The Irreducibility of Mind: Is the Mind Irreducible?

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Summary:

Freud's closed system model and closed-system neurobiological models of psyche are still lingering to cognitive sciences. There has been constant intellectual battle between the adherents of reductionist and non-reductionist ideologies. In the 20th century the brain was bestowed more importance than the mind. From the perspectives of reductionists, consciousness is nothing more than a causally ineffectual by-product of the grinding of our neural machinery and nobody is in charge of such brain activities. Reductionists surmise that humans are electrical animals with a transient existence. Neuroscientists have been criticised for diminishing the mind to a scientific nullity making consciousness to a subjective illusion. A reductionist, mechanistic and materialistic model of the mind is wholly inadequate to explain the whole subjective human experience. Mystical experiences and findings of survival research have started questioning reductionist philosophies and suggest the view that mind is irreducible. Quantum consciousness may be a bridge between brain and higher consciousness-there may be consciousness upon consciousness. We may require a new model of brain-mind-consciousness complex and a multipart model could accommodate the varied subjective experiences of humans. Theories of mind have been like fashions in architecture, a new fashion to be replaced by an old one with modifications. Human evolution might be taking place in two parallel biological and spiritual streams. The material body is ultimately composed of star dust, but blended with it is the nonmaterial Divine dust, and this paper is an attempt to verify whether "the whole is greater than the sum of the parts".

Key words: discarnate survival, mysticism, reductionism, non-reductionism, multipart model

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Introduction

Henry H. Bauer maintains that a strict criterion of reproducibility would be inapplicable in the study of subjective phenomena of human beings (Bauer, 2017; 2018). Observations and measurements should be reproducible to get scientific accolade and such a rule is applicable in the study of inanimate objects, but not practical in the case of human beings as they are inherently unreproducible. Reductionism is the assumption that nothing can be greater than the sum of its parts. In the reductionist view, mind is an epiphenomenon – caused by physical phenomena and incapable of causing anything. According to non-reductionists, such reductionist views are like believing that Olympic pool created the Olympic swimming events held there (Haisch, 2006). Reductionists promulgate the view that behaviour and mental processes should be explained within the framework of basic sciences. There may be different types of reductionist viewpoints, the ontological, the methodological, and theoretical (Tarlaci, 2013).

A reductionist, mechanistic and materialistic model of the mind is wholly inadequate to explain the whole subjective human experience. A reductionist Biophysicist model of consciousness fails to accommodate mysticism. Mystical experiences tell us more about the founding principles of reality. Many contemporary scientists portray mystical experiences as subjective illusions or mirage. Brain changes may be intrinsic to mystical experiences, but that is not evidence that the brain generates them. Computational theories or bio-physicist theories of mind and consciousness cannot explain mystical experiences. The concept of shadow matter universe has wide ramifications in cognitive sciences. The cross-pollination of ideas between

astrophysics and parascience may lead to more satisfying theories of the mind. Shadow matter body and brain is a novel concept and that is useful in filling many gaps in cognitive sciences, in parapsychology and in survival research. This concept may usher physics into parapsychology and may contribute to the long-awaited grand Theory of Everything. The lighter shadow matter body and dark plasma theories have brought the concept of mirror body, astral body and celestial body into the realm of physicist's imagination.

Particle physics came to have more explanatory value in parapsychology when electrons are no longer thought of as particles orbiting the nucleus of atoms, but are spread through all of space like a cloud as probability waves which only collapse into their space-time location when a conscious observer makes a measurement. In the uncertain quantum world, velocity and position of the electron remains unknown at the same time. There is only a statistical probability that the electron will appear where it is expected to be. It can just materialise millions of miles away taking zero time to get there. Bypassing space and time, there exist a fundamental non-locality and interconnectedness in the cosmos. Quantum theorists posit that quantum mechanical phenomenon such as quantum entanglement (unified particles which became separated remain connected over distance and time), uncertainty (precise location and momentum of quantum particles are undetermined) and superposition (particles can exist in multiple possible states or locations simultaneously) may play an important part in the neurological functions and could unmask some of the mysteries of consciousness. Henry Stapp holds the view that the fundamental process of nature lies outside space-time but generates events that can be located in space-time and Amit Goswami has opined that the universe exists as formless potential in myriad possible branches in the transcendent domain and becomes manifest only when observed by conscious beings (Goswami, 1993).Our physical world has structural stability because the probability wave has been generated by millions of individual consciousness pooled together over time. The transition between classical and quantum world is described as quantum reduction or decoherence. Consciousness is described as a self-organizing process on the edge between these two worlds. Particle physicists still do not agree how to interpret wave collapse and some even think it is a philosophical issue.

Quantum physics have also led to the development of ultra-reductionism ignoring the fact that quantum is only the bedrock of matter. Kelly et al and the neuroscientist, Mario Beauregard have made serious attempts recently in challenging the reductionist views of consciousness and to put the derailed cognitive sciences back on track (Kelly et al. 2007, Beauregard 2021). Consciousness and mind have been sometimes undistinguished in the scientific literature even though they are dependent on each other. Now that the new speciality of immunopsychiatry which is even dethroning the supremacy of the brain is coming of age (Berk et al.,2021,Khandaker et al. 2021,Teixeira et al.2019,Pandarakalam, 2022) consciousness studies have to be prioritised lest human beings would be reduced to electrical animals.

Many of the recent studies on consciousness apparently represent a departure from the beaten track of reductionist materialism. We cannot define consciousness but only describe it and currently it is being described merely according to the changing world picture drawn by the particle physicists. There is no precise definition of mind or consciousness and sometimes both are undistinguished, but they are interdependent. Stevenson (1980) defined mind as a part of a person in whom the processes and contents are inherently private – they are observable only by introspection. After evaluating forty aspects of consciousness, Vimal (2009) concludes that the prospects for securing anything resembling a generalised integral theory or independent definition of consciousness appear far-flung. Traditionally, consciousness was a monopoly of philosophers until neuroscientists entered this challenging arena, and they "explained it away." Contemporary philosophers appear to have been helplessly swinging with the reductionist tides in cognitive sciences except Stephen Braude who has made a survivalist approach

and suggested that some form of Cartesian dualism may be required to accommodate discarnate existence (Braude, 2003).Smythies drew attention to human limitations, concluding his conjectures on higher dimensional spaces by comparing our situation to an imagined race of scientist fish living at the bottom of the sea and constructing a system of physics, which they considered, gave a complete account of events of their world (Smythies, 1988). Their scientific system would not include any mention of the surface of the sea because they had never seen it – nor would they even be aware of its existence. Our scientific ignorance and fundamental human limitations become evident when investigating the unphysical part of body and mind, and post-mortem existence and the non-physical component of consciousness.

Imperceptibility Problem

The Newtonian utterance that nothing invisible exists has been a roadblock in exploring the invisible. The discovery of neutrino particles has initiated a paradigmatic shift in the world views of post Einsteinium scientists. Neutrinos are tiny, subtle subatomic particles without any electrical charges and they do not couple with electromagnetic forces, one of the fundamental forces of the universes. Consequently, their very presence is concealed. Most of the neutrinos pass through the earth unscathed. From these reflections, Robert D. Klauber argue that undetectable "neutrino-like particles "may exist and pave the path to a belief that higher dimensions and the mind "substance" could be formed of such obscured particles (Klauber, 2000). These higher dimensions could obviously be beyond the perceptibility of our physical senses and undetectable with the present day instrumentations. These proposals make the claims of classical physics whose philosophy is that no invisible things exist, irrelevant.

