

ON QUANTUM-HOLOGRAPHIC BASES AND FRONTIERS OF INTEGRATIVE MEDICINE AND TRANSPERSONAL PSYCHOLOGY: PSYCHOSOMATIC, EPISTEMOLOGICAL, AND SPIRITUAL IMPLICATIONS

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Abstract. We hereby focus on the quantum-holographic bases and frontiers of integrative medicine and transpersonal psychology, with deep implications for understanding psychosomatics and spirituality. In the context of quantum-informational holistic acupuncture-based & consciousness-based approaches and techniques, their goal would be a resonant stimulation of the electromagnetic psychosomatically disordered quantum state (acupuncture palpatory painful or psychologically traumatic, as one of hundreds possible disordered states) thus enabling that its disordered initial memory attractors are one by one bioresonantly excited (similarly to annealing procedure in artificial neural networks) becoming shallower and wider on the account of deepening of the (energy-dominating) attractor of healthy quantum state (acupuncture palpatory painless or psychologically non-traumatic) – which is then altogether quantum-holographically projected on the lower quantum-holographic cellular level, thus changing the expression of genes. However, when this process is hindered by transpersonal entangled blockages in the energy-state space of EM field of the acupuncture system / consciousness (and numerous laboratory tests are revealing the evidence of entangled minds i.e. extrasensory experiences in a quantum reality) – 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, thus performing spiritual integration of personality which initiate the process of permanent healing as suggested by experiences of volunteers in post-hypnotic regressions). So, all these 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 the acupuncture system / (individual and collective) consciousness – with significant global psychosomatic implications of the necessity of including three front lines of integrative psychosomatic medicine. The aforementioned studies are in line with re-awakened interest in the scientific study of consciousness in recent decades (with indications of appearance of the grand synthesis of the two modes of knowledge, indirectly-rational & directly-mystical, in the framework of the emerging quantum-holographic paradigm) – where the role of each individual becomes indispensable due to the influence and care for collective mental environment, which is fundamental question of mental hygiene and civic and spiritual morality. It should be noted that three essential aspects of any comparative study of science and spirituality are hereby included: utilitarianism and / or limitations of psychosomatic transpersonal practices of tribal traditions, meditation practices of the East, and prayer practices of the West, in healing or salvation of souls; epistemology of the two modes of knowledge, indirectly-rational and directly-mystical; and phenomenology of transpersonal-mystical, near-death, out-of-body, and extrasensory states of consciousness.

Keywords: *Quantum-Holographic Framework, Integrative Medicine, Transpersonal Psychology, Psychosomatics, Epistemology, Spirituality*

INTRODUCTION

Despite the involved huge financial and intellectual resources in biomedical research and health care, human health is still jeopardized by numerous *psychosomatic diseases*, which find the fertile soil in modern man exposed to everyday *stress*. Since modern partial methods have not shown the desired efficacy in the prevention / treatment of psychosomatic disorders, new approaches are needed, which will include methods of *integrative biophysics*, oriented to *holistic healing the person as a whole* rather than disease as a symptom of disorder whole, implying their deeper *quantum-holographic origin*. In the *focus* of these *holistic methods* are *acupuncture system & consciousness*, closely related within the fast developing fields of *integrative medicine* [1] & *transpersonal psychology* [2], with an ideal to achieve and maintain a state of *complete physical, mental and social well-being* [3].

The aforementioned studies are in line with re-awakened interest in fundamental and applied *holistic research* in past decades [1-150], indicating the occurrence of *grand synthesis of two modes of knowledge, indirect-rational and direct-mystical, within the framework of extended quantum-holographic paradigm* – where *the role of each individual becomes indispensable* due to the influence and care for *collective mental environment and social well-being* [1-26]. And can help us realize that all our *partial rationalizations* are still only approximations of *fundamentally-holistic reality*, and that all the *divisions* that separate us harmlessly at first and then spontaneously give birth to big conflicts – are *tragic misunderstanding* of spiritually immature (historical) epoch of civilization [23-26].

