

ON BIOPHYSICAL ENERGY-INFORMATIONAL NATURE OF ACUPUNCTURE SYSTEM, CONSCIOUSNESS AND VITAL ENERGY

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Abstract. The *biophysical energy-informational nature* of the acupuncture system, consciousness, and vital energy is considered, from the three aspects: quantum-informational electromagnetic, quasi-classical ionic, and transpersonal exotic. First, *quantum-informational electromagnetic aspect* of the acupuncture system is pointed out, as indicated by *quantum-coherent characteristics* of the Russian-Ukrainian school of *microwave resonance therapy*, and the discovery that any quantum system has formal mathematical structure of *Hopfield quantum-holographic associative neural network*. It is also pointed out that the *acupuncture system is related to consciousness*, as supported by the very effective *meridian (psycho / energy) therapies* with successive setting new boundary conditions in the acupuncture energy-state during emotionally-involved visualizations of the psychosomatic problems. On the other hand, the *quasi-classical ionic aspect* of the acupuncture system is suggested by research of the non-threshold "*gap junction*" *electrical synapses*, which have shown an order of magnitude increased their concentration at acupuncture points, that is consistent with a much lower electrical resistance of acupuncture points compared to the surrounding tissue, as well as a significantly higher absorption of ions in these points. Finally, the *transpersonal exotic aspect* of the energy-information communications was pointed out (known in all traditions, and now widely used in transpersonal energy therapies such as Qigong, Reiki, pranic healing...), through *established and stabilized energy-information channels of vital energy* (qi, ki, prana...), pointing to a deeper exotic space-time nature of these energy-information channels (i.e. connection with exotic quantum vacuum fluctuations, necessary for anti-gravitational stabilization of the space-time channels). These considerations might imply that *joint research* on the crossroad of *psychosomatic integrative medicine* (and related long standing open problems of acupuncture system and consciousness, including vital energy and transpersonal phenomena) and *quantum informatics* (and related open problems of quantum physics and general relativity) may become *fruitful in spreading frontiers of the existing scientific paradigm*.

Keywords: acupuncture system, consciousness, vital energy, integrative biophysics, quantum-holographic informatics, quantum-informational medicine, ions, transpersonal communications.

1. INTRODUCTION

Contemporary medicine has put its emphasis on the *alopathic-dosed non-economic highly pharmaceutical-oriented* medicine technologies. On the contrary, in the past years more attention is paid to *bioadequate homeopathic-dosed economic bioresonant quantum-informational medicine* technologies, related to usage of such values of the field energy, appearing in normal functioning of human organism [1].

So, 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* [1-21]. In the focus of these holistic methods are body's *acupuncture system and consciousness* – which (within the Feynman propagator version of quantum mechanics [22,23]) have *quantum-informational structure of quantum-holographic Hopfield-like associative neural network* [1-16] – with very significant quantum-holographic psychosomatic implications.

2. ON QUANTUM-INFORMATIONAL ELECTROMAGNETIC ASPECT OF ACUPUNCTURE SYSTEM, CONSCIOUSNESS AND VITAL ENERGY

As demonstrated by *quantum-coherent characteristics* of the Russian-Ukrainian school of *microwave resonance therapy* (MRT) [24] (highly resonant electromagnetic (EM) 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 the only *manifestly macroscopic quantum system* in our body (while brain still seems not to be [25]) which is the reason that *consciousness* is related to *acupuncture system's quantum-coherent EM MW field* (ultralowfrequency (ULF) or radiofrequency (RF) / lowfrequency (LF) modulated) in the framework of our *biophysical quantum-holographic model of consciousness* [2-5,11-15].

So, in the context of *acupuncture-based* [1-5,9-20,24,26-32] and *consciousness-based* [1-5,9-17,32-61] *approaches and techniques of quantum-informational medicine*, their goal would be a bioresonant excitation of the EM MW ULF- / RF- / LF-modulated psychosomatically disordered state (acupuncture palpatory-painful or psychologically traumatic, as one of hundreds possible disordered states) thus enabling that its initial memory attractor is bioresonantly excited (similar to annealing procedure in artificial neural networks [62]) becoming shallower and wider on the account of deepening of the (energy-dominating) attractor of healthy (acupuncture palpatory painless or psychologically traumatic-free) state, see Fig. 1 – which is then altogether *quantum-holographically projected* on the lower quantum-holographic *cellular level*, thus changing the *expression of genes* [1-16]. Thus, all these acupuncture-based and consciousness-based holistic approaches and techniques might be considered as *quantum-informational therapies*, via *imposing new boundary conditions in the energy-state space of the acupuncture system / consciousness*.

