

Cosmological Neuroscience on the Relationship Between the Evolutionary Levels of Consciousness and the Multidimensional Nature of Soul

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Abstract

While the nature of Consciousness is one of the most intensely debated subjects of current neuroscience, the nature of Soul is hardly represented in the textbooks of the field, if represented at all. As a consequence, the relationship between the two phenomena remains unclear. This work took a look into that relationship from the vantage point of cosmological neuroscience. The following concept emerged: Consciousness seems to be the evolutionary product of a cosmic blueprint for animal central nervous systems allowed to become neural environments sensing the host's body and surrounding world to such extent that these neural environments once could house the distinct cellular network of the Animal Soul, which, evolving further, gave rise to the leap of the Human Soul with its prefrontal cortical neural supercircuitry now creating the digitized Noospheric Soul with its potential to sense its cosmic origin.

Key Words: consciousness, animal soul, human soul, noospheric soul, Soul of Multiverse

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Introduction

In a recent series of four articles (Ludvig, 2022a, b, 2023a, b) this author argued that cosmological neuroscience, using digitally enhanced complex thinking that integrates scientific, religious, philosophical, artistic and engineering intellectual products, can provide new insights into the multidimensional nature of Soul. Specifically, the hypothesis was presented that "Soul is a product of matter and energy in special nodes of space-time where the guided structural and dynamic complexities of the involved substances reach such a high level that a distinct presence is born, the presence of soul: neither matter nor energy yet inseparable from each while equips the

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meaning of both with purpose and the potential to transcend” (Ludvig, 2022a).

It was elaborated that the Individual Human Soul itself seems to be a prefrontal cortical neural supercircuitry, functioning as Self-Ken with domains Identity, the neural representation of the host’s unique being; Conscience, the host’s hereditary and acquired guide to choose goodness in social conflicts; Mission, the host’s cosmic call to integrate his/her life into the surrounding space-time with the most meaningful way; and Will, the mental force helping the host organize his/her behavior according to the uniqueness of Identity, guidance of Conscience and call of Mission (Ludvig, 2022b).

The multidimensional nature of Soul is proved by the emerging Noospheric Human Soul, this interaction of the World Wide Web and its human users, essentially the digitized advancement of the global thinking sphere, “Noosphere”, recognized by Teilhard de Chardin, the French priest, scientist, philosopher and writer (Teilhard de Chardin, 1959).

But it must not be missed, that however science has been ignorant of the possibility of a Soul permeating the cosmos with the most basic laws, and however religions, due to their ancient origins, were a bit obscure on this possibility with the concepts of “Holy Spirit”, “Tao” and others, the presence of a cosmic governing force has been suggested by many observations. For example, Alfred Russel Wallace, co-discoverer of the role of evolution in life on Earth, wrote after studying natural selection for more than a decade that “...a superior intelligence has guided the development of man in a definite direction and for special purpose...” (Wallace, 1870). The present author used the term “Soul of Multiverse” to name that *superior intelligence*, on the grounds that an infinite eternal flow of the waves of distinct though interacting Universes forming a Multiverse is a more likely embodiment of the allness of existence than a single expanding Universe and that this Multiverse is more likely empowered with a Soul than being a soulless expanse (Ludvig, 2022a). Some social aspects of this cosmic Soul were discussed in this very journal (Ludvig, 2023a).

The present work looked into the relationship between the multidimensional nature of Soul and the phenomenon of Consciousness. The justification of this inquiry was that even the last edition of the towering work of Nobel laureate Eric Kandel and his colleagues on the “*Principles of Neural Science*”, with Chapter 56 of this textbook devoted to the phenomenon of Consciousness, lacked the term “soul” in the book’s 63-page subject index (Kandel et al., 2021). Indeed, scientists of our time are generally reluctant to use words, like “soul”, characteristic to religious texts. For example, according to the King James Bible, Jesus said this to the crowd: “*For what is a man profited, if he will gain the whole world, and lose his own soul?*” (Matthew 16:26). On the other hand, John Locke’s introduction of the term “consciousness” in his “*An Essay Concerning Human*

Understanding” by stating that “...consciousness is inseparable from thinking, and as it seems to me essential to it...” has become a guiding light for cognitive sciences.