ON QUANTUM-HOLOGRAPHIC BASES AND FRONTIERS OF INTEGRATIVE MEDICINE AND TRANSPERSONAL PSYCHOLOGY: PSYCHOSOMATIC IMPLICATIONS

The prevailing scientific paradigm considers information processing within the central nervous system as occurring through *hierarchically organized and interconnected neural networks* [7,8,14,15,27-31], it seems that this hierarchy of biological neural networks goes down to the subcellular *cytoskeleton* level, which some researchers believe to be an interface between the *neural* and *quantum* levels [32,33]. It should be pointed out that the Feynman propagator version of quantum mechanics has *mathematical formalism analogous to Hopfield neural network*, which represents the basis of *quantum neural holography* [8-15,27] (which allows successive reconstruction of the wave functions of the memory states at the output of quantum-holographic Hopfield neural network (complete, of both amplitude and phase) in recognition of the wave function of the previously memorised state displayed again at its entrance (which is the basis of every holography, but everything here is simpler than in the standard laser holography, which requires so called coherent reference and subject laser beams).

Mentioned analogy opens additional *fundamental question* of how *classical* parallel processing level is resulting from *quantum* parallel processing level, which is a general problem of relationship between quantum and classical levels in the *quantum theory* of decoherence [8-15,35,36]. The same question is closely related to the fundamental nature of *consciousness*, whose indeterministic properties of *free will* [7-9,12-19,37-40] and other holistic manifestations like conscious-unconscious transition and consciousness pervading body [40], *transitional states of consciousness* [7-9,12-19] and *altered states of consciousness* [7-9,12-19,41] – imply that some manifestations of *consciousness* must have deeper *quantum origin*, with significant *psychosomatic implications*. Namely, according to the *quantum-coherent characteristics* of the Russian-Ukrainian school of *microwave resonance therapy* (MRT) [42-49] (highly resonant microwave sensory response of the disordered organism, biologically effective nonthermal microwave radiation of extremely low intensity and energy, and neglecting microwave energy losses down acupuncture meridians), *acupuncture system* is the only *macroscopic quantum system* in our body to be *associated with consciousness* (while brain still seems not to be [34]) – *with memory attractors treated as psychosomatic disorders of electromagnetic microwave (EM MW) quantum-holistic records*, which can be the basis of (*temporarily reprogrammable*) *acupuncture-based* [6-8,12-16,19,20,42-60] & *consciousness-based* [6-8,12-16,19,20,71-89] *quantum-holistic local psychosomatics*, cf. Fig. 1.

