

# The Concept of the Lighter Shadow Matter Body and Brain: A Valuable Contribution to Mind-Brain Problem

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## ABSTRACT

The physicist Gerhard D. Wassermann's shadow matter body and brain theory is a novel concept that satisfies many of the deficiencies in consciousness studies. Sigmund Freud offered both structural and functional views of the mind; Wassermann postulated his own structural view of the body and the mind. He applied the concept of shadow matter to the neurosciences, and brought psychic phenomena within the mechanistic framework. The concept of lighter shadow matter body (LSM-BO) and lighter shadow matter brain (LSM-BR) compensates for discontinuities in the traditional anatomical design of human beings. Wassermann's LSM-BO theory has brought the elusive body of psychical research into the realm of the physicist. Producing convincing evidence for the existence of LSM-BO would constitute a breakthrough in the history of medical sciences and would contribute significantly to the emerging new science of para-biology, which is gradually replacing traditional scientific understanding. Wassermann's hypothesis was based on what he described as 'indirect evidence', mainly consisting of paranormal reports. He claimed that LSM-BR supplies the machinery for telepathy, clairvoyance, extra-somatic experiences and apparitions of the living and dead. The assumption that the shadow matter universe co-exists with our material universe leads to the conjecture that our material body may co-exist with shadow matter. A corollary of this supposition would be that the material body is insulated by an LSM-BO that protects it from the unwanted effects of the shadow matter environment. Wassermann may be accused to being mistaken in his attribution of all mentality to LSM-BR, but his theory may be complementary to existing theories of consciousness and form a substratum for consciousness. For those whose scepticism regarding psychical phenomena is based on the alleged inconceivability of explanatory physical mechanisms, Wassermann probably offers a way forwards. The concepts of LSM-BO direct us towards a multi-energy-system model of human consciousness. Theoretical speculations such as those in this rendering are essential to science because they point the way to new fields of experimentation. This paper is an attempt to expand the understanding of the enigma hidden in Wassermann's theory of shadow matter body and brain and to link it with *NeuroQuantology*.

**Key Words:** lighter shadow matter body, lighter shadow matter brain, consciousness, Para-histology, cellular memory, psychic phenomenon

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## Introduction

Stephen Hawking (1993) described the visible universe as the tip of an iceberg. The search for the invisible and largely unknown mass is in

progress. The concept of shadow matter is derived from string theory in physics (Kolb *et al.*, 1985). 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; in other words, weight is dependent on mass. We propose the existence of physicality, a mass, at various levels. This physicality must have a gravitational effect because gravitation

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has an impact on the entire universe. In our expanded model, that would encompass all levels and would relate to the combined total mass of all levels. An interesting question is whether the combined mass might be a major contributor to the proportion of the universe's mass that is currently undetectable, a proportion speculated to be over 90 per cent. Galaxies rotate and move about one another, indicating that they are enveloped in haloes of dark matter. It has been hypothesised that the haloes round galaxies correspond to the haloes or auras seen by clairvoyants round humans. They are comprised of an ethereal aspect that exists within physical space-time and other aspects that relate to different levels. Because of their existence in physical space-time, it is claimed that this ethereal aspect may be made visible. More specifically, it may be detectable through the use of electrostatic techniques such as Kirlian photography (San Jose, 1997).

The hypothesis is that the shadow universe occupies the same physical space as the familiar universe, but has no interaction with it other than through the force of gravity. It is speculated that particles of shadow matter may form shadow atoms and shadow molecules, so that there could be shadow plants, planets, stars – even shadow people, and galaxies that would pass right through our own galaxy almost completely unscathed and undetected (Riordan and Schramm, 1993). If the halo surrounding the Milky Way were indeed composed of dark, non-baryonic particles, they would be present everywhere, permeating the very space that humans inhabit and the air we breathe (Galeott and Schramm, 1990). Science is founded on observation and measurement. With measurement techniques improving, it is possible that shadow matter may turn out to be something completely different from what is currently speculated.

The study of the human environment may offer clues about the individual personality. Likewise, study of the universe may yield a better picture of the make-up of terrestrial beings (Pandarakalam, 2011). Wassermann (1988) made use of the concept of shadow matter in parapsychology, and has brought psychic phenomena within the mechanistic framework. He postulates that two interlinked brains exist in each human being: first, an ordinary matter brain as described by medical scientists; and, secondly,

a lighter version, made up of shadow matter. He has attempted to explain – mechanistically, rather than neurologically – features of out-of-body experiences and *psi* phenomena in terms of shadow matter theory. Wassermann held the view that science, in the guise of neuropsychology and related topics, has the potential to make a significant contribution to the resolution of deep philosophical problems (Wassermann, 1980).

