algebra. The relation between inner and outer worlds is skew-symmetrical.
- Virtual or potential events of inner world are projected into real events of outer physical world and reflected back into the images of inner world.
- When the direction of our attention is dominantly outward (directed to outer space), we are awake; when it is inward (directed to inner space), we are asleep.
- The nature of consciousness is quantum: inner world operates wave functions.
- A singularity has a cyclic character.
- Consciousness is a system-forming factor of the organism

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About the Author



Sergey Yakovlevich Kotkovskiy received his Master degree in Nuclear Physics and Elementary Particles at Moscow Institute of Physics and Technology in 1996. The scientific results obtained: nonlinear Maxwell equations, nullvector algebra, chiral algebra, biquaternionic theory of spin, algebraic model of DNA. Current main research interests include mathematical biology, theoretical physics, hypercomplex number algebras and analysis, theory of biological field.

Biological Interpretation of Consciousness - a Remark

The theory of 'Orchestrated Objective Reduction (Orch OR)' is highly controversial, which postulates that consciousness originates at a quantum level inside neurons and it is not a product of neural connections. The mechanism is a quantum process called 'objective reduction' that is orchestrated by cellular structures called microtubules. It is proposed that the theory may answer the hard problem of consciousness and provide a mechanism for free will. The hypothesis was first put forward in the early 1990s by Nobel Laureate for physics, Sir Roger Penrose FRS, and anaesthesiologist Dr. Stuart Hameroff. While generally accepted theories assert that consciousness emerges as the complexity of the computations performed by cerebral neurons increases, Orch OR posits that consciousness is based on non-computable quantum processing performed by qubits formed collectively on cellular microtubules, a process significantly amplified in the neurons. The qubits are based on oscillating dipoles forming superposed resonance rings in helical pathways throughout lattices of microtubules. The oscillations might be electric, because of charge separation due to electron spin, and

possibly also due to nuclear spins that occur in gigahertz or megahertz or kilohertz frequency ranges. Orchestration refers to the hypothetical process by which connective proteins, such as microtubule associated proteins (MAPs), influence or orchestrate qubit state reduction by modifying the space-time separation of their superimposed states. Microtubules are hollow tubes made of alpha and beta tubulin that are a part of the cell's cytoskeleton. Microtubules extend throughout the cell providing it with proper shape and keeping the organelles in place. They are the largest structures in the cytoskeleton and are about 24 nm thick. A key point is that the β subunit is up at the top and the α subunit is at the bottom. So, the microtubule itself has a polarity as shown in figure given below.



The α β subunits only go in in one direction. That is important because the two ends have different properties. In a typical cell, all the minus ends, where the α subunits are, cluster together in the cell center and the plus ends, where the β subunits are, are dispersed about the cell edge. Figure given below shows this phenomenon.



Axons of most neurons contain neurotubules with plus (+) end uniformly pointing towards the axon terminal and minus (-) end orienting towards the cell body. On the other hand, dendrites contain neurotubules with mixed polarities. Half of them point their plus (+) end towards the dendritic top and the other half points it towards the cell body. Penrose and Hameroff suggested that microtubules inside brain neurons orchestrate quantum vibrational superpositions by resonance, entanglement and memory, guiding wavefunction evolution to threshold for "orchestrated OR", events proposed to result in moments of conscious experience. Sequences of such moments give rise to our "stream of consciousness"

As per this biological interpretation, consciousness is confined to neuronal functions, which means that consciousness is a physical phenomenon. The question that arises here is what happens to the consciousness of an individual after 'death'? First of all, let us understand the meaning of 'death'. An individual is made up of five covers: (i) 'Annamaya Kosham' the physical cover, (ii) 'Pranamaya Kosham' the cover of energy, (iii) 'Manomaya Kosham' the cover of mind (iv) Vignanamaya Kosham' the cover of wisdom, (v) 'Anandamaya Kosham' the cover of bliss. When the physical cover and the cover of energy are removed, the individual is said to be in the state of 'death'. The individual in the state of 'death' still has the cover of mind, the cover of wisdom, the cover of bliss and 'active consciousness'. In fact, one never dies.

The Vedic statement "*Aakaashaat patitam toyam prati saagaram aagachhati*" explains this philosophy in a subtle manner; that is, every drop of water in the sky has to return to ocean, the place of its origin. So, every spatio-temporal entity is an image projected by the universal consciousness through a mystic layer called 'active consciousness'. After all, 'image' is a myth and an 'Ultimate Falsehood. 'Ultimate Truth' is the logical negation of 'Ultimate Falsehood'. How can then one realize universal consciousness ?

Passive consciousness is the totality of all entities. Active consciousness is the intrinsic reflections of passive consciousness. They are one and the same. Passive consciousness is SILENCE. SILENCE is ultimate.

Any 'entity', be it physical, logical or philosophical, is inextricably tied up with the three states 'Birth', 'Continuance' and 'Dissolution', and is perceived in the framework of space, time and consciousness. Then how can one interpret entities, especially life forms in a mathematico-biological framework ?