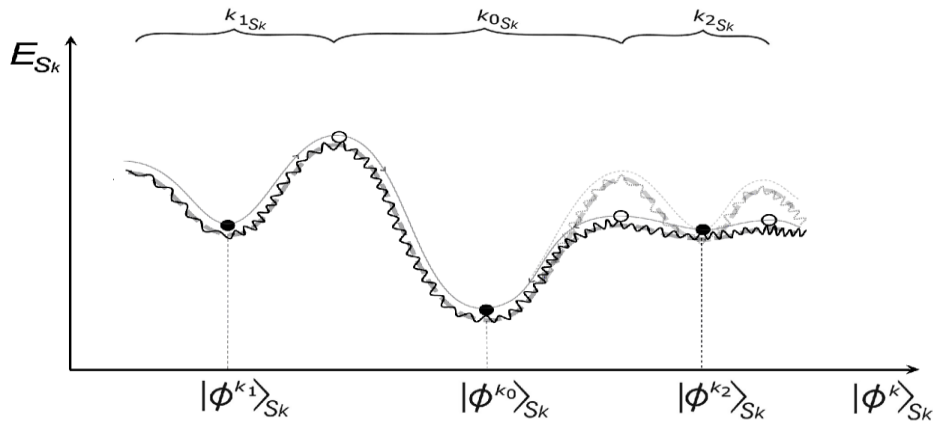


Figure 1. Schematic presentation of the adaptation of memory attractors in the energy-state ($E_{S_k}(\phi^k)$) hypersurface of the quantum-holographic memory / propagator of various hierarchical levels of biological macroscopic open quantum systems S_k [1-16] (local cell's biomolecular protein / target, local acupuncture system / consciousness, or nonlocal out-of-body consciousness / collective consciousness). It should be pointed out that Nature presumably has chosen elegant room-temperature solution for quantum-holographic information processing, constantly fluctuating between quantum-coherent states and classically-reduced states of various hierarchical levels of biological macroscopic open quantum system S_k , via nonstationary interactions with out-of-body farther environment and further through decoherence by bodily closer environment. Thus quantum neural holography combined with quantum decoherence might be very significant element of the feedback bioinformatics, from the level of cell – to the level of organism – and further to the level of collective consciousness, with backward dynamic influence on the expression of genes. This implies necessity of quantum-informational successive bioresonant balancing of all unwilling side memory attractors (like ϕ^{k_2} in the Figure), which would cause development of psychosomatic diseases on the individual level, and interpersonal fights in this and further generations on the collective level.

However, when this process is hindered by *transpersonally entangled blockages* in the EM field-related energy-state space of the acupuncture system / consciousness (on numerous laboratory tests revealing the evidence of entangled minds i.e. *extrasensory experiences* in a quantum reality, see ref. [63]) – then *memory attractors* of quantum-holographic network of field-related *collective consciousness* should be *removed* as well (via *prayer* or *circular (psycho / energy) therapies* from all relevant *meta-positions* included in the problem), to *dis-entangle energy-informationally all mental addresses* included [1-5,9-17,50-61]. These transpersonal holistic procedures, alongside with working on all levels of *EM bioresonant therapies* [1-5,10-21,24,26-32] and *non-circular (psycho / energy) therapies* [1-5,10-17,32-49], might be holistic clue for imposing healing boundary conditions in energy-state space of patients' acupuncture system / consciousness.

