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Session 1

QUANTUM-HOLOGRAPHIC FRAMEWORK FOR CONSCIOUSNESS & ACUPUNCTURE:  
PSYCHOSOMATIC-COGNITIVE IMPLICATIONS p. 18-131

Abstract. The paradigm of quantum physics enables us to broaden our holistic worldview, and explain and include phenomena that have hitherto been ignored or denied, which can lead to profound change in any field and in our society at large. The aim of this paper is to present quantum-holographic framework for understanding consciousness and acupuncture system, with significant psychosomatic-cognitive implications. This is of special importance because of wider application of holistic medicine in developed countries, oriented to the treatment of man as a whole and not diseases as symptoms of disorders of this wholeness, implying their macroscopic quantum origin. The focus of these quantum-holistic methods are body's acupuncture system and consciousness, which exhibit a structure of quantum-holographic Hopfield-like associative neural network, with memory attractors as a possible quantum-holographic informational basis of psychosomatic diseases, of special importance for quantum-holistic psycho-somatics and quantum-informational medicine. Wider quantum-informational implications of holistic medicine suggest quantum-holographic fractal coupling of the cellular level/acupuncture system/consciousness/ collective consciousness, which thus implies "downward causation" biophysical mechanism for modified gene expression. Our quantum-holographic investigations also predict two cognitive modes of consciousness (direct religious/creative, in quantum-coherent transitional and altered states of individual consciousness, and indirect perceptually/rationally mediated, in classically-reduced normal states of individual consciousness). This approach can account for space-time-transcending collapse-like quantum-gravitationally-induced and consciousness-channeled transpersonal interactions, with significant spiritual implications and conditions for observation of quantum-coherent quantum-holographic implicate order and classically-reduced explicate order. Our investigations forecast great synthesis of two cognitive modes in the framework of new quantum-holographic paradigm – where personal role becomes indispensable due to the influence and care for collective mental environment, which is fundamental question of both mental health and civil discency, i.e. of both spiritual and civil morality.

Keywords: quantum-holographic informatics, macroquantum aspects of field-related consciousness & acupuncture system, nonlocality of quantum entanglement & quantum-gravitational collapse, quantum-holographic psychosomatic-cognitive & transpersonal-spiritual implications, quantum-holographic paradigm, quantum-holographic implicate order & classically-reduced explicate order

## 1. Introduction

The paradigm of quantum physics enables us to broaden our holistic worldview, and explain and include phenomena that have hitherto been ignored or denied. The aim of this paper is to present quantum-holographic integrative framework for understanding consciousness and acupuncture system, and numerous related holistic phenomena.

The prevailing scientific paradigm considers information processing within the central nervous system as occurring through hierarchically organized and interconnected neural networks. Hierarchical models of brain's neural networks can be divided into [1,2]: Kohonen's self-organizing feature mapping unidirectionally oriented multilayer neural networks [3], Hopfield's associative or attractor massively and bidirectionally connected neural networks [4], and Haken's synergetic classical [5] and Peruš's neuro-quantum [6] multilayer neural networks.

19. But, it seems that this hierarchy of biological neural networks is going down sub-cellular cytoskeleton level, being according to some scientists a kind of interface between neural and quantum levels [7-10], where quantum level is described by analogous mathematical formalism as Hopfield-like quantum-holographic associative neural network [1,2,7].

The mentioned analogy opens additional fundamental question as to how the quantum parallel processing level gives rise to classical parallel processing level, which is a general problem of the relationship between quantum and classical levels within the quantum decoherence theory as well [11]. Naturally, the same question is closely related to the fundamental nature of consciousness, whose indeterministic manifestations of free will [1,2,12-16] and other holistic manifestations of consciousness like psychosomatic disorders [1,2,17-19], transitional states of consciousness [1,2,12-14], altered states of consciousness [20], and consciousness pervading body [21] – necessarily imply that some manifestations of consciousness must have deeper quantum origin (in spite of recent theoretical investigations [22] which demonstrate that interactions with environment destroy in less than 10-13 s macroscopic quantum coherence within the brain, whose electrochemical neural networks might correspondingly be sufficient for modeling normal states of consciousness [23-25] – but not altered and transitional states of consciousness as well [1,2,20]).