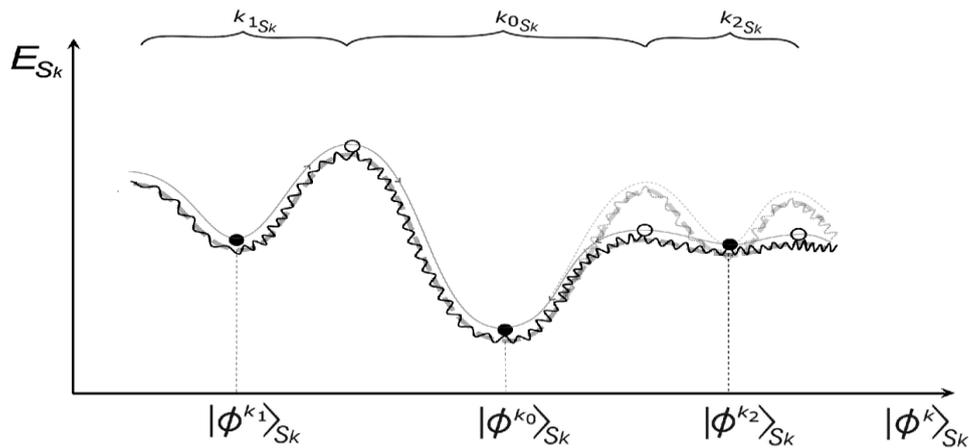


Figure 1. Schematic presentation of the adaptation of memory attractors in the energy-state space ($E_{S_k}(\phi^k)$) of quantum-holographic memory of various hierarchical levels of biological macroscopic open quantum system S_k (local cellular enzyme / substrate, local bodily acupuncture system / consciousness, nonlocal out-of-body consciousness / collective consciousness). It should be noted that Nature presumably has chosen elegant room-temperature solution for biological 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 – and thus a quantum neural holography combined with quantum decoherence could be very important element of quantum-holographic feedback bioinformatics, from the level of cell – via the level of the body – to the level of collective consciousness, with backward dynamic influence on the expression of genes. In the context of quantum-informational therapies, their goal would be bioresonant excitation of the treated psychosomatically disordered state (acupuncture palpatory-painful or psychologically traumatic, as one of hundreds possible disordered states), thus enabling that its initial memory attractor ϕ^{k_2} (dotted line) is bioresonantly excited (similar to annealing procedure in artificial neural networks, see Ref. [31]) becoming shallower and wider (full line) at the expense of deepening of the (energy-dominating) attractor of healthy (acupuncture palpatory painless or psychologically traumatic-free) state ϕ^{k_0} – with successive larger overlapping and final integration of the two states. Thus, all these acupuncture-based & consciousness-based holistic approaches and techniques might be considered as quantum-informational therapies, via imposing new healing boundary conditions in the energy-state space of the acupuncture system / (individual and collective) consciousness – implying necessity of quantum-informational successive bioresonant balancing of all unwilling side memory attractors (like ϕ^{k_2} above), which would otherwise cause development of psychosomatic diseases on the individual level, and interpersonal fights in this and further generations on the collective level.

Namely, according to the Tibetan traditional medicine [55] acupuncture procedure must be repeated every few months – probably as a result of renewed patient's mental loads from his non-reprogrammed mental transpersonal environment, which is supported by Tibetan pulse diagnostics that allows accurate diagnosis of psychosomatic disorders not only of patients but also of their family members and enemies). That acupuncture system is closely associated with consciousness and psychosomatics, is also supported by new meridian (psycho / energy) therapies (with rapid removal of traumas, phobias, allergies, post-traumatic stress and other psychosomatic disorders [71,72]), where the simultaneous effects of visualization and tapping / touching acupuncture points could theoretically be interpreted as 'smearing' of memory attractors of the psychosomatic disorders, via successive setting of new boundary conditions in the energy-state space of the acupuncture system during intense visualizations of psychosomatic problems [7,12-17,19]. At the same time, the above mentioned analogy

between mathematical formalisms of Hopfield associative neural network and Feynman propagator version of quantum mechanics implies that collective consciousness is possible ontological property of the all-pervading unified physical field [6-9,12-19], whose memory attractors can be the basis of quantum-holistic global psychosomatics with significant religious / social implications of the necessity of transpersonal spiritually-mediated quantum-holographic balancing of all unwilling side memory attractors [6-8,12-17,19], cf. Fig. 1.

So, when the healing process is hindered by *transpersonally entangled blockages* in the energy-state space of the acupuncture system / (individual and collective) consciousness (on numerous laboratory tests revealing the evidence of entangled minds i.e. *extrasensory experiences* in a quantum reality, see refs. [127-133]) – 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 to *disentangle energy-informationally all mental addresses included in the problem* [6-8,12-19,90-116], thus providing *spiritual integration of personality* which *initiates the process of permanent healing* as suggested by experiences of clients in *post-hypnotic regressions* [110]). Hence, these transpersonal holistic procedures, alongside with working on all levels of acupuncture-based therapies [6-8,12-16,19,20,42-60] and non-circular (psycho / energy) therapies [6-8,12-16, 19,20,71-89], might be the holistic clue for imposing healing boundary conditions in the energy-state space of the acupuncture system / (individual and collective) consciousness of the patients, cf. Fig. 1.

The above Hopfield-like quantum-holographic associative neural network (HQHNN) framework implies quantum-holographic feedback influence of the EM field of acupuncture system / consciousness on the cellular conformational enzyme(s) changes and expression of genes (so called *macroscopic 'downward causation'*), and not only reversed (*microscopic 'upward causation'*), with mutual quantum-informational control of ontogenesis / embryogenesis and morphogenesis (via changes in density of enzyme(s) conformational states, within the occupational bases of conformational states of the corresponding enzyme(s) involved, like in Fig. 1), starting from the first fertilized cell division which initializes differentiation of the acupuncture system of (electrical synaptic) '*gap-junctions*' [6,7,14,15,46-48,60]. To be more specific, 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) [10]. Such a generalised 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 [14,15,27,30, 125].

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 [61,62] and some intriguing field-mediated genetic experiments [63,64]; on some other proposed field-related phenomena of biological water see refs. [65-69]).