### **Lighter shadow matter body and brain**

Inspired by the shadow matter theory of astrophysics, Wassermann has developed his own theory, postulating that living beings have a twin body consisting of lighter shadow matter than that of their corporeal presence (Wassermann, 1988). 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. *Lighter shadow matter body* (LSM-BO) is co-produced by the ordinary matter body and co-evolves alongside it. Wassermann postulates that all living beings have an LSM-BO. The theory may be briefly expounded in the following way.

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). It follows that every atom that is made up of quarks and electrons can bind a shadow matter atom – designated a *satom* for ease of reference. The relationship between the electron and the selectron is in some ways analogous to that between 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 body could be bound to LSM-BO. Each ordinary matter brain atom would have a corresponding *lighter shadow matter brain* (LSM-BR) shadow matter brain that is bonded with it through gravitational force.

Lighter shadow matter can interact with heavy shadow matter – which astrophysicists call dark matter – through shadow matter forces. It is



conjectured that lighter shadow matter interacts gravitationally with ordinary matter. The binding force of the lighter shadow matter and the physical body is hypothesised to be gravitational force. The gravitational interaction may be very strong; the shadow matter constituent interlocks with the ordinary matter constituent as the two come into proximity. The matching constituents may attract each other sufficiently strongly through gravitation to adhere, becoming mutually bonded (Wassermann, 1993). The ordinary matter brain may communicate with the LSM-BR via minute packets of gravitational energy called gravitons, and the LSM-BR may trigger vitally set motor nerve cells of ordinary matter brain, thereby setting off nerve impulses leading to human actions.

Wassermann has proposed that during life, shadow matter is residually attached to the ordinary matter body by a thin elastic cord composed of shadow matter. His postulated LSM-BR 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 lighter shadow matter anagrams. The evidence supporting such a view is that in recounting *out-of-body experiences* (OBE), subjects are able to recall what happened to them. OBE suggest that LSM-BR has the properties of human intellectual functions: memories, feelings and perceptions. Ian Stevenson propounds that the *psychophore* is the medium within which memories are accumulated (Stevenson, 1987). The LSM-BR may be carrying the psychophore, a functional unit of the shadow matter brain. At the time of death, the gravitational bond between LSM-BO and ordinary matter body breaks, but the shadow matter continues to exist. Wassermann argued that the second law of thermodynamics, the law of entropy increase, might be supposed to be inapplicable to shadow matter, which would as a result not be subject to decay and deterioration.

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 brain and in the shadow matter brain, resulting in our having multiple copies of memories. The ordinary brain would contain

representations of the shadow matter brain and vice versa. LSM-BR may be likened to a central sorting station, from where information may be relayed to different localities within the ordinary body and the shadow matter body. 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. It has been hypothesised that psychics may have an unknown factor in their neurophysiology that enables them to weaken the connection between the LSM-BR and the ordinary brain, enabling them to facilitate the *psi* faculties of their shadow matter brain. The *psi* phenomenon itself offers indirect proof of the existence of the LSM-BR.

We have not yet assessed the maximum capacity of the ordinary brain, and our knowledge of LSM-BR is nominal – it would, for instance, be premature to ascribe total mentality to the LSM-BR. The concept offers extensive opportunities for theoretical investigation. There are several variations of consciousness and I contend that one of them may be a property of the LSM-BR. Wassermann's theoretical speculations have been inconsistent and at times even incompatible, but they are detailed and highly creative. Because the mode of interaction of shadow matter is restricted through gravity, theoretically shadow matter may be 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 Earth. But he asserted that the entire planet has a shadow matter twin that prevents the surface-based shadow matter from sinking further. Is the LSM-BO an exact duplicate of the ordinary body and is it subject to the wear and tear of life and environment? Wassermann argued that the heavy shadow matter can influence the lighter shadow matter. The concept of LSM-BO would pose endless questions.

### **The second body**

The concept of a second body has been prevalent in psychical research for a long time. Robert Monroe gives some information about what we may designate the 'second body' (Monroe, 1971; 1985; 1994). According to him, it possesses some weight – and is thus subject to gravity – and it has



extremely low density. It is visible under certain conditions, and it engenders sensations of touch similar to physical touch. It is very malleable and it has great flexibility; it may adapt any form that is required of it. It is able to traverse physical walls, objects – in fact, any solid structure. The second body is in essence a reversal of the conventional body. Monroe also hypothesises a cord, one that is extremely flexible, connecting the two bodies.

Robert Crookall, a geologist turned parapsychologist, has offered a model of mind to scientists conducting investigations into the paranormal (Crookall, 1961; 1965; 1969a, 1969b; 1970). His studies are under-rated and we have much to gain from perusing them. Crookall 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*. 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 soul body is a mirror of the physical body, or a psychical double with varying composition. The physical body may be the template of the soul body.

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. 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. The soul body is the vehicle or propulsion system for the spiritual body.