We perceive only when particles in our sense organs are coupled to the particles transmitting particular properties from the object and if there is no coupling, there is no perception. Trillions of neutrinos pass through matter virtually without our being aware of their presence. There may be a variety of neutrino-like particles, in the sense that they are tenuous and imperceptible, and it may be conjectured that the extra cerebral component of the "mind stuff" may be partly or fully composed of such diverse particles but we may remember that our material body is made up of leptons and quarks. Klauber suggests that subtle realms may be made of such "neutrino-like particle families" and can coexist with the physical world of ours without our being aware of their existence. Thus, extra dimensions have been postulated based on elementary-particle physics evidence and the possibility of our consciousness drifting over to other dimensions has been speculated (Bryan, 1999, 2000; Antoniadis et al., 1998). Borrowing ideas from neutrino-physics, we could bring any number of invisible extra-dimensions to our scientific imagination. Restricted to empirical evidence alone, psychology has ceased to be the study of mind and has become a mess (Gebelein, 2018).

Neuro-computers

In the mid-20th century computationalism became a prominent corollary to cognitive sciences. According to the proponents of this view, consciousness is an illusion evolved from a neuro-chemical complexity of material brain by chance. It has been fashionable in the second half of the last century to portray brain as a computer with neurones and their synapses as switches, but computer analogy fails to explain the mechanism by which brain generated thoughts and feelings. If a software expert develops a programme that beats a chess grand master, the computer will not be able to recognise its victory. Many observations suggest that the neurotransmission in the brain is too slow to account for many coordinated spontaneous reactions to take place and ending them abruptly. The analogy between brain and computer is very superficial. Polkinghorm questions such a reductionist view by asking if our mental life is nothing but the humming activity of an immensely complexly connected computer-like brain, who is to say whether the programme running on the intricate machine is correct or not (Polkinghorne, 1986). Haldane wondered if our mental processes are determined wholly by the motions of the atoms in our brains, we have no reason that our beliefs are true (Hamdane, 1945).

Quantum Mind and Ultra reductionism

Sir Roger Penrose, in his "Emperor's new mind" argues that consciousness is an actual physical process, a sequence of quantum state reduction connected by a specific quantum formula to an objective threshold inherent in space time geometry (Penrose,1989).He noted that consciousness transcends formal logic systems and known laws of physics. Human beings can always find a new way of looking at something but algorithms can't. If algorithm could generate new algorithm, by definition, the outcome would be part of the original algorithm; human mathematicians are not using a knowable sound algorithm in order to ascertain mathematical truth. He argues that deterministic non-algorithmic process may come in play in the quantum mechanical wave function reduction, and may be harnessed by the brain. In that case, conscious experiencing, together with non-conscious mental processes, may be a qualial property of quantum reality in which the apparent opposites of experiential reality and inferred physical reality are one way or another reconciled. Quantum world is where paradox reigns and opposites merge to sameness. Stuart Hameroff suggest that ideas start out in superposition in the preconscious and then wind up in conscious mind as the superposition ends and waveform collapses. (Hameroff, 1996; 2006; 2014; Penrose, 2015). According to him, the collapse is where consciousness comes in and consciousness is seated at the edge of quantum reduction or collapse of waves between the quantum and classical world. Thus there may be neural and quantum computers. Penrose and Hameroff showed how a tubulin based quantum messaging system could act like a huge quantum computer that might be the seat of our conscious experience. It is not yet established whether quantum mind is controlling the brain or the other way.

According to Max Tegmark's calculations, the neurons in brain are too warm to be performing quantum computations(McTaggart,2001). The warm and wet inner environment of brain does not allow any long time entanglement and superposition of two functional units and pose obstacles to explain the computational activity of the brain. Whatever the brain's quantum nature is; it decoheres far too rapidly for the neurons to take advantage of it and is unlikely brain evolved quantum behaviour. David Chalmers who distinguished the hard problems of consciousness-qualitative phenomenal experiences or the qualia holds the view that they are hard to explain even with quantum theories, and argues that consciousness is a fundamental constituent of the universe (Chalmers, 1995). Walker (2000) argued for the existence of disembodied "proto-consciousness". Proto –consciousness which is an elementary form of consciousness may be the building block of human consciousness. Such an assumption is a weak form of panpsychism. Proponents of panpsychism and proto-consciousness argue that in addition to four known forces of the universe, there may be another force responsible for human consciousness. Proto consciousness is supposed to exist in the Planck scale of fundamentality in space-time geometry. Figuratively, it is considered as the mud where the lotus of consciousness blooms. The proponents of this hypothesis are uncertain about its survival after physical extinction and also do not propose that it existed before the Big Bang. The counter argument is that consciousness lacks extension and other spatial properties and how it can arise from matter in space unless we change our concept of space. For panpsychism to be true, we need a new concept of space and that is currently not available. So far Physicists have a functional approach to solve the problem of consciousness

Orch-OR theory of Penrose and Hameroff may be useful in explaining the lower level of consciousness (Hameroff, 1996; 2006; 2014), and it does not exclude higher levels of consciousness. To put this quantum theory simply, the microtubules function like "solar panels" absorbing consciousness which is the fifth force in the universe. Microtubules are polymers of tubulin that form part of the cytoskeleton and provide structure and shape to eukaryotic cells.

According to the informational model of consciousness, consciousness is a tool to know ourselves and to explore the universe and

interpret it (Gaiseanu, 2016; 2017a; 2017b; 2018a; 2018b; 2019). To quote from Gaiseanu, "consciousness could be defined as an informational dynamic-reactive-integrative state for the sentient exploration of internal and external reality of the body, by detecting, storing, operating, processing of information and decision making, with feed-back effects toward inside and outside of the body, to adapt to the needs of the organism and to the environmental conditions, for survival…"(Gaiseanu. 2019). There is not much room in this model to accommodate the higher subjective experiences although Gaiseanu has made an attempt in this respect (Gaiseanu, 2018a). He argues that consciousness is anti-entropic entity like the dark-matter field. Laszlo et al have opined that from the perspectives of the evolving paradigm transmission theory, components of consciousness may exist beyond the brain just like TV programmes exist even when the receiving set is turned off (Laszlo et al, 2016).

Lighter Shadow Matter theory-A Structural Approach

Borrowing the Shadow matter concept from astrophysics Gerhard D Wassermann has introduced a theory of shadow matter body in parapsychology. According to his hypothesis, two interlinked bodies and brains exist in man, first an ordinary matter body and brain as described by the medical scientists, plus a lighter shadow matter body and brain, whose constituents are composed of lighter shadow Matter (Wassermann, 1993; 2001; Stokes, 1993). Dark Matter is a new player that could fill the gap between quantum physics and the physics of macrostructures (Gaiseanu, 2019). Wassermann's shadow matter brain has obvious shortcomings to explain the varied human subjective experiences.

