Article

Mesostratum/Physiostratum, Entanglement & Consciousness

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Abstract

We argue that quantum entanglement and nonlocality prevail in mesostratum hyperspace. Since all physical measurements are made in the physiostratum, we are confronted with a paradox. The paradox is readily resolved by recognizing that the mesostratum and physiostratum are adjacent realities and that measurements in the physiostratum reflect phenomena occurring instantaneously in the mesostratum. We cite empirically-observed quantum entanglement and the unique relation with consciousness phenomena.

Keywords: Quantum entanglement, non-locality, mesostratum, physiostratum, adjacent realities.

Introduction

Manifestly, quantum entanglement and nonlocality prevail solely in the mesostratum hyperspace [1]. This leads to a paradox since any measurement of a property of a physiostratum particle is seen as acting on a distant particle, changing its original quantum property by a specific amount. In the case of entangled particles, such a measurement will be on the entire entangled system. It thus appears that one particle of an entangled system senses a measurement has been performed on the other, and with what outcome, even though there is no known means for such information to be communicated between the particles, which at the time of measurement may be separated by arbitrarily large physiostratum distances. Since all physical measurements are made in the physiostratum, we are confronted with the paradox. The paradox may be resolved by recognizing that the mesostratum and physiostratum are adjacent realities and that measurements in physiostratum space-time reflect phenomena occurring instantaneously in the mesostratum hyper-space-time. We develop this idea with examples of empirically-observed quantum entanglement.

Quantum entanglement is an area of active research and its effects have been demonstrated experimentally with photons, neutrinos, electrons, buckyballs, and even small diamonds. The electron shell of multi-electron atoms apparently consists of entangled electrons because ionization energy can be correctly calculated only by consideration of electron entanglement. Femto-second transition spectroscopy, reveals that during the photosynthesis of plants, entangled photons may exist. An efficient conversion of the photon energy into chemical energy is conceivable assuming quantum entanglement.

Current research is focused on the utilization of quantum entanglement effects in communication. According to the formalism of quantum theory, communication between entangled quantum entities

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happens instantly. It is not possible, however, to use this effect to transmit classical information at faster-than-light speeds. In 1997 Nicolas Gisin at the University of Geneva demonstrated non-local quantum correlations between particles separated by over 10 kilometers. But instantaneous correlations attributable to mesostratum entanglement cannot be used to transmit classical information faster than light in the physiostratum.

Quantum entanglement is often interpreted as allowing communication of information at faster than light speeds in cosmic space. Apparent superluminal motion is observed in radio galaxies, blazars, and quasars. The effect can be explained as an optical illusion caused by objects moving in the direction of the observer when the speed calculations assume it does not. Calculations show these objects have velocities close to the speed of light relative to a local reference frame.

The mesostratum has been studiously explored, e.g., with Richard Feynman's path integral formulation and Edward Witten's M-theory. Theoreticians have found that the mesostratum contains a virtual infinitude of mathematical resources that seemingly have an independent existence of their own. We conclude that mesostratum dynamics, force fields, electromagnetic waves and fields, and mathematical objects instantiate the properties and interactions of quantumthings and quantumthing agglomerations in the physiostratum.

Quantum Entanglement in Mesostratum

Quantum entanglement exemplifies the enigmatic, intricate interrelation of physiostratum quantumthings and mesostratum continuumthings, like fields and strings. It is useful to consider how mesostratum resources create and control particles and massive quantumthing agglomerations that populate the physiostratum [2].

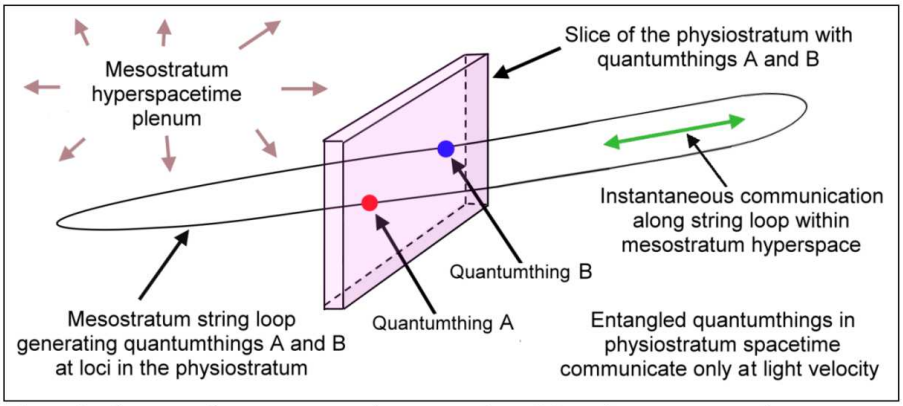

Figure 1 - Concept of quantum entanglement as viewed from the mesostratum hyperspace.