It should be pointed out that on all quantum-holographic hierarchical levels of biological macroscopic open quantum systems S_k (local cell's biomolecular protein / target, local acupuncture system / consciousness, or non-local out-of-body consciousness / collective consciousness), there exist *two* (interacting) macroscopic quantum subsystems [3-5,8]: first with *modifying many-electron hypersurface* $E_e(\phi_e^{(k)})$ and second with *modifying EM multi-phonon hypersurface* $E_v(\phi_v^{(k)})$, as in Fig. 1. It should be added that an energy hypersurface of multi-phonon quantum state might also include low-energy long-range coherent MW Frohlich excitations (created as a result of interaction of electronic and phonon subsystems [64,65]), of particular significance in microwave resonance therapy (MRT) of a dynamic modification of the EM multi-phonon (and related many-electron) acupuncture macroscopic quantum subsystem [3-20,24,26,27]. This quantum-holographic picture implies that quantum-holographic hierarchical parts carry information on wholeness, enabling subtle *quantum-holographic fractal coupling* between various hierarchical biophysical levels – including numerous acupuncture projection zones and corresponding organs and cells, with underlying *macroscopic quantum-informational control mechanisms of embryogenesis / ontogenesis and morphogenesis* and their backward influence on the *expression of genes*, starting from the first fertilized cell division which initializes differentiation of the acupuncture system of non-threshold electrical GJ-synapses ("gap-junctions") [1-21].

The above problem is of fundamentally-theoretical physical significance, as it tackles the question of *universality of quantum mechanics*, i.e. the question of general validity of the quantum-physical laws for *macroscopic phenomena* as well, mostly treated by the methods of classical physics. Although this question was raised in the early phase of founding of quantum-mechanical theory (and temporarily put aside for very different reasons, being considered as a difficult scientific problem), in this respect the situation is not much better today, and it can be said freely that the problem of universal validity of quantum mechanics is still open [6,66-81], and presumably *needs additional phenomenological assumptions* [82]. In particular, our analyses imply the existence of *novel macroscopic quantum biomolecular phenomena*, with biomolecular chain folding in an open environment considered as a subtle quantum interplay between energy and conformation eigenstates of this biomolecule, governed by quantum-chemical and quantum decoherence laws [6]. On the other hand, within an *open biological cell*, a system of all identical (non-interacting and dynamically non-coupled) biomolecular proteins might be considered as corresponding spatial quantum ensemble of these identical biomolecular processors, providing spatially distributed quantum solution to a single corresponding biomolecular chain folding, whose *density of conformational states* – within the occupational basis of enzyme's conformational states – might be represented as *Hopfield-like quantum-holographic associative neural network (HQHNN)* too [3-8] (like in Fig. 1).

Since all successive biochemical reactions are functionally interconnected, so are the successive HQHNNs in bioinformational framework within the corresponding enzymes' occupational bases – which may be presented in the form of *Haken's multi-level synergetic neural network, composed of layers of successive HQHNNs*. In such bioinformational framework of Haken's multi-level synergetic neural network, each of the successive HQHNNs layers, representing corresponding intra-cellular and extra-cellular biochemical reactions, has a formal Hopfield-like mathematical structure in the form of (non-morphological / abstract) 'formal neurons' massively inter-connected by 'formal connections', while the layers of HQHNNs would be mutually quantum-holographically coupled via their 'memory attractors' (i.e. their quantum-holographic memory states, within the occupational bases of conformational states of the corresponding enzymes involved) [6]. Such a *generalized bioinformational framework of Haken's multi-level synergetic neural network*, representing corresponding intra-cellular and extra-cellular biochemical reactions, is in line with trends of modelling hierarchical information processing in higher cognitive processes as

well [4,5,22,23,83,84]. It should be added, that *quantum nature of water* (and its fundamental quantum-informational nature as Hopfield-like quantum-holographic neural network), with its numerous memory attractors, might also mediate in coupling quantum-informational intra-cellular and extra-cellular biochemical reactions (this being the possible quantum-informational basis of homeopathy [30] and some intriguing field-mediated genetic experiments [85,86]; on some other proposed field-related phenomena of biological water we shall comment later on).

Hereafter, it should be pointed out that Sit'ko with coauthors have revealed *necessary and sufficient conditions* for existence of *macroscopic selfconsistent potentials* (of so called Landau-Haken type) alongside acupuncture meridians, with EM MW *eigenfrequencies* of healthy and disordered states of the *acupuncture system* [26,87-89], pointing out that living systems are the fourth level of quantum ladder of Nature (nuclear-atomic-molecular-biological), governed by specific macroscopic quantum laws of the *Physics of the Alive*. Sit'ko and coauthors have conducted EM MW measurements via specially designed radiometric system (on the level of inherent noises $\sim 5 \cdot 10^{-23}$ W/Hz·cm²), which enabled obtaining of the following *important characteristics of the acupuncture channels and points* [90]: *channels* have diameter of 3÷5 mm in their surface exits in the acupuncture points; *refraction index* within channels is $n = 1$ as in the air, while being 5÷6 in the body outside channels; in case of functional disorders of channels, upon external EM MW flux of $10^{-21} \div 10^{-20}$ W/Hz·cm² the corresponding *acupuncture points* completely absorb radiation, while upon flux greater than 10^{-19} W/Hz·cm² acupuncture points completely reflect external EM MW radiation (so in natural conditions the effects of solar radiation on biological systems are neglecting in the very sensitive EM MW regulatory region, being intensely absorbed by atmosphere, which was presumably of evolutionary significance in natural selection of biological species).