Differing from the traditional one brain view, Gerhard Wassermann (Wassermann, 1988.1993) has made a new structural approach to quantum consciousness and they favour discarnate existence. Their views are less talked about in scientific circles. The concept of shadow matter universe has wide ramifications in cognitive sciences. Shadow matter body and brain is a novel concept that fills many gaps in cognitive sciences, in parapsychology and in survival research. This concept may usher physics into parapsychology. Stevenson noticed that Wassermann contributed valuable comments on several important issues in scientific research like giving more importance to explanation than prediction in the testing of scientific theories (Stevenson, 1995).

The astrophysical observation that there is a missing mass which may constitute 90 per cent of the universe is comparable with the Freudian principle that only one tenth of the mind is accessible to consciousness – like the metaphorical tip of an iceberg – while the rest is unconscious. The concept of shadow matter is derived from the string theory in physics (Kolb, Seckel, and Turner, 1985). The existence of so-called dark matter is inferred from its gravitational effect on visible objects. This is analogous to making inferences about what a person is seeing by observing the expressions on the face of a person looking through a window. Galaxies rotate and move about one another, indicating that they are enveloped in haloes of dark matter (Powell, 1994). We do not know what this matter is made of, though there are suggestions propounding that the universe contains a multitude of neutrinos. Normal matter consists of baryonic matter (protons, neutrons and electrons). Dark matter is thought to consist of massive compact halo objects (better known as MACHOs) and mysterious shadow matter composed of unknown non-baryonic subatomic particles designated as weakly interacting massive particles (referred to as WIMPS), neutrinos and axions.

Gravitational interaction is still something of a mystery, and gravity is believed to be a property of all matter. Mass is the measure of a quantity of matter – how much substance there is – and weight is the effect of gravity on that substance: weight is dependent on mass. Although the astronaut floating in space is weightless, they still have mass. We propose the existence of physicality – hence a mass – at various levels, and this physicality must produce a gravitational effect as gravitation has an effect on the entire universe. In our expanded model, this would encompass all levels and would relate to the combined

total mass of all levels. An interesting question is whether this combined mass of different levels could be a major contributor to the proportion of the universe's mass (which we have seen to be over
90 per cent) that is currently undetectable. A further conjecture is whether the astronomical anomalies known as isolated planets may not be isolated at all. They may be orbiting 'mirror stars'. Similarly, conventional stars may have mirror planets.

According to Wassermann, living beings have a twin body that is made up of lighter shadow matter than that of their corporeal presence. The theory may be briefly expounded in the following way. If the density of the shadow matter universe is much less than that of ordinary matter, then the shadow matter is immensely lighter than the ordinary matter body. According to the theory, every quark in the nucleus of an atom can bind a corresponding shadow matter quark (squark). Similarly, every electron can bind a shadow matter electron (selectron). From this hypothesis, it follows that every atom that is made up of quarks and electrons can bind a shadow matter atom – called a satom for ease of reference. The relationship between electron and selectron is in some ways analogous to a photographic negative and positive. The photographic positive can be altered by computer manipulation, and a selectron may not be the exact duplicate of an electron. In addition to atomic bonding, the squark and the electron could interact through forces specific to the shadow matter, and molecules could bind shadow matter molecules (referred to as smolecules). It follows that ordinary matter could bind specific types of shadow matter, and our ordinary matter bodies could be bound to shadow matter bodies (SMB). Our ordinary matter brain will have a corresponding shadow matter brain that is bonded with it. To each ordinary matter brain atom there would correspond a shadow matter brain satom.

Light shadow matter can interact with heavy shadow matter – which the astrophysicists call dark matter – through shadow matter forces. It is conjectured that light shadow matter interacts gravitationally with ordinary matter. The binding force of the shadow matter and the physical body is hypothesised to be gravitational force.
The gravitational interaction could be very strong; the shadow matter constituent interlocks with the ordinary matter constituent as they come into proximity with one another. In this way the matching constituents could attract each other sufficiently strongly through gravitation to adhere together, becoming mutually bonded.

Wassermann has proposed that during life, the shadow matter remains residually attached to the ordinary matter body by a thin elastic cord composed of shadow matter. His postulated shadow matter brain is as three dimensional as is the physical brain. He speculates that the seat of individual mentality is the shadow matter brain, and that memories may be stored there in the form of shadow matter engrams. The evidence supporting such a view is that in recounting out-of-body experiences (OBE), subjects are able to recall what happened to them. According to
Wassermann, OBE suggest that the shadow matter brain has the properties of human intellectual functions: memories, feelings and perceptions. At the time of death, the gravitational bond between shadow matter and ordinary matter body breaks, but the shadow matter continues to exist. The second law of thermodynamics might be supposed to be not applicable to the shadow matter, the law of entropy increase, and thus would not be subject to decay and deterioration. Because the mode of interaction of shadow matter is restricted through gravity, theoretically shadow matter is expected to sink to the centre of a planet such as earth and the lighter shadow matter variety proposed by Wasserman should also settle at the centre of the Earth. But he asserted that the entire Earth has a shadow matter twin that prevents the surface based shadow matter from sinking further.

Wassermann hypothesise that consciousness may be an epiphenomenon of the lighter shadow matter brain. Without the influence of the shadow matter brain, the

ordinary brain becomes effectively an apparatus for decoding, analysing and exploring the three-dimensional universe that we inhabit – it could be likened to a dynamic filter. It is logical to postulate a parallel-processing memory-recording system in the ordinary and the shadow matter brain, resulting in our having multiple copies of memories. The ordinary brain would then contain representations of the shadow matter brain and vice versa. The shadow matter brain may be likened to a central sorting station, from where information may be relayed to different localities within the ordinary and shadow matter bodies. That sorting station keeps a record of the information that has been amassed. Telepathy and clairvoyance are properties of the shadow matter brain, and the shadow matter is concerned with out-of-the-body travel. *Psi* faculties become prominent when the bond linking the twin brains becomes more autonomous. Psychics may have an unknown factor in their neurophysiology that enables them to weaken the connection between the shadow matter and the ordinary brain, enabling them to facilitate the *psi* faculties of their shadow matter brain. The *psi* phenomenon itself offers an indirect proof of the existence of the shadow matter brain although Wassermann has failed in connecting precognition and psychokinesis with his theory. The late Dr Ian Stevenson, one of the top most intellectual giants of recent times was appreciative of the shadow matter theories (Stevenson, 1995). Stevenson noticed that Wassermann contributed valuable comments on several important issues in scientific research like giving more importance to explanation than prediction in the testing of scientific theories.

Dark Plasma theory

Dark matter largely takes the form of plasma consisting of exotic (non-baryonic) particles, and the existence of terrestrial dark plasma life forms – including human bioplasma bodies – may be predicted. Magma bodies are nonphysical bodies composed of magnetised plasma (magma). Jay Alfred (2005) hypothesises that a human being consists of a physical biomolecular body closely associated with higher-energy and lower-energy ethereal bodies, higher-energy and lower-energy astral bodies and higher-energy and lower-energy causal bodies. The ethereal double may support the tissues and biochemical activities in the biomolecular body and gives it structural integrity.

Astral bodies inhabit the astral universe, which has a space-time signature of four spatial dimensions and one time dimension. Causal bodies inhabit the causal universe, having a space-time signature of five spatial dimensions and one time dimension. The causal bodies may be regarded as equivalent to the spiritual body of the faith traditions. The Vedic concept of chakras have been described as swirling cone-shaped vortexes within magma bodies, caused by magneto-hydrodynamics (Brennan, 1987).

