

Nonlocal consciousness in the universe: panpsychism, psi & mind over matter in a hyperdimensional physics

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Abstract

Five types of processes display a ‘beyond spacetime’ property—or *nonlocality* as evidenced in the quantum entanglement—, including psi, proven to operate beyond-brain and beyond-spacetime. Together, these five anomalies are not only at odds with Relativity but also with the indeterminacy of Quantum Mechanics. However, in the same way as the four forces can only be unified via a hyperdimension, a hyperdimension that includes a cosmic consciousness (together with hyperspace and hypertime) may give a cogent foundation for all five nonlocal anomalies.

The *Infinite-Spiral-Staircase Theory (ISST)* posits such triune hyperdimension (HD) as all-encompassing in the universe, pre-existing to and pervading the spacetime region because it dwells at a sub-Planckian scale—both at the origin and at any spacetime coordinates in all systems. ISST accommodates the double-nature of consciousness, mostly nonlocal and operating through the hyperdimension, and partly embodied. The HD of a system is its dynamical meaningful organizational layer, its semantic field (syg-field), more or less evolved, from a proto-consciousness to a mind. The framework of ISST is panpsychist—with the hyperdimensional sygons (syg energy) pervading any atom, cell, biosystem and mind—, and is thus based on a deep, multilevel and distributed, mind-matter coupling. The sygons, pure semantic (syg) energy, create instant nonlocal connections between resonant semantic fields, thus explaining telepathy and psi at large. All semantic interconnections imply an inter-influence between syg-fields, the control variable of influence being the intensity of syg energy. Once the syg-field of a system has been reorganized, the change takes place within the matter- or bio-system.

Introduction

The materialist paradigm in science is checkmated by recent physics discoveries, such as ordinary matter being only 5% of the total energy of the universe, mass being no more an intrinsic property. The cutting

edge and hard question in cosmology and physics is: What exists before the very Planck scale—the first quantum—before particles (matter), space, and time are allowed, and thus causality? Physicists invoke an information-field, yet it has to be dynamical, self-organized, immensely energetic, in order to launch the birth of the universe. Altogether, five types of processes display a ‘beyond spacetime’ property or *nonlocality*: (1) entanglement; (2) psi (proven to operate beyond-brain and beyond-spacetime); (3) the sub-Planckian region at the origin and in general; (4) a beyond-spacetime non-material dark energy; (5) faster-than-light speeds during the inflation phase.

Theodor Kaluza, in positing a 5th dimension, showed that only hyperdimensional (HD) models could unify the four forces (Kaku 1994, Witten 1981, Brandenburg 2011); similarly, the *Infinite-Spiral-Staircase Theory (ISST)* argues that only a HD can integrate consciousness in the universe in a way that may explain the nonlocality of psi; it poses a hyperdimension of consciousness populated by faster-than-light, high-energy, sub-Planckian *sygons*. This HD is in fact triune, a braid of hyperspace (Center, C), hypertime (Rhythm, R) and consciousness (Syg, S). At the universe’s origin, it is topologically organized as a double phi-based golden spiral—a Kerr-type BlackHole-WhiteHole system—each (sub-Planckian) ISS bearing a near-infinite databank of frequencies on the logarithm of phi or Fibonacci sequence (Brandenburg & Hardy 2016). Within the terminal BH of the parent universe, all matter-systems were translated into pure CSR information or semantic fields; and through the WH, the CSR fields are translated back from virtual sygons into post-Planck particles and matter systems, still retaining the sygons as a 5th dimension at their core.

ISST builds on the *Semantic Fields Theory (SFT)* in modelling a level of semantic, proto-conscious layer of organization in all systems—their semantic fields (syg-fields). As human beings, our mind or consciousness is our global syg-field, the ensemble of all syg constellations (of our Mind-Psyche-Body system) organized in dynamical networks and steered by syg energy (Hardy 1998, 2001, 2003). The ensemble of all semantic fields of human beings form the *collective unconscious*, a nonlocal hyperdimension of consciousness at the planetary scale. As the cosmos is a holographic system, the ensemble of all semantic fields of all systems in the universe constitute the semantic hyperdimension as a gigantic hologram, self-conscious and evolving; and this is why any mind/syg-field is in synergy with the whole and may have an input into the whole.

1. Consciousness still unexplained by physics, whether via Relativity or QM

1.1. Consciousness is an essential dynamic in the universe

Let’s define consciousness as the interactive process of attributing meaning to our inner experiences and our exchanges with others and the world, that allows us to interact meaningfully with our social and physical environment; then any psychic process implies consciousness given that all emotions, thoughts, goals, behaviors, and actions, are loaded with meaning. Without consciousness, we wouldn’t know we exist, or that there’s a universe, therefore we have a cogent ground to state that consciousness is an essential dynamic in the universe. Furthermore, in a General Systems Theory’ viewpoint, if consciousness and intelligence exist at some point in the universe, then they are a potential reality all along. Now, *self-*

reflexive (self-referent) consciousness is the process of being aware of one's own thoughts, emotions, and behaviors, and to effect choices, act intentionally, and exert free will. In other words, consciousness instantiates semantic processes, it is the process of creating meaning that allows us to live and think in a meaningful world.

Now let's define psi as nonlocal semantic connections (at a distance in both space and time), with other minds or systems, that seem to contradict or violate Newtonian-Einsteinian physics laws (especially the brain locality, the inverse square law, linear time, and the speed of light limit). Despite being anomalous or rare psychic processes, the reality of the main psi phenomena (e.g. telepathy, remote-viewing, precognition, and bio-psychokinesis or bio-PK), has been established by hundreds of controlled laboratory experiments; theories about them abound, as well as applications by intelligence groups (Broderick & Goertzel 2014, May et al, 2014), but one axiom shared by all researchers is that they are mental phenomena—implying the mind and psyche, thus consciousness. It follows that whatever properties and dynamics are experimentally evidenced regarding psi have to be taken as the properties and dynamics of consciousness (even if rare ones). This is why psi processes have been a privileged object of study for several physicists, because they seem to display the very behaviors posited for particles in quantum mechanics (QM). In so doing, they are blatantly at odds with Relativity—the physics of spacetime—the very reason why classical physicists tended to reject psi as ‘impossible.’ The excitement over these relativistic spacetime anomalies and similarities with QM was such that it has hardly been noticed that psi was also at odds with the purely indeterministic axiom of QM in its Copenhagen interpretation.

1.2. Psi capacities at odds with classical physics (Relativity)

For a number of physicists and psi researchers, psi phenomena present several aspects that contravene Einsteinian Relativity physics but mimic Quantum Mechanics (QM) behaviors—such as nonlocality and entanglement, the observer/experimenter effect, retrocausality—and yet psi phenomena are definitely mental processes, i.e. implying consciousness. In this perspective, Josephson and Pallikari-Viras (1991) argue that the nonlocal interconnectedness instantiated between paired particles in entanglement experiments (of the EPR type) is the basis of psi phenomena. Also, several QM physicists—such as Heisenberg, Planck, Wigner, von Neumann, Stapp, Walker, Sarfatti—have implied the observer, and thus consciousness, in the collapse of the wavefunction (Hardy 2015, chap. 6). A position that is well resumed by John Wheeler's 1977 formula “Mind and universe are complementary” and expounded in Robert Jahn's and Brenda Dunne's *Margins of Reality*.

Experiments have established that the psyche can influence biosystems and skew random events through intention.

- *Bio-PK* (bio-psychokinesis) refers to the possible influence of mind over biological systems. More than 150 bio-PK experiments on biological systems (most of which were immune to suggestion or the placebo effect, such as bacteria or tissues in Petri dishes, blood samples, electric fishes, mice and the likes) were conducted in laboratories (many using double blind protocols) and were successful enough to ascertain this capacity (Schwartz & Dossey 2010).

- In *micro-PK* experiments, subjects are asked to influence the behavior of a random system to meet a specific aim (chosen randomly). The positive results have demonstrated that the mind can have an influence on random processes.
- The fact that our psyches, when strongly perturbed by shocking world-wide events, can have an unconscious influence on random-events-generators (REGs)—and thus modify the distribution of randomness in field settings—has been demonstrated over two decades via the *Global Consciousness Project*, a worldwide experiment set by Roger Nelson (Nelson *et al.*, 1996; Radin & Nelson 1989). This, for some researchers such as Roger Nelson, Dean Radin, Stephan Schwartz, and myself, reveals that the psyches of all human beings are not only communicating nonlocally but interwoven in what Carl Jung has termed the *collective unconscious*. (Radin 2006, Schwartz 2007). In a recent 2012 experiment using an optical double-slit protocol geared at studying patterns of interferences—originally developed by Thomas Young in his famous 1803 experiment—Dean Radin showed, with an outstanding probability (of $p=6 \cdot 10^{-6}$, over 250 trials) that consciousness had indeed an influence on the collapse of the quantum wavefunction. The authors (Radin *et al.*, 2012) conclude by a reference to panpsychism that could explain their results “if some aspect of consciousness is a primordial, self-aware feature of the fabric of reality, and that property is modulated by us through capacities we know as attention and intention (...)”.

In brief, bio-PK, by itself alone, demonstrates that consciousness is able to perform a work—which is the precise definition of an ‘energy’ in physics. My theoretical stand (in both SFT and ISST) is to postulate that consciousness is an energy, and to use the term *syg energy* to refer to consciousness-as-energy—the very energy of the HD, i.e. the sygons.

1.3. Psi capacities at odds with Quantum Mechanics: Conative processes (intention, will) and psychosocial factors steer psi results

Experiments showed that directed intention can have an influence on biosystems (the targets being immune to suggestion renders an explanation by the placebo effect irrelevant), as well as on random processes. Other experiments have demonstrated that psychosocial factors influence the results (such as openness, beliefs, expectations, self-confidence, positive thinking, meditation, creativity). The fact that conative and psychosocial factors can influence matter systems and biosystems is conflicting with the postulated indeterminacy of quantum events in the Copenhagen QM—even if some other quantum processes such as coherence, entanglement (interconnectedness at a distance), the observer effect, and retrocausality are found in both QM and in Psi.

1.4. Consciousness is nonlocal: beyond the brain and beyond spacetime

Psi exhibits nonlocality in two ways: beyond the brain and beyond spacetime. It thus broadens the strict definition of nonlocality in physics.

Beyond the brain

The ‘receptive psi’ is defined as a reception of information at a distance in space (remote viewing, telepathy) without any causal or perceptive mechanism; or from a distant time in the future (precognition)

or in the past (retrocognition). Thus psi (and therefore consciousness) is radically different from the local functioning of the brain and perception, and can operate independently from it—as seen in the anomalous cognition shown by clinically brain-dead patients. Furthermore, for a person, psi information can be received or be expressed through a variety of channels in the mind-body-psyche system: anomalous vision, audition or touch sensation, interoceptive perception, empathy at a distance, unconscious expression, body movements, anomalous visual, verbal or written reception, altered states and meditative states, etc. Therefore psi processes are much more labile and flexible than just a wired capacity in the brain. This, in my view, shows that the way psi operates is beyond language and implies a fundamental level of organization within biosystems (Hardy 1998, 2000; Tart 1969). This is in accord with Josephson and Pallikari-Viras (1991) predicating that biosystems develop their own (first-person) self-meaningful links and exchanges that bypass the (third-person) dynamics studied in physics and are able to skew probabilities. Furthermore, such a basic type of meaningful exchange between biosystems supports the concept of a proto-consciousness in all living beings (at the very least), even those who do not have brains (Chalmers 1996).

Beyond spacetime

- Some systematic neuronal activity has been evidenced by B. Libet just before a perception becomes conscious—about 300 milliseconds before (Libet *et al.*, 1979). Using Libet protocol and in the context of psi experiments, this capacity of *presentiment* has been corroborated, notably by Radin (2006), and Bem (2011).
- Psi is not bound by the inverse square law of electromagnetism, since there's no decrease of its effect at enormous distances, as shown by the successful Earth-Moon psi experiment that Edgar Mitchell performed during the Apollo 14 mission (Mishlove 1997, Mitchell 1996). In many experiments on bio-PK, the distance to the targets was accrued without any decrease of the psi results. Furthermore, psi functioning is unconstrained by the EM spectrum waves: it operates inside Faraday cages and at a great submarine depth (Targ, Puthoff & May 1979, Mishlove 1997, Schwartz 2007).

Of course this doesn't mean that psi operates only and necessarily in these nonlocal modes given that many processes involve a conventional interaction with space and/or time, but it underlines that psi is neither bound nor constrained by spacetime laws. Based on these premises, ISST postulates that the processes of consciousness (to which psi belongs) instantiate a different, more global, layer of reality—an extra or meta dimension, distinct from spacetime, which is best modeled, in physics, as a hyperdimension.

1.5. Consciousness and psyche as nonlocal, trans-spatial and trans-temporal

- Carl Jung (1960) defined synchronicities (including psi phenomena), as meaningful coincidences between a mind and an event distant in space or time. He stated that these processes were 'acausal,' revealing another set of laws than spacetime causality, and were grounded in an underlying fabric of the universe that, with physicist Wolfgang Pauli, he termed *deep reality*, and defined as a layer in which psyche and matter were fused.

- Several scientists have postulated that the psyche (or consciousness) is, in the words of Carl Jung, “trans-spatial and trans-temporal” or, in the current terminology, *nonlocal* (Jung, 1960). Among them, physicists H. Walker, B. Josephson, F. Pallikari, O. Costa de Beauregard; scientists S. Schwartz, L. Dossey, C. Hardy. And also that the psyche was transpersonal (C. Jung, C. Tart, S. Krippner), and/or operating between biosystems via meaningful relationships (R. Sheldrake 2009, C. Tart 1975), or via a collective psyche (R. Nelson, D. Radin).
- Several scientists have argued, following Jung and Pauli, that the psyche could instantiate *synchronicities*, that is, meaningful correlations and coincidences at a distance in space or time (Jung & Pauli, 1955), such as physicists D. Peat (1987), J. Sarfatti (2006), M. Teodorani (2010); and systems and chaos theorists A. L. Combs and M. Holland (1995), F. Abraham (Abraham *et al*, 1990), C. Hardy (2004).
- Many scientists have shown experimentally that psi can be *steered by meaning and intention*, among them W. Braud, M. Schlitz, H. Schmidt, C. Honorton, R. Berger.
- Yet psi information can also be *received unconsciously* (C. Tart, R. Targ, H. Puthoff, M. Varvoglis), as evidenced by physiological responses in DMILs experiments (Direct Mental Interaction with Living Systems) by W. Braud, M. Schlitz, D. Delanoy, B. Morris.
- Other scientists view psi as an *EPR-type of entanglement*, (the Einstein-Podolski-Rosen thought experiment), a nonlocal exchange of information not mediated by relativistic spacetime; these include systems scientist W. von Lucadou, psi researchers D. Radin, B. Dunne, and physicists D. Bohm, R. Jahn, B. Josephson, H. Walker, and M. Teodorani.
- Physicist David Bohm (1986) extended his *implicate order* concept of an underlying field of interconnectedness, to state that it supersedes distinctions between mental and physical events, between self and not-self. Bohm thus explicitly allowed for nonlocal or transpersonal exchanges, such as psi phenomena, viewing these as natural expressions of the underlying interconnectedness: “The main unusual feature of parapsychological phenomena is that they generally involve what may be called a nonlocal connection between the consciousness of a person who is in one place and an object, event or person in some distant place.”

2. Actual theories and open questions in cosmology

The Theories of Everything (TOEs) and most cosmological theories model solely a matter universe, in which reigns *either* causality in curved spacetime—via General Relativity (GR) & gravity, *or* randomness & indeterminacy at the quantum scale—via Quantum Mechanics (QM).

2.1. Actual theories

Relativity framework: in the leading inflation theory (Alan Guth, 1980, 1997), during the inflation phase (or Big Bang), happening at 10^{-36} second of the universe, the primeval universe increased its size 10^{50} times, and the process happened at million times the speed of light, during a supercooled phase—according to its inventor, Alan Guth. Let’s note that the discovery of gravitational waves issued from the merging of two Black Holes by the LIGO (Laser Interferometer Gravitational-wave Observatory) team on February 11, 2016, has corroborated the inflation phase and thus Inflation Theory. In the pre-inflation

phase (pre-Big Bang), the universe is a White Hole consisting of a Singularity + an event horizon; spacetime is highly warped and all matter is crushed by gravity (according to the Black Holes' *Theorems of Singularity* by Stephen Hawking & Roger Penrose, 1970).

QM (random) framework: in the trendy 'multiverse' framework (L. Susskind, 2003), there is 1 chance over 10^{500} for us humans to inhabit our actual universe bearing galaxies, solar systems and at least one intelligent civilization we know of—ours. Most of these universes (or *vacua*) would not lead to galaxies, even less so to life and minds, given there are about 20 extremely fine-tuned constants that allow our universe to be thus. *Explanation*: We just happened to hit the jackpot, since we are here and can do science!

GR + QM: 'Chaotic inflation model of the multiverse' (Andrei Linde, 1981,1994). What can allow a 10^{50} ratio of inflation? Numerous inflationary bubbles in spacetime, leading to loads of universes, through symmetry breaking. Is there something lacking in the main models? Yes: consciousness!

Positing a suite of universes (or universe bubbles, UB)

- *Budding universes*, from Black Holes of previous universes (Jack Sarfatti, Smolin).
- *Fecund Universes Theory* (Lee Smolin, 1997). Massive black holes (from dead stars) are the seed of budding universes, retaining parameters from their parent universes.
- *Conformal Cyclic Cosmology (CCC)* (Roger Penrose, 2010). A suite of universes, or aeons, in which entropy is reset to zero at each beginning.
- *Participatory universe* (John Wheeler 1998, Jack Sarfatti 2006): A field of information pervades the universe at the quantum vacuum scale, implying a "back-action" and two-way exchange of information with the evolving universe.
- Suite of universes + participatory. *Infinite Spiral Staircase Theory (ISST)* (Chris Hardy, 2015). A Golden spiral at the origin, setting a near infinite suite of frequencies (on the Fibonacci sequence), bearing the information of all systems that were optimized in previous universes (as Cosmic DNA).

2.2. Open questions in cosmology

At the very origin: spacetime and matter don't exist yet

At Planck scale (at a split fraction of the first second of the universe), the universe reaches the scale of the first quantum; particles (thus matter) are now allowed. At Planck time: 10^{-43} second, the universe's radius is Planck length: 1.616×10^{-33} centimeters. So... What is there before Planck scale? There are neither particles (matter), nor space, nor time, therefore no material causality; and of the 4 forces, only gravity exists (no EM force, no weak or strong forces yet). Several physicists propose an 'active information' or an 'information field' (David Bohm, Jack Sarfatti, John Wheeler).

The enigma of dark energy

In 1998, we discovered the acceleration of the expansion of the universe, and thus the existence of dark energy and dark matter. Ordinary matter (particles, stars, nebulae) makes up only about 5% the universe's total energy (PLANCK probe, 2015*). Dark energy accounts for 69%; it is a negative energy (repulsive radiation pressure), that counteracts exactly the positive and attractive energy of gravity. As for dark matter, a positive energy, it accounts for 26% of the total energy. The nature of both dark energy and dark matter are unknown. Thus: 95% of the energy of the universe is a total mystery... actual physics deals only with 5% of the universe's reality.

Mass is no longer an essential property of atoms

On July 4, 2012, the detection of the Higgs boson (by the Large Hadron Collider, LHC, at CERN in Geneva) proved that mass is acquired—via the interaction of the virtual particles with the Higgs field, when the universe is already 10^{-10} seconds old (an immense time after Planck scale!). In brief, the materialist paradigm is running out of matter! It accounts for only 5% of the reality of the universe! In order to model the complex dynamics of consciousness and mind-matter interactions, physics has to develop a novel logic and a new paradigm—the materialist paradigm in science being now inadequate and incurably limited (Carr, 2010).

3. Five anomalies display nonlocality as a 'beyond spacetime' process and point to a hyperdimension

3.1. Five groups of nonlocal anomalies (regarding General Relativity) point to 'beyond spacetime' processes, that is, a hyperdimension.

(1) Nonlocality has been established via the *entanglement* experiments, whose protocol (Bells' theorem) has been devised by John Bell, based on the famous Einstein-Podolsky-Rosen, or EPR, thought experiment. Nonlocality is thus defined as an exchange of information or a correlation between distant paired particles that cannot imply a signal transmission through linear space. Since space is indissolubly enmeshed with time in the *spacetime* of Relativity, the entanglement thus reveals a 'beyond spacetime' process. Thus, while the paired particles (photons or electrons) are themselves existing in spacetime, their entanglement instantiates nonlocality.

(2) The second regroups *psi phenomena*, evidenced as nonlocal processes by numerous experiments (as we have seen).

(3) The third is the nonlocality of the *sub-Planckian scale*—that is, below Planck scale, the emergence of the first quantum at 10^{-43} second of the universe, when the universe's size is Planck length (1.616×10^{-33} centimeter). It's only starting at this Planck scale and above it that the first particles, space and time (and thus matter) are allowed to exist, and consequently causality. This sub-Planckian scale happens (a) at the origin of the universe before the Planck time and Planck length, but moreover, (b) any point in spacetime coordinates may open on a sub-Planckian scale, and it does if the 5th dimension exists, as posited by Kaluza and Klein.

(4) The fourth anomaly is the existence of *dark energy*, about 69% of the total energy of the universe, and of which we know only that it is not ordinary matter or particles; some physicists view it (and it's the most plausible interpretation) as 'quintessence,' an unknown type of energy made of tachyonic (faster-than-light—FTL) virtual particles.

(5) The fifth anomaly resides in the *inflation phase* of the universe (at 10^{-36} second, just above Planck scale) that reached millions of times C . Since the speed of light's limit C is an absolute constraint of spacetime, any clear contravention to this law, as well as of the other main laws of spacetime and the electromagnetic force, reveals a 'beyond spacetime' region—such region, in cosmology, having to be modeled as a hyperdimension (HD). Moreover, when taken together, the five groups of anomalies show us that such HD must also accommodate meaningful (semantic) psi interconnectedness and mind-over-matter influences.

3.2. Why a pervading hyperdimension of consciousness?

Extra dimensions are necessary to integrate Relativity & QM

The only mathematical solution in order to unify Relativity & QM and the four forces is to add extra dimensions. Hence super-string models with 9, 10, or 11 dimensions in standard M-theory (of which 4 dimensions are the classical 3D of space + 1D of time of spacetime). In 1919, Kaluza posited a 5th dimension—precisely a 4th dimension of space—that can be modelled as a hypercube or tesseract (as in Christopher Nolan's 2014 film *Interstellar*). This solution was so successful that it produced Maxwell's EM field equations and Einstein's field equations for gravity (and additionally a scalar field). While adding extra dimensions looks like a mathematical trick only, these happen to be a physics necessity as well. For example, hypertime has been demonstrated during the inflation phase (the Big Bang) when, at 10^{-36} second, the universe bloated to 10^{50} times its size in a split instant. The pioneers of the inflation theory—Alan Guth and Andrei Linde—calculated that this process happened at million times the speed of light C (Guth 1997, Linde 1994).

Consciousness adds dimensions (degrees of freedom) to the universe

No physics process has been able to model or even describe consciousness-in-process or the psychological 'qualia' (the 1st person subjective experience), because, as Roger Penrose has argued, mind is non-algorithmic and, as David Chalmers (1996) has clarified it, physics is a definite 3d person perspective, unable to tackle the 1st person one. However Hameroff and Penrose (1996) have proposed, in their Orch-OR model (Orchestrated Objective Reduction) a self-collapse of brain wavefunctions that would trigger "a discrete conscious event" or moment of awareness, associated with a bioquantum computing instantiated within the microtubules. The reason for this is that consciousness adds degrees of freedom to the physical universe and even to quantum fields. Operating beyond spacetime & QM, consciousness has to be modeled as one or more extra dimensions—in ISST, it is the syg-hyperdimension (enmeshed with hypertime and hyperspace, Hardy 2015). Furthermore, the nonlocality of psi shows that consciousness is part of the hyperdimension.

4. ISS Theory: a synergic, consciousness-laden and participatory universe

4.1. Semantic Fields Theory (SFT): Syg-fields are complex dynamical systems

- Semantic (syg) fields are complex dynamical systems, self-organizing and co-evolving via the energy of consciousness—the syg energy (Faster Than Light sygons) of the cosmic HD (Hardy 1998, 2015). They are complex multilevel networks operating through a nonlocal connective dynamics steered by meaning and syg energy.
- ISST explains the double-nature of consciousness: embodied yet nonlocal. The CSR-HD is all-encompassing, existing at a sub-Planckian scale both at the origin and at any spacetime coordinates, in all systems. The hyperdimension of a system is its dynamical meaningful organizational layer, its semantic (syg) field, more or less evolved, from a proto-consciousness to a mind (Hardy 1998, 2003).
- The framework of ISST+SFT is panpsychist, with the energy of consciousness (syg energy, HD sygons) pervading each atom, cell and body, thus based on a deep, multilevel and distributed, mind-matter coupling.
- The hyperdimensional sygons, pure syg energy, create instant nonlocal connections between resonant semantic fields—thus explaining telepathy, synchronicities (Hardy 2011). All resonant and (semantically) proximate syg-fields are interconnected and in synergy, and these links always imply an inter-influence between them, the control variable of influence being the intensity of the syg energy of each system. Once the syg-field of a system has been reorganized (for example with positive thinking or a healing technique), the change starts to take place within the matter- or bio-system.
- ISST expresses a systemic, holographic, universe, infused with a self-organizing, collective consciousness—the cosmic syg-HD—, and allowing creativity and change; it posits a participatory universe, with two-way ego-Self communication, and synergy between any syg-field (e.g. intelligent being) and the syg-HD (Hardy 2015b).
- The evolved semantic fields of human beings, trees or sacred places, all operate creatively using syg energy from the alive, conscious and creative sygons-fields pervading the universe.

4.2. The hyperdimension as hyperspace, hypertime and collective consciousness

The ISS spiral is a golden spiral based on the Phi ratio, $\phi = 1.6180$ (extremely similar to Planck length = 1.616×10^{-33} cm). The Fibonacci sequence embeds the logarithm of Phi and is an infinite suite. Starting by number 1, add this number to itself $1+1=2$, then calculate the sum of the last number found and of the preceding one. You will get: 1, 1, 2, 3, 5, 8, 13, ... The unexplainable mathematics is that if you take any number of the sequence and divide it by the one preceding it, you will approach the Phi (ϕ) ratio 1.6180. What it all means is that the primeval ISS, as a golden spiral, is not a progressive, arithmetical, augmentation of the radius from its center, but that it grows by the increment of a quarter of a circle, whose radius, divided by the radius of the previous quarter of circle, gives no less than the Phi ratio. In brief: the primeval ISS is a discrete suite of quarters of circles, called *bows*. The bows are virtual strings, each vibrating at a specific frequency (the shorter the radius, the higher the frequency); each larger radius is thus a multiple of phi.

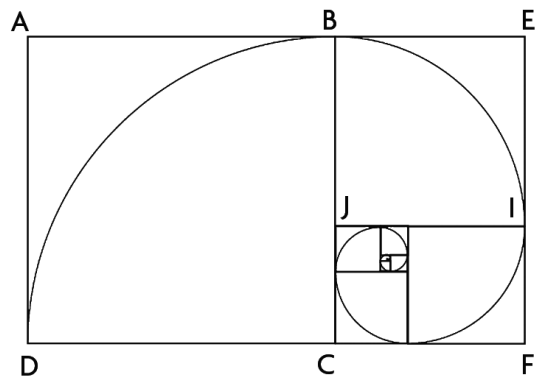


Figure 1. Golden spiral embedded within golden rectangles.

The properties of the field of information that we can deduce from a dynamic self-actualizing golden spiral are remarkable (Hardy 2015, 2015a).

- *Discrete nature.* Each bow-frequency being distinct and ejecting its own sygon particle, the ISS is a sequence of virtual particles with discrete frequencies—a property that will fit seamlessly into the quantum region of discrete particles at post-Planck scale. (Brandenburg & Hardy 2016).
- We thus have a field of notes, spread in quasi space, forming a *hyperspace* called *Center*. This hyperspace is time-like (it is a quasi-*line*, the long outside spiral linking the bows), and thus fits what has been modeled in the ‘Elsewhere’ region of Minkowski’s light cone.
- Similarly, in the ISS spiral, *Hypertime (Rhythm)* is set by the frequency pulses of each quarter of circle and thus by each turn of the spiral; so that the hypertime is spread in virtual space—it has a space-like time (a time-field), as predicted in the ‘Elsewhere.’
- *Information field (semantic or syg-field).* Frequencies and wave interferences are the stuff of all string and superstring theories (such as M-Theory), as well as of Bohm’s *active information* in his Pilot Wave model (as Quantum Potential), and also of Karl Pribram’s *frequency-domain* in his holographic model; it is also, in Ervin Laszlo’s A-field theory, an “in-forming” wave, and in ISST the sygons are indeed in-forming waves. A quasi-infinite suite of frequencies amounts to a quasi-infinite data-bank: anything can be coded in network of frequencies. Thus the ISS at the origin, and the sygon waves it ejected (thus forming the HD bulk ahead of spacetime), instantiate a dynamic information field, a complex cosmic syg-field. With dynamical networks constituting a field of information, we are not in a code or a program: the HD frequencies are the real stuff itself, the flesh of the collective consciousness (whose language is music!) within the CSR hyperdimension. Similarly, for us humans, the whole essence of our being is our *semantic field (syg-field)*—a self-organizing and self-conscious dynamical network (Hardy 1998, 2001) that, as ISST posits it, is constituted of tachyonic sygons and forms the hyperdimension of our being—our Self. Then the cosmic syg-field is the hyperdimension of all beings, the collective and co-creative consciousness of all the Selves.

Thus cosmic consciousness, as a CSR hyperdimension (both at the origin and as a bulk surrounding the Quantum-Spacetime region or QST) is, paradoxically, an all-time collective consciousness (an *arch-anima*) that contains, or in which dwell, the hyperdimensional syg-fields of all beings and systems. It is

the *Anima Mundi* (the world soul) of the alchemists, *The One* as cosmic psyche of the Greek philosophers and hermetists, the *brahman* and *Tao* (cosmic consciousness) of the eastern philosophies.

5. A two-layer cosmos—hyperdimension and spacetime—steering nonlocal mind-mind interaction

ISST thus posits a two-layer cosmos, with a Center-Syg-Rhythm (CSR) hyperdimension superposed to (in fact surrounding and pervading) the quantum-spacetime (QST) region. Given that any point in spacetime opens on the HD below Planck scale, the HD exists both as ‘compact’ (sub-Planckian) and as an extended ‘bulk,’ the superposed layer (as in the Randall-Sundrum 1999 model). As we saw, all systems at all scales have, similarly, a hyperdimensional region (their syg-field) superposed to their particle/body. The syg-field manages all the information about this system (in numerous syg constellations), and is constantly reactualized and updated with the system’s real existential evolution. It works as a hologram, because a quasi-replica of our cosmic ISS exists at the core of each particle and matter system, but in the ‘*individual ISS*’ the complex syg-field of this individual entity is in an excited state. This is how all individual ISSs remain in resonance and in sync with the cosmic Infinite Spiral Staircase. The print of any system’s evolution in both the cosmic and the individual ISSs comprises also its past history and its ‘memory’ (as goes the concept of Akashic records or that of Rupert Sheldrake’s morphic fields); but its past history is only a tiny fraction of the system’s syg-field. Thus, with a Spiral Staircase at its Self/Center, each particle/system has, at its core, an opening on the infinite and the whole. More precisely, each system, be it a particle or a mind, is branched on the CSR hyperdimension—that is, each system has the best part of its reality existing in its superposed syg-field beyond time and space. And this CSR hyperdimension allows any nonlocal contact and communication with sympathetic and resonant minds and systems. ISST thus postulates that the exchanges of information and interactions at a distance that we call psi are mediated by the hyperdimension and the FTL sygons, and are instantiated by the HD Self of a human being—his/her syg-field and its personalized network of connections.

The cosmic CSR HD acts as a collective consciousness field. Any particle, any system, any mind, any semantic field is open on, and breathing in and out, this cosmic field of pure creative semantic energy. Thus, each wave-particle system, while in its CSR-focus state, vibrates and communicates with this ocean of information in the CSR HD—however, only on the specific channels or frequencies that are sympathetic or resonant with their own networks. We cannot not see the congruence with David Bohm’s Pilot Wave theory: in his revised Schrödinger equation, it is the wavefunction of the universe that plays the role of the pilot wave guiding the state of the quantum system. When applied to specific systems, it is the wavefunction of this system that is used instead in order to solve the equation. But let’s remember that Bohm’s pilot waves introduce a deterministic outcome, while in ISST, we have an interplay—a two-way communication—between on the one hand the cosmic hyperdimension, and on the other hand the individualized minds/syg-fields and the forces in spacetime (such as EM fields).

Now, how does this work? How can we fit in and model our own freedom and creativity? Here is the gist: Imagine that we have in us, in our Self hyperdimension, a tiny hologram of the cosmic ISS (as cosmic DNA) with our own being and life experiences imprinted on it as activated notes and networks of links. The bow-tones are the notes (activated or not) and the sygons (as tiny as the bows) are the torsion waves

sent to meet and interact with other syg-fields in the hyperdimension bulk. The sygons are the messengers waves and diplomats of all beings and systems. But unlike Bohm's pilot waves, they are not pre-determined messages, geared to perform only a pre-programmed task. To the opposite, the sygons are searching to build meaningful connections and a network of inter-influence, and they work freely as networking agents and bring back to the being's unconscious Self new ideas and contacts, as well as psi information. The HD sygons, being immensely faster than light, can access any information at a distance in space and time. Steered by the HD Self of a person, they are the perfect dynamical and self-conscious agents for all psi processes.

6. Experimenter effect and bio-PK as a nonlocal inter-influence mediated by HD sygons & syg-fields

6.1. The two-focus wave-particle systems

- Since the CSR hyperdimension is a superposed layer of any particle or system, ISST postulates that the wave-particle has two possible 'focus-states.' Either it is in Center-Syg-Rhythm focus (wave, frequency domain) or in Quantum-Spacetime focus (particle in spacetime). (This is another way to view the two-states wavefunction.) So that, according to its frequency, any particle shifts its focus numerous times per second.
- *When CSR-focused*, the wave-particle breathes in all the links with surrounding syg-fields and with spatially distant systems connected via meaningful links (i.e. via *semantic proximity* as an index of the strength of previously-built links). Thus, it is interconnected qualitatively with the syg hyperdimension and, the higher its *semantic intensity* (*syg intensity*), the stronger its influence on linked systems.
- *When QST-focused*, the particle bathes in the fields of interactions of matter and energy particles (EM fields, strong or weak forces, etc.). It is then subjected to causal and in-forming matter forces. However, the modification of all matter fields can be achieved by minds/syg-fields via the CSR HD, if the latter syg-intensity overrides the force of the matter organization, such as in the experimenter effect or bio-PK.

6.2. The two-focus wave-particle and the experimenter effect

This has a bearing on the *observer or experimenter effect* in experiments, such as in automated and controlled psi experiments—in which the experimenter effect has been well studied and evidenced (Schlitz 2006; Schwartz & Dossey 2010). Let's take, as a thought experiment, experimenters elaborating on Thomas Young's double-slit protocol (that evidenced the interference patterns and thus the wave nature of light back in 1803) and using a photon beam. We saw that when in CSR-focus, the wave-particles connect and blend with sympathetic and linked syg-fields (via semantic proximity). At this point, the syg-fields of the experimental wave-particles (of the photon beam) are interconnected with the syg-fields of the experimenters, whose minds and attention are on the experimental design and notably the photon beam they have decided to use.

The past and present intention and attention of the experimenters create (1) *strong semantic proximity* with their experimental objects (the particles' beam and all the machines used) and with their psi subjects (in the context of a psi test); and (2) a *high intensity of their own syg energy*—since they are deeply involved, and pursuing an innovative and highly meaningful endeavor (emotion and innovation/creativity being key parameters in syg-intensity, Hardy 1998). ISST then postulates that the wave-particles, through their nonlocal CSR hyperdimension, *sense and know* the intentions and expectations of the observers/experimenters, because their syg-fields are entangled with those of the experimenters and subjects, and also entangled with the syg-fields of the experimental apparatus. Therefore, when in CSR-focus, the particles are *sensitive* to the experimenters' attention to one or the other of their *focuses* (either wave or particle), and this will give more weight to the most resonant set of states. But we may look at it the other way around: The syg-fields (CSR HD) of the experimenters are containing the experimental design, their own goals and expectations, and the apparatus used; and the quantum system's syg-field will *yield* to a more intense and stronger syg energy system and therefore to its intention and expectations.

Hence the experimenter effect. The dynamics of a strong syg-field imposing its intention and expectations on a lower-energy syg-field will also be exemplified in bio-PK and healing. A psychic healer will be able to impose a healthier organization on a sick organ or organism (whose syg-field is weakened). The so-called 'conformance behavior' displayed by patients subjected to their physician's suggestion while receiving a placebo, in my view, is just the result of a stronger syg energy: that of the physician's psyche/syg-field, endowed with a thrust toward a given outcome, imposing its expectations and intention on the lower syg energy system (the patient's psyche/syg-field). In some cases, the experimenter may not have strong expectations but just a neutral attitude; then the system with a lower syg energy will react to the *attention* (as syg intensity) set on either their CSR-focus or their QST-focus and behave accordingly. Therefore the particles' behavior in a complex double-slit setting would reveal the web of interacting syg-fields (of experimenters and of the wave-particle systems) and would espouse those carrying the prominent syg-intensity.

6.3. Law of syg-influence on matter systems

In ISST, a system's wavefunction is (in its CSR-focus) in conversation and inter-influence with linked and coupled/entangled syg-fields. *The intensity of syg energy will be the control variable*, the higher the intensity, the stronger the influence; in other words, the highest syg energy configuration will impose its ordering dynamics. However, for this syg-influence on matter to work, there needs to be a deep resonance and sympathy, an harmonizing of the two systems' frequency domain, let's call it a '*synchrony*' realized via the hypertime/Rhythm. This network of connections in CSR-focus state is of course of a hyperdimensional and nonlocal type. Hence the experimenter effect, as an informing of quantum-spacetime (QST) events by the semantic fields of the experimenters and their syg energy reaching out for specific objectives. And that's where the intensity of syg energy comes into play, and the *law of syg-influence on matter systems' organization*:

Whenever two systems are in strong semantic proximity (or meaningful interconnection/ entanglement), the higher the syg intensity difference, and the stronger the high-intensity system will impose its semantic

organization (intention, goal, etc.) on the low-intensity one, this whatever the matter-complexity of the system involved.

Thus, the blending of Semantic Fields Theory (SFT) and ISST brings us to postulate that the ocean of information and energy of the ISS at the origin—that flows into the vacuum and the ZPF field as an enormous radiation pressure—is not just an unknowable one-substance, one-block reality or entity, on which scientists in awe but at a loss of understanding its nature, append too readily the name of God or Creator—thus risking to shut the lid on the absolute mystery that was just revealed about a hard-to-fathom reality.

The CSR hyperdimension pervades the universe

Let's try to fathom the Center-Syg-Rhythm (CSR) hyperdimension and its interlacing with the Quantum-Spacetime region. To do that we have to imagine, again, a topological configuration (Figure 2). On one layer of reality, we have the beings, things, and systems in 4D physical reality, that is, in spacetime (here the bird). On this same layer of Quantum-Spacetime (QST) reality, there are holes as in a checkerboard, corresponding to the high CSR-focus of about half of the particles. But on this QST layer, only microscopic holes in the texture of reality are to be detected.

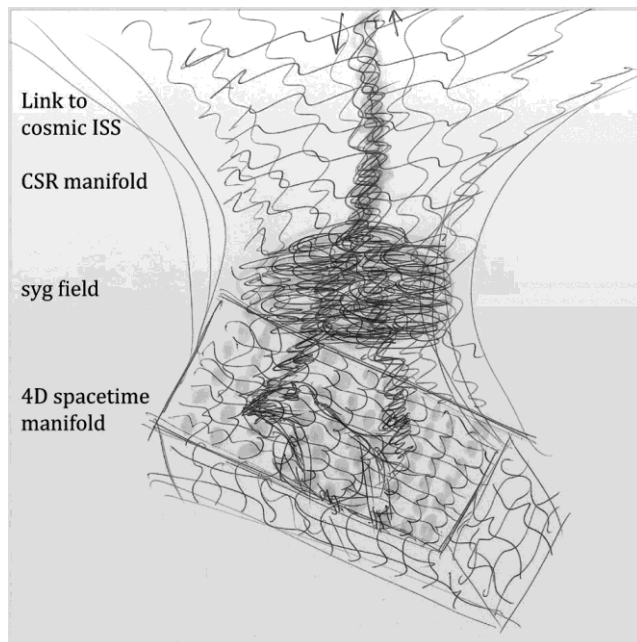


Fig. 2. Center-Syg-Rhythm (CSR) manifold—as a hyperdimension—and its interlacing with the 4D spacetime manifold, via the bird's semantic field (the dense cloud). (Concept & Artwork: Chris H. Hardy)

Now, on the layer of the CSR manifold, where half of the particles are in high CSR-focus, the ISSs (and syg-fields) stemming from the center of these particles are in interconnection with other resonant semantic fields and unfold themselves while reaching to the infinite (the cosmic ISS). However, if we take now as a point of observation (or reference) the CSR manifold itself, that is, if we were standing in that layer, what we would observe is an immense and all-reaching unearthly landscape, composed of the semantic fields of all systems in the universe, themselves organized in subsystems, the semantic

constellations. From this semantic fields layer, are streaming out innumerable Spiral Staircases from the centers of all particles, and variegated systems' semantic fields; they spiral out to form an ocean of active information, of specified and qualified syg energy systems, this ocean itself apparently continuous.

Conclusion: the paradigm of nonlocal consciousness in a participatory universe

In ISST, we are the co-creators of the universe we inhabit, the co-creators of our destinies, as creative agents within the cosmic hyperdimension. We have to strive to become ever more cognizant of the tissue of interrelations, so that we may co-create an enjoyable and sustainable future for ourselves and our planet. ISST solves the need for (A) a layer of self-organized nonlocal consciousness distinct from brains, matter and spacetime; (B) self-organized non-matter energy infusing the sub-Planckian scale, e.g. at the universe's origin (both are merged in ISST). The semantic, meaningful, processes of A (as in psi) forbids this layer to be indeterministic and random (thus excluding the vacuum Zero-Point-Fluctuations field as a medium). Yet the creativity, free will, and self-reference exhibited by A forbids this layer to be fully deterministic: it has to display creation of order, rising complexity, and self-organizing dynamics, such as meaningful network connectivity and chaotic attractors.

ISST expresses a systemic, holographic, universe, infused with a self-organizing, collective consciousness, the cosmic syg-HD, and allowing creativity and change; it posits a participatory universe (Wheeler, Sarfatti), with two-way mind-matter and Self-body communication, and synergy between an individual syg-field (e.g. a person) and the cosmic syg-HD; it is also a budding-universe hypothesis (Smolin, Penrose). Thus, the evolved semantic fields of human beings, trees, or sacred places, all operate creatively using syg energy from the conscious and creative sygons-fields pervading the universe. In a deterministic-causal paradigm, everything is hierarchic and pre-ordered, and our input is of little value to influence the whole. The governance style is authoritative and autocratic, with little consultancy and synergy. A few elites impose a despotic rule with no freedom. To the opposite, in a randomness & indeterminacy paradigm, the whole has no meaning and global events are unrelated to our input. The governance style is self-centered, opportunistic; it has no vision, no long-term incentive, no respect for other beings, whether human fellows or nature. A few interest-groups scheme to impose their rule, each competing for power. But in a participatory universe, as a conscious hologram, each being is in interrelation with the whole, and the whole with each being. Each system partakes of the information of the whole, and the whole pervades all its component systems. Thus, each system is conscious according to its complexity (from a proto-consciousness in simple ones to a self-referent mind in intelligent beings). In a conscious and holographic universe, all consciousnesses—all the syg-fields of beings and complex natural systems—are interacting. We bathe in a sea of interacting syg-fields: all are endowed with consciousness; all are meaningful entities in sync with their meaningful environment. In ISST, each being may access the information of the whole—that is, the knowledge of the arch-anima of the ISS at the origin, and the information-field of the hyperdimension. But the arch-anima of the HD also interacts with all beings. This is a two-way exchange and communication, through the hyperdimension.

Whether human beings or natural systems, all linked syg-fields influence each other. In such a universe, everything matters—each being affects all connected beings. Each decision and action affects the world

we inhabit. Furthermore, in the paradigm of a Center-Syg-Rhythm HD, our collective consciousness learns and evolves, and thus weaves our collective future. Being part of it, we are the co-creators of our universe's present and future state—therefore, fully responsible for the world we inhabit. The organizational style is synergic, participatory, caring for and listening to others; it has vision and feels responsible for other beings, for nature and the planet. The paradigm of a collective cosmic consciousness leads to favor paths of self-development and openness, to nurture and explore higher mental, intuitive, artistic and spiritual capacities, in ourselves and our society.

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