

A Proposal of Consciousness as Both a Fundamental and Emergent Property of the Universe

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The relationship that exists between interactions-complexity-consciousness (ICC) can be applied to degrees of consciousness at the smaller scales, e.g., as atoms and to degrees of consciousness at larger scales, e.g., the human brain. In this work I propose that the interactions obey the triadic dimensional vortical paradigm (TDVP) in where time, space, and consciousness are tethered from the origin point. As these interactions increase they ascend complexity at different scales and as the interaction-complexity value increases they give rise to higher degrees of consciousness. The higher degrees of consciousness can be feedback through the original process of the ICC-TDVP to give rise to even higher degrees of consciousness. This can be repeated an infinite number of occurrences in space and time. In this proposal the evolution of degrees of consciousness can be seen as a detailed self-replicating pattern which may be nearly the same at different emerging scales. Eventually, reset points or universal rewrite events occur, which is seen possibly at the level of DNA consciousness, cellular consciousness, and human consciousness. This theoretical work focuses on the development of a paradigm that interprets consciousness as both a fundamental and an emerging property.

Keywords: Complexity, Consciousness, DNA consciousness

1. Introduction

When humankind speculates on the phenomenon of consciousness the emphasis is expediently gravitated and fixated to the concept of human consciousness, cognition, and awareness. However, humankind struggles to comprehend what consciousness actually *is* and it is further perplexed in visualizing consciousness as an underlying substrate of the universe. On the other hand, the concept of consciousness means many different things to many different thinkers. This makes elucidation of defining what consciousness means exceedingly difficult, which has been pointed out in other works [1, 2].

In this work I will discuss a few topics and proposals that provide evidence that consciousness is a fundamental property of the universe. Of particular importance is the Neppe-Close thesis known as the triadic dimensional vortical paradigm (TDVP). Secondly, I will discuss the proposal of interaction-complexity-consciousness (ICC) and how this paradigm allows the evolution of consciousness.

Thirdly, I will discuss that during the evolution of consciousness there are reset points or universal rewrites particularly when consciousness reaches the level of DNA. I will also discuss previous works that demonstrate how DNA consciousness can be objectified on three dynamic levels and ultimately gives rise to human consciousness which is dictated by three neurogenetic phases. In this way, consciousness is also an emerging property.

2. The Triadic Dimensional Vortical Paradigm

At the core of the TDVP there is the idea of the unifications of three substrates- space (S), time (T), and consciousness (C) which form a STC triad [3,4]. Under this particular paradigm these three substrates are thought to be tethered together from the origin point of the universe and are inseparable, i.e., you cannot have C without S and T, you cannot have S without T and C, nor can you have T without C and S. The human brain (neuron-based consciousness or N-consciousness) can perceive these three substrates in different degrees

which are dependent on the domain of reality that is being perceived. This is possible because STC can reflect different dimensions. All dimensions have size and can be measured with higher mathematics, but I shall not address the math in this work.

The TDVP is a philosophical model which some consider unified monism. In this model, triadic space (3S), T, and C (also call space-time with a C-substrate) are always tethered together but can appear separated especially when they cross dimensions. The dimensions of extent, which STC move through, involve mathematical distinctions. Vortices are ubiquitous in nature and interface across dimensions, i.e., vortical indirection that allows a communication system through moving (spinning) curved vortices. The paradigm (or metaparadigm) is a theory of everything across the sciences and mathematics with unification of the infinite and finite. Thus, the result is a model of unified monism.

Hence, following this paradigm consciousness or C-substrate can be seen as a fundamental substrate of the universe that is tethered to space and time. This idea is upheld by many other thinkers and researchers in many different fields of study which can be construed, sometimes by default, as monism or panpsychism. However, how can C-substrate also be an emergent property if it is a fundamental property?

3. Interaction-Complexity-Consciousness

The phenomenon of interactions, at all scales, is intriguing. The interactions between quarks gives rise to different subatomic particles that in turn give rise to a vast variety of atoms. The human brain interacts with the internal and external environment to obtain and interpret information. Information travels as a result of interactions at all scales. So mysterious is this phenomenon of interaction is that when two particles do interact they become entangled, as pointed out by John S. Bell [5]. Two other emergent properties result from the phenomenon of interaction, i.e., complexity and consciousness. Hence, the phenomenon of interactions is so pivotal, that it is impossible to imagine the universe or everyday life without any interactions what so ever!

This brings us to the interaction-based model of consciousness which states that consciousness is the interaction of *things* (be it an organism, DNA molecule, or atom) with other *things*, the external environment, and more specifically the interaction of energy with other forms of energy/forces [6]. This model provides some advantages that no current definition can currently offer:

1. Surmounting some of the limitations that the anthropic and reductionist models impose.
2. The eradication of any exclusion criteria as to what does or does not possess consciousness, i.e., everything possesses a degree of consciousness.
3. This interaction-based model allows consciousness to be viewed within the dynamic framework of evolution- both as top-down and as bottom-up.
4. This definition allows the incorporation of quantum physics into the explanation of consciousness as there is a degree of consciousness at the quantum level and emerges to higher degrees.

As things interact they begin to become more complex, e.g., atoms become molecules. Secondly, as complexity increases the degree of consciousness increase as well. For example, a cell is more complex than a lipid or protein. Therefore this model of interactions transforms into the concept of ICC in where the degree of consciousness of any system is dependent on the interaction-based complexity of that system. Hence, according to this paradigm, consciousness can be seen as an emergent property. So the next question would be, how then, is consciousness both a fundamental property and an emerging one?