Alfred asserts that the plasma ovoid is the basic form of intelligent beings in the astral and causal magma spheres. Wassermann's shadow-matter theory probably explains only the ethereal doubles of Alfred's dark plasma theory. The ethereal body may be only unphysical to the present day instrumentation. There is plenty of room in the dark plasma theory (formerly known as plasma metaphysics) to accommodate the spiritual/ mystical phenomenon.

Non-reductionism

In cognitive sciences, there are currently many findings that cannot be explained with a reductionist model of mind. They may include 1) evidences for life after physical extinction, 2) mystical experiences, 3) inspirational element of creativity,4) individual identity retained in spite of massive cellular turnover,5)Unique human experiences,6) certain cases of faith healing. For reductionist views to be successfully challenged, it has to be established that minds and consciousness can exist independent of brain.

One way of proving that humans have a non-physical part in association with the brain which can also exist independent of brain is proving post-mortem existence. It may now be postulated that there is scientific evidence to

enable a suspension of disbelief in life after death (Braude, 2003; Tymn, 2021).There are so many psychological reasons why people including scientific community do not want to probe into disembodied existence and Michael Tymn has eloquently described them. The commonly cited types of evidence for discarnate existences are as follows: a. Clinical death experiences (NDE), b. Pre-death visions, c. Collective apparitions including Marian apparitions, d. some forms of mediumistic incident, e. Children's memories of previous lives, f. Electronic voice phenomena (EVP), sounds found on electronic recordings that are interpreted as voices from discarnate agents.

Scientifically investigated Marian apparitions of 20th century (Laurentin & Joyeux, 1987; Jones, 2006) add to the corpus of evidence for discarnate existence. Marian apparitions have been historically documented from the 1st century (Kerala, India) onwards and they have been dominated by theological analysis. Scientists are becoming insightful about the value of this tremendously important subject in survival research and their implications in consciousness studies. Only Marian apparitional experiences, the physical aspect of Marian apparitional occurrences, are within the domain of science, but the non-physical feature, the Marian apparition is beyond the research scope of scientific scholarship warranting a harmonious collaboration between science and theology. Science insists on full evidence while theologians are contented with sufficient evidence and consider intuitive cognitions invaluable. Scientists have the privilege to falsify, modify and confirm their findings as time passes by whereas theologians are restricted in this respect and are expected to be prudent.

There are mounting evidence to support the claims of accurate perceptions of distant and out of sight object during near death experiences and recollections by patients of events when they are in fact comatose; enhanced cognitive faculties when brain is underactive (Fontana, 2009). Dementia patients recovering lucidity with the approach of death is being recently investigated. Gary Schwartz, the multi-speciality professor has made meritorious contribution to consciousness studies and evidence for discarnate existence (Schwartz, 2002; 2006; 2011a; 2011b; Davidson and Schwartz 2016). He has linked empirical sciences with subjective sciences, but critics wonder whether he is overdoing with the proposed "SouPhone", a device to communicate with discarnate personalities (Pandarakalam, 2019a).

The late professor Ian Stevenson (1997) has introduced empirical evidence suggestive of rare incidence of reincarnation (not universal reincarnation or cycle of rebirth) to the agenda of medical research. He did not claim to have proven reincarnation but found and reported evidence there are that makes it seem possible. According to him theories of memories being based entirely in brain processes are insupportable, questioning the notion that memories are potential pathways in the brain. Why humans retain memories until they die is not understood. This ability is contrary to the evolutionary auto-exclusion phenomenon and such a preservation of memories along with the "canvas" they are recorded may be meant for their continued use after physical extinction. Proving the existence of a non-physical component that is in some kind of symbiosis with the brain may open the possibility of discarnate existence challenging reductionism. If reincarnation is a faulty interpretation of what are spiritistic phenomena, and Stevenson's cases are proven to be instances of such spiritisti communications from discarnate human realm, these reincarnation-type cases still would indirectly offer a strong evidence for a spiritistic realm and post-mortem existence, thereby supporting non-reductionism.

Creativity is sometimes underestimated, being regarded as a product of psychopathology. Kelly et al (2007) contend that the inspirational element of creativity is akin to mysticism and mysticism points towards a higher consciousness indicating that there is consciousness upon consciousness. Albert Einstein who was a creative intelligent seems to have noted the distinctions between intuitional cognitions and rational thinking when he apparently stated, "Intuitional mind is a sacred gift and rational mind is our servant." Probably, quantum and spiritual consciousness may

collaborate to generate intuitive cognitions and the inspirational elements of creativity which may be subjected to the discernment of rational mind. Humans are prodigiously intuitional and such a dual process model of human cognition needs further evaluation.

Kelly et al argue that a number of highly reproducible phenomenon including the placebo effect, stigmata, hypnotic suggestions, phenomena produced by yogis and distant influences on living systems cannot be understood in the current physicalist conceptual framework. According to them, mysticism is the foundation of reality. Their book titled "*The Irreducible Mind: Toward a psychology for the 21st Century "had* a warm welcome (Kelly *et al., 2007)*. Andreas Summer has opined that the book of Kelly et al may offer guidance to those working in the field of cognitive sciences who are disoriented and confused with stubborn reductionist views (Sommer 2008). In fact, their invaluable contribution could serve as a guiding star for those who are puzzled by the contradictory views about consciousness mushrooming in academic psychology and neurosciences. Paul Marshal described the book a monumental work with far-reaching revolutionary ambitions and a heavyweight intellectual contribution (Marshall, 2007).

Neurochemical, neuroelectric and neurometabolic changes may be intrinsic to mystical experiences, but that is not evidence that the brain generates them. Elevated temporal lobe signs have been documented by individuals who engage in spiritual practices including meditation and who have experienced mystical and paranormal encounters (Persinger, 1984). Out of the body experiences and other paranormal experiences are associated with high temporal lobe signs (Persinger, 1995; 2001), but that is not to say temporal lobe generated them. The most electrically labile structures in the brain are the amygdala and hippocampus and consequently, neurologists with a reductionist agenda tend to ascribe all the mental faculties to these structures of almond size. In spite of the fact that within each neuron, the molecules are replaced approximately 10000 times in an average lifetime, humans have a continuous stable sense of self. Similarly, each day, within our body 50 billion cells die. Yet we do not perceive ourselves as being new or as any different from what we have been before; there must be "something else" that perpetuates our experience of consciousness flawlessly while billions of cells die and being replaced.

Mysticism support primacy of an eternal consciousness and not necessarily the pre-eminence of human consciousness. An ardent investigator of consciousness cannot separate science from mysticism. Mystical experiences in fact offer us more enlightenment about the bedrock of reality than does the discrete science of particle physics, but we are like crustaceans in a marine wilderness as far as gaining an insight into mystical phenomena are concerned. Mysticism assigns to consciousness an essential and overarching reality that such a reality has its own order (Kelly *et al*., 2007). Neurochemical, neuroelectrical and neurometabolic reactions may be intrinsic to mystical experiences, but that does not constitute evidence that the brain generates those (Beauregard & O'Leary, 2007). Mysticism deserves a place in the foreground of scientific psychology and justifies further empirical elaboration.