As depicted conceptually in Figure 1, quantum entangled pairs (such as electrons and positrons) arise at mesostratum superstring intersections with physiostratum space-time parcels. Instantaneous communication between these quantumthings is depicted as occurring along a shared string loop. Quantum entanglement involves superluminal transmission of information, but it cannot be ascribed to physiostratum space-time information transfer which may occur only at light velocity. Quantumthing pairs are apparently instantaneously entangled with each other through string loops in mesostratum hyperspace.

Mesostratum hyperspace is by our definition devoid of time as we measure it in the material physiostratum. Communication along hyperspace fields and strings is instantaneous and reversible. Moreover, spatial distances and measurements in hyperspace are undefined by and unrelated to physical space and time. In addition to their theorized vibrations, string loops may have twist and other abstract attributes. Since string properties regulate the properties of the quantum particles that they generate in the physiostratum, it is to be expected that measurements and manipulations applied to particle A will be concordantly exhibited by particle B, which shares the same string loop and its properties, as illustrated in Figure 1.

Some theorists suggest that materialized quantumthings in the physiostratum are holographic projections. This holographic interpretation is supported by the idea that quantumthing agglomerations are projections from mesostratum hyperspace strings, loops, branes, etc. In any case, individual quantumthings, their motions and interactions, are governed by entanglement, energies and forces of the mesostratum.

There is accumulating support for declaring that the emergence of life and thinking beings represent a process of information transfer from a universal consciousness to the material world. The result is human consciousness that transcends material neural systems and their originating DNA. The hypothesis is that the entire life-cycle, say of the butterfly - from egg to caterpillar to chrysalis to butterfly to egg - exists holographically, instantaneously in the mesostratum, complete in every essential and minute biological detail. Of course, all mesostratum butterfly specifications are encoded in butterfly DNA which unravels as the butterfly - is realized stage by stage, sequentially in physiostratum space and time [3].

Whether we speak of butterflies, roses, humans, planets, or stars it is apparent that all undergo cycles that are patterned and that each stage of the respective cycle is orchestrated down to the finest detail and mathematical form. We deduce that these implicit designs, patterns, forms, and governing laws exist transcendently, apart from the physiostratum. We argue that these designs reside in the mesostratum which also provides instrumentalities enabling human consciousness to communicate with and manipulate the objective realities it discovers in the physiostratum. Thus, the physiostratum provides the material venue for sequential ontogenetic realizations.

The material realization of a neural network apparently generates the epiphenomenon of consciousness. We suggest that holographic templates pre-exists the realization and programming of DNA and that mesostratum loops are the means by which originations and modifications of diverse species are accomplished [4].

Quantum Entanglement in Consciousness

We assume the transcendent nature of human consciousness and its access to mesostratum resources, and that consciousness transcends mere self-awareness which resides essentially in the physiostratum - as a part of the neural system and its embodiment. The idea of the transcendence of consciousness presumes the intertwined reality of the mesostratum-physiostratum and associated download-upload loops connecting mind and body. Therefore, we argue that our *minds* are simultaneously in a transcendent mesostratum and material physiostratum. The supernal aspect of human conscious experience is explainable if it is presumed to be mediated by quantum entanglement and signal loops in the mesostratum which influence physiostratum neural network communication phenomena [4].

Hu and Wu argue " . . that quantum entanglement originates from the primordial spin processes in non-spatial and non-temporal pre-spacetime [the mesostratum]". . . . They observe that this implies "interconnectedness and inseparableness of interacting quantum entities which play vital roles in biology and consciousness and, when better understood and harnessed, . . . have far-reaching consequences and applications in many fields such as medicine and neuroscience . . ." [5]. The authors seize upon the importance of spin networks in the neural basis of consciousness and upon the corresponding significance of the correlated spins of quantum-entangled particles, e.g., particles A and B in Figure 1 [6].