Bearing in mind the quantum-coherent characteristics of the Russian-Ukrainian school of microwave resonance therapy (MRT) [26-28] (highly resonant microwave (MW) sensory response of the disordered organism, biologically efficient nonthermal MW radiation of the extremely low intensity, and neglecting MW energy losses alongside acupuncture meridians) – the acupuncture system is presumably only macroscopic quantum system in our body (while brain still seems not to be [22]). This is the reason that consciousness is related to its MW ultralow-frequency (ULF) modulated electromagnetic (EM) field of the acupuncture system, in the framework of the author's biophysical quantum-holographic/quantum-relativistic model of consciousness [1,2,29-35] – with significant psychosomatic-cognitive implications, which will be elaborated further on on (with some physical details presented in the Appendix).

## 2. Consciousness and Acupuncture System: Quantum-Holographic Psychosomatic Implications

Most of contemporary textbooks in biophysics are of the reductionist type, mainly dedicated to the molecular biophysics and methods of biomolecular characterization, to a lesser number consider processes in the cellular level, and rarely are committed to a holistic integrative level of the organism and biosphere (which includes social and environmental aspects, biometeorology, geomedicine, chronobiology, psychosomatics, consciousness, homeopathy, acupuncture, yoga, meditation, transpersonal psychology) [1,36] – although this trend is beginning to change with wider application of integrative medicine in the developed countries [37].

Namely, contemporary investigations of psychosomatic diseases imply the necessity of application of holistic methods, oriented to healing the person as a whole and not disease as a symptom of disorder of the whole, suggesting their macroscopic quantum origin [1,2,17-19]. In the focus of these quantum-holistic methods are body's acupuncture system and consciousness – which have quantum-informational structure of quantum-holographic Hopfield associative neural network, within the

Feynman propagator version of Schrödinger equation [7] – with surprisingly significant quantum-holographic psychosomatic implications.

Acupuncture system is an ancient Chinese concept of the energy-informational channels/meridians and points, responsible for psychosomatic health and illness [38-41]. The quantum EM/ionic basis of the acupuncture system (of non-threshold electrical gap junction (GJ) synapses [42,43]) is implied by resonant windows in frequency and intensity in tissue interactions with extremely weak non-threshold EM fields [44] (undetectable by nervous system of threshold electrochemical synapses [1,2,17,18]), and successes of the Russian-Ukrainian school of MW resonance therapy [26-28] and its quantum-coherent characteristics (highly resonant microwave sensory response of the disordered organism, biologically efficient nonthermal MW radiation of extremely low intensity and energy, and neglecting MW energy losses across acupuncture meridians), as well as successes of German school of ULF electropuncture [45] and the resonant stimulation of the acupuncture analgesia endorphin (~ 4 Hz) and serotonin and/or norepinephrine (~ 200 Hz) mechanisms [46] – which is now associated with the appearance of Quantum-informational medicine [1,17] (that might also include acupuncture-sensitive homeopathy [47] and other energetic/bioresonance/ bioinformational methods [48]).

And as recent Peruš's theoretical investigations show that any quantum system has formal mathematical structure of quantum-holographic Hopfield-like neural network [6,7] – then memory attractors of the acupuncture network can be treated as psychosomatic disorders representing EM MW/ULF-modulated (quantum)holistic records (which might be therefore removed only holistically, supported by an extreme efficiency of the quantum-informational therapies, that consequently erase the very information of the psychosomatic disorders) – which might represent biophysical basis of (acupuncture temporarily reprogrammable!) (quantum)holistic local psychosomatics [1,2,12-14,17,18,29-35].