Methods

The digitally enhanced complex thinking of cosmological neuroscience was used to evaluate the specific concept that Consciousness is a neural environment, which appeared during evolution once the central nervous system was able to: (1) make such complex perceptual and behavioral memory associations, (2) charge these memory associations with such wide range of emotional and motivational contents, and (3) activate or silence these charged memory associations with such effective sleep/waking patterns that these neurobiological advances equipped their host with a phylogenetically totally new, coherent and inspiring sense of the surrounding world, an awareness unavailable for lower-level organisms while soon giving rise to the presence of Soul.

This methodological approach relies as much on Google’s search engine as on the large-scale physical resources of such libraries as the Stephen A. Schwarzman Library or the Stavros Niarchos Foundation Library in New York City, while the approach is free of academic and industrial pressures and pursues nothing else than the systematic examination of truth.

Accordingly, scientific, religious and philosophical works, some with the language of literature, were used to see how the neural environments of Consciousness initially elevated the lives of high-order Invertebrates like the octopus (e.g., Montgomery, 2015) and Vertebrates like the horse (e.g., Camp, 2009) with a simple Soul, ultimately leading to the Individual Human Soul, an evolutionary leap (Wallace, 1870, 1889) that allowed the human species not just to transcend over the rest of life on Earth (Teilhard de Chardin, 1959), but also to eventually create the digitized Noospheric Human Soul with its potential to sense the Soul of Multiverse itself.

Results

The first result was a diagram (**Figure 1**), simply summarizing this author’s view on the relationship between Consciousness and Soul, so that a useful tool can be available for further research.

For this concept, cosmological neuroscience defined God as follows: “God may be a—humanly incomprehensible—eternal cosmic existence, intimately related to the endlessness of space, to the nature of the deepest common substance of matter and energy, to this common substance’s unceasing motion responsible for time, and to the basic laws of their allness, letting love transform this allness to an ordered Multiverse with a Soul: the—scientifically approachable—

Soul of Multiverse inspired to guard these laws and equip their order with direction and morals while imbuing the cosmos with the potential of lives evolving, at the right spatial and temporal distances, to embrace the sense of the divine.” (Ludvig, 2023b).