ON QUANTUM-HOLOGRAPHIC BASES AND FRONTIERS OF INTEGRATIVE MEDICINE AND TRANSPERSONAL PSYCHOLOGY: EPISTEMOLOGICAL AND SPIRITUAL IMPLICATIONS

Mentioned *quantum-holographic picture* 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 [96-98], allowing subtle *quantum-informational coupling of various hierarchical levels* in Nature [123-127,146,147], which is supported by *acupuncture system and its projection zones* (ECIWO holographic concept [54]) and the discovery of *quantum-holographic influence of verbal communication on the expression of cell genome* (by voice-modulation of irradiating-laser beams [64]), as well as the *origin of the amazing creativities* (Tesla and Mozart as ‘case studies’ [148,149]) and *predestinated life paths and temptations* (as indicated by the contemporary experiences of hypn regressions [110] as well as experiences of tribal traditions [91-95] and traditions of East [96-100] and West [101-104], while still emphasizing that it is *possible to optimize them by spiritual purification* [87-117])).

In this context, *despite the deterministic evolution of the quantum-holographic Hopfield-like neural network of collective consciousness* (as there is no out-of-cosmic environment that triggers the non-unitary collapse of the quantum-coherent state of the field-related cosmic collective consciousness and complementary ‘particle’ cosmic environment) [7-9,12-19], the *memory attractors of the collective consciousness could still be reprogrammed by merciful prayer for ourselves and the others*, by eliminating inter-personal loads of collective consciousness – *probably via the spiritually-excited macro-quantum portions of vital energy* (similarly to mental-channeled Ayurvedic, Qigong and Reiki experiences of local and transpersonal healings [77-80, 87,88]) in the *prayer-related persons*, as *indeterministic intervention in the quantum-holographic evolution of collective consciousness* (and complementary incoming individual and collective events), thus (non-unitary) setting necessary *new boundary conditions* [7-9,12-19]. That leaves the most room for *free will and influence on future preferences* – implying that *role of each individual becomes indispensable* due to the influence and care for *collective mental environment and social well-being*.

Bearing also in mind the possibility and *effectiveness of transpersonal circular meridian (psycho / energy) therapeutic processes*, i.e. *from all relevant mentally-addressed meta-positions of other persons who participate in the treated trauma* [72], this implies that all these interactions of the trauma-related persons are of the *quantum-gravitational nature*, via miniature ‘wormhole’ *space-time tunnels* (generated in accordance with very general Einstein’s *Principle of equivalence* of inertial and gravitational accelerations [150]) in the *highly-noninertial transitional states of consciousness of trauma-related persons* [6-9,11-17,19] (i.e. ‘*silver cords*’ of vital energy, *extra-sensory observable in altered states of consciousness between heart, stomach or the throat chakras of the related persons*; in *Afro-Haitian voodoo tradition the ‘silver cord’ between the operator and the victim is deliberately created by visualization*, while in the *Hawaiian ho’oponopono tradition the ‘silver cord’ is cut by visualization in order to remove the traumatic emotional connection* – which otherwise *naturally exists* between mother and child, and is *spontaneously formed by intense exchange of vital energy* among relatives, close associates, current and former lovers, friends and enemies, whereby it can also survive *post mortem* between the living and the deceased [7,12-17]). Thus, our theoretical considerations suggest the *real nature of transpersonal experiences* of various spiritual traditions [41,55,76,117-119,137], substantiated by *accumulated phenomenological evidences and laboratory and clinical studies* [2,4,37,64,72,115,116,127-136,138-143,148-150], and even *practically incorporated* in contemporary acupuncture-based

& consciousness-based holistic approaches and techniques of *quantum-informational medicine* [7,12-16,87-114].