Hu and Wu theorize that consciousness is intrinsically connected to quantum mechanical spin and that spin is the fundamental 'mind-pixel' on which one can build a qualitative model of quantum consciousness. Their fundamental view holds that since spin is a primordial self-referential process driving quantum mechanics, its inherent entanglement and non-locality may be assigned to consciousness. We can then argue the transcendent nature of consciousness which is non-local, that is, unconfined within the neural network or in physiostratum spacetime. In this sense consciousness spans and actually transcends the adjacent realities: mesostratum and physiostratum [7].

One can draw support from growing literature - avoiding a reductionist perspective - to justify the essential perspective that spin represents a mind-pixel of consciousness and explore further the nature of spin to determine if the assumed properties are present. Hu and Wu conclude that these properties are indeed endowed to spin by its entangled nature. They infer that the probabilistic structure of quantum mechanics is due to the self-referential collapse of spin state which is conceptually entangled, non-local, and hence non-computable [8].

Admittedly, a complete theory of the entangled consciousness/spin process is unavoidably semantic, and much needs to be based on subjective information that may perhaps be garnered from mesostratum exploration. Arguably, the best instrument for that exploration is the human mind. The ultimate question appears to be "Is everything connected?" A corollary question may be "Is it possible to perceive without the use of the ordinary senses?" There appear to be gifted individuals who can perceive psychically what is occurring thousands of miles away or what is occurring in the minds of others nearby. Indeed, Dean Radin argues that psychic phenomena such as telepathy, clairvoyance, and psychokinesis are real [9]. His findings are based on scientific evidence from thousands of controlled laboratory tests that set the stage for a rational understanding of psychic experience in connection with the adjacent mesostratum and physiostratum realities.

Consciousness Explores Plato's World

Plato's world of perfect forms as described by Roger Penrose may be taken as a subset of the mesostratum. Penrose, argues that we discover the laws of nature in Plato's world of perfect forms. He elaborates on his own experience with Plato's world and diagrams its relation to the physical world and the mental world [10]. Does Plato's world actually exist, in any meaningful sense? Penrose affirms: "This was an extraordinary idea for its time, and . . . is indeed an immensely valuable one." He tells us to be careful to distinguish something outside ourselves, with a reality that lies beyond what each individual can experience in the physical world.

Penrose concludes that the Platonic world of perfect forms exists and that nature and the mind draws from and depends upon its inexhaustible reservoir of ideal entities. Although perfect forms are not found in the physical world, there is ample evidence that nature utilizes the mathematical objects and formulae of Plato's world. Penrose asserts a remarkable interplay and communication among the triplet he designates as the Platonic, the mental, and the physical world. The interplay is manifested by the manner in which mathematical discoveries, experimental results, the concrete world, and human consciousness are intertwined via the transcendent aspect of Plato's world [11].

Discussion

The paradox of quantum entanglement is observable but difficult to resolve unless the adjacent realities of the mesostratum and the physiostratum are contemplated, and recognizing that physical measurements in the physiostratum reflect quantum entanglement phenomena occurring in the mesostratum. The essence of the paradox is that particles can interact in such a way that physiostraqtum measurement of one particle instantaneously affects the other distant particle - which would involve information being transmitted faster than light as forbidden by the theory of relativity.

In an attempt to resolve quantum entanglement, the Einstein-Podolsky-Rosen EPR thought experiment claimed to demonstrate that the wave function does not provide a complete description of physical reality and should be extended with hidden variables. The usual modern resolution is to insist that the property to be measured has meaning only when analyzed for the whole system while the same property for the parts individually remains undefined. This does not imply that the measurement of one particle influences the measurement of the other, therefore it does not imply any form of instantaneous non-local action. This modern resolution circumvents the need for hidden variables, non-locality, or entanglement in order to explain the phenomenon [12]. A preference for the latter resolution is supported by experiments suggested by Bell's theorem, which exclude some classes of hidden variable theory. Both EPR and Bell's theorem view the entanglement paradox from within the physiostratum and omit the notion that wave functions and hidden variables reside - to date, virtually inaccessibly - in the mesostratum.

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