Namely, according to the Tibetan traditional medicine, an acupuncture procedure must be repeated every several months [49] – presumably as a consequence of restituted patient's mental loads from his mental-transpersonal-environment of closely related relatives/enemies/deceased, that remained non-reprogrammed on the level of quantum-holographic collective consciousness (which might be supported by the Tibetan pulse diagnostics based on 20 pulses, enabling precise diagnosis of psychosomatic disorders not only of the patient himself but also of his/her/its family members and enemies).

An additional support that the acupuncture system is really related to consciousness is provided by meridian (psycho)therapies (with very fast removing of traumas, phobias, allergies, post-traumatic stress, and other psychosomatic disorders [50,51]) – whose simultaneous effects of visualization and tapping/touching of acupuncture points might be theoretically interpreted as a smearing and associative integration of memory attractors of the psychosomatic disorders, through successive imposing new boundary conditions in the acupuncture energy-state space during visualizations of the psychosomatic problems [1,2,17,18] – so that meridian (psycho)therapies (alongside with techniques of energy healing of the acupuncture system/ consciousness [52-55], psychosomatically healing positively-visualizing meditation [56] and various psychotherapeutic techniques for recognition/integration of psychological conflicts and personality growth [57-60]) might also be categorized into the field of Quantum-informational medicine [17].

The above quantum-holographic approach might be also generalized to highest hierarchical nonlocal level of out-of-body consciousness/collective consciousness [1,2,17,18,29-35], with religious/social

implications on necessity of transpersonal spiritual quantum-holographic removing of all unwilling side memory attractors – which unless will cause psychosomatic diseases and interpersonal fights in this and/or further generations they are transpersonally and unconsciously transferred to, on the level of field-related collective consciousness [1,2,17].

This quantum-holographic approach could also apply to lower hierarchical local quantum-holographic macroscopic open cellular enzyme-gene level, with permanent quantum-conformational molecular recognition [1,2,17,32], and presumably represents a natural framework for explanation of psychosomatic diseases related to somatization of environmentally-generated memory attractor's states of the open macroscopic quantum acupuncture system/consciousness – quantum-holographically projected upon lower hierarchical cellular level, thus changing the expression of genes [1,2,17,61] (so called macroscopic downward causation, as biofeedback control of microscopic upward causation in ontogenesis and morphogenesis, starting from the first fertilised cell division which initialises differentiation of the acupuncture system of (electrical synaptic) gap-junctions [1,2,17,42,43]).

All this implies that the whole psychosomatics is a quantum hologram [1,2,33,34], both on the level of individual and collective consciousness, which resembles Hinduistic relationship Brahman/Atman Atman is Brahman [62]), as the whole and its part which bears information about the whole – strongly supporting the appearing quantum-holographic paradigm [1,2,63-65].

### **3. Consciousness and Acupuncture System: Quantum-Holographic Cognitive Implications**

In the above quantum-holographic context, the association of individual consciousness to manifestly-macroscopic-quantum acupuncture system, and application of theoretical methods of associative neural networks and quantum neural holography and quantum decoherence theory, imply two cognitive modes of consciousness, according to the coupling strength consciousness-body-environment [1,2,17,30,31]: (i) weakly-coupled quantum-coherent direct one (in out-of-body religious/creative transitional and altered states of consciousness, like prayer, meditation, creative dozes, lucid dreams...), and (ii) strongly-coupled classically-reduced indirect one (in bodily perceptively/rationally mediated

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normal states of consciousness, like sensory perception, logical and scientific thinking...) – with conditions for mutual transformations – and significant spiritual and epistemologic implications related to re-gained strong coupling of quantum-holographic contents of consciousness with bodily-environment, classically-reducing directly obtained quantum-coherent informational content.

It should be pointed out that fundamentally-theoretical reasons for out-of-body displacement of consciousness lay in necessity that consciousness must have, at least in (quantum-coherent) altered/transitional states, sufficiently isolated relevant macroscopic quantum degrees of freedom [1,2,12-14,29-34] – in order to have indeterministic characteristics of free will – which is otherwise not possible in strong body's environment which causes quick quantum decoherence of consciousness into (classically-reduced) normal state [22].