### **Para-histology and cellular memory**

Each day, within our body 50 billion cells die. This intensive cell turnover means that, eventually, almost all the cells that constitute the physical identity of the individual are replaced with new ones. In spite of this we do not perceive

ourselves as being new or as having any different form from what we have always had. The corollary to this must be that some form of communication between all our cells perpetuates our experience of consciousness flawlessly while billions of cells die and are replaced (Shwartz and Russek, 1999). There may be a permanent record of cellular events that is maintained in the duplicate (LSM-BO) of our physical body, similar to the hypothetical '*akashic record*' of the universe. In our bodies these records are tapped by the newly formed cells, maintaining the continuum of cellular consciousness.

Enhanced cognitive abilities and paranormal perceptions that occur even in blind people during NDE could be explained by the hypothesis of cellular consciousness, and LSM-BO is possibly the seat of cellular consciousness. It may serve as indirect evidence for the existence of LSM-BO. Individuals regarded as being brain-dead may be experiencing consciousness at the cellular level, and this could explain their perception of events that are otherwise inexplicable. Such a consciousness cannot be fully attributed to the cells constituting the physical body, but it could be assigned to the LSM-BO. The hypothesis of cellular consciousness may appear to divert us from the interpretation of NDE as direct evidence of post-mortem existence. In fact, the present author considers NDE to be indirect evidence of discarnate survival; such events are not after-death experiences (Pandarakalam, 1990).

The age-old belief that the heart is the seat of the mind came to be questioned when the first heart transplant proved that there was no transfer of mind from the donor to the recipient. The house of the mind came to be established as in the brain. But transplant operations in which the recipients of a new heart and lung have demonstrated changes in behaviour that suggest similarities to the organ donor have now taken place. The hypothesis that behavioural changes such as these are due to the influence of the hovering spirit of the donor is a significant way of looking at human nature. Such cases may also point towards another reality: a variable of consciousness that exists at the cellular level.

Cellular memory is as strong an option (Shwartz and Russek, 1999) as the 'spirit-hovering' hypothesis (Braude, 2003) in explaining transplant cases. It is a current belief that memories are stored in the brain, but



transplant cases indicate that those memories may reside in a psychosomatic network extending into the body like the roots of a tree. Transplant memories stand out in our neurological model of memories. It has been hypothesised that there are physiological connections between memories, organs and the mind. The universal living memory hypothesis may explain how information and energy from a donor's tissue can be present consciously or unconsciously in the recipient of it (Shwartz and Russek, 1999). Everything is holographic in the sense that every cell contains the wholeness of the person, a prompt to shifting the brain-centred approach in cognitive sciences to a holistic model. LSM-BO may be analogous to the etheric subtle body. It functions similar to a "computer program" planned to direct the development and preservation of the physical body (Kinney, 2014).

### Multi-energy and mysticism

According to the dark plasma theory (formerly known as plasma metaphysics), a significant proportion of dark matter takes the form of super (high-energy) particles. In the dark current mode of plasma, the strength of the electrical current is very low. Plasma does not glow and is essentially invisible. It would not be detected without the ability to measure its electrical activity with highly sensitive instruments. Such instruments are also required in order to detect dark matter. Planetary magnetospheres are examples of plasma operating in the dark current mode, and there is a great deal of dark plasma in existence. It emits radiation that cannot be detected with the scientific instruments currently available, and is discerned only when ordinary matter that condenses round it gives out measurable radiation.

Because they are composed of low density plasma, ethereal and astral bodies can pass through matter. They are composed of collisionless dark plasma – as is much dark matter. Evidence suggests that when speeding fragments of dark matter meet, they do not collide, but instead pass through each other unscathed. Klauber argues that just as two waves rolling over the ocean heading in opposite directions can pass through each other unaltered, though coexisting for a time in the same area of water surface, so too can two subatomic wave/particles pass through one another unperturbed, occupying simultaneous for a time

the same space (Klauber, 2000). The view held by classical physicists that two objects cannot occupy the same space at the same time has also been a scientific block to the belief in the existence of a higher dimension associated with the brain. This view, however, is now being challenged by post-Einsteinian physicists.

Alfred Jay proposes that there are several invisible bodies – lighter shadow matter-like bodies – constituting the human person. This is a serious attempt to link theosophy, plasma physics, religion and parapsychology (Jay, 2006). Jay believes that dark matter largely takes the form of plasma of exotic (non-baryonic) particles, and he predicts the existence of terrestrial dark plasma life forms, including human bio-plasma bodies. Wassermann made use of the shadow matter concept in parapsychology, and brought psychic phenomena within the mechanistic framework. The multi-energy system model is a development far advanced from Wassermann's lighter shadow matter theory. Jay borrows several ideas from theosophy, postulating that our spiritual bodies consist of multiple magnetic plasma bodies. Spiritual and mystical phenomena may be easily accommodated in the dark plasma theory. The human subtle-energy system with its multiple, interpenetrating subtle-energy bodies provides the elements that can explain all of the unusual phenomena (Dale, 2009).