On this line, it is worth pointing out that Umezawa with coauthors and Del Giudice with coauthors, by applying fundamental quantum-field theoretical formalism of *spontaneous symmetry breaking*, have pointed to biological room-temperature macroscopic condensates of virtual quasiparticles of the effective mass and charge, so called *evanescent photons in water* (nonpropagated / tunneling longitudinal modes of quantum EM field embedded by biological macroscopic ordered localizations of the electric dipole field of water), as a possible quantum basis of functioning of *cells* in general [91-94,94-96], while Jibu and coauthors have pointed to them as a possible quantum basis of *consciousness* in brain [97-100]. According to such a theoretical concept, as evanescent photons in water are not related to propagating waves (in EM RF range [94-96]), they cannot be detected externally – so in the region of biological macroscopic ordered localizations of the electric dipole field of water special probes must be inserted, to enable embedded quanta of non-propagating modes of the EM RF field to be scattered in detectable propagating modes, which were detected experimentally in the EM RF region [101].

Based on the principles of *photonic crystals* and *photonic bandgap guiding* (where the confinement of photons in some low-index hollow-core 3D defect might be achieved by exploiting photonic bandgap reflectivity of the surrounding higher-index (quasi)periodic medium [102]), it seems that the above mentioned EM MW experiments suggest an interesting possibility to consider the *low-index $n = 1$ acupuncture channels* as 3D *photonic crystal channel waveguides of propagated EM MW photons* (influencing backward the structure and ionic conductivity of the channels [3-5,26,87-89]), confined by the surrounding higher-index (quasi) periodic cellular body medium outside channels (of $n = 5 \div 6$ in the cellular cytoplasm and $n \gg 1$ in the cellular membranes of metabolic depending striking polarization of the volume ion density [103]) with non-propagated EM MW evanescent photons (the similar mechanism might be possibly extended in the visual range of EM spectrum, to account for experiments of Popp and coauthors with ultra-weak biophoton light channels [104]).

3. ON QUASI-CLASSICAL IONIC ASPECT OF ACUPUNCTURE SYSTEM, CONSCIOUSNESS AND VITAL ENERGY

The *ionic aspect of the acupuncture system* is suggested by recent research of *non-threshold GJ-electrical synapses*, which showed an order of magnitude increase in their concentration at acupuncture points [2-5,12-14,17-20], which is consistent with a *much lower electrical resistance* of acupuncture points in relation to the surrounding tissue, and with a much higher absorption of aeroions in these points. The ionic aspect of the acupuncture system is also supported by biophysical model of the acupuncture system and states of consciousness [2-5,12-14,17-20],

according to which *vital energy (qi / prana...)* would have its partial theoretical interpretation in *ions*, out of which *positive ions* have *catabolic (yang)* influence and flow dominantly through the *right part* of the circulatory acupuncture system, while *negative ions* have *anabolic (yin)* influence and flow dominantly through the *left part* of the circulatory acupuncture system.

Also, the ionic aspect of the acupuncture system can account for the origin of *Chinese therapeutic rules* yin-yang / tonification-sedation through the type / rotation of the needles [2-5,12-14,17-19]. Yin syndrome (excess of negative ions in some left acupuncture channel) is tonified by taking in positive ions from air or taking off negative ions from the channel (through Ag needles working as anode) i.e. by rotating needles in counterclockwise direction on the left channel (thus closing its GJs for flow of negative ions) or clockwise direction on the corresponding right channel (thus opening its GJs for flow of positive ions). Yang syndrome (excess of positive ions in some right acupuncture channel) is sedated by taking in negative ions from air or taking off positive ions from the channel (through Au needles working as cathode) i.e. by rotating needles in counterclockwise direction on the right channel (thus closing its GJs for flow of positive ions) or clockwise direction on the corresponding left channel (thus opening its GJs for flow of negative ions). On the other hand, some other Chinese therapeutic rules need taking into account functional physiological interactions between acupuncture system and nervous and humoral systems.

