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QUANTUM MEDICINE: PHENOMENOLOGY
AND QUANTUM-HOLOGRAPHIC
IMPLICATIONS

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KVANTNA MEDICINA: FENOMENOLOGIJA I
KVANTNO-HOLOGRAFSKE IMPLIKACIJE

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Ključne reči

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Key words

Quantum Medicine, Psychosomatic Medicine, Acupuncture, Consciousness, Microwave Resonance Therapy, Meridian Psychotherapies, Quantum-Holographic Informatics.

Apstrakt

Predmet ovog rada je fenomenologija kvantne medicine i kvantno-holografске implikacije. To je od posebnog značaja zbog šire primene integrativne medicine u razvijenim zemljama - pošto savremena istraživanja psihosomatskih bolesti ukazuju na neophodnost primene holističkih metoda, orijentisanih na tretiranje čoveka kao celine a ne bolesti kao simptoma poremećaja te celine, implicirajući njihovo makroskopsko kvantno poreklo. U fokusu ovih kvantno-holističkih metoda su telesni akupunktorni sistem i svest, koji pokazuju strukturu kvantno-holografске Hopfieldove asocijativne neuronske mreže, sa memorijskim atraktorima kao mogućom kvantno-holografskom informacionom osnovom psihosomatskih bolesti, od posebnog značaja za kvantnu medicinu.

1. INTRODUCTION

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] - although this trend is beginning to change with wider application of integrative medicine in the developed countries [2].

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, implying their macroscopic quantum origin [3,4]. 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 [5] - with surprisingly significant psychosomatic implications for Quantum Medicine.

*2. PHENOMENOLOGY OF QUANTUM
MEDICINE AND QUANTUM-HOLOGRAPHIC
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Acupuncture system is an ancient Chinese concept of the energy-informational channels/meridians and points, responsible for psychosomatic health and illness [3,6-9]. The quantum electromagnetic (EM)/ionic basis of the acupuncture system (of non-threshold electrical gap-junction (GJ) synapses [10,11]) is implied by resonant windows in frequency and intensity in tissue interactions with extremely weak 'non-threshold' EM fields [12] (undetectable by nervous system of 'threshold' electrochemical synapses [3,4]), as well as quantum-coherent characteristics (highly resonant microwave sensory response of the disordered organism, biologically efficient nonthermal microwave radiation of extremely low intensity and energy, and neglecting microwave energy losses across acupuncture meridians) and successes of the Russian-Ukrainian school of microwave (MW) resonance therapy [13-18] - which is now associated with the appearance of Quantum Medicine.

Microwave Resonance Therapy (MRT) of the acupuncture system was internationally introduced by Sit'ko and collaborators in 1989, at the International Symposium in Kiev, when an expert commission headed by British theoretical physicists Fröhlich proclaimed MRT as a perspective approach in the regulation of living systems, and MRT clinical results as highly efficient. MRT also appears under other

synonyms: SWT (Short Wave Therapy), MWT (Milimetre Wave Therapy), IWT (Information Wave Therapy). The method originates from the former USSR in mid-1960's with the advent of unique broadband backward-wave tube oscillators by two radioelectronics groups of the USSR Academy of Sciences, originally used in military industry and satellite communications. The interest in influence of EM MW radiation upon non-human biological objects appeared shortly afterwards (Zalubovskaya in Kharkow and Devyatkov et al in Moscow), but necessity for application of MRT upon acupuncture points was discovered only in the early 1980's (Sit'ko et al in Kiev) as appearance of sharply-resonant characteristic eigenfrequencies of human organism - which successfully stimulated development of the second generation of coherent, the third generation of noise spectrum MW generators, and finally fourth generation of noise spectrum CEM (Controlled Energy Materials) MW generators with changeable therapeutic oscillators in mid-2000's (Tkachenko et al in Nizhniy Novgorod). The coherent spectrum MW generators with manually changeable frequency (from 52 to 70 GHz) are far less suitable in practice, because of much longer seeking of the resonant frequency, dependent on individual properties of the organism and the subjective state of the patient, which can result in therapeutic mistakes and overdosing. On the other hand, the noise spectrum MW generators enable simultaneous excitation of all possibly therapeutic resonance MW frequencies (52-78 GHz), and an organism continuously resonantly responds to currently appropriate (and changeable during therapy) frequency. Finally, the noise spectrum CEM MW generators with changeable therapeutic oscillators provide unique possibility to initially record a biologically-active-zone (BAZ) MW spectrum (biologically resonant in both frequency and intensity) by BAZ-influenced changeable oscillator, and subsequently to re-emit the BAZ MW spectrum by the oscillator in this very zone - thus enabling resonant shallowing of the acupuncture disordered state in favor of deepening of the attracting acupuncture healthy state.