The ontology, epistemology and phenomenology of mysticism have yet to be correlated in a systematic way. One of the argument on which a case for the validity of mysticism is based on the assumption that human beings are creatures in time but citizens of a timeless world, and meant to be potential sharers in the Divine life
(Happold, 1988).Mysticism imparts a sense of the beyond. To use a distant analogy, mystics serve as the "Hubble telescopes" scanning the inner dimensions. The markers of mystical experiences are thought to be ineffability, noetic quality, transiency and passivity (James, 1958). Kelly *et al*. (2007) argue that computational theories and biophysicist theories of mind and consciousness cannot explain the introvertive mystical experiences of a pure, unitary, undifferentiated and self-reflexive consciousness. The dichotemy between introvertive and extrovertive mysticism is evanescent and they offer us

insight into the foundation of reality. Mystics achieve rapprochement with the fundamentals of reality in innovative ways. Mystical experiences of St Teresa of Avila and Marian apparitional experiences are classical examples of mysticism.

Theologians consider soul or spirit as the seat of intellect and free will and in psychological terms, they are individuality and personal responsibility. Individualising principle is another term used to refer to the non-physical component. Ian Stevenson (1997) defined individuality as "all the characteristics whether concealed or expressed, that a person might have", and personality as 'the aspects of individuality that are currently expressed or capable of expression'. Individuality is the aggregate of qualities and characteristics that distinguish a person. Computational theories cannot simply explain away the individualising principle which is equivalent to the spiritual aspect of wisdom traditions.

Advanced external spiritual agencies may be involved in true instances of faith healing and such higher order healings offer indirect evidence for the existence of a higher consciousness grounding the quantum consciousness. True cases of faith healing prompt us to search for higher realities beyond the brain and quantum dimensions (Pandarakalam, 2021). According to Sultan Tarlaci, the mind-brain problem is solvable (Tarlacı, 2010a; 2010b). He adds, "There is no need for mystery or metaphysics. But the fact that we are a part of the problem is the most important obstacle in the path towards finding a solution" (Tarlaci, 2013). In this context, it is to be stated that survival research and studies of mysticism could help us to develop an expanded model of brain-mind consciousness complex that would also incorporate the spiritual dimension.

Spiritual Properties?

Negative emotions may have survival value but humans are also endowed with pro-social, positive emotions. Subjective human attributes such as ethics, morality, respect for others, self-dignity, trust, tolerance, compassion, sense of beauty, strong sense of control of one's own actions, poetic sense, storytelling, mystical experiences, creativity of a higher order, insight into one's mental state, goal-oriented behaviour, happiness, intuition, imagination, understanding, intent , knowing, spiritual longings, will and decision making cannot be attributed to the brain or rational consciousness in isolation, even though, admittedly brain collaborates in such experiences.. Unconditional love, empathy, forgiveness and compassion are reflections of a higher/ spiritual dimension. Humans are also capable of experiencing the opposite of these qualities. They are all unique "human experiences". They cannot be satisfactorily explained with a bio-physicist or a quantum model of consciousness. Comparisons of the genomes of non-human organisms have revealed some surprises. Examples include the lack of correlation between the complexities of life forms and the size of their genomes, and the genetic similarity of humans and other organism. Barely three hundred genes separate mice from humans. These three hundred genes are insufficient to account for the vast differences between these organisms. Quantum consciousness cannot fill this gap even partially. It is not that the emperor was unclothed; it is just that there is transparency in the "emperor's new consciousness". Future quantum scientists may be able to postulate or recognise quantum correlates of these unique human experiences and might misconstrue them as the architect of such experiences.

Stokes (2009) has termed multiple spheres of consciousness within each person as "mini-Shins" which is an adaptation of the term "Shin", originally coined to refer to the soul. According to him each mini-Shin co-existing with the brain may receive input from widespread area of the brain and may have its' own information processing capacity. Mini-Shins may have only limited executive powers. Supervising mini-Shins there may be a vestige of potential consciousness- an over Shin or super Shin which may be the substratum for a higher consciousness. The belief in the reality of dreams is based on inter subjective agreement rather than on full scientific evidences. Likewise, the existence of a "greater mind" or spiritual consciousness is based on inter subjective agreement because humans know intuitively that they are autonomous beings and

have their first hand "human experiences". In quantum theories of consciousness, there is no room for *tertium quid* that is free will.

Fundamental Consciousness

There has been suggestion recently in particle physics that consciousness is fundamental to the universe and that consciousness was here from the start (Haisch, 2006). Haisch's assertion that human consciousness is an extension of an eternal consciousness is a loose statement and is close to the oriental concept of "a spark of the Divine fire". Such an analogy could be misleading in the sense that a spark is potentially capable of evolving as fire and even becoming greater than the original one. Human consciousness may carry an impression of its creator, but the impression is discrete and is more like a marking created by a rubber stamp. In other words, the eternal consciousness is the template of human consciousness.

Is it not more reasonable to conjecture that a "Spiritual Big Bang" took place before or after the astrophysical Big Bang and evolution took place in a biological and spiritual stream? Thus the proposed consciousness of Haisch may be another type of consciousness evolved in a higher dimensional realm and "downloaded into the quantum computer" that is shaped from proto consciousness. The fact that humans are capable of destroying the planet six times reveals the fallen or ungodly nature of human consciousness; Haisch's postulation that human consciousness is an extension of Divine consciousness does not tally with our fallen nature and the age old search for a lost consciousness, some through mind altering drugs and others through meditative techniques. Haisch's scientific views on human consciousness and eternal consciousness go in the line of metaphysical monism as opposed to the metaphysical dualism.

Multipart Model

According to Jay Alfred, the physical body may be the outer layer of a ring of lower and higher energy bodies bonded through gravitational force like an onion ring with a central bud enveloped by different layers of scales; in death the gravitational bond breaks and the outer layers are discarded (Jay, 2006). Following Crookall, Alfred and Wassermann, we may surmise a human dual complex system—a material body protected by lighter shadow matter body and a celestial body insulated by an astral body. The celestial body may be assembled independently. The integrated system incorporates nano-level gravitational bonding or unknown power contact. We may propose that a "higher quantum-like consciousness (ultra-consciousness)" is downloaded into the quantum consciousness. Thus, Consciousness may be better explained by multiple energy system model bonded by nano-level gravitational forces. We may simplify that brain-mind-consciousness complex is essentially composed of three contributions- an organic factor from the ordinary body, a shadow matter like factor constituted by the shadow matter like brain and other energy bodies, and a spiritual component or non-biological factor from the spiritual body.

FWH Myers related consciousness with the spectrum of light; individual consciousness is an amalgam of a selection of different aspects of consciousness with variable potentialities (Myers, 1903). Myer's concept of subliminal self consists of a hierarchical organization, each with its own functional properties. Myers tried to describe three such levels. The lowest strata are that of bare vegetative functions. The middle realm is the "hypnotic stratum" and is associated with automatisms, deep hypnosis, source of dreams and imaginations. The deepest realm is the most mysterious and is the locus of psi phenomenon, intuitions, and inspirations of creative people. In many ways, his concepts are in tandem with Crookall;s views of consciousness.