4. Connecting the TDVP and the ICC

First, let us start with connecting STC with ICC, by the C-substrate, which results in the configuration- STC-ICC. Thus, we start with STC in where C-substrate is a fundamental property tethered to space and time. As S-, T-, and C-substrate interact in varying amounts and across different mathematical dimensions these interactions occur which result in other observable phenomenon, e.g., entanglement and complexity. As *things* (quarks, atoms, cells, and so on) interact and form a system, the complexity of these systems, which can be macro or micro, increases. Consequently, so does the resulting degree of consciousness that emerges from this new system of interactions - C* or C*-substrate. This new emerging substrate, C*, is a new higher degree of consciousness.

Now let us image that C*-substrate re-enters or is feedback through into the STC, i.e., it is now tethered with space and time just as C-substrate was (see figure one). As C*-substrate is feedback or re-entered into the STC paradigm an infinite number of times, with the amounts of S- and T-substrate varying across different and fluctuating dimensions the result is infinite numbers of C*-substrates or $|C^*|^{\infty}$.

When this STC-ICC paradigm perpetuates infinitesimally, sometimes with slight variations, we see a trajectory of complexity explode and the

evolution of consciousness unfurls from a fundamental substrate to infinite, ascending, and emerging degrees of consciousness. Throughout this evolutionary trajectory we see the occurrence of universal rewrites or reset points.

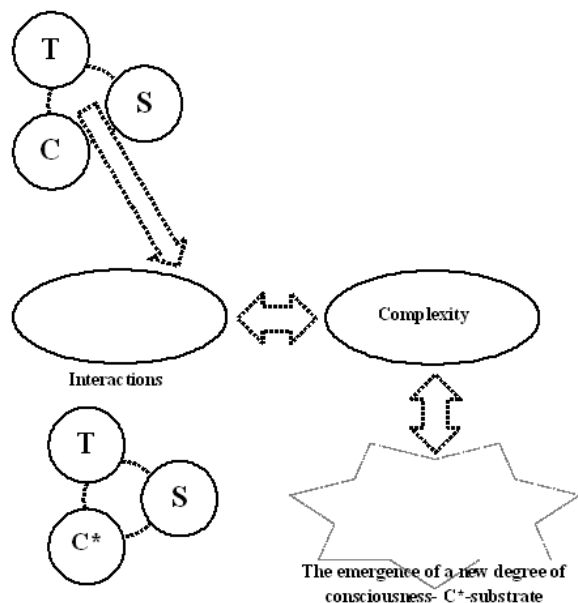


Figure 1. STC-ICC. STC are tethered together but can appear separated. As things interact complexity increases and so does the degree of consciousness. C* is now tethered with T and S.

5. Universal Rewrite and the Principle of Nilpotency

A universal rewrite system is one that has four elements- alphabet, start object, rules, and stop criteria; all of which are allowed to be varied [7]. This is based on the principle of nilpotency [8] as the start position is zero. However, when the algebraic quality is increased to a certain power it equals zero, i.e., it resets. A recent review of nilpotent quantum theory shows that it produces a coherent and integrated approach; as well as being an expression of the formation of a seamless self-organizing singularity state [9].

Let us start with the fermion as it is the perfect self-organizing system- bosons, nuclei, atoms, and molecules are constructed from fermions and can be described in terms of the same quantum mechanics, so are self-organizing [7]. As this process of self-organizing proceeds higher degrees of consciousness emerge up to the level of DNA. This is compatible with the chemical molecular basis or the RNA-DNA genetic code as productions of this self-similar universal self-organized semantic language which is subsequently

rewritten at higher levels of structural complexity- and in particular the molecular biological and neurophysiological [10].

What is so special about the emergence of DNA consciousness? At this point in consciousness evolution a reset point takes place and DNA becomes the new perfect self-organizing autopoietic system from which higher degrees can emerge- ultimately neuron-based consciousness.

6. DNA Consciousness

DNA consciousness was first proposed as a theory in 2004 and published in the literature in 2006 [1]. This theory has two main concepts: first that DNA is a degree of consciousness and secondly that DNA possesses the ability to give rise to higher, most importantly macroscopic, degrees of consciousness, which RNA alone cannot do. In previous works DNA consciousness has been objectified on three dynamic levels: 1) gene-gene interactions 2) interactions between DNA and other nucleic entities 3) interactions between DNA and the external environment [11]. Do make note of the importance of interactions.

The three dynamic levels of DNA consciousness underlay the driving force for cellular evolution and the emergence of multicellular organisms. At a particular point in the evolution of cellular consciousness the neuron develops. This key component will ultimately give rise to the human brain. When DNA consciousness gives rise to human consciousness this take place in three neurogenetic phases [12, 13]. The concept of neurogenetic correlates of consciousness (NgCC) has been reflected upon philosophically [14] and neurologically [15].

7. Conclusion

In this theoretical work I have explained and allied several important themes and paradigms- TDVP, ICC, universal rewrite/reset, and DNA consciousness. Moreover, by connecting the concepts of STC with ICC, by the C-substrate, we are able to visualize consciousness as both a fundamental and emerging property. Finally, it has been made translucent in this work how consciousness can evolve from a fundamental property into an emergent and ascending trajectory of infinite degrees of consciousness by way of the STC-ICC paradigm. In conclusion, the foundation has been laid down, but further architectural development will be required in order to conceptualize testable models in the future.

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