In this context, necessity of direct quantum-holographic coupling of individual and cosmic collective consciousness really requires weak out-of-body quantum-communication coupling consciousness-environment, i.e. previous reprogramming of all psychosomatic loads (cleansing of possessive or hedonistic emotional-mental sin/karmic connections with the world – which as loading mental addresses would give rise to quantum projections of mentally-channeled tunneled consciousness on corresponding out-of-body environment, and thus to classically-reduced out-of-body extrasensory observing of mentally-addressed environment!) – and so the efforts of mystics of all traditions to clean

consciousness/soul through spiritual practice (prayer, meditation) and thus to reach their final eschatological goal (Kingdom of God, nirvana), i.e. post-mortem salvation (of the sin-free/karmic-free non-bounded soul) [66,67] appear reasonable.

So, it seems that science is closing the circle, by re-discovering two cognitive modes of consciousness and at the same time by imposing its own epistemologic limitations – as it was preserved for millennia in shamanistic tribal traditions [68-70], or as it was concisely described by Patanjali in Yoga Sutras, pointing out that mystical experience (samadhi) is filled with truth and that it goes beyond inference and scriptures [71], or as this difference between faith and knowledge was formulated at the beginning of the last century by Berdyaev in his Philosophy of Freedom as the difference of two modes of cognition, prayer-mediated comprehension of the affairs invisible and rationally-mediated comprehension of the affairs visible [72].

This also explains in principle non-adequate informational rationalization of any direct quantum-holographic spiritual/religious mystical experience (as a general problem of the quantum theory of measurement, of reduction of the implicate order of quantum-coherent (quantum-holographic) superpositions into the explicate order of measured classically-reduced states [1,2,33,34]). After returning of the displaced consciousness upon the body, in order that transpersonally acquired information ascends to the level of normally conscious state, it is necessary to overcome two filters [1,2,33,34]: acupuncture system/nervous system threshold filter (which requires emotional colouring of the solving problem) and frontolimbic-amplification priority filter (which requires emotional-thinking priority of the solving problem). It should be pointed out that (practically) non-threshold potential of the acupuncture electrical GJ-synapses [42,43] makes body's acupuncture system extremely sensitive quantum sensor [1,2], which can resonantly detect even ultraweak EM fields [44] – with radiesthetic-diagnostic, noncontrolable-patogenic, or quantum-therapeutic psychosomatic effects [73].

The mentioned quantum-holographic context implies quantum-holographic fractal coupling of various hierarchical levels in Nature: (i) local quantum-holographic coupling of bodily acupuncture system and its numerous projection zones (according to contemporary Su Jok therapy [74]); (ii) local quantum-holographic coupling of thought-emotional contents of individual consciousness and cellular level (according to experiments of language-influence on the genes expression [75]); (iii) transpersonally-addressed classically-reduced quantum-holographic coupling of emotionally related consciousness' of relatives/enemies/deceased within the network of collective consciousness (according to pulse diagnostics of Tibetan traditional medicine [45]); (iv) transpersonally-addressed classically-reduced quantum-holographic coupling of individual and collective consciousness in miraculous deep creativities (Tesla and Mozart as examples [31,76]); (v) transpersonally-addressed classically-reduced quantum-holographic coupling of individual and collective consciousness in spiritual revelations (Moses as example, with preferences of collective and individual history coded within The Old Testament, according to discovery of Bible Code [77,78]); (vi) fractal-informational coupling of Golden Mean based codes of periodic system of elements, genetic code, microtubules, biological water, yin-yang I Ching, and individual consciousness (according to several contemporary investigations [10,79]). 22

#### **4. Discussion**

Our biophysical quantum-holographic/quantum-relativistic framework described above, might have significant influence on deeper understanding of many consciousness-related phenomena in physics and engineering, medicine and biology, psychology and transpersonal phenomena, art and philosophy, society and religion [1,2]:

Psychosomatic diseases indicate the necessity of application of holistic methods, implying their macroscopic quantum origin, with memory attractors as their possible quantum-holographic informational basis for downward causation mechanism of modified gene expression. Wider quantum-informational implications of holistic medicine suggest quantum-holographic fractal coupling of the cellular level/acupuncture system-individual consciousness/ collective consciousness, strongly supporting the quantum-holographic paradigm.