By affecting the appropriate acupuncture points by MRT generators, remarkable clinical results of the treatment are being achieved in the prevention and therapy of stress, as well as in many psychosomatic disorders (cardiovascular, respiratory, gastro-intestinal, nefro-urologic, endocrine, gynecological, neurological, psychiatric, dermatological, orthopedic and traumatologic, ophthalmologic, ORL, stomatologic, pediatric, addictions ...) - with average efficiency of 82% in chronic and up to 100% in acute diseases, tested on population of several millions of patients of different pathologies in several thousands of MRT cabinets in Ukraine and Russia. On the other hand, the MRT is rarely contra-indicated (only in the cases of acute pain in abdomen demanding an operation, pregnancy, and menstruation cycle). The recommended MRT treatment at an acupuncture point is maximum 10 minutes, while the duration of the whole treatment is maximum 20 minutes, applied daily. Ten treatments in a course are applied (except in very difficult stadiums of diseases when they have to be prolonged), with minimum pause of 21 days and optimal of one month, in case a repeated course is necessary. The specific course of prophylaxis is advised at every 6 months.

MRT is practical realization of the Prigogine theory of self-organization of living systems [19]. On this line, Sit'ko

and collaborators have proposed in early 1980's that the acupuncture system is a macroscopic quantum dynamic structure [15,16] which might be simply visualized [20,21] as differentiated at the locations of maxima of three-dimensional standing waves, formed as a result of the reflection of coherent MW Fröhlich excitations [22] of molecular subunits in the cell membranes, proteins, microtubules etc - supported also by other investigations which have demonstrated that differentiation of gap junctions (through which an evolutionary older type of inter-cell communications is achieved, including acupuncture [10,11], whose conductivity can be modulated by intra-cell pH-factor, Ca_2^+ -ions, neurotransmitters and second messengers - and even by voltage) is slightly sensitive to voltage [23].

In that context an explanation for efficiency of the MRT, as noninvasive non-pharmacological medical treatment, should be sought [20,21]. So, some disorders in the organism give rise to deformation in the standing wave structure of electrical field of the organism in the MW region, which influences corresponding changes in the spatial structure of the acupuncture system, and consequently its resonant frequencies, resulting in some disease; during the therapy, applying the MW sound at corresponding acupuncture point the excited acupuncture system of the patient is relaxing to the previous healthy condition, while reaching normal resonant frequencies responses of its meridians upon the wide spectrum MW source - and following to physiological mechanisms of the acupuncture regulation the organism biochemically overcomes the disease.

On the other hand, there is a strong evidence that acupuncture system is related to consciousness, provided by novel Meridian (Psycho) Therapies (with very fast removing of traumas, phobias, allergies, post-traumatic stress, and other psychosomatic disorders [24-26]) - whose simultaneous effects of visualization and tapping/touching of some acupuncture points might be interpreted as a 'smearing' of memory attractors of the psychosomatic disorders, through successive imposing of new boundary conditions in the acupuncture energy-state space during visualizations of the psychosomatic problems [26, 27]. So, Meridian (Psycho) Therapies (alongside with psychosomatically healing positively-visualizing Meditation [28]) might be also categorized into the field of Quantum Medicine [4].