Besides, the ionic aspect of the acupuncture system can explain interrelation of 2-hour *ultradian rhythms* in Indian and Chinese traditional medicines. So, *nasal rhythm* has ultradian periodicity ~ 2 hours (i.e. ~ 1 hour of alternative dominance of the left and right phases: -ida-pingala...). Although this rhythm is apparently not in phase with ~ 24-hour *acupuncture rhythm* of the successive dominance of 12 paired meridians (i.e. ~ 2-hour successive dominance of every organ-related meridian with corresponding yin or yang functions in the mentioned order: -yin-yin-yang-yang-...), it seems that every ~ 2-hour organ-related acupuncture phase (either yin or yang) requires complete ~ 2-hour nasal phase (ida-pingala) in order to balance activities of corresponding organ-related pair of symmetrical left and right meridians, to enable both anabolic (ida-like left-meridian) and catabolic (pingala-like right-meridian) organ functions [2-5, 12-14,17-19], contributing finally to either yin or yang overall corresponding organ-effect from the viewpoint of the traditional Chinese medicine. This implies that both negative and positive ions are metabolically significant (which is confirmed by experiments with experimental animals which die after couple of weeks in the atmosphere without ions!), although small excess (ratio 5:4) of negative ions is relaxing-well-being for the body!

Swara yoga for good health recommends half-hour *rhythmic breathing* through the nose (in the traditional lotus position, but may be also practiced in the morning and evening relaxing walks), with rhythmicity 6:6:12 (in walks, during 6 steps deep inhalation, next 6 steps holding the breath, and the next 12 steps slow and complete exhalation), 5:5:10 or 4:4:8, depending on individual lung capacity [2-5, 12-14,17-19,40]. These breathing exercises should be carried out in the fresh air (preferably near rivers), where there is an excess of negative ions, which have a beneficial effect on the relaxation of the body and hence the overall health. Then it is practiced exclusively *rhythmic breathing through the nose*, with an interruption to keep breath between inhalation and exhalation (in order to inhale as much as amount of ions (prana) through one of two (out of three) most important nadis (left *ida* and right *pingala*), with their entrances in corresponding nostrils, to be then redistributed within the acupuncture ionic system).

Decades of research have shown that ions in the air (concentration of ~ 10^3 - 10^4 cm⁻³) substantially affect the behavioral effects (freshness / fatigue, relaxation / irritability), and in the long run the human health: it is shown that the effect of *negative* aeroions is *anabolic* (leading to relaxation, and consequently improving health condition), while the effect of *positive* aeroions is *catabolic* (eventually leading to fatigue, and in the long run to occurrence of disease) [2-5,12-14,17-19,105-107]. In addition to *artificial sources* of poorly influencing *positive ions* (in household appliances, personal computers, air conditioners and industrial machinery), there are also *natural sources*, usually in the form of hot winds (as, for example, fen – the wind blowing in southern Germany and Switzerland). To improve microclimate, *aeroionizers* were made (generators of negative aeroions), which in its vicinity raise the concentration of *negative ions* in the air up to 10^5 cm⁻³, establishing a microclimate which is seen in the countryside near rivers and waterfalls, forests and mountains, after heavy thunderstorms and heavy downpours.

Swara yoga also recommends simple *control of nasal rhythms* (2-hour ultradian rhythms) in the process of recovering or keeping energy and emotional balance of the organism [2-5,12-14,17,18,40]. Namely, there is possibility for *reverse influence* of the nasal rhythm on the brain one, by activating less active nostril through special

breathing procedure: the more active nostril is closed by finger pressure, this being followed by forceful and short inhaling 10-15 times through the less active nostril. In this way the previously less active channel (*ida* or *pingala*) is excited through ionic nostril receptors, then subsequently influencing the limbic brain center to switch the phase of ultradian rhythm. The effect is achieved after only several minutes, which might be monitored by exchanged activity of nostrils. The procedure is very simple, and can be efficiently used to prevent development of stressful mood, cold in early phase (through switching the ultradian rhythm of developing disorder) etc.