Individual consciousness is related to acupuncture macroscopic quantum-holographic neural network in the form of an EM component of MW/ULF-modulated ionic currents (embedded within non-homogeneous ionic structure), in which over-threshold ULF information is continuously coded from brain's neural networks, while non-threshold extrasensory broad-band information is coded from quantum environment. Collective consciousness is a subtle field-related cosmic macroscopic quantum-holographic neural network, with different micro-quantum and macro-quantum (non-biological and biological, real and virtual) excitations.

Creativity is a consequence of intense concentration on some problem before transitional states of consciousness, when individual consciousness projections on (associatively related) answer to the problem within quantum-holographic memory/propagator of collective consciousness is going on, with amplification of the answer after return into normal awake state. One way of control of creative processes is mental visualization of the problem in the meditative awake altered state of consciousness, while simpler way is in using transitional period waking-sleep, with subsequent decoding of the symbolic dream.

Free will is perceptually/rationally mediated strong intentional classical/quantum/classical backward hierarchical interaction nervous/acupuncture/nervous systems, which adequately modifies the shape of energy-state hyper-surface of the open acupuncture system/individual consciousness – with most space for adaptation/free will through prayer for others with permanent transpersonal cleansing of conflict memory attractors' states of individual and collective consciousness.

Altered states of consciousness (REM sleep phase, hypnosis, meditation, hallucinogenic states, some psychopathological states, clinical death...) are consequence of an out-of-body displacement of the part of EM/ionic acupuncture system – when quantum-parallel information processing is biophysically extremely accelerated. Normal states of consciousness (normal waking state, non-REM sleep phase...) are realised without this out-of-body displacement (when acupuncture ionic currents propagate exclusively through body tissues, enabling only classically-reduced information processing).

Transitional states of consciousness are accompanied by consciousness projections i.e. by (highly-noninertial physically-equivalent-to strongly-gravitational) collapse-like consciousness-channeled quantum-gravitational tunneling of out-of-body displaced part of the acupunctural EM/ionic macroscopic quantum neural network, which might interconnect extremely distant space-time events. This framework also suggests physical basis of von Neumann's projection postulate on micro-quantum scale, to account for quantum mechanical wave packet collapse (via locally quantum-gravitationally-induced wormholes in highly-noninertial strong-gravitation-equivalent quantum measurement-like situations, cf. Appendix).

Transpersonal interactions of the organism and its environment (long-range and short-range) are significant implications. One of the most unusual is the mystical state of empty individual consciousness, when direct quantum-holographic coupling with cosmic collective consciousness is achieved. On the

other hand, consciousness projections in transitional states of consciousness are presumably basis of various mentally-channelled inherently epistemologic-non-limited partial religious/creative experiences.

Two modes of consciousness (direct religious/creative, in quantum-coherent transitional and altered states of individual consciousness, and indirect perceptually/rationally mediated, in classically-reduced normal states of individual consciousness) are predicted – with conditions for mutual transformations – implying inherently epistemologic-limited holistic mystical experiences, related to re-gained strong coupling of quantum-holographic contents of consciousness with bodily-environment, classically-reducing directly obtained quantum-coherent 23

informational content. Multimillennia controversy of post mortem evolution of soul is presumably related to inherently limited interpretative epistemologic level of the rationalization of transpersonal transfer of mentally-addressed loads within this and further generations via network of collective consciousness.

## 5. Conclusion

Our biophysical quantum-holographic/quantum-relativistic integrative framework for understanding consciousness and acupuncture system might have significant influence on deeper understanding of many related phenomena in physics and engineering, medicine and biology, psychology and transpersonal phenomena, art and philosophy, society and religion, as outlined above. Thus paradigm of quantum physics enables us to broaden our holistic worldview, and explain and include phenomena that have hitherto been ignored or denied, which can lead to profound change in many fields and in our society at large.

In particular, according to presented integrative framework it might be said that three front lines of psychosomatic medicine do exist: (i) Spirituality and circular (psycho)therapies from all relevant meta-positions, with possibility of permanent erasing of mutual memory attractors on the level of collective consciousness; (ii) Eastern (quantum)holistic medicine and non-circular (psycho)therapies, whose efforts temporary erase memory attractors on the level of acupuncture system/individual consciousness, and prevent or alleviate their somatization, as a consequence of the indolence on the first level; (iii) Western symptomatic medicine, whose activities on the somatic level via immunology, pharmacology, biomedical diagnostics and surgery hinder or soothe somatized consequences of the carelessness on the first two levels. It should be stressed, that necessary activities on the second and third levels, with neglect of the first level, have a consequence of further transfer of memory attractors on the level of individual and collective consciousness in this and further generations, thus accumulating quantum-holographic loads which afterwards cause not only illnesses, but also interpersonal fights, wars, and other troubles. Also, the above integrative framework provides fundamental quantum-informational basis for deeper understanding of the very nature of consciousness and related transpersonal phenomena (described in religious and esoteric traditions of East and West), including some fundamental philosophical-religious questions (like three crucial Kant's questions – does God exist, is there life after death, and does free will exist – answers to which will be presumably positive). So, it seems that our civilization, through synthesis of contemporary scientific discoveries in the field of consciousness and millennia' religious experiences of various traditions of East and West, might face in a near future a renaissance of hesychastic behaviour models. This would open perspectives for millennium of wisdom, where history (of basically non-tolerant behaviour, in different historical contexts) might become the sincere teacher of life, without necessity that every generation learns from its own painful experiences.

The primary role in this process might belong to all religious confessions, by cultivating sincere spiritual morality and absolute (not declarative, as throughout previous history) interpersonal, interethnic and

interreligious tolerance, as a measure of individual behaviour from the perspective of death, i.e. quantity of generated and nonreprogrammed psychosomatic conflicts until the moment of death (determining spiritual preferences for individual and/or collective future) – which might be significantly changed only through practicing of prayer for our relatives and enemies, and consequently global reprogramming of the spatio-temporal network of collective consciousness. Everything else, including extremely well-meaning rational persuading and referring on high principles and sinful pride (which firstly disconnect us harmlessly, and afterwards create big conflicts spontaneously: The road to hell is paved with good intentions), will enhance the existing mental/emotional (inter)personal loads – dismissing individuals, nations, and humankind from the final spiritual ideal of sinless (healed/healthy) state of individual and collective consciousness.

Our investigations are on the line of the again arisen scientific interest for exploration of the phenomenon of consciousness in the past decades – with forecasting great synthesis of two cognitive modes, rationally-scientific (classically-reduced, in normal states of consciousness) and creative-religious (quantum-coherent, in altered and transitional states of consciousness) in the framework of new quantum-holographic paradigm – where personal role becomes indispensable due to the influence and care for collective mental environment, which is

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fundamental question of both mental health and civil discency, i.e. of both spiritual and civil morality.

This

suggests necessity of re-consideration of global educational/informational/political goals, with re-orientation

toward spiritual-holistic gentle actions for global solutions of the global risk society.

## **6. Appendix**

### **6.1 Quantum-Holographic Macroscopic Aspects of Consciousness & Psychosomatic Implications**

Initially, quantum mechanics appeared as a theory of microscopic physical systems (elementary particles, atoms, molecules) and phenomena at small space-time scales; typically, quantum phenomena are manifested at

dimensions smaller than 1 nm and time intervals shorter than 1  $\mu$ s. However, from the very beginning of the

quantum-mechanical founding one century

To understand human consciousness, one also has to understand psychosomatic disorders [1,2], altered and transitional states of consciousness [1,2], conscious/unconscious transitions

session 4

QUANTUM INFORMATION SELF-ORGANIZATION AND CONSCIOUSNESS:

A HOLOINFORMATIONAL MODEL OF CONSCIOUSNESS p. 196-

F. Di Biase (in absence)