Dr Robert Crookall, a geologist turned parapsychologist, proposed that, in addition to our physical body, we have a psychical body that has three aspects: the Vehicle of Vitality, the soul body and the spiritual body. (Crookall, 1961; 1978). According to Crookall, the Vehicle of Vitality is semi-physical, even ultra-gaseous. It is severed in death but extended in astral projections and near-death experiences (NDE). The third component of the psychical body, the spiritual body (super soul), is nested in the soul

body. It interpenetrates and extends beyond the soul body and is superphysical or 'spiritual' in character. The subtlest and the most pervasive of the three components, it is concerned with the awareness of all that is good, beautiful, and true and capable of unconditional love; and it facilitates the receipt of inspiration and intuition. It has the potential to contact the transcendent and is the extra physical essence of human reality. This, the vital principle, or the animating force within living human beings, is capable of an incorporeal consciousness and contributes to our subjectivity. The soul body is capable of short-range communication, but the spiritual body is capable of long-range communication. Some of the *psi* properties may be confined to the spiritual body, and certain others may be shared between the spiritual body and the soul body. Alvarado C.S. has presented a critical appraisal of the works of Robert Crookall (Alvarado, 2012).

Non-biological Evolution

The spiritual body, which may be conjectured to be composed of "micro-micro- particles", survives after the extinction of the ordinary human body along with the shadow matter-like body and other potential energy bodies, which may be biological in origin and bonded to it. The parapsychological concept of super *psi* may be a property of the spiritual body and probably is an indirect evidence of the very existence of spiritual body. But it is the evidence for post-mortem existence that make the hypothesis of spiritual body attractive. The central celestial body is the subtlest and the most pervasive of the main three components, and a non-physical continuum is maintained between them by the all-pervasive non-biological component.

The biophysicist and spiritual tripartite views of the brain-mind- consciousness complex may apparently accommodate all forms of extra-sensory phenomena and the possibility of discarnate existence. There may be consciousness upon consciousness and such a proposal is a highly attractive hypothesis to explain the paranormal and the mystical. The origin of spiritual bodies would remain a mystery. Like the mass giving Higgs bosons are thought to exist soon after the big bang, hypothetically the spiritual bodies could have been created due to a similar big bang in a non-physical dimension and gravitationally get drawn towards the foetal body (Pandarakalam, 2019b). Figuratively, this is like plants are grown in a greenhouse initially and then transferred to the garden pots. Physical particles are divisible and spiritual bodies are indivisible and should relate to an indivisible spiritual being.

Reductionists would argue that spirituality is the fruit of all quantum processes. Mystical experiences, evidences for post-mortem existence including the rare incidence of reincarnation cases and pre-birth experiences teach otherwise and promulgate an independent evolution of spiritual bodies in a non-terrestrial dimension and subsequent union with the foetal body (Pandarakalam, 2019b). Chico Xavier literature offers some indications about the incarnation process (Playfair 2010). It is in this arena where the real battle between reductionists and non-reductionists takes place. Our current knowledge of human incarnation is scanty, and more proof and process oriented investigatory studies are warranted in this challenging field of Neuroquantology. It would be harsh to assert that spirituality is an epiphenomenon of quantum process like the argument of the neurologists who considered consciousness as an epiphenomenon of brain activities.

Evolution may take place in biological and non-biological streams (Stevenson, 1987) and Darwin focussed only on the former. The saintly scholar Origen (*c*.185–*c*.254), who undertook a consolidation of Christian doctrine in his *On First Principles*, believed in the pre-existence of souls. A metaphor is a greenhouse in which the seeds of plants are allowed to grow. To elucidate this figuratively, we may contemplate human beings as being comparable to potted plants. The plant represents the spiritual, the surrounding soil stands for the shadow matter, and the pot in which the plant grows is the symbol of the physical body. If we are living plants rather than artificial ones, we need to add to our picture an all-powerful gardener who does the planting. Like the all-pervading Higgs boson particle that serves as the mass giver, the "super boson" of spiritual body or as-of-yet-unknown particle acts as the individualising principle. But the

Supra-boson- the Sacred provides the "ultra-quantum field" in which the super bosons move around. Considerably more work would have to be done along these lines of non-biological evolution, however, before any of these conjectures can be defined convincingly but we may attempt to describe them.

No Abrupt Ending Allowed in Physics

Like there are four universal forces, there may be three all-pervasive fundamental Trinitarian Forces or Divine Consciousness. According to the laws of physics, nothing can end abruptly, so the material universe may continue as paraphysical dimensions which may finally terminate in spiritual dimensions. Again, the spiritual dimensions have to converge into a dimension whose laws permit abrupt ending- the Divine Kingship may permit such conclusion of all dimensions. Without bringing the existence of God into the equation, one cannot formulate a theory of everything. If analysed deeply, physics itself is a pointer towards an ultimate Divine Source.

The theological view that spiritual body carries the image, or the impression of creator is highly meaningful. It is a gross underestimation to state that human beings are simply star dust meaning they are composed of earthly materials which ultimately are a break away product from the star. Our physical body may be highly refined star dust, but our celestial body is Divine dust- we are a combination of star dust and Divine dust! Humans are essentially spiritual personalities, but also quantum, electrical and chemical beings. The inexplicable spiritual body survives after the extinction of our own still mysterious terrestrial body. Thus humans are created out of star dust and the mysterious Divine dust. Such an idea is in tandem with the Vedic concept of "Aham Brahmasmi". The biological evolution is focussed on the star dust whereas the non-biological evolution is centred on the Divine dust. In these days when science and religions are having heated debate about the existence of God, many a scientist are turning into philosophers (Schroeder, 1997; Ross, 1998; Haisch, 2010; Spitzer, 2010). Science can also offer pointers to the existence of God and a conceptual model for the Divine incarnation (Pandarakalam, 2013).

Discussion

Mind may have a component that is contributed by brain activity and this part may be unphysical as far as present-day instrumentation is concerned. If human beings have a non-physical or non-biological component in association with the physical brain, theoretically that would continue to exist after physical extinction. We may postulate that the mind is a series of fields of intelligence. The arena of quantum theories of consciousness is obscure and riddled with controversies, an intellectual jungle. A theory of mind and consciousness based on mystical experiences, particle physics and neurosciences can be more accurate than the one excluding mystical experiences. The ephemeral nature of quantum consciousness cannot accommodate long term post-mortem existence or the concept of immortality. It may be even possible to postulate quantum correlates of mysticism and that could be misconstrued as generating mystical experiences like the neuroscientists misinterpreted the neurological correlates of mysticism; mystical experience may leave its "footprints" in the quantum mind. Reductionists are trying to find the meaning of the message in the chemistry of the ink and not in the text.

There is bound to be consciousness upon consciousness and quantum consciousness may be a bridge between brain and a higher consciousness. Shadow matter brain theory, the Orch-OR theory and informational model are mechanistic, yet useful in explaining the mechanical components of consciousness. FWH Myer's concept of subliminal self and the hierarchical organization, Robert Crookall's triune model and Jay Alfred's multipart models though less known in the circles of parapsychology, are highly useful proposals to explain the varied human subjective experiences, but they are not the final verdict. Spiritual body makes the faith practices meaningful. Extreme views of quantum consciousness could ultimately lead to crisis/reversal of faith and potentially culminate in "spiritual materialism".

A reductionist considers death as the polar opposite of life and health, and as total annihilation whereas a non-reductionist views death as a transitional stage and a part of the history of the individual-death is a coma and not a full stop. If scientifically investigated evidences of Marian apparitions are added to the bulk of evidences in favour of discarnate existence gathered by the survival researchers, we have fool proof evidence of survival after physical extinction, thereby challenging Nandor Fodor (1895-1964), the US psychoanalyst and parapsychologist, who stated that it would be easier for the "camel to pass through the eye of a needle" rather than find convincing evidence of life after death. Such a situation prompts the passionate reductionists to rethink their approach to conscious studies. Unfortunately,, parapsychologists are shying away from Marian apparitional studies which are meant for the entire humanity even though Catholic Church has been historically their custodian.