According to Jay, a human being consists of a physical bio-molecular body closely associated with higher and lower energy ethereal bodies, higher energy and lower energy astral bodies, and higher energy and lower energy causal/celestial bodies. The etheric doubles may support tissues and biochemical activities in the bio-molecular body and give it structural integrity. Astral bodies inhabit the astral universe with a space-time signature of four spatial dimensions and one time dimension, while causal bodies inhabit the causal universe, which has a space-time signature of five spatial dimensions and one time dimension. Higher energy bodies are akin to minds; causal bodies are equivalent to the spiritual body that is intrinsic to the faith traditions.

'Astral body' is primarily a theosophical term for the double or replica of the self which is said to leave the physical body during an out-of-the-body experience, but it has become associated with the occult (the word 'astral' derives from theosophical use and occult and



esoteric thinking). Another influence is cosmology, which identifies astrological influence with the psychic world, but there is nothing starry about the astral body. Jay explains it as an energy body at the interface of the ethereal and celestial bodies. Structurally a human body may be regarded as an onion ring, the physical body being the outermost layer. Wassermann has not distinguished between ethereal and astral bodies, but has assigned terminology to invisible bodies to assist in future research. The lighter shadow matter body is possibly one of the few energy bodies enclosed within the carbonated body, and corresponds to the ethereal body that Jay (2006) proposed. This is opposed to Wasserman's proposal in his shadow matter theory when he was trying to explain psychic phenomenon in terms of LSM-BR. For simplicity, I designate the high and low energy bodies co-existing with our ordinary body as posited by Jay as lighter shadow matter-like bodies. I contend that LSM-BO is para-histological and has possible clinical significance. Centres of different energy bodies including LSM-BR share psychical faculties. The terms 'shin' and 'super-shin' may be used for these energy centres (borrowing nomenclature from Stokes, 2009). Medical scientists tend to discount anything that is invisible, and only time will prove whether these speculations are justified.

Jay has shown that magma bodies can change their degree of opacity, and it is reported that change of appearance at will is possible for super-magma bodies. These changes may be superficial and on the surface only. Jay argues that the super-magma body may be using a technology similar to plasma vision and LCD technology combined. There is room in dark plasma theory for mysticism.

Mystical experiences suggest the possibility of a dimension that has its own order and objectivity, existing beyond the higher dimensional structure. Like the hypothetical massive Higgs bosons thought to exist soon after the Big Bang, spiritual bodily forms may have been created by a spiritual big bang in an eternal spiritual dimension – a hyperspace beyond the brane-space (a brane is an object that may have any number of dimensions). The terms 'non-biological' and 'non-physical' become meaningful only if the spiritual body is perceived to have evolved in a higher dimension beyond the quantum spaces. Before the celestial body is

drawn towards the human embryo or foetal body, it may exist in a cosmic womb (Modi, 2000). Thus we may have to accept the existence of a cosmic pool from which each of our individual consciousnesses stems and to which each ultimately returns (Beloff, 1994). This coeval, according to some percipients of Marian visions, may consist of a richer reality – even a negative one (Lundahl, 2000).

Quantum is only the bedrock of matter, and mysticism may be the foundation of reality (Kelly *et al.*, 2006; Kelly *et al.*, 2015). Like mediumistic communications with the dead and past-life memories, mystical experiences offer us windows on reality. They aid us in comprehending the world in which survival and other disputed psychic phenomena are possible and even probable. In this respect, a multi-energy model of consciousness is constructive. To experience mysticism, we need specialised subjective tools and LSM-BR may not be adequate to serve the purpose. A non-biological body in combination with the material brain and LSM-BR may be a requirement for experiencing psychic phenomena of a higher order. LSM-BO and LSM-BR are transitional vehicles of consciousness and not generators, and the non-biological body may exist independently of them in the post-mortem state. A multipart model of mind and consciousness based on mystical experiences, particle physics and neurosciences offers a more accurate schema than one excluding mystical experiences.

### Super-psi

Critics of discarnate survival use the super-psi hypothesis to explode even the most convincing evidence of discarnate survival, and yet the source of super-psi is the same as what survives material death (Beichler, 2008). Super-psi is the theoretical extension of ESP and PK, and critics of discarnate survival have been expanding its definition. While some argue that super-psi is groundless and unfalsifiable, non-survivalists latch on to it as a requisite for assessing the evidence in favour of post-mortem existence. The question seems to be whether there is anything that discarnates can do that incarnates cannot do and vice versa. The answer is that incarnates and discarnates are constrained – incarnates by their physical body, and discarnates by the physical barrier – in communicating or manifesting at the physical realm. Any discussion of super-psi is



bound to complicate interpretations of mediumship, but not necessarily the interpretations of all other evidence of discarnate survival. For the super-psi hypothesis from the living to be true in the case of collective apparitions, one has to conjecture that the super-psi of the multiple percipients generates an identical auto apparition. My own contention is that where collective and controlled *recurrent spontaneous psychokinesis* (RSPK) like activity is involved, as in some instances of Marian apparitions, even the presence of the super-psi does not exclude apparitional manifestation at the physical site.