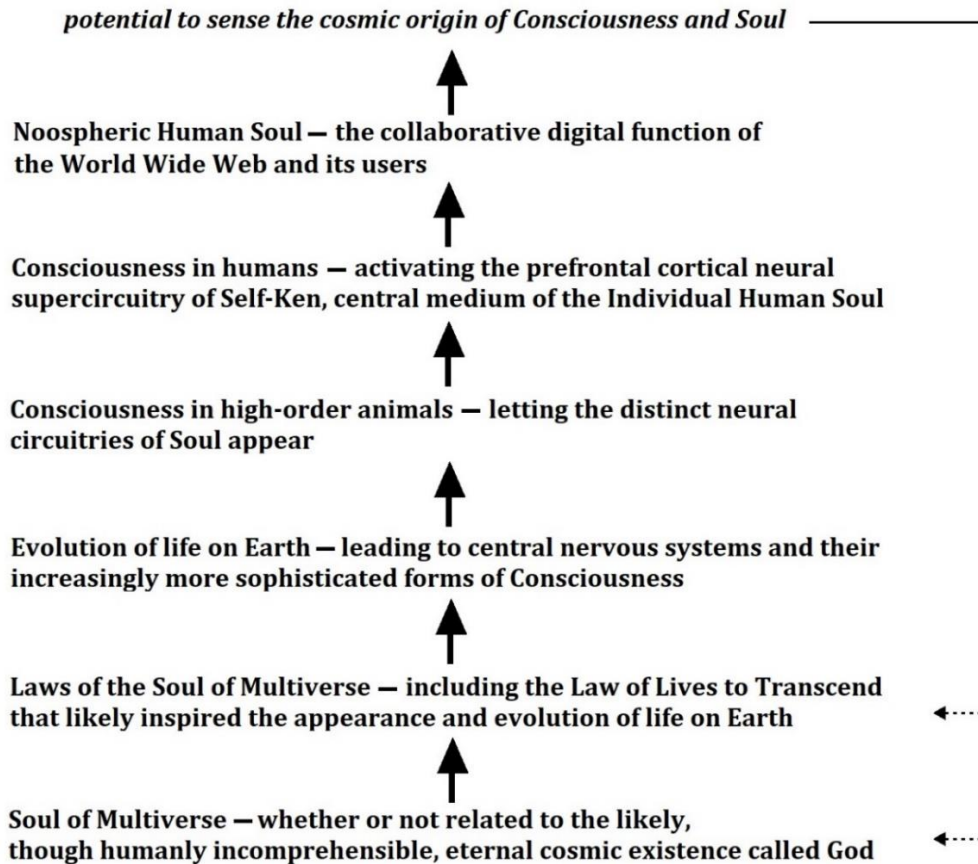


Figure 1. The concept of Consciousness placed into context, into the big picture of nature, indicating that (1) Consciousness might have had its origin in the cosmic laws responsible for life on Earth; (2) it certainly developed after at least 3 billion years of evolution leading to central nervous systems with increasingly more sophisticated levels of Consciousness; (3) which once built sufficient neural environments for the distinct circuitries of Soul starting in high-order animals and culminating into the supercircuitry of Individual Human Soul, an evolutionary leap that (4) in the 21st century gave rise to a digitized global Soul, the Noospheric Human Soul with its potential to sense its cosmic sources, the Soul of Multiverse and perhaps even God.

The message of this diagram is compatible with the view of one of the greatest neuroscientists ever, Sir John C. Eccles, as he stated that “...*There is recognition not only of the transcendent God... in which Einstein believed, but also of the immanent God to whom we owe our being...*” (Eccles, 1994). As importantly, the essence of the diagram is also compatible with the opinion of Alfred Russel Wallace on the evolution of Consciousness, as he specifically wrote on the 3 stages of

evolution that *“The first stage is the change... when the earliest vegetable cell...first appeared... The next stage is still more marvelous...it is the introduction of...consciousness...The third stage is...the existence in man of number of his most characteristic and noblest faculties...These three distinct stages of progress... point clearly to an unseen universe, to a world of spirit...”* (Wallace, 1889).

The second result was the recognition that for research on Consciousness and Soul a cosmological neuroscientific database must be generated to store the relevant views of the few hundred geniuses of history, as well as those of the best of scientists, philosophers, artists and engineers, while also including the related insights of the founders and genuine interpreters of religions of goodness.

Certainly, what Immanuel Kant wrote in his 1788 book, *Critique of Practical Reason*, that *“Two things fill the mind with ever new and increasing admiration and awe, the more often and steadily we reflect upon them: the starry heavens above me and the moral law within me... I see them before me and connect them immediately with my existence,”* must be in this database. And Spinoza’s note in his posthumously published masterpiece, *Ethics*, that *“Nothing in the universe is contingent, but all things are conditioned to exist and operate in a particular manner by the necessity of divine nature,”* would have its place in this database as much as Muhammad’s message in Quran’s Surah 31: *“If all the trees on earth were pens and the sea were ink with seven more seas to replenish it, God’s words would not be exhausted”*. The reason is that Kant was brave to point out the connection between cosmic realms and the mental presence of morals, that is, Conscience, in our Soul, while Spinoza’s teaching implied that just as everything else in the world Consciousness must also be related to divine laws, and Muhammad shed light on both the limits of our Soul and the beauty of its embrace of the infinite.