Also, in-deterministic manifestations of free will [4,29-31] necessarily imply that consciousness must have deeper quantum origin. But, as demonstrated by quantum-coherent characteristics of the MRT therapy [17] (highly 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 macroscopic quantum system in our body (while brain still seems not to be [32]). This is the reason that consciousness is related to its MW ultralow-frequency-modulated EM field of the acupuncture system, in the framework of the author's biophysical quantum-holographic/quantum-relativistic model of consciousness [4, 31, 33-36].

Finally, as Peruš's theoretical investigations show that any quantum system has formal mathematical structure of the quantum-holographic Hopfield-like associative neural network [5] - then memory attractors of the acupuncture net-

work can be treated as psychosomatic disorders representing EM/MW (quantum)holistic records (and could be therefore removed only holistically, supported by an extreme efficiency of the microwave resonance therapy and meridian (psycho)therapies) - which might represent biophysical basis of (quantum)holistic local psychosomatics [4,26,31,34-36].

3. CONCLUSION

In this paper, the phenomenology of Quantum Medicine is considered, with special emphasis on Microwave Resonance Therapy (MRT). Put in the framework of quantum-holographic informatics, for modeling psychosomatic functions the subtle biophysical Hopfield-like quantum-holographic body's acupuncture neural networks are applied.

This might represent a natural framework for explanation of psychosomatic diseases related to somatization of generated memory attractor's states of the open macroscopic quantum acupuncture system (created as a result of interaction with environment and quantum-holographically projected upon lower hierarchical cellular level, thus changing the expression of genes), but also for explanation of extreme efficiency of the Microwave Resonance Therapy and Meridian (Psycho)Therapies - with significant psychosomatic implications for Quantum Medicine.

Abstract

The subject of this paper is phenomenology of Quantum Medicine and its quantum-holographic implications. This is of special importance because of wider application of integrative medicine in developed countries – as contemporary research of psychosomatic diseases indicates the necessity of application of holistic methods, 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 Medicine.

REFERENCES

1. Bischof M. Introduction to integrative biophysics. In: Popp F-A, Belousov LV. (eds.): *Integrative Biophysics*. Dordrecht: Kluwer, 2003, Ch. 1.
2. Stambolović V. (ed.) *Alternative Approaches to Health Improvement*. Belgrade: ALCD, 2003, in Serbian.
3. Group of Authors. *Anti-Stress Holistic Handbook, with Fundamentals of Acupuncture, Microwave Resonance Therapy, Relaxation Massage, Airoionotherapy, Autogenic Training, and Consciousness*. Belgrade: IASC, 1999, in Serbian.
4. Raković D. *Integrative Biophysics, Quantum Medicine, and Quantum-Holographic Informatics: Psychosomatic-Cognitive Implications*. Belgrade: IASC & IEPSP, 2009; and refs therein.
5. Peruš M. Neuro-quantum parallelism in mind-brain and computers. *Informatica* 1996; 20: 173-183.
6. Škokljević AI. *Acupuncturology*. Belgrade: ICS, 1976, in Serbian.
7. Portnov FG. *Electropuncture Reflexo-therapeutics*. Riga: Zinatne, 1982, in Russian.
8. Omura Y. *Acupuncture Medicine: Its Historical and Clinical Background*. Tokyo: Japan Publ. Inc., 1982.
9. Xinong C. (ed.): *Chinese Acupuncture and Moxibustion*. Beijing: Foreign Languages Press, 1987.
10. Li SE, Mashansky VF, Mirkin AS. Low-frequency wave and vibrational processes in biosystems. In: K. V. Frolov (ed.): *Vibrational Biomechanics. Using Vibrations in Biology and Medicine, Part I: Theoretical Bases of Vibrational Biomechanics*. Moscow: Nauka, 1989, Ch. 3, in Russian.
11. Djordjević D. *Electrophysiological Investigations of the Mechanisms of Reflexo-therapeutics*. MS Thesