TOWARD A NEW SUBQUANTUM INTEGRATION APPROACH TO SENTIENT REALITY

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Abstract:

Recent experimental results have proved intractable to explanation by resorting to existing physics paradigms. This fact, along with certain fallacies inherent in mainstream physical-cognitive theories of mind, have encouraged the authors of this paper to transcend the currently operative limits of investigation, thus to explore the abyssal depth of the still uncharted, but highly rewarding, SubQuantum regimes. The sub-quantum is herein assumed to co-existentially accommodate proto-units for matter, energy and Information, which are thereby brought onto an equal ontological footing, in the subquantum domains.

Devolving its argumentation and orientation from the Nobel Prize winning Fractional Quantum Hall Effect, which opened the perspective toward a further divisibility of the Quantum domain, hitherto considered as an irreducibly fundamental description of nature, the hereby proposed inter-theoretic model claims to satisfy advanced scientific and philosophic requests as reformulated for a conceptually new working hypotheses. Sub-quantum potentials evolving in the Prime Radiation Matrix result in organizing functions able to interfere with classical local determinacy chains, operating at the Quantum levels of randomity inherent in space-time-like matter configurations, leading to highly complex representational patterns, linked to their phenomenal correlates in macroscopically detectable systems. Our model is strongly rooted in an overwhelming experimental evidence derived from multidisciplinary contexts of scholarly pursued exploration tracks as amply documented in this presentation.

Our basic understanding identifies the Quantum Potential (Quantum Field Theory) as a superluminal Sub Quantum Information-carrying aether able to interact with matter and physical forces at well defined Space-time positions injecting their Information content into our world of observables by modulating the event potential. This interaction is possible as soon as matter is defined by an n-degree entanglement state of SQ complexity. Absolute void refers to lack of matter which equals to a space-time sequence contending Information in its nascent, non-aggregative form (the Sub quantum plenum) as observed from our Space-Time perspective. It contains implicated layers of increasingly subtle pre-quantum domains, which each one at its manifestation range may be organized in complete worlds of the kind our own is, each one of them ranging till its own "absolute void" as transition state to the next implication level of reality.

Introducing a quite innovative approach to the most controversial nature of Brain/Mind interaction, the pre-quantum tenets rely upon experimentally testable assessments. Our proposal has a strong outreach into unprecedented explanatory options for anomalous output data distribution in non-conventional exploration fields, whose statistically significant results become logically integrated into epistemologically sustainable blueprints. Constructively debating reasoning tracks suggested by eminent scholars with most impressive credentials in widely quoted references across our presentation, we emphatically challenge the current paradigmatic tenets that are obviously inspiring endless sterile controversies disseminated in widely accessible and mass-media supported literature. We hope to succeed in our attempt to persuasively reverse misleading ontological tendencies relying upon their disqualified metaphysical backgrounds by asserting an upside-down epistemological approach for the primary determinism that Information structures have upon their physical counterparts.

Our views are perfectly consistent both with conventional empirical treatment of space-time defying representational variables, and their causal primacy upon Quantum implementation systems of their content, in the integral range of their polyvalent manifestation. Detailed descriptions of mind/matter entanglement patterns are supplied, as running in the holistic super-implicative sentient reality domains, under the overarching regulation of Cosmic Harmony, underpinning a continuous creation cosmogenetic process.

As our analysis addresses a pre-temporal range, the thus defined endless time vector allows ab-initio existing inherent resonance links in any SQ subtlety domain to turn into fluxes and organization effects leading to sequential entelechial self-contended worlds. These primeval harmonic SQ resonances

are the very pattern of our overarching cosmic harmony just mentioned, the source of all conceivable manifestation and interconnectedness.

PREAMBLE

Recent experimental results have proved intractable to our normal and limited understandings of the physics involved. At Lebedev University in Russia, there arose a series of experiments by Gariaev, et.al., which proved that the vacuum has a memory. This vacuum memory appears to be holographic in form, supporting K. Pribram's holographic model for the human memory, as obtained from neurological studies. Subsequently these vacuum memory results were replicated at Heart Math Insitute in Arizona, again proving that vacuum has a memory of the physical states which arise in a given volume. Subseqently, a member of Gariaev's Lebedev team went to China, where he suceeded in utilizing the memory capability of the vacuum to cause a chicken to turn partly into a duck. The chicken, in this experiment, after exposure to the vacuum memory, had its beak turn into a duck-bill, and grew webbed feet. Remarkably, all of this chicken's offspring came into the world with duck bills and webbed feet. From these results, Gariaev and his team in Canada were able to succeed in turning a salamander completely into a frog, by similar methods. Gariaev and his team have recently succeeded in causing the regeneration of missing or destroyed pancreatic organs in laboratory mice, by related techniques. Gariaev's team has also, by similar means, caused the regrowth of a missing tooth for a gentleman volunteer, who was missing that particular tooth. Related to these results, Shpilman and Boyd succeeded in copying the information of alcohol into water. Consuming quantities of this treated water results in a condition analogous to inebriation, but without any resultant "hangover". Recent experimental results by Hu and Wu, et.al., have proved variations in the measured weight of instrumented objects, across large spans of distance, by similar methodology. As remarkable as all these irrefutable experimental results have been, within the confines of our well-known and standard physical treatments, there is no viable explanation for any of these experimental results.

Unfortunately, the very limited effective range of the spin-spin interactions evoked by the aforementioned experimental team requires for a more consistent explanatory attempt, just as their quantum entanglement model that fails as per Eberhard's proof. Our own sub-quantum interpretation for the Hu/Wu experimental results circumvents the aforementioned deadlocks, while referring to them as a strong experimental evidence for its own claims.

We have determined that the common theme in these empirical results, is one of information, and information transport. Now we want to understand the actual mechanisms of information storage and information transport, as related to these experiments, and as related to consciousness.

Our approach to sentient information processing systems comes as an attempt to reformulate prevailing representations of reality, addressing fundamentally irresolvable topics within classical scientific criteria, while suggesting a seminal rendition of a new general interpretation devolved from late developments in Physics, neurosciences and cognitive research. It tries to satisfactorily cover seemingly disparate aspects of reality, in a quite consistent picture, somewhat contrary to coloquial scientific knowledge, nevertheless reaching out far beyond currently accepted limits into the wide array of seemingly anomalous phenomena which are brought into the normal range of validation in our ontological system. Hoping to provide incremental understanding for them, we intend to challenge their biased exclusion from established channels of scholarly dissemination. We are refraining from addressing a rigid preconceived matrix of questions, which at this early stage of understanding might lead to delusional data interpretation.

Our basic assumptions unfold both from traditional knowledge with deep historical roots as well as from leading edge theoretic and experimental data lately supplied by individuals bearing impressive scientific or philosophic credentials. We owe a deep gratitude for their work and their personal help in our decision of challenging the mainstream paradigmatic views regarding the fundamental nature of reality. In the form they are now, the various sciences have dogmatically perpetuated, and forced upon the community, ontologically incompatible concepts, which furthermore prevent any real progress. As we hope to persuasively assess, Information processing systems work far beyond the outreach of currently accepted conceptual limits, where relativistic constraints contradict basic Quantum Mechanical principles while mezocosmic reality escapes the explanatory range of both.

We are happy to have found in the depth of the pre-quantum realms, the target of our investigations, a useful preliminary mapping for the shared underlying reality of matter, energy and

Information structures, which expectedly will provide a more useful investigation tool for further scholarly quests for the truth.

The Subquantum Approach:

Eight years ago, Nobel prize winners in Physics, H.Stormer, D.Tsui and R.Laughlin discovered a new form of quantum fluid with fractionally charged excitations, known to physicists as the Fractional Quantum Hall Effect. It opened the door toward an infinite divisibility of the Quantum parameters beyond the Planck limits, down into the fundamental constituent entities of reality as a whole. These results, which proved the existence of the subquantum, had previously been pointed to by the works of Bohm, DeBroglie, Kaniadakis, Krasnoholovets, Soucek, Valentini, and a large body of related theoretical expressions.

The domain of subquantum infinitessimals is coupled to the absolute void, the primary source of virtual potentials for manifestation. The existence of a subquantum reality was long ago postulated by proponents of ether-related cosmology.The concept can also be traced back to the concept of the"Bhutattmas", the infinitesimals of the Vedic tradition, described in terms strongly analogous to our own concept of Sub Quantum entities.

Unfortunately for the development of scientific knowledge, this kind of view was for a long time discredited, due to interpretations of relativity theory which did not appear to require any particulate vacuum medium (aether), while the null results of the Michealson-Morely experiment seemed to mitigate against the static model of aether, and its being entrained by the motion of the planet. Eventually the null result of the Michaelson-Morely experiment resulted in the abandonment of all types of aether models. Whittaker shows how all aether models were replaced by appealing to Quantum models, evolving along mainly counter-intuitive and paradoxical tracks.

For example, to simply say that there exists a quantum potential, is an insufficient explanation. What is the quantum potential, actually? Why is there a quantum potential? How does the quantum potential manage to do all that it observably does, especially with regard to information transport? How can it be that the quantum potential observably acts superluminally, experimentally falsifying the "sacredness" of relativity theory? As we know, non-locality has been irrefutably proved by a variety of experimental evidences, the most recent of which were the Hu/Wu experiments. We know, based on experiment, that information can pass non-locally through space, and across time to influence our observable world directly, without violating causational orderings, by way of the quantum potential. The quantum potential is actually detailed in both mechanism, and form, by our model, which relies on superluminal sub quantum Information-Carrying Entities. This model accounts for all the known and mysterious properties of the quantum information field.

The sub quantum plenum in our model is a motional, active, aether-like media having characteristics of an exceedingly fine gas composed of infinitesimals with superfluidic properties, and/or the properties of a perfect fluid, which infinitesimals have inherent abilities to both store, and transport, information superluminally. The high mobility of these infinitesimals and the sometimes superluminal intrinsic velocities which can be developed by these particles is important to our understandings. Viewed as a gas, this gas is considered inherently inert, while its high mobility and small size can make it hard to detect, especially since such small particles would rarely interact with existing matter, somewhat similar in this regard to the transparency to matter associated with various difficulties associated with the detection of neutrinos. These Sub Quantum superluminal information transport expressions, answer directly, all of the questions regarding the how, the why, and the what, of the quantum potential.

According to the currently re-awakening Sub Quantum view, at the background of all manifestation there is a universal fundamental media of primary entities displaying an omnidirectional complex vector inside an infinity frequency range. They are embedded in Bayers' fundamental pre-energetic Prime Radiation Spectra and are able to propagate at any velocity ranging from zero up to superluminal and infinite values, resisting and operating beyond the Planck limits, where relativistic and Quantum constraints break down.

The experimental evidence for superluminal velocities is amply supplied in the Cherenkov radiation, the Podkletnov's gravity-like beam measurements, the experiments of Alan Aspect and other similar demonstrations of the fact of quantum nonlocality. (In recent results from Podkletnov, light from a laser was carried out of its expected path by the gravity-like output beam of his apparatus, to be deposited far

away from the original expected ray-trace, perpendicularly, along the line of the gravity-like beam. Such events were subsequently used in measurements which demonstrated the superluminal propagation velocity of the gravity-like beam emanating from the apparatus.)

Subquantum Information carrier systems operating below the light speed value may complement the aforementioned explanatory background involving strong analogies to pertinent data metaphorically quoted from classical gas and fluid dynamical analysis, as well as specific combinations of symmetries and resonances supplied by the Fermi-Pasta-Ulam lattice Hamiltonian [Gariaev, et.al.]

It is suggested that the SQ domain displays a multi-layered telescopic structure of sequential orders of subtleness For descriptive convenience, such a fundamental pattern can be referred to in terms of an infinite dimensional manifold, closed upon itself in a self-consistent loop, able to accommodate a holographic Information flux network of infinite complexity. This endless repetitive matrix of serial interconnected but parametrically definable pre-quantum domains, allow ascribing to each one of its constituent ranges of manifestation, a hyper dimensional structure reflecting their fundamental embedding implication system. We also consider the possibility that the SQ particles themselves may actually be hyper dimensional objects, so as to further account for the fact that the "vacuum" has a memory which records information regarding all events and forces in the environment, as experienced by the Sub Quantum particle, which memory was first reported by DePalma.

The universal character of sentient reality expressing itself at the integral range of conceivable manifestation regimes is a direct result of the Subquantum holographic matrix of Information storage and propagation, embedded, as just mentioned, in the primary radiation matrix. As just argued, it can suggest a hyperdimensional extension of SQ entities themselves (Strongly supported by the Hut-Shepard polidimensional manyfold proposal which includes sentience as a third reference coordinate of reality, beyond space and time) or may be expressed in a more formalistic way by a mathematically acceptable organizing function that operates upon the n-dimensional Hilbert space of Quantum physics. This interpretation relies on a statistically compulsive unfolding in the regimes of information transport, able to associate incremental information density and complexity patterns.

Space may not be detected in the awareness field, neither in the Euclidian sense, nor in any other sense. The spatial aspects of direct perception are derived entirely from outside the conscious domain itself. However, in perception processes, mental structures may become entangled with spatial representations, coupled to the processed external stimuli. Any conceivable contention or extension of the mind is excluded by its fundamentally pre-space-time sub quantum nature.

Moreover, there can exist in the Consciousness experiences of spaciousness, which do not arise as the result of mental correlations with physically perceptible structures. Such direct, physically uncorrelatable experiences arise as the result of the ether-information flows which are available directly to the Consciousness, at every instant, regardless of the physical limitations of the perceptive apparatus relative to the immediate surroundings. Such perceptive incidents are commonly classified as "paranormal" or even delusional. This is because, drastic conceptual limitations regarding our understandings of such events, have been imposed on our reasoning by the existing dogmas and commonly accepted paradigms of the cumulative and colloquial sciences. In other words, the commonly held and unfortunate idea that some amazing intrinsic abilities of Consciousness may be misleadingly labelled as anomalous ones, is the result of hundreds of years of attempts to exclude Consciousness entirely from the sciences, resulting in exponential accumulations of error, arising from the various built-in indoctrinating dogmas and unfounded historical assumptions of the sciences, regarding the fundamental nature of reality, which assumptions are entirely wrong, and provably so. Asomal self-conscious structures are able both to accede Information that is not physically originated in the conventional sense, and to convey it efficiently to neurally connected ones, as amply documented in ADC literature Items of different kinds piled up during the last few decades.

Conformal gravitonic Information carrier systems operating across the Bergson-Shilov classical inter dimensional boundaries may be invoked by representatives of more conservative minded scholars for modelling the Sub Quantum/Quantum interface of the ontological junction between essentially cognitive and essentially energetic regimes. Information propagated across Space and Time results in a fundamentally sentient Quantum behaviour, implementing Bohm's implicate cosmic order.

The information density present in resonant networks can influence the Quantum potential to evolve along selective tracks according to their Informational circumstances, thus shifting some SQ species away from the more undifferentiated underlying group behavior.

These networks may operate informatically, coupling successive layers of Dirac's invariant stochastic SQ "aether". This coupling process occurs along a transentelechial syntropic gradient by temporal symmetry, displaying the ability of preserving coherence over extended ST spans thus underpinning Quantum resonant entanglement distribution vectors. As A. Detela suggests, SQ toroidal knots of increasing complexity have a stabilizing effect (along an evolutionary line) by superposition of non-local states, defining Information-charged morphogenic fields, able to interact with the molecular structure of biosystems. Also, it is well known that variations in gravitational flux result in variations in the resistivity of carbon, which results direct influences on biological systems.

The all-pervading Informational systems are obviously involved with all forms of Life and Consciousness, extending beyond the Quantum-related energy domains into basic interference patterns inside the pre-energetic Prime Radiation spectra. The SQ domain works as an efficient storage and transportation media for the holographic super implicated orders of Universal sentience, far beyond the space-time or Quantum constraints that are seen as its ancillary emergent features. Sub quantum units are constantly radiated and absorbed by normal matter in a ceaseless Information exchange which steers Quantum observables into manifestation. The energy content in this entropically open system, results from the motions of SQ entities, reflecting in their own existential regime the essence of the Cosmic Harmony thus embedded and physically conveyed throughout the Universe by the prequantal Information-charged flows. These are affecting Quantum behavior from outside the system per para-holographical resonances. Hence energy and Information have to be approached on different ontological lines as fundamental aspects of reality.

Energy and matter in the Sub Quantum regime yield the huge random space-time curvatures at the Planck scale (the "Quantum foam"), which, under the effect of the SQ-mediated and stored sentient functions are able to modulate along purposeful selective resonance blueprints of metastable Information structures, carried at superluminal velocity toward replicable Quantum fields of increasing complexity. This process is amply documented in Gariaev's recent perplexing non-local biophotonic genetic regulation experiments resulting in the by now famous DNA Phantom effect, as well as in the Kaznacheyev Mirror Cytopathogenetic Effect or C. Backster's elusive non-local death signals, where causation of Informational consistency couples to locally active physical deterministic chains.

Quantum-coherent organizing interaction functions compete with Quantum-decoherent random ones and affect any given Quantum system via a set of basic properties of Information structures defined in our analogical terminology as Intensity (SQ density index), Complexity, Coherence, Content and Intent.

Notwithstanding the limits imposed upon this preliminary presentation that do not allow for their detailed discussion, we ascribe a most salient role to these parametric values in our new Brain/Mind paradigm, involving a transient sub quantum holographic interactiveness that affects the Quantum critical brain in the neuro-cybernetically connected mode of self-conscious manifestation. This thesis has to be brought into analogical alignment with the originating SQ source, that is granted the ontological proactive role in this interaction.

From a physical perspective, the implicating potential of sentient SQ flux systems operates by the fundamental homogenous transmission medium invoked in recent explanatory attempts for Ken Shoulder's Exotic Vacuum Objects (EVO) or R.M.Kiehn's nanometer vorticity distribution patterns. Aether-bound information flow as self-consistent ontological system was experimentally proved by biasing the SQ "Potentum" (J.Firmage) with an asymmetrical charge distribution - be it done by fast explosive electrical discharge applied in high voltage environment or keeping EVO in EM field-free space - which will result in an EVO charge variation gradient reflecting the Information flux potential decoupled from any background of classical matter.

Hence, the self-conscious structure's natural ability to preserve its total cognitive complexity range in its own SQ regime, after decoupling from physical brain's coherence range. A similar explanatory track would describe its instrumentable quantum modulating efficiencies on non-linear, chaotic, or random systems, resulting in orderings thereof.

THE MIND/BRAIN INTERACTION IN THE SUBQUANTUM PARADIGM.

It has frequently been suggested that the global coherence, the threshold effects, and the binding properties of the brain, are consistent with classical nonlinear dynamics rather then nonlinear Quantum

Mechanical theories. This view obviously oversees that Quantum Mechanics consists not only of the mechanical processes expressed by the Schrodinger equations, but includes a fundamental experiential aspect of nature which needs to be brought into alignment with the physical part of the theory. The actualization of physical states derives from the actualization of experiential components that have a clear-cut determinacy upon the selective orientation of the Quantum Event Potential toward the implementation of singular sequences of events guided by higher-order implication levels.

Elementary bioexcitations may thus condense into macroscopic Quantum effects resulting in Quantum actualizations of experiential structures as a fundamental process occurring in the Hilbert space, in which the Quantum analogue of matter, and analogous phase-states of quantum matter, become statistically observable in quantum systems, especially over larger spans of time.

The brain's physiological insufficiency vs. its information processing capacity enables experiential patterns to select preferential pathways for the implementation of a given cognitive event. This choice between macroscopically distinct alternatives, such as neural firing/not firing, can be interpreted only by space-time transcending actions. Obviously, these global process can't be described as localized inside the brain or physical body, but arise in the extended Informational space that implies both of them.

Modular space-time dependent cortical distribution blueprints of Quantum-triggered action potentials enter infinitely complex interference patterns in Brain along ipsolateral and contra hemispheric callosal connectivity pathways. Nevertheless, neurophysiologic evidence shows that detection of retinal stimuli arriving to a damaged spot of primary visual cortex via Lateral Geniculate Nucleum can scarcely be ascribed to extrastriate bypass aferences toward the inferior temporal and parietal lobules, as these alternative tracks are not supporting visual awareness in the absence of the striate primary cortex contribution. Residual performance in blind sight cases is strongly suggestive for a direct sub quantum bypass operating beyond the routine Quantum mediation that is disabled by the damaged brain tissue.

Similar SQ-mediated bypass events may be fairly recognized in extrasensory or asomal perceptual modes, where damping neurotransmission processes "normally" leading to quantum superposition states of cognitive templates are excluded. Contradicting current dogmatic assumptions, Qualia are to be seen neither identical nor epiphenomenal to neural states. They represent rather experiential units in the sub quantum mind.

According to most recent studies, the synaptic application of the output of a bi-neuronal set upon a third neuroceptor unit is modulated by intermediate Quantum noise superposition of stochastic resonance that may affect the synaptic time constant. Moreover, recent neurophysiologic findings suggest that increased activation of specific neural correlates of attention, sensory processing and sensitivity to stimulation originating within the body may alter key electrical impulses within the brain, thus resulting in altering the rate of age-related brain deterioration (Sara Lazar).

Facial recognition performance in low-level neural equipment of invertebrate bio-systems (bees) reported by G.Dyer's as a result of methodologically valid experimental protocols point to a neural spatial pattern-detecting representational process bypassing hitherto held assumptions related to a required involvement of the fusiform gyrus in this particular processing event. Similar findings regarding paraneural complex signal processing and transference abilities in ants were reported by T.Richardson.

In all the above mentioned randomly selected examples, Quantum event potentials of sentient SQ determination are causally implied in the physiological efficiency of neural systems, strongly supporting our ontological reversal of determinacy in favor of Information control upon Brain vs. mass/energy origination of consciousness.

Neural network -related components of cognition are proved to have an increasingly low-level causal significance, paving the way for our ontological reversal of causal primacy that is still finding wide academic preference based on false theoretic assumptions and subsequently misleading biased interpretations of experimental results.

Quantum mechanical states of brain are able to react both to Sub quantum originated cognitive modulators as well as to Qualia of environmental origin.

The local Quantum indeterminism, in our view, is fundamentally a misnomer, as it favors a "blind chance" interpretation for a basically Information-controlled systems.

The Heisenberg choice leads to a specific Dirac response reflecting a selection of a higher implicate order acting upon the already inherent information content of the quantally perceived superposition states. Nonlinearities and deviations from the expectancy output values unfolding from hidden Sub quantum variables and organizations basically defining the system result in a secondary statistical effect rather then expressing a misleading underlying uncertainty-bound random non-determinacy (R.N.Boyd).

Both the hitherto misinterpreted quantum-uncertainty data (R.N.Boyd, H.Dehmelt) and H.Stapp's action-template superposition states reduced by the Dirac response originating in higher control levels of Information content are to be seen as sequential organizing effects run and made possible in principle by the active Information inherent in the system's deterministically changing Quantum states, pointing toward the collapse of the probability spectra describing the system's concrete manifestation at different points in time. In our view, Quantum mechanical effects are but expressions of underlying sub quantum purposeful determinacy chains functionally linking different sets of deterministic Information control via the "Quantum jump" suppression of nonconformal components to the overall "sense" of the process at key neural positions.

This important insight leads to a highly sensitive epistemological position of Brain at the crossroad of physical reality and the differential Information complexity gradients ascribed to non-identical cognitive implication orders.

From this elevated analytical perspective, Brain works as an information-transduction system coupling classical matter to various implicating orders of Sub quantum Information consistency inside the efficiency range limits of its own phylogenetically determined coherence regime.

Brain acts as a statistical operator by its reduced density matrix able of averaging over all non-brain degrees of freedom resulting from interacting decoherence effects of environmental origin. The von Neumann boundary shift between the observer and the observed system allows for a psychological description of the experiential side's stream of conscious data in a complementing frame of reference to the neural correlates of the same. The von Neumann Quantum state is a purported Informational reality, where any given Brain state is described as a probabilistic cloud-like structure embedded in higher-dimensional cognitive environment.

Overlapping coherence bands mainly in affective spectra allow for EEG synchronizations of the kind reported in Montecucco's experimental evidence for empathic macroscopic resonance effects occurring in transpersonal overlapping affective connections. Such results together with the Nathal synchronous four-band EEG activation techniques resulting in the extension of coherence domain over different naturally uncoupled or non-contiguous bands, as well as the Hemisync induction by external frequency modulations imposed upon the electric activity of Brain - are strongly supportive for our interactive view between Information coherence domains and macroscopic EM-encoded correlates of neural activity. This contention is strongly supported by E. Jovanov's ascribing higher levels of integration to lower EEG frequencies based on experimental evidence for prefrontal and frontolateral transpersonal EEG pattern synchronizations in delta and theta range.

According to the Neumann/Stapp approach, the activating "Heisenberg choice" is not subject to any known statistical or deterministic condition. The motion rules in this domain are derived by a quantization procedure from classical approximation equations while setting the Planck constant's value at zero. The spreading out of possible options by expanding some microscopic uncertainty effects is in due time blocked by the Dirac choice response, which, obeying the Pythagoras computation of the orthogonal basis vectors, allow only limited possible feedback options to the Heisenberg choice, summing up to unity.

A sufficiently rapid sequence of consciously selected probing events, reflecting a high SQ density level of action may stabilize the associated pattern of Quantum activity by activating the Quantum Zeno Effect until a specific task-oriented action template is formed. Libet's experimental results confirmed by cortical Readiness Potential measurements are consistent with the just described Quantum duality that will subsequently collapse per Heisenberg Choice intervention into H.Stapp's informaticaly induced selected options for action templates. The random additive superposition thereof is eliminated at the level of the Brain's quantum state by the quantum jumps fixing the orientations of the basic vectors in their Hilbert space. This Quantum jump is associated with discrete increments of complexity values expressed in subjective knowledge, leading to a sequential adjusting of the hereby described Information/quantum loop in proportion to the progressively acquired Sub quantum complexity gain.

Brain accepts clues both from its environment via sensory channels including hidden variables as superposed inhibitory signals or active proxy attractors, and from its SQ cognitive trigger in order to issue the proper sequence of neural signals to an appropriate action template. The choice-induced Quantum jumps reduce the alternative coexisting conflicting action potentials, injecting into the system, discrete cumulative amounts of new experience, together with their neural correlates.

At the overall modular cortex activation level, Sub quantum determinacy of the exocytosis/not-exocytosis options are expressed in the quantum effects upon the ion channels in the synaptic clefts either by the Eccles-type dendronic activation or its Electromagnetic counterpart, extending the global intermodular pattern-generating abilities of the underlying Information-charged initiating system. Our choices are to be treated as empirically specified and consciously controlled input variables in accordance with the implemented biophysical protocol of interactions.

This view compensates for widely criticized aspects of the Penrose-Hameroff Quantum mind theory, because the reduced density matrix of the modular subsystem limits the possible effects to variables of the subsystem, itself enhancing the crystallization of two alternative states to be selectively suppressed by the Dirac choice, according to strong interactions with its preceding underpinning Sub quantum Heisenberg probing.

The sub quantum deterministic discriminator's active selective organizing function leads to the collapse of the system's randomity and thus supplies an acceptable explanatory option for the implementation of Penrose's quest about when - and to which state - the Quantum Jump occurs. Psychological conditions are amenable to both informational and neurobehavioral analysis, yet primary sub quantum determinacy strongly supports Harnad's hermeneutic mentalist request to interpret observable events not merely as mental, but explicitly as CAUSALLY mental ones, in a most fundamental sense.

Our hereby asserted suggestions seem to have a quite strong potential of remodeling the bridging laws connecting mind to matter. Altering the basic assumptions of the way Quantum mechanical tenets relate to Brain and supporting H.Stapp's description, incremental Information is injected into an information bearing mathematically described physical state, without implying epistemologically uncomfortable changes at the pragmatic level for almost all of the classical and conventional Quantum physical laws. Both mind and matter are causally tied to the agent's free choice of acting by the conscious experiential increment of knowledge (increasing subquantum complexity index inside an information defined sentient structure) and the physical actualization of the neural correlates of the thus experienced increments. Therefore, the SQ model we propose presents promising advantages upon hitherto similar attempts.

At an evolutionary philogenetical perspective, paleostructures of the neural system are placed into a priority response regime, if compared to more recently developed neocortical discrimination efficiency levels, by conversion of the experiential feelings and reasoning modes to a conscious intention-charged operator which will quantally select its appropriate neural activation track. The passive attending of an impending command will result in a different action template if compared to a reappraisal request, where aference is led toward prefrontal neocortical processing mechanisms by suppression of the Limbic/hypothalamic response via the Quantum Zeno Effect. Passive attending expectancy is channeled to the aforementioned paleostructures as proved by consistent functional MRI experimental evidence. Conventional Quantum Theory may explain apparent causal effects of the conscious choice upon the brain activity, but no explanation of any causal effect can be derived from it for the reciprocal process. Our Subquantum model replaces speculative and unstable concepts about conscious choice phenomena by knowable and experimentally testable omni-directional input parameters.

By the regulating increment induced in the SQ matrix field by the sentient function that operates in the n-dimensional Hilbert space of Q. mechanics, a monovectorial tendency toward complexity gain is gradually emergent in the system, leading to resonant and symmetry mediated deviations from the averaged group behavior in the prime radiation field, under the overarching harmonization function of the axiomatically acceptable Cosmic Harmony inherent in the reality hereby defined as a sentient notion.

Kozyrev's time density fluctuations along the causal vectors may be tightly related to our SQ density concept as applied to the Informational parameters of different cognitive implication levels functionally interconnected by the uncertainty-suppressing Quantum jump.

From a wider noospheric perspective, the sequentially implied super implicated orders of Information content and complexity can be described as scalar components of a wide array of epistemologically consistent and interrelated levels that for analytical purpose may display a sequential distribution chain as follows:

> The Gariaev/Sheldrake morphic causation that results in the physical formation of brain, leads, by genomic interactions of holographic consistency, to the Brain's integration into the overall organism level of coordination. This stage corresponds to Sheldrake's morphogenic fields sharing their essence, similar to quasi crystals constructed by Penrose tiling principles, applied in biology as Winfree's DNA Wing tiles. As Space-time distribution patterns obey an underlying Pre Quantum determination rooted in implicated Information fields and fluxes, at the next step, Brain tunes into its ambient signals by polyvalent coding resonance systems, then converts the already acquired harmony patterns into meaning and rationalization units of organism survival value. The subsequent higher integration of thus acquired complexes into abstract mentalisation patterns, by reflective screening of contents, allows still higher levels of integration for the embedding of self-conscious structures, into transpersonal patterns of social group behavior (consistent with the interpretation of PEAR's "Global Consciousness project").

This is a fundamental component in the planetary pan-biospheric Informational connection, both to the mineral kingdom, as well as to (conceptually still rather elusive) superhuman evolution potentials. The planetary sentient network gets coupled to its cosmic equivalents toward an open multiverse type of holographic information system expressed in our Cosmic Harmony. The fundamental global guiding principles contained in the Cosmic Harmony and holographically expressed across its multilayer SQ constituent parts, can be seen as leading, via Quantum Potentials, to the information-determined Quantum phase states - which at their turn act as switching units in the key positions of the probability reduction process.

In this overall scheme, Brain is a product of a morphogenetic effect of the first-degree information complexity, its work being quantally adapted for processing higher orders of information complexity then its own.

From this perspective, self-conscious structures will logically preserve their cognitive functions in integral range, regardless of their time-bound neuro-cybernetic connections to Brain.

Biological life is to be understood as a particular blueprint, where a transient coupling occurs between its different levels of implication, that are capable of being preserved in their individual holographic sub quantum storage systems, hence their implied manifestation potential after the dissolution of the transient binding implication constraint.

At the group-behaviour level of biosystems, incremental complexity in phylogeneticaly acquired regulatory principles lead, per Sheldrake's morphic resonance, carried along informatically established chreodic channels, to the evolutionary potential inside biologically defined homogeneities. It seems to be conceivable to relate SQ density fluctuations to the widely debated time density orders across sequential divergent time-line vectors resulting in physically definable entelechial spectra derived from frequency break points related to time flux differentials. The resulting topological distribution in manifestation bands might be invoked for a future more accurate description of the environmental coherence regimes ascribed to self-conscious structures by traditional esoteric knowledge that becomes fully consistent with recent experimental evidence still hold in controversial regime by defendants of old scleromorphic paradigmatic views.

Entelechial manifestation levels might get accommodated into a mathematical formalism similar to the one underpinning Kaivarainen's resonant bivacuum-mediated interactions for virtual structures. Seen as embedded in an infinity of different "imaginary time lines" (Hawking), the entelechial domains may be conceived as sharing the same Space distribution without observable interference effects. Such a conjecture might supply a new approach to the many worlds interpretation of QM, if multiple S-T universes were conceptually replaced by multiple probability-triggered Information domains distributed upon individual time-lines in conventional space, which at a proper resolution of analysis proves to be nothing except its very concrete SQ content (Pre-quantum Plenum, Potentum).

In misleadingly labelled "paranormal" investigations, the anomalous distribution range of output experimental data has to be reformulated as a deviation from experimenter's expectancy regime values, based on previous mean values derived from different sets of discriminators in his (and his collectivity's) past exploration record. Such deviations are nevertheless perfectly consistent with the specific given set

of assumptions, as soon as deterministically different SQ input complexes are invoked, which, interfering in their own regime with experimenter's expectancy choice parameters, result in the unexpected statistical shift. It is a testable prediction that at the case limit, where experimenter's SQ contribution drops below a critical efficiency level, the result will be increasingly consistent with the external configuration of Information choice systems that are affecting the Quantum determination of the observable output.

Physiological and clinically induced ASC conditions, where, just as in neurotic and psychotic cognitive disorders, a coherence-shift range is to be considered, will supply the topic of later presentations. Delusional and hallucinatory contextual conditions will be described as preserving internal coherence in spite of their phase disentanglement from ambient stimuli inputs. By placing the cognitive loop beyond space and time constraints our model offers a non-contradicting logical treatment for anomalous deviations from "normal" statistic causal expectancy without appealing to Eccles/Beck kind of quantum tunneling properties, underpinning metastable electronic pre-exocytotic configurations, in order to admit backward time vectors in diachronic Information processing situations.

The idea that discontinuity states of consciousness arise during cortical hypoxic conditions, is frequently invoked as proof for the neural origination of such conditions. This idea is loosing phenomenal significance, as such conditions merely reflect memory recollection failures, regarding events related to the relevant time span. Just as in hypnotic suggestion procedures, the mnestic data are stored in an out-of-phase sub quantum matrix as related to brain's current coherence range, thus simply blocking subsequent recovery attempts.

We strongly rely upon the experimental testability of our model's predictions in the framework of Schrodinger's equations, since quantifiable detection of shifting tendencies in random regimes, under sub quantum information control, can be detected thereby. The seminal range of applicability that our model has, bearing on future genetic engineering protocols, resulting in a concrete means for altering various malignancy patterns, and other abilities to intimately alter genetic systems, such as the ageing-related Hayflick limit, can hardly be overestimated. Widely reported preliminary experimental results available at this stage, concretely confirm our predictions in these regards.

Information, as a fundamental constituent of reality, is able to manifest both in our world of matter/energy, or beyond it, without contradicting any scientific rigour in the explanatory range.

Information structures are, in our view, constituents of the physical reality, and at the same time, their ontological autonomy from matter and energy is acceptably conjectured by extending the current paradigmatic limits of reality beyond both the energetic and representational domains, into an all-pervading, non-local and atemporal regime of determinacy where classical relativistic and Quantum tenets break down. By introducing sub quantum concepts, we are contemplating reality from an unprecedented observation spot, where epistemological paradoxes dissolve, and behaviour patterns of reality, hitherto misleadingly labelled as anomalous, both in conventional physics and cognitive sciences, become logically sustainable and perfectly normal blueprints

SOME EPISTEMOLOGICALLY RELEVANT PHILOSOPHICAL IMPLICATIONS OF THE SUBQUANTUM INTEGRATION MODEL FOR CONSCIOUSNESS STUDIES.

Our SQ view, though not explicitly contradicting some late representationalist, cognitive, neural, Quantum and Higher Order theories of mind, transcends their respective limits and paves the road toward a synthetic pluralistic approach that will allow for incremental future progress. It circumvents the "explanatory gap" in Chalmers' "hard problem" while transcending fundamental, emergent and neutral monist property dualism limitations by its strength to describe Consciousness as derivative from a more basic level of reality where mental and physical properties are co-present. An "either/or" ontological exclusion is conceptually bypassed while protomental micro constituents of reality are seen as proactive transdimensional extensions of pre-quantum entities and the various flux patterns thereof. Some controversial puzzling aspects of panprotopsychism are solved in the super implicated order of sentient data unfolding from the presence of protopsychic properties at the very fundament of reality.

We use a wide range of conceptually coherent physical and representational systems that lead to an epistemologically new, nonreductionist and inter-theoretically consistent view. Matter is divisible while mind is not, as mind is introspectable while matter is not.

The physical, mental and the Platonic world of universal truths are homologated into a single paradigmatic concept where Subquantum structure parameters equally apply to the three of them.

The theoretically assumed connections between Quantum Mechanics and Mind are reviewed as a connecting principle that addresses integration aspects of Information into the world of space-time defined matter-energy. This position reflects an efficient relay of interconnectedness between different implicated orders of the sentient reality.

A new cosmogenetic approach related to Subquantum Prime radiation matrices ascribes universal sentience and organizing potentials to reality, opening a window toward a continuous creation process overarched by the axiomatic Universal Harmony request. Our model strongly supports B.Josephson's suggested juxtaposition of the Whiteheadian philosophy of mental states to theoretic predictions of Quantum Physics, where abstract Quantum concepts may apply to different ontological regimes.

Subquantum determinacy, in defining reality, emphasizes the fundamental misleading potential in Chalmers' "hard problem", putting an end to the fruitless continuous controversies around its essence and opening a radically new exploration context for the experiential observables and their time-bound correlation to the physical world, brain included.

In our perspective, the physical brain's ontological value shrinks to a balanced set of reciprocal integration vectors of Subquantum cognitive essence with Quantum mechanical systems, defining an option that emphatically ensures the integral cognitive and intercommunication autonomy of self-conscious structures from their neural anchorage requirement.

In our model, high-level systemic features of Brain are seen as an intricate canvas of specific structural and functional properties. Kinsbourne's global integrated fields relate to thalamic cortical activation pathways, where various reentrant cortical loops of action-prediction-assesment type occur between mezencephalic and frontal areas of Brain. Interpretative processes with left-hemisphere correlates or frontal-limbic mediated emotive somatosensory haemostatic processes can result.

According to our assumptions, transient synchronous modular Quantum assemblies may be related to the intentional unity of phenomenal consciousness operating in time-validation domain of Brain.

The Subquantum regime supplies the holographic storage and dynamic media of Information-charged fundamental entities, evolving by a gain in complexity that occurs under superimplicated orders of integration inside the global overarching fundamental Harmony of ALL.

In the framework of conventional mind-related formulations, the obvious multiplicity of distinct neural theories underlying partial understanding fragments of fundamental links, operating at the holographic implication order of Brain programs, fail to present a reliable explanatory system for the infinite range of conscious activity, or alternate Information processing options operating at non-conscious levels of the Self . The isolating resolution for the "minimally sufficient" neural correlates of consciousness involved in specific kinds of phenomenal content is, per-definition, blurred by interfering classes of internal and external conditions, thus excluding a justified assessing of any causal determinacy. At the best, we might postulate some causal interaction systems between ontologically distinct domains that loose sharpness if under SQ scrutiny that allows for contingent identity spectra between given physical and cognitive representations.

Epiphenomenalism was disqualified for long as a doomed reductionist approach and as such it may be for strong reasons excluded from modern scientific analytical thought related to Information processing systems. At the same time, SQ Theory of mind is perfectly consistent with valid correlation aspects established between different ontological systems, however weak their explanatory potential would be at their own excessively limited application range.

It's useless to emphasize that mental coherence patterns may be related to Bose-Einstein condensates [as suggested by Marshall @ Zohar (1990)], at best, in only a metaphorical sense. A far more suitable feature along this line is to be found in the holistic Quantum entanglement, which in the extended perspective of SQ behavior is a most promising candidate for a possible psycho-physical interconnectedness. Quantum entanglement is due to the non-local information transports by the vehicles of the SQ entities, which transports are identically the quantum potential.

The prevalent Quantum theories of mind prove to be but a more subtle reductionism model for conscious states. When compared to classical neural theories, their explanatory potential has a similar range of limits, to physicalist/neural concepts. The Penrose-Hameroff model of objective collapses of quantum superposition states leading to coherent neuroregulation activity as well as to non-algorithmic mental processes has no suggestion for solving the high-order correlation patterns between both. The suggested Quantum effects related to intracellular microtubulinic mechanisms may well affect subtle Information dynamics but are well below any acceptable solution as far as derivative complex Information structures and their infinite sophistication range across superimplicating mental phenomena are concerned.

Tenets of panpsychist consistency, tend to rigorously equate physical reality with the Information spaces it is assumed to unfold from. Interesting enough, there is little, if any, reference made in the literature, to the double-aspect conceptual deadlock relating Chalmers' "hard problem" to his panpsychist attempt to overcome it. Both are blind-ended in the same paradox, eluding a logically consistent model for transitions between conscious and unconscious elements at both empirically supported directions.

The SQ theoretical basics are effortlessly circumventing Chalmers' paradox at both of its ends: SQ theory replaces the emergence of conscious structures from non-conscious background by an original synactivation process, while the unfolding of energy/matter from the background of pure Information, becomes an implicit feature of reality. This gain in understanding relies upon postulating a hyper dimensional unit assumed to carry information content toward different degrees of complexity throughout infinite manifestation domains, possibly relying upon its own context-related mathematically acceptable ability of exhibiting non-zero space-time values.

We hope to have brought a significant contribution toward closing the endless open controversy, raging in Consciousness Studies for years, around the explanatory gap extending between the various philosophical mega trends briefly mentioned here, especially as the SQ model we propose is far above the metaphoric consistency of most seriously considered options in current academic literature. Our model relies upon strong experimental footing at its basic tenets, and a wide array of further experimental protocols are currently designed for an increasingly comprehensive proof of the correctness of our view.

We feel to be justified in claiming for our model an unprecedented theoretical elegance and reliability, able to render the limitless complexity that is inherent in sophisticated reference frames of mathematical formalism into a complete, self-sufficient and coherent simplicity. Obsolete analytic criteria relying upon the false objective/subjective dichotomy have to begun fade out under the heavy pressure of evidence, accumulating in shared dreams, collective hallucination, and shared Induced After-death Communication reports (A.Bottkin).

It is worthy of being strongly emphasized, that in the hereby proposed model, causality and synchronistic chains cease to be orthogonal mutually exclusive ones, both finding a common language of expression. The holistic causation vectors embedded both in S-T and the Informational components of reality, escapes, per definition, entropic time vector constraints. Hence non-orientated causation theories that apply in Q and SQ ranges may be logically consistent with both non-locality and diachronicity, under experimental conditions.

A new navigation tool has to be used for exploring hitherto unmapped waters.

Let's hope that our Subquantum model, as a non-speculative and not metaphysical one, will contribute to this navigational drift, as it seems to satisfy both the Ocam's Razor parsimony request in explanatory range and the falsifiability prerequisite in new assumptions. Though we consider that our approach fully reflects the implications of the Gödel's incompleteness theorem, we will be happy to improve it by hoped-for constructive inputs from the academic community.

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