Denial of super-psi does not particularly favour the disembodied state and may even be self-defeating in relation to the case for survival (Sudduth, 2009). It may even be that super-psi is a requirement for survival to occur as the ordinary psi demonstrated in laboratories may be insufficient to sustain discarnate survival. Beichler regards the afterlife and super-psi as equivalent because the foundation for super-psi is the same as that thing that survives physical extinction (Beichler, 2008). If super-psi exists, it may be a faculty of the celestial body – the super-shin (spiritual body) which is the ultimate non-biological component in association with the brain. There is no room in shadow matter theory to accommodate the super-psi hypothesis.

### **Individualising principle**

Traditionally theologians refer to the properties of soul or spirit as intellect and free will, meaning individuality and personal responsibility in psychological terms. Just as waves and particles are complementary aspects of light, choice and responsibility are part of the basic personal experience of all humans (Polkinghorne, 1986). According to Stevenson, it is the individual that reincarnates (Stevenson, 1987). Stevenson distinguishes between personality and individuality, defining individuality as ‘all the characteristics whether concealed or expressed, that a person might have from a previous life or previous lives as well as from the present one’; and he defines personality as ‘the aspects of individuality that are currently expressed or capable of expression’ (Stevenson, 1997). Individuality is the aggregate of qualities and characters that distinguishes one person from another. It involves a set of behavioural or personal characteristics by which an individual is

recognisable. Thus individuality is a bundle of properties; individuality gives distinguishability and self-identity. An individual is a being in itself, and it is separate from other beings, implying unity and distinctness.

The shadow matter brain alone cannot explain individuality, but the spiritual body combined with the shadow matter body could offer a better explication of individuality. The spiritual body renders the shadow matter body and the physical body unique; we might term it the ‘individualising principle’. Subjective human attributes such as ethics, morality, feelings of respect for others, feelings of self-dignity, ability to trust each other, poetic sense, creativity and goal-oriented behaviour cannot be attributed to the shadow matter brain in isolation. Unconditional love, empathy and compassion are part of the spiritual dimension and cognitive scientists have a tendency to soft pedal if not bypass these subjective qualities entirely.

Many subjective human attributes cannot be attributed to the material brain or LSM-BR in isolation, even though the material brain and LSM-BR collaborate in such experiences. They are all unique human experiences and they are indicative of a consciousness beyond the quantum mind. Penrose’s consciousness cannot explain ‘the unique human experience’ (Penrose, 1989; 1994). It is not just that the emperor was unclothed; it is that there is a further layer of transparency to be found in the ‘emperor’s new mind’. While it is possible to demonstrate the neurological and quantum correlates of subjective consciousness, that does not constitute evidence that the material brain and LSM-BR generate such intrinsic experiences. Physics and mysticism are addressing two distinctly diverse domains, and even though there are important parallels between them, quantum consciousness should not be equated with spiritual consciousness (Clarke *et al.*, 2006).

The concept of the LSM-BO without the non-biological body (spiritual body) is analogous to a motor vehicle without a driver or a musical instrument without someone who can play it. Stevenson has conjectured that the mind has a somewhat variable attachment to the brain, rather similar to the connection between the engine and the wheels of a motor car, which varies in accordance with changes made by using the clutch (Stevenson, 1980). The motor vehicle that is being operated by its driver offers a



reasonable analogy that explains the two forms of dualism that may exist within human beings. There is a functional dualism between shadow matter and the ordinary body. Like a motor vehicle that becomes functionally two units when the clutch is pressed, the twin biological bodies could be seen as becoming functionally two structures, depending on the strength of the gravitational bond. The driver and the vehicle are dual entities; the non-biological component (the spiritual body) and the gravitationally bonded biological twin body form a dualistic relationship.

Evidence for discarnate survival is increasing. It encompasses réincarnation-type expériences (Stevenson, 1997a; 1997b, Tucker, 2007). So far medical specialists have been at a loss to establish a scientific model of the invisible or the unphysical body. Hitherto invisible microbes remained hidden until the discovery of powerful microscopes. Quantum physics has now established the possibility of invisible realms (Kaubler, 2000; Bryan, 1998; 1999; 2000). The existence of unphysical neutrinos permits us to believe in similar imperceptible entities and dimensions composed of neutrino-like particles. According to the laws of contemporary physics, nothing can end abruptly. The physical realm has to continue as a para-physical dimension until there is convergence to a dimension where physical principles permit an abrupt end. We need to imagine supra-particles or a particle that is as yet unknown. In practice, many scientific theories are based on underlying assumptions.

Post-mortem existence points towards a finer body or celestial body that could exist independently of the physical body and in non-physical realms. Such possibilities warrant the existence of a celestial body that evolves in the non-physical realm and then incarnates into the physical body. The celestial body would become clothed with the astral body. Once attached to the LSM-BO, it may be surmised that like a pupa it grows within a shadow matter shell, developing in a well-insulated personal space. The origin of the non-biological spiritual body would remain a mystery.

### **Brain-mind-consciousness complex**

Belief in a hypothetical biophysical-spiritual model of mind consciousness is intrinsic to developing an expanded model of consciousness. According to Quantum Information Theory, bits

of information are the basic constituents of physical reality. Although mind may be viewed as an essentially information processing system, while consciousness is much more complex, the two are interdependent. The late Stevenson (1980) described mind as the part of the person within which one accesses information introspectively; however, he failed to define consciousness. Consciousness is, while local, unlimited by space or time. It lacks mass, volume, charges and polarity and it cannot be observed, created or destroyed. If mind is likened to a memory box, consciousness would be the search engine. Psychologists describe consciousness as a state of mind, while to physicists it is a field that accounts for the collapse of wave function in quantum theory. Consciousness may be a series of quantum fields. In that respect, mysticism may be viewed as the bedrock of consciousness, and quantum that of matter.

To understand formation of consciousness, we must unpack the brain-mind-consciousness complex, and perhaps postulate the download of a higher, quantum-like consciousness into quantum consciousness. This supra-consciousness or spiritual consciousness (micro-micro particle) may be capable of receiving and sending messages to the living, discarnate consciousness and possibly of interacting with it when the brain is inactive (Pandarakalam, 2014). The physical body is comparable to the outermost ring of energy bodies bonded through gravitational force, whereby on death, the bond breaks, discarding the outer layers. Still, consciousness may be better explained as a multiple energy system model bonded by nano-level gravitational forces.

In recent years, quantum brain, quantum mind and quantum consciousness have received much attention. The quantum brain concept embraces quantum biology, quantum neurobiology and quantum psychopathology (Tarlaci and Pregnolato, 2015). Quantum biology aims to explain biological phenomena from the quantum perspective. Quantum neurobiology, on the other hand, is directed towards understanding whether quantum physics rules apply in the biology of the nervous system. It focuses on exploring consciousness and is thus primarily concerned with brain operation at a quantum microscopic level. Quantum psychopathology (derived from quantum neurobiology) emanates from the idea that, if



quantum physics is involved in brain function, disease (including depression, schizophrenia and hallucinations) may be explained by quantum physical pathology (Tarlacı and Pregmolato, 2015).

Spin-mediated consciousness theory (Hu and Wu, 2008), quantum brain dynamics and the Orch-OR theory (1996) may explain consciousness formation as a biological mechanism. Freud's unconscious mind is analogous to the quantum mind. In the Orch-OR model, the passage from the unconscious to the conscious is determined by decoherence of qubits in the polymerised tubulins in microtubules—very fast switches from the quantum logic of the unconscious to the classical logic of consciousness.

The term 'psi' encompasses the psychical and spiritual faculties described by faith traditions, which may be incongruent. Psi is also perceived as the functional part of consciousness and may accommodate quantum and quantum-like consciousness. Intrinsic psi factors relate to personal psi experiences and include spiritual factors. On the other hand, extrinsic psi factors relate to extrinsic spiritual factors from the living and the deceased, implying psi influences from other beings, living and discarnate (Pandarakalam, 2014). Thus, following Crookall, Alfred and Wassermann, we may surmise a human dual complex system—a material body protected by lighter shadow matter body (LSM-BO) and a celestial body insulated by an astral body, which is assembled independently. The integrated system incorporates nano-level gravitational bonding or unknown power contact. On death, the bonding breaks and the celestial body continues to exist in another dimension.

Whatever its nature, brain-mind interaction apparently takes place in the quantum world. Material brain may offer a substratum for classical consciousness, while LSM-BR may offer one for quantum consciousness. As consciousness is understood to be affected by many variables, we may postulate a series of mind fields and consciousness states. Yet, much remains unrevealed, and will perhaps always be shrouded in mystery. Colin McGinn (1999) opined that human intelligence is not designed to understand consciousness. Similarly, although optimistic about solving the mind-brain problem, *neuroquantologist* Sultan Tarlac acknowledged presence of serious obstacles in

this endeavor. In his view, we are part of the problem and our limited ability is the most important impediment in the path towards finding a solution (Tarlacı, 2014). According to Tarlac, studying consciousness is like trying to jump over one's own shadow.

### **Explanatory Value**

Wassermann argued that Shadow Matter Theory has a serious explanatory value. Among several other postulations, he argued that LSM-BO might account for manifestations, such as Doppelgangers and phantom limb experiences, and could offer alternative explanations for several neurological conditions and non-ordinary states of consciousness. Wassermann further opined that autoscopy occurs when one perceives sphotons (photons of LSBM) emitted from a shadow matter copy of one's own body. Unusual experiences like depersonalization may be explicable as a mild alienation of the shadow matter from the conventional body. Under this framework, a gentle loosening of the twin brains' coupling may be surmised to occur in sleep, favoring dreaming, facilitated by the shadow matter brain. While postulating that tightening and loosening of twin bodies would demand high supply of energy, Wassermann was not at all in a position to comment about its source. According to Stokes (1993), this energy is required to come out of the potential energy well caused by the tight gravitational bond of the twin bodies (Stokes, 1993). Wassermann cited examples whereby some people with severe congenital hydrocephalus managed to attain high academic merits despite having minimal cortical tissue. He argued that this was possible as the shadow matter brain may develop normally and permit the development of elaborate skills despite the inadequacies of the ordinary matter brain. Nonetheless, he failed to explain how this is supposed to occur, if the LSM-BO is constructed as an exact copy of the ordinary matter body (Stokes, 1993). Despite these incongruities, the concept of LSM-BO could pave the way for new research into helping those who have suffered brain damage.

Wassermann posited that, in hypnotic states, there is an augmentation of the bond between the ordinary brain and the shadow matter brain. Consequently, the shadow matter brain becomes non-autonomous, its functions controlled by the ordinary brain. This



interdependence will result in a high level of exchange of information gravitons (energy parcels) between the twin brains, allowing easier recall of stored memory traces from the LSM-BR (Wassermann, 1993).

Hypnosis is considered as a psi-facilitating state. Hence, it is logical to think that there should be a partial separation between LSM-BR and ordinary brain. It may be contented that the placebo effects of drugs and acupuncture meridians could be attributed to LSM-BO. Assuming that LSM-BO and LSM-BR exist, medical scientists cannot ignore its role in the causation and healing of several medical conditions. The concept that material body is only the outer layer of a metaphorical onion consisting of several subtle energy bodies would prompt medical scientists to develop a more sympathetic attitude towards complementary therapies, faith traditions, etc.

### Concluding Remarks

There are a number of self-consistent and irrefutable theories of the universe—Shadow Matter Theory being one of them—that can be verified by induction rather than by experimentation. Although existence of shadow matter has not been demonstrated by rigorous research, it is supported by a significant amount of astrophysical and experimental evidence. Yet, despite ample theories in cognitive science and parapsychology, consensus on their validity and application is lacking (Stevenson, 1995). By definition, a scientific law requires an observation and recognition of a repeatable process in nature. Just as beatification precedes canonization, a scientific idea has to be subjected to established, stringent and irrefutable tests before being accepted as a scientific truth. Similarly, research typically commences by forming hypotheses, which are subsequently tested in order to accept or reject them. In the latter case, weaknesses are identified and hypotheses modified before being subjected to rigorous tests once again. While Wassermann failed to offer any quantitative means of testing his theory, this might be possible by making assumptions regarding the production and decay of shadow matter bodies. This approach would enable predictions regarding distance dependence effects to be derived. According to Stokes (1993), for a theory to be valid, it is not necessary to demonstrate that it is unfalsifiable

(Stokes, 1993). The concept of lighter shadow matter can at least be regarded as a scientific idea in the sense that we may be able to demonstrate its presence through sophisticated scanning techniques that will be developed in the future, along with the growth in astrophysics. Still, given that the shadow matter theories of brain and mind cannot be positively disproved or verified at present, it is appropriate to entertain some skepticism about them. Still, even if LSM-BO and LSM-BR are disapproved, this will not exclude the existence of the conventional concept of ethereal body, but rather imply that its constituents remain unknown. In other words, rather than being viewed as an exact model, it should be perceived as a way the unphysical model can be understood.

LSM-BR alone fails to account for the unique individuality of human beings. Nonetheless, it may help to partially explain the quantum mind. The concept of a unique and individual spiritual body can be appreciated better by accepting the hypothesis that it pre-exists in another dimension. The supporting evidence for such a belief may well account for reincarnation, which entails pre-existence, rather than vice versa (Stevenson, 2003). At the moment, OBE constitute the scientific evidence for the existence of the human shadow matter body. Reincarnation accounts (Stevenson, 1997a) offer support for a multipartite and multi-energy model of the mind and human body. In relation to the idea of discarnate survival, the multi-energy concept of human beings and the hypothesis of the pre-existence of the non-biological component/spiritual body are attractive, lending powerful support to the theological notion that human beings are essentially spiritual beings that have temporary earthly experiences. Accepting such a view, incarnation may be compared with ideas being formed in one's mind, acquiring physical form through linguistic expression, with the alphabet merely serving as the means of promulgating them. In the great economy of nature, the idea that the shadow matter body grows along with the physical body, and later the non-biological body that has been formed in another dimension incarnates into it, is plausible.

It does not appear logical to believe that LSM-BO and LSM-BR animated by the mortal physical body could be immortal. Only when the spiritual body—evolved in an advanced dimension—is brought into this equation, we will



be in a position to consider the high probability of human immortality. If Shadow Matter Theory is proven true, the existence of an ethereal body associated with the material body will also be more likely, as posited by Wassermann. It is likely that, after physical extinction, such a body composed of shadow matter might be converted to hard shadow matter and join the shadow matter ocean. Although the object and shadow are distinct, once the object ceases to exist, the shadow is also bound to become extinct. Dust to dust, shadow to shadows, yet celestial body survives! If shadow matter universe exists, it becomes an integral part of Mother Nature. While this view indicated that spiritual body of a pure non-corporal nature could promise long term existence, Wassermann was bordering on gambling when he discussed the survival issue.

The 'material soul' proposed by Wassermann might be one of the inner coverings of a multi-energy system. I simply conclude that LSM-BR is a para-histological layer, but even that discovery would be a revolutionary achievement from medical perspective. In line with Stevenson's (1987) view that only one hundredth of the mind is accessible to our observation, Wassermann provided only a glimpse of the 'tip of the iceberg.' Figuratively speaking, consciousness is neither the outcome of storms of synapses in a sea of chemicals nor it is merely the murmurings of shadow matter. Indeed, according to Stenger (1995), quantum mechanics offers no refuge from mystical belief, and spirituality should not be equated with quantum consciousness. The subjective sciences, unlike their objective counterparts, must distinguish between epistemology and ontology with far more clarity (Jahn and Dunne, 1997). With progress likely to be made in parascience in the future, LSM-BR may eventually be reduced to the status of another dynamic filter—one with more storage capacity than the ordinary brain. I contend that LSM-BO and LSM-BR correspond to the ethereal body of Crookall's and Jay Alfred's postulations.

After all, LSM-BR is only a duplicate of the ordinary brain, and Shadow Matter Theory, as proposed by Wassermann—who has been open about his reductionist views—is only another version of reductionism. Polkinghorne questioned reductionist views by asking if our mental life is nothing but the humming activity of an immensely complex computer-like brain

comprised of intricate connections. Consequently, it is not possible to ascertain whether the program running on the intricate machine is correct or not (Polkinghorne, 1986). Haldane (1945) wondered if our mental processes are fully and exclusively determined by the motions of the atoms in our brains, as we have no reason that our beliefs are true. In my view, a reductionist has no right to assert that reductionism is right, as he thinks he has only a highly vulnerable brain. On the other hand, a dualist is in a more confident position to argue his case because he believes that he has an advanced system associated with his brain.

A reductionist, mechanistic and materialistic model of the mind is still inadequate for explaining the whole subjective human experience, and it is for this reason that a multi-partite view of consciousness is justifiable. There may be shadow matter-like bodies and quantum-like consciousness. While Jay Alfred's multi-energy system views are complementary, he failed to recognize the possible existence of other shadow matter-like bodies. It appears Wassermann was a victim of the reductionist tsunami of the 20<sup>th</sup> century and wanted to explain everything mysterious about human mind with a theory of reductionist mechanistic materialism. There is nothing non-physical about shadow matter. While not material like a table, for example, shadow matter is still physical, akin to electricity, which is non-material but physical.

Since the onset of the 21st century, we have witnessed a paradigmatic shift to non-reductionism. In addition to the physical reality of space-time relativity and speed of light as the limiting factor of information transfer, LeShan (2009) has proposed a 'clairvoyant reality' where psi faculties operate. My contention is that such a view is but a concession to the concept of quantum world weaved out of statistical probabilities, where brain is serving as a form of quantum detector that determines the collapse of the state vector into the qualia of conscious experiencing. Quantum theory has become a scientifically respectable haven for all the discarded materialistic views of the mind, yet psychophysics can be a potential threat to the human sense of identity. We ought to blend scientific rationalism and the wisdom of faith traditions harmoniously if we are to achieve a better understanding of human consciousness. Particle physicists have elevated *Homo sapiens* to

a status of quantum being from the Darwinian status of 'electrical animals.' I believe that the study of mystical experiences would give humans their true identity as spiritual personalities.

Scientific community desperately needs a new concept of a human being, if we are to learn to stop killing each other and poisoning our only planet. Thus far, the old materialist worldview has been unhelpful (LeShan, 2009). Wassermann's materialistic, mechanistic views of humans are probably going to add more conceptual confusion rather than provide meaningful and useful clarifications. The new age and other philosophies are wreaking havoc with lives by changing the understanding of who we are and how we were made. In Paulistic

philosophy, soul and spirit are distinguished, but they interrelate. According to the same philosophy, the body and soul and spirit are one unit, completely necessary to our person. Dualism can also result in much abuse of our person. We can't dissect ourselves and examine our parts; the same principle applies to consciousness studies. We ought to blend scientific rationalism and the insight of faith traditions harmoniously to achieve a better understanding of human consciousness; quantum sciences and theology are two major corpuses of human wisdom that cannot but overlap. The concept of LSM-BR is helpful in linking neurosciences with *NeuroQuantology*.

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