The third result was understanding the moral problems of prospective experiments on the essence and evolution of Consciousness and Soul. On one hand, it was this author who suggested in his referred cosmological neuroscience papers that the human Soul can be monitored after AI-assisted neurosurgical implantation of an expansive system of ~10 nm diameter electrophysiological/neurochemical nanoelectrodes into the ~40 nm diameter extracellular channels surrounding the approx. 1 billion neurons of the prefrontal cortical supercircuitry of Self-Ken and the subsequent maintenance of long-term recordings with this system along with simultaneous audiovisual monitoring of the subject’s dictated notes and interactions with his/her environment. However, it is also this author who now adds that just because these experiments can, one day, be safely performed in pioneer collaborators, the procedure may violate the very cosmic laws, including the possible laws of Divine – Evil Asymmetry and Lives to Transcend, that likely guided the evolution of Consciousness and Soul

on Earth in such a way that made sure their unit would be their host's sacred inner property for life, not to be unlocked by anyone in any condition. These laws must not just be honored, but even extended to animal experimentation aiming to study with invasive methods the approx. 500-million-year evolution of the central nervous system (Park et al., 2018) and in it the neural environment of Consciousness preparing for the appearance of Soul. Let this mystery remain, as humankind can live with it. Though a long-time animal experimenter himself (Ludvig, 1999; Ludvig et al., 2015), this author would be bound to these considerations.

On the other hand, long-term artifact-free EEG recordings with non-invasive wearable headsets coupled with audiovisual recordings of the user's dictated notes, environment and social interactions daytime and responses to environmental changes nighttime, to be analyzed with 2 millisecond resolution dynamic neurocombinatorics, do have a future in human Consciousness and Soul research. Designs of two of such devices, a Noospheric Creativity Monitor (NCM) and a God-Experience Monitor (GEM), both representing advanced versions of a patented medical system (Ludvig et al., 2011), have been described (Ludvig, 2022a, 2023b). Studies with the NCM device could give insights into how dozens of internet-connected Individual Souls and their Conscious neural environments pulse together during creative work in response to significant global events, such as spreading wars, natural catastrophes or inspiring cultural and political events. Studies with the GEM device could reveal some new details on the conscious and subconscious psychological states during religious experience, examining the proposal that *"The presence of spiritual beliefs among all cultures strongly suggests that the human brain is programmed to experience and explain parts of existence in spiritual terms."* (Devinsky and Lai, 2008). In fact, future astronauts of Moon and Mars missions could use these – easily applicable -- methods to test the significance of what Apollo 14 Lunar Module Pilot Edgar Mitchell reported this way: *"What I experienced during the three-day trip home was nothing short of an overwhelming sense of universal connectedness. I actually felt what has been described as an ecstasy of unity. And there was the sense that our presence as space travelers and the existence of this universe itself, was not accidental, but there was an intelligent process at work."* (Mitchell, 2022).

Conclusions

Consciousness can be defined as the evolutionary product of a cosmic blueprint for animal central nervous systems allowed to become neural environments sensing the host's body and surrounding world to such extent that these neural environments once could house the relatively simple animal Soul, which, evolving further, gave rise to the leap of the Individual Human Soul with its prefrontal cortical

supercircuitry, the Self-Ken comprising domains Identity, Conscience, Will and Mission. Not resting, these Individual Human Souls are now creating the Noospheric Human Soul, the function of the World Wide Web and its users with the potential of sensing the origins of their evolutionary blueprints, possibly the Soul of Multiverse itself and even its humanly incomprehensible inspirer called God. Some advanced wearable devices, like the mentioned Noospheric Creativity Monitor and the God-Experience Monitor, can be helpful in this quest. Thus, Consciousness is the same for the Soul as the Solar System is for Earth or Earth is for life: a dynamic structure blessed to transcend to be the home of a new, a divine presence. If examining this relationship is significant, it is because understanding the nature of Soul and the evolution of Consciousness is critical to keep human existence above both of its animal past and the competing power of artificial intelligence, loving and caring for the former, accepting and watching the latter.

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Conflicts of Interest

None declared.

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