In this context, *association of individual consciousness with manifestly-macroscopic-quantum acupuncture system*, by applying the methods of *associative neural networks*, *quantum neural holography*, and *quantum decoherence theory*, suggests *two modes of knowledge*, according to the coupling strength consciousness-body-environment [12-19]: *weakly-coupled quantum-coherent direct mode* (in the *out-of-body* spiritual / creative *transitional and altered states of consciousness*, like prayer, meditation, daydreams, lucid dreams...) & *strongly-coupled classically-reduced indirect mode* (in *bodily* perceptively / rationally mediated *normal states of consciousness*, like sensory perception, logic and scientific reasoning...) – with *conditions of mutual transformation*. This explains the *generally poor informational rationalization* of direct quantum-holographic spiritual / religious *mystical experience* (as the problem of quantum theory of measurement, related to the reduction of the implicate order of the quantum-coherent (quantum-holographic) superposition of states into the explicate order of measuring classically-reduced states [12-19]) – which is close to the experiences of numerous *shamanistic tribal traditions*, with beliefs that the *genuine* (quantum-holographic) reality is represented by *dreams* [127], and that (classically-reduced) waking state is lie / illusion (*maya*, as stated in the *traditions of the East* [96-98]).

In addition, the necessity of direct quantum-holographic coupling of individual and cosmic collective consciousness in an observation of the implicate order needs weak out-of-body quantum-communication coupling consciousness-environment, i.e. previous *reprogramming of all psychosomatic loads* (cleansing of the possessive or hedonistic emotional-mental sinful / karmic connections with world – which as loading '*mental addresses*' would give rise to quantum projections of mentally-channelled tunnelled consciousness upon the out-of-body environment, and thus to classically-reduced *out-of-body extrasensory observing* of the mentally-addressed environment) – and in this context the efforts of mystics of all traditions to *purify consciousness / soul via spiritual practice* (prayer, meditation...) and thus to reach their *final eschatological goal* (Kingdom of God, nirvana...), i.e. *post-mortem salvation of soul* (non-bounded sin-free / karmic-free) by *re-union (re-ligare / yoga)* with the *supreme God* [96-98,102] appear reasonable.

It still *leaves room for personal love*, whose highest manifestation is ability and readiness for *permanent and unconditioned forgiving* (to loving person, and because of him / her to everybody else, including enemies), in prayer and (subtly related quantum-holographic) living practice; the same refers to love for relatives and friends [6,7,12-17].

ON WIDER PSYCHOSOMATIC, EPISTEMOLOGICAL AND SPIRITUAL IMPLICATIONS AND CONCLUSIONS

From rational-empirical viewpoint, this paper includes all *three essential aspects* that must be in the focus of any *comparative study* of science and spirituality: **(A)** *utility of psychosomatic and spiritual practices* of tribal traditions, meditation practices of the East, and prayer practices of the West, in healing or the salvation of souls; **(B)** *epistemology of two modes of knowledge*, direct-mystical and indirect-rational; and **(C)** *phenomenology of transpersonal communications*, mystical, near-death, out-of-body, and extrasensory experiences.

(A) Utility of psychosomatic and spiritual practices. Our quantum-holographic framework of integrative medicine and transpersonal psychology provides better understanding of the *nature of psychosomatic diseases* as well as *limitations of their prevention and healing methods*, which might help in *developing further strategies for psychosomatic integrative medicine*, with all holistic acupuncture-based & consciousness-based approaches and techniques 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 – suggesting that there are *three front lines of psychosomatic integrative medicine* [7,8,12-16,20]: (i) *spirituality and circular (psycho / energy) therapies* from all relevant meta-positions, with the possibility of a potential permanent removal of mutual memory attractors on the level of collective consciousness, (ii) *(quantum) holistic medicine and non-circular (psycho / energy) therapies*, which temporarily remove the memory attractors on the level of the acupuncture system / individual consciousness and prevent or alleviate their somatization, as a result of negligence on the first level, (iii) *symptomatic conventional medicine*, which via immunology, pharmacology, biomedical diagnostics and surgery at the physical level prevents or alleviates somatic consequences of carelessness on the first two levels.

It should be noted that the *necessary activities* in the second and third levels, with *neglect of the first level*, would result in *further transfer of memory attractors* on the level of individual & collective consciousness in this and future generations, thus *accumulating quantum-holographic nonlocal loads* that cause then not only diseases but also interpersonal conflicts, wars and other sufferings! Thus civilization, via *synthesis* of scientific knowledge in the field of *consciousness* and millennia experiences of the *spiritual traditions*, could contribute that new millennium would be characterized by *wisdom* [16,23-26]. Decisive role in this process could play all *religious communities*, *cultivating* a true *spiritual moral* and absolute (not declarative, as so far in history) inter-personal, inter-ethnic and inter-religious *tolerance*, as a measure of individual behavior from the *perspective of death*, i.e. amount of generated and non-reprogrammed psychosomatic conflicts until death, which determines the *spiritual evolution* of the soul of the deceased as well as the *preferences* of the individual and / or collective future of the descendants – that can be *significantly altered* only via *collective prayer* for ourselves, our neighbors and enemies, and consequently *global reprogramming of collective consciousness*.