The shadow matter theory of Wassermann and the dark plasma theory of Jay Alfred pose novel challenges to the investigators of consciousness. It has yet to be evaluated how these new speculations in particle physics would fit in with the general scheme of consciousness studies. Wassermann's shadow-matter brain has obvious shortcomings as an explanation for varied human subjective experiences. Shadow matter body does not guarantee long term existence after physical extinction. We have not yet assessed the maximum capacity of the ordinary brain, and our knowledge of the shadow matter brain is nominal – it would, for instance, be premature to ascribe total mentality to the shadow matter brain. The concept offers extensive opportunities for theoretical investigation. Wassermann's theoretical speculations haven been inconsistent and at times even incongruent, but they have been highly creative.

Neuroscientists tend to attempt to fit all the precious scientific information we have gained about the brain and the mind over the years into a rigid biological model of the mind. By excluding the spiritual body, theoreticians of quantum consciousness may be committing a similar error, ascribing all *psi* faculties to the quantum mind.

Alfred' conjectures of celestial body are complementary to wassermann's contributions. With future progress in parascience, the shadow matter brain may eventually be reduced to the status of another dynamic filter, one with more storage capacity than the ordinary brain. It does not appear logical to believe that a shadow matter body derived and animated by the mortal physical body could be immortal but a celestial body proposed by Alfred and Crookall could guarantee long term post-mortem existence. Although the object and shadow are distinct, once the object ceases to exist, the shadow is also bound to become extinct and such may be the case with shadow matter body: something else must be overshadowing the physical and shadow matter bodies if survival hypothesis is true.

When Alfred's hypothesis of causal body enclosed in multi-layered invisible bodies is brought into this equation, survival hypothesis become more plausible. Quantum consciousness alone does not guarantee long term discarnate existence- immortality. Theories of mind have been shifting from non-reductionism to reductionism, in the second half of the 20th century, but the cumulative weight of evidence now tips the scale towards non-reductionist ideology which has health benefits as it promotes a relaxed attitude towards life. Evidence for discarnate existence, mystical experiences and creativity support the existence of a non-biological component within humans plugging a hole in reductionism. A tripartite view of brain-mind-consciousness complex opens new avenues of research in consciousness studies. A true scientist has to set his boggle threshold to infinity for science to make progress. There are signs of potent paradigmatic shifts taking place behind the stage curtain of cognitive sciences, even towards para-psychodynamic theories of behaviour.

References:

Alfred J. Invisible bodies. Trafford Publishing: Victoria, BC, Canada, 2006.

Alvarado S.C. Explorations of the features of out-of-body experiences: an overview and critique of the work of Robert Crookall.

Journal of the Society for Psychical Research 2012; 76:64-83.

Antoniadis I, Arkani-Hamed N, Dimopoulos S. & Dvali G. New dimensions at a millimetre to a Fermi and superstrings at TeV. Physics Lectures B 1998; 436:257-263.
https://doi.org/10.48550/arXiv.hep-ph/9804398

Bauer HH. Experimental Replicability. Journal of Scientific Exploration 2018; 32: 721-722.

Bauer HH. Science is Not What You Think: How It Has Changed, Why We Can't Trust It, How It Can Be Fixed. Jefferson NC 28640: McFarland Publishing, 2017.

Beauregard M, 0'Leary D. The Spiritual Brain. New York: Harper Collins, 2007.

Beauregard M: Expanding Reality. Hampshire: Hunt Publishing,2021.

Berk M, Leboyer M and Sommer EI: Immuno-Psychiatry: Facts andProspects.Springer:Gewerbestrasse,Switzerland,2021. https://doi.org/10.1007/978-3-030-71229-7

Braude S. Immortal Remains. New York: Bowman & Littlefield Publishers, 2003.

Bryan AR. Are the Dirac particles of the Standard Model dynamically confined states in a higher dimensional flat space? Canadian Journal of Physics 1999; 77:197-210.
https://doi.org/10.48550/arXiv.hep-ph/9904218

Bryan AR. What can Elementary Particles Tell US about the World in Which We Live? JSE 2000; 14: 257-274.

Brennan Brabara A. Hands of Light. New York : Bantam Books,1987.

Chalmers David. Facing up to the probability of Consciousness. Journal of Consciousness Studies.2(3) 200-219,1995.

Crookall R: The Supreme Adventure. Cambridge: James Clarke, 1961.

Crookall R. What Happens When You Die. Buckinghamshire: Colin Smythe, Gerrards Cross, 1978.

Davids P. Schwartz EG: An Atheist in Heaven. NV: Yellow Hat Publishing, 2016.

Fontana D. Life beyond Death. London: Watkins Publishing, 2009.

Gaiseanu F. Consciousness as Informational System of the Human Body. Consciousness and Life Physics, Cosmology and Astrophysics Journal 2016; 16: 14-25. http://physics.socionic.info/index.php/physics/article/view/227/182

Gaiseanu F. Quantum-Assisted Process of Disembody Under Near-Death Conditions: An Informational-Field Support Model. NeuroQuantology 2017a; 15: 4-9. http://www.neuroquantology.com/index.php/journal/article/view/971

Gaiseanu F. An Information Based Model of Consciousness Fully Explaining the Mind Normal/Paranormal Properties. NeuroQuantology 2017b; 15: 132-140. https://www.neuroquantology.com/index.php/journal/article/ view/1040

Gaiseanu F.Near-Death Experiences and Immortality from the Perspective of an Informational Modeling of Consciousness. Gerontology & Geriatric Studies 2018a; 2: 1-4. https:// crimsonpublishers.com/ggs/pdf/GGS.000538.pdf

Gaiseanu F: Destiny or Free Will Decision? A Life Overview from the Perspective of an Informational Modeling of Consciousness Part II: Attitude and Decision Criteria, Free Will and Destiny. Gerontology & Geriatric Studies 2018b; 4: 1-7. https:// crimsonpublishers.com/ggs/pdf/GGS.000576.pdf

Gaiseanu F..Human/Humanity, Consciousness and Universe: Informational Relation NeuroQuantology 2019; 17: 60-70 doi: 10.14704/nq.2019.17.05.2122

Gebelein B. Dirty Science. Published by Robert S. Gebelein: Durham, 2018.

Goswami A. The Self-Aware Universe. Putnam: New York, 1993.

Happold F.C. Mysticism A Study and Anthology. London : Penguin ,1988.

Haisch B. God Theory: universes, zero-point fields, and what's behind it all? San Francisco: Weiser Books, 2006

Haisch B..The Purpose-Guided Universe. Franklin Lakes, N.J., New Page Books, 2010.

Haldane JBS. Possible Worlds Chatto and Windus: London, 1945.

Hameroff SR. Consciousness, Microtubules & 'Orch OR'. A' Spacetime Odyssey'. Journal of Consciousness Studies 2014; 21: 126-153.

Hameroff SR. Consciousness, neurobiology and quantum mechanics: The case for a connection. In The emerging physics of consciousness. Tuszynski, J.A. (Ed.), Springer, Berlin, Heidelberg, 2006; 193-253.

Hameroff SR, Penrose R. Orchestrated reduction of quantum coherence in brain microtubules. A model for consciousness. Cambridge: MIT press, 1996.

Jahn GR: The Challenge of Consciousness, JSE 2001; 15: 443-457

James William. The Varieties of Religious Experience. New York, 1958: Mentor. (Original work published 1902).

Jones K. Michael. Medjugorje Investigated. Medjugorje,Bosnia-Hercegovina: Devotions, 2006.

Kelly EF, Kelly EW, Crabtree A, Gauld A, Grosso M & Greyson B. The Irreducible Mind: Toward a psychology for the 21st Century. Maryland: Rowman & Littlefield Publishers Inc, 2007.

Klauber DR. Modern physics and subtle realms: not mutually exclusive. Journal of scientific exploration, 2000; 14:275-279.

40. Pandarakalam James Paul: Scientific Evidence for Discarnate Existence and a Search for the Sacred. NeuroQuantology 2019a; 17: 45-59

41. Pandarakalam James Paul: The Physiology of Incarnation Process; Lessons from Pre-birth Experiences and Reincarnation-type Cases. NeuroQuantology 2019b; 17:Pandarakalam JP: Contribution of Cases of Extraordinary healings to Consciousness Studies Journal of NeuroQuantology 2021; 19:01-12.

Khandaker G, Harrison N, Bullmore E, Dantzer R. Textbook of Immunopsychiatry: An Introduction. Cambridge: Cambridge University Press, 2021.

Kolb E.W., Seckel, D., and Turner, M.S. The shadow world of superstring theories. Nature 1985; 314 (April; 4,) 415.

Laszlo E, Houston J, Dossey L. What is Consciousness? New York; Select Books, Inc., 2016.

Laurentin R, Prof Joyeux H. Scientific and Medical Studies on the Apparitions at Medjugorje. Dublin: Mount Salus Press, 1987.

Marshall P. Book Review: Irreducible Mind. Journal of Consciousness Studies 2007; 14: 125-128

.McTaggart,L. The Field. London: HarperCollins, 2001..

Myers FWH. Human Personality and its Survival of Bodily Death. London: Facsimile Publisher, 1903/2015.

Pandarakalam JP. Where the Divine Incarnation and Biology Intersect. Christian Parapsychologist 2013; 1: 35-43.

Pandarakalam JP. Scientific Evidence for Discarnate Existence and a Search for the Sacred. NeuroQuantology 2019a; 17: 45-59.

Pandarakalam JP. The Physiology of Incarnation Process; Lessons from Pre-birth experiences and Reincarnation-type Cases. NeuroQuantology 2019b; 17: 22-34.

Pandarakalam JP. Cretan Aspects of Immunopsychiatry. Psychiatria Danubina, 2022; Vol. 34, No. 4, pp 623-630 https://doi.org/10.24869/psyd.2022.623

Penrose Rogers. The Emperor's New Minds: Concerning computers, Minds, and The Laws of physics. Oxford University Press:Oxford, 1989.

Penrose R, Hameroff S. Consciousness and the Universe: Neuroscience, Quantum Space-Time Geometry and Orch OR Theory. Cambridge MA: Cosmology Science Publishers 2015, pp: 3-42.

Persinger MA. People who report religious experiences may also display enhanced temporal lobe signs. Perceptual and Motor Skills 1984; 58:963-975.

Persinger MA. Out of the body experiences are more probable in people with elevated complex partial epileptic-like signs during periods of enhanced geomagnetic activity: a nonlinear

effect. Perceptual and Motor Skills 1995; 80:563-569.
Persinger MA. The neuropsychiatry of paranormal experiences. Journal of Neuropsychiatry and Clinical Neurosciences 2001; 13:515-524.
Playfair GL. Chico Xavier: Medium of the Century. London: Roundtable Publishing Ltd, 2010.
Polkinghorne .J. C. One world. SPCK: London, 1986.
Powell, C.S. "A Dark Matter", Scientific American, 1994; Jan., p20.

Ross H. The Creator and the Cosmos. Colorado: Navpress, 1998.
Schwartz EG. The Afterlife Experiments. New York: Atria Books, 2002.
Schwartz EG. The G.O.D Experiments. New York: Atria Books, 2006.
Schwartz EG. The Sacred Promise: How science is Discovering Spirit Collaboration with Us in Our Daily Lives. New York: Atria Books, 2011a.
Schwartz EG. Photonic measurement of Apparent Presence of Spirit Using a Computer Automated System.drgaryschwatz.com.2011b.
.Schwartz EG. After life communications. Florida: ASCS Publications, 2014.
Schroeder LG. The Science of God. New York: Broadway Books, 1997.
Smythies J.R. (1988). Minds and Higher Dimensions. Journal of the Society for Psychical Research, Vol.55.No, 812

Spitzer JR. New Proofs for the Existence of God. Cambridge: Eerdmans, 2010.
Stevenson I. Reincarnation and Biology. Westport: Preager Publishers, 1997.

Stevenson Ian. Book review-Shadow matter and psychic phenomenon, Journal of scientific exploration. Volume 9, no1 p142-143, 1995.
.Stevenson Ian. Children who remember previous lives. University press of Virginia, Charlottesville, 1987.

Stevenson Ian. Can we Describe mind? Research in Parapsychology. Metuchen, N.J.: The scarecrow press, Inc. p 130-142, 1980.

Stokes M Douglas. On the thoughts of dust. Paranormal Review 2009; Issue 50,p 3-6

Stokes DM. "Shadow Matter and Psychic Phenomena." The Journal of Parapsychology1993; 57:289+. Gale Academic OneFile, link.gale.com/apps/doc/A15383549/AONE?u=anon~8defb9f4&sid=bookmark-AONE&xid=917384bc. Accessed 28 Nov. 2022.
.Sommer A. Review, "E. F. Kelly, E. W. Kelly, A. Crabtree, A. Gauld, M. Grosso, and B. Greyson: Irreducible Mind. Toward a Psychology for the 21st Century." Journal of Mind and Behavior 2008; 29:359-370.
Tarlacı S. Why We Need Quantum Physics for Cognitive Neuroscience. NeuroQuantology 2010a; 8: 66-76.
Tarlacı S. A Historical View of the Relation between Quantum Mechanics and the Brain: A NeuroQuantologic Perspective. NeuroQuantology 2010b; 8: 120-136.
Tarlacı S. What should a consciousness-mind-brain theory be like. NeuroQuantology 2013; 11: 360-377.
Teixeira L. Antonio and Baur E. Moises. A Clinician's Introduction to the Immune Basis of Mental Disorders. Oxford: Oxford University Press, 2019.
Tymn M. No one rally dies: 25 reasons to believe in afterlife. Guildford: White crow books, 2021.
Vimal L.P. Ram. Meaning attributed to the term Consciousness: An overview. Journal of Consciousness Studies 2009;, Vol 16, No5, p9-29.

Walker, E.H. The physics of consciousness. Cambridge, MA: Perseus Books, 2000.
Wassermann DG. Shadow Matter Body and psychic phenomenon. Oxford: Mandrake of Oxford, 1993.
Wassermann DG. Consciousness and Near-Death Experiences. Oxford: Mandrake of Oxford, 2001.

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