4. ON TRANSPERSONAL EXOTIC ASPECT OF ACUPUNCTURE SYSTEM, CONSCIOUSNESS AND VITAL ENERGY

The above mentioned quantum-field theoretical formalism (verified experimentally in the EM RF region as well), suggests deeper biophysical origin of non-propagated evanescent photons in water, whose EM field-related macro-quantum condensates might be the basis of traditionally widely present (but scientifically poorly understood) concepts of *qi* / *prana* of energy-informational *acupuncture system* / *consciousness* [12-14,35-43], detectable within low-index hollow-core defect acupuncture channels and non-detectable outside them (with possible generalization from the evanescent EM field to the evanescent unified field, in line with the broader traditional comprehension of *qi* / *ki* / *prana* / *mana* / *pneuma* / *uncreated light*... as all-pervasive cosmic quintessence [13,14,39-43]). These traditional holistic concepts might be additionally supported by fundamental *holographic principle* [108,109] according to which any (3D) physical system is isomorphic to the holographic information embedded on its (2D) surface, which implies that full quantum-informational content of our 3D body could be holographically contained in the corresponding 2D surface layer – in line with our macroscopic quantum-informational Hopfield-like holographic framework for psychosomatics and proposed close relationship of the acupuncture system and consciousness [4,5,12-14] as well (which is also supported by novel meridian (psycho / energy) therapies, with fast removing of traumas, phobias, allergies, post-traumatic stress and other psychosomatic disorders, via simultaneous effects of emotionally-involved visualizations of psychosomatic problems and tapping / touching of prescribed acupuncture points [49,50]).

Suggested macroscopic quantum-informational Hopfield-like holographic framework for psycho-somatics also implies that quantum-holographic hierarchical parts carry information about the whole (which resembles the Hindu relationship Brahman / Atman, as a whole and the part which contains information about the whole [36,37]), allowing *subtle quantum-informational coupling of hierarchical levels in Nature* [110-114], which is supported by acupuncture system and its projection zones (ECIWO holographic concept [21]) and discovery of quantum-holographic influence on the expression of cell genome (by linguistic-wave-genetic-modulation of irradiating-laser beams [85]), as well as by transpersonal origin of the amazing creativities (Tesla and Mozart as case studies [113,114]) and predestinated life paths and temptations (as indicated by the contemporary experiences of hypn regressions [115] and experiences of tribal traditions [60,61] and traditions of East [36,37] and West [37,56], while still emphasizing that it is possible to reprogram / optimize them by spiritual purification [33-61,115]).

In the above context, despite the (unitary) deterministic evolution of the quantum-informational Hopfield-like holographic neural network of collective consciousness (as there is no out-of-cosmic environment that triggers the (non-unitary) collapse of quantum-coherent state of the field-related cosmic collective consciousness and complementary particle-related cosmic environment) [2-5,11-15] – the memory attractors of collective consciousness could still be reprogrammed by prayer for eliminating inter-personal loads of collective consciousness – probably via *prayer-excited new macro-quantum energy-informational portions of vital energy / uncreated light* in prayer-related persons (similarly to *mentally-channeled prana / qi / ki* in local and transpersonal healing in *Ayurvedic / Qigong / Reiki* practices [40-43]), as disentangling energy-informational indeterministic intervention in quantum-holographic evolution of collective consciousness (and incoming individual and collective events), thus (non-unitary) setting necessary new boundary conditions) [2-5,11-15]. This leaves the most room for *free will* and influence on future preferences – implying indispensable role of individuals due to their influence and care for collective mental environment.

It should be pointed out that many *transpersonal phenomena* associated with consciousness [2,33-61,63,110,113-124] are well documented and even practically incorporated in *psychosomatic energy-correction*, and

their physical explanation should be sought on the *very border of the current scientific paradigm*. Within our *quantum-informational / quantum-gravitational theoretical framework* of consciousness and psychosomatics [2-5,11-15,79] they are proposed to be of deeper *quantum-gravitational origin* (in space-time transcending highly-noninertial strong-gravity-equivalent (according to Einstein's principle of equivalence!) *transitional states of consciousness* (from high-dielectric bodily into low-dielectric out-of-body states!), based on locally generated wormhole *space-time tunnels* quantum-gravitationally stabilized by so called *exotic matter* (quantum vacuum fluctuations in strongly curved space-time of wormhole tunnels [125]) *with anti-gravitational effects* (really observed in the transpersonal psychokinetic manifestations of vital energy / prana / qi [36,37,110,117-119]). The *exotic aspect of these space-time tunnels and vital energy* might be *extended to acupuncture channels* (of peculiar vacuum-like $n = 1$ refraction index) *with outside inflow of vital energy / prana / qi* (see also comment in [118]).

The above multidisciplinary considerations might imply that *joint research* on the crossroad of *psychosomatic integrative medicine* (and related long standing open problems of acupuncture system and consciousness, including vital energy and transpersonal phenomena) and *quantum informatics* (and related open problems of quantum physics and general relativity [126]) may become *fruitful in spreading frontiers of the existing scientific paradigm*.

5. CONCLUSION

In this paper, biophysical energy-informational nature of the acupuncture system, consciousness and vital energy is considered, from the three aspects: quantum-informational electromagnetic, quasi-classical ionic, and transpersonal exotic.

Quantum-informational electromagnetic aspect of the acupuncture system is suggested by *quantum-coherent characteristics* of the *microwave resonance therapy* and the discovery that any quantum system has formal mathematical structure of *Hopfield quantum-holographic associative neural network*, while close relationship of the *acupuncture system and consciousness* is suggested by their *macroscopic quantum nature* and very effective *meridian (psycho / energy) therapies*. *Quasi-classical ionic aspect* of the acupuncture system is suggested by non-threshold *"gap junction" electrical synapses* with an order of magnitude increased concentration at acupuncture points and significantly higher absorption of ions in these points. *Transpersonal exotic aspect* of the energy-information communications is suggested by *established and stabilized energy-information channels of vital energy (qi, ki, prana...)* known in all traditions and widely used in *transpersonal energy therapies (Qigong, Reiki, Pranic healing...)*, pointing to a deeper exotic space-time nature of these energy-information channels.

The presented *biophysical energy-informational framework for psychosomatics* might have significant holistic implications, providing fundamental quantum-informational framework for better understanding of the *nature of psychosomatic diseases and their prevention and healing*, which might help in *developing strategies for integrative psychosomatic medicine*. Within this framework, it appears that all holistic acupuncture-based and consciousness-based approaches and techniques can be treated as *quantum-informational therapies*, by *imposing new healing boundary conditions* in the energy-state space of EM quantum-field-related *acupuncture system / (individual and collective) consciousness*. So, on the basis of integrative quantum-holographic framework it might be said that *three front lines of integrative psychosomatic medicine do exist* : (i) *Spirituality and circular (psycho / energy) therapies from all relevant meta-positions*, with possibility of permanent erasing of mutual memory attractors on the *level of collective consciousness*; (ii) *(Quantum) holistic medicine and non-circular (psycho / energy) 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; and (iii) *Conventional 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.

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126. Our extended quantum-informational / quantum-gravitational theoretical framework of acupuncture system and consciousness, including vital energy and transpersonal phenomena, also suggests a physical basis for ad hoc von Neumann's projection postulate at the micro-quantum scale, to explain the quantum-mechanical wave function collapse (via local quantum-gravity-induced and exotically stabilised wormhole tunnels in strong-gravity-equivalent highly-non-inertial quantum-measurement-like situations [2-5,79]); the question of how it is possible that these highly-noninertial micro-particle processes with inevitable opening of miniature wormhole tunnels (according to Einstein's principle of equivalence!) were not taken into account within quantum mechanics that is yet extremely accurate theory(!) – could be answered as they possibly implicitly were(!?) within von Neumann's projection postulate (with its physical origin on the deeper quantum-gravitational-level!?). On the other hand their macroscopically accumulated exotic anti-gravitational imprint might possibly be observable on cosmological scale (or have been already detected(!) by recent advances in the cosmological tests, which invite again the Einstein's cosmological constant and related concept of hypothetical dark energy or quintessence which permeates all of space and tends to accelerate the expansion of the universe [127]). Finally, it should be added that so called gravity / gauge theory correspondence in string theory suggests that quantum-gravitational traces of miniature wormholes are present even within ordinary quantum-field theory, as *any* quantum entangled system (i.e. Einstein-Podolsky-Rosen correlated quantum pair) is connected by some sort of miniature (non-traversable) wormhole (i.e. quantum-gravitational Einstein-Rosen bridge) [128]; (as stated previously, its possible traversability in cosmological conditions was subject of ref. [125]).
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