(B) Epistemology of two modes of knowledge. Our quantum-holographic framework of integrative medicine & transpersonal psychology also provides better understanding of the *two modes of knowledge*, according to the coupling strength mind-body-environment [12-19]: (i) *weakly-coupled* quantum-coherent *spiritual / creative direct mode* (in altered and transitional states of consciousness), and (ii) *strongly-coupled* classically-reduced *perceptual / rational indirect mode* (in normal states of consciousness) – and *conditions of mutual transformation*, with significant epistemological / spiritual implications. This explains *generally poor informational rationalization* of direct quantum-holographic spiritual / religious *mystical experience* (as the problem of quantum theory of measurement, related to the reduction of the implicate order of the quantum-coherent (quantum-holographic) superposition of states into the explicate order of measuring classically-reduced states [12-19]). And can help us realize that all our *partial rationalizations* (classically-reduced mappings!) are still only an approximation of *fundamental holistic reality* (quantum-holographic territory!) – and that all *divisions are tragic mis-understanding* of spiritually immature (historical) epoch of civilization (because, map is not the territory!) [16,23-26].

So *science is closing the circle*, by *re-discovering two different modes of knowledge* and at the same time setting its *own epistemological limitations* – as it was preserved for millennia in *shamanistic tribal traditions* [92-95], or as it was concisely described by *Patanjali in Yoga Sutras* more than two millennia ago [96-98], pointing out that mystical experience (samadhi) is ‘filled with truth’ and that it is ‘above inference and the scriptures’, or as this difference between faith and cognition was formulated at the beginning of the last century by *Berdyayev in Philosophy of Freedom* as the difference of two modes of knowledge [101], prayer-mediated ‘comprehension of the affairs invisible’ and rationally-mediated ‘comprehension of the affairs visible’! This is in line with scientific re-awakened interest in the phenomenon of consciousness, with indications of the appearance of the *grand synthesis of two modes of knowledge* – where the *role of each individual* becomes *indispensable* due to the influence and

care for *collective mental environment and social well-being*, which is a *fundamental issue* of both spiritual and civil morality [16,23-26].

(C) Phenomenology of transpersonal communications. Our quantum-holographic framework of integrative medicine & transpersonal psychology also suggests the *real nature of transpersonal experiences* of various spiritual traditions [41,55,76,117-119,137], substantiated by *accumulated phenomenological evidences* and *laboratory and clinical studies* [2,4,37,64, 72,115,116,127-136,138-143,148-150], and even *practically incorporated* in contemporary acupuncture-based & consciousness-based *quantum-informational medicine* [7,12-16,87-114]. In these lines, *transpersonal experiences could be of quantum-gravitational nature* in space-time transcending highly-noninertial *transitional states of consciousness* [8,9,12-17,19] (from high-dielectric bodily into low-dielectric out-of-body states!) *locally equivalent-to-strong-gravitation* (according to very general Einstein's *Principle of equivalence* of inertial and gravitational accelerations!) manifested by *locally generated 'wormhole' space-time tunnels* (stabilized by so called *exotic matter* (vacuum fluctuations in strongly curved space-time of 'wormhole' tunnels [152]) with *anti-gravity effects* (indeed observed in *transpersonal psychokinetic manifestations* of vital energy [13,76,96,99,100,126,131,150]!)).

Then *transpersonally-extended esoteric concepts* of various spiritual traditions of East and West could be biophysically accounted within our plausibly generalized *quantum-holographic / quantum-gravitational framework* [8,9,12-17,19]: (i) *astral body* (*manomaya, lingasarira, manovijnana, ka, psyche, nephesh, nafs, subtle body, psychic body, soul...*) [96,97, 102,118] **vs.** *ionic component of the out-of-body displaceable EM-ionic macro-quantum acupuncture system* (*connected with the body by miniature 'wormhole' space-time tunnel, generated in the highly-noninertial transitional states of consciousness, as frequently observed in extrasensory near-death experiences*) [6-9,12-17,19]; (ii) *mental body* (*vijnanamaya, suksmasarira, manas, ba, thymos, ruach, ruh, noetic body, spiritual body, mind...*) [96,97, 102,118] **vs.** *EM component of the out-of-body displaceable EM-ionic macro-quantum acupuncture system* (*embedded within ionic component of the out-of-body displaceable EM-ionic macro-quantum acupuncture system*) [6-9,12-17,19]; (iii) *distributed centers of consciousness* (*chakras, acupuncture points, sephiroths, holy discs...*) [96,97,102,118,119] **vs.** *EM-ionic condensations in the structured out-of-body displaceable EM-ionic macro-quantum acupuncture system* [6-9,12-17,19]; (iv) *vital energy* (*chi / qi / ki, prana / akasha, mana, ka, pneuma / ether / natura medica / anima mundi, yesod, baraka, the Holy Spirit / Uncreated Light, bioenergy / biofield...*) [96,97,102,118,119] **vs.** *EM-ionic-exotic macro-quantum condensates* (*unstructured / structured, virtual / real* [8,69]) *within acupuncture channels* (with possible *generalization* from the *EM field* to the *unified field*, in line with the *broader traditional meaning* of vital energy, as all-pervasive cosmic quintessence) [6-9,12-17,19,119]. Additionally, if put in the *theoretical context of the holographic principle* [151], according to which any 3D physical system is *isomorphic* to the holographic information embedded on its 2D surface, then *quantum-holographic informational content of a body* could also be contained in *corresponding surface layer of vital energy of the astral-mental body (aura)*, as has been stated in various traditions of East and West [96,97,102,118,119].

In conclusion, everything considered and discussed above might be of fundamental importance in understanding underlying *macroscopic quantum-informational Hopfield-like holographic acupuncture system / (individual and collective) consciousness EM field-related biofeedback control mechanisms* of embryogenesis / ontogenesis and morphogenesis via *downward influence on the expression of genes* [7,8,12-16,20,144,145] – shedding new light on the *long standing open problems* of the acupuncture system & consciousness as well. It also indicates the *full significance of holistic education and behavior* – demonstrating ultimate necessity of *redefining the global educational / informational / political goals*, with the shift towards *holistic gentle actions for global solutions of the world risk society* [23-26]!

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150. It should be emphasized that many *transpersonal phenomena* related to *consciousness and psychosomatic bioenergy-correction* are phenomenologically well documented, and that their physical explanation should be sought on the very border of the current *scientific paradigm*; in the framework of our plausibly generalized *quantum-holographic / quantum-gravitational theoretical framework of consciousness and psychosomatics* they are of *quantum-gravitational nature in the space-time transcending highly-noninertial transitional states of consciousness* [8,9,12-17,19] (*from high-dielectric bodily into low-dielectric out-of-body states!*) equivalent-to-strong-gravitation (*according to very general Einstein's Principle of equivalence of inertial and gravitational accelerations!*) manifested by locally generated 'wormhole' space-time tunnels (stabilized by so called *exotic matter* (vacuum fluctuations in strongly curved space-time of 'wormhole' tunnels [152]) with *anti-gravity effects* – indeed observed in *transpersonal psychokinetic manifestations of vital energy* [13,76,96,99,100,126,131], see also http://www.youtube.com/watch?v=faUJAgvvV_c). The same theoretical framework also suggests a

physical basis for ad hoc *von Neumann's projection postulate* (on micro-quantum scale), to explain the quantum-mechanical *wave function collapse* (via local quantum-gravitationally-induced ‘wormhole’ tunnels in highly-noninertial quantum-measurement-like situations equivalent-to-strong-gravitation (in accordance with Einstein's *Principle of equivalence!*); the question of how it is possible that these highly-noninertial microparticle processes with inevitable opening of miniature ‘wormhole’ tunnels were not taken into account within quantum mechanics which is nevertheless extremely accurate theory(?) – can be answered as they were(!?) but *implicitly* in the framework of von Neumann's projection postulate (which is on the deeper quantum-gravitational-level!?) [8,9,12-17,19]; on the other hand their macroscopically accumulated 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 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 [153]; 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) [154]; (as stated previously, its possible traversability in cosmological conditions was subject of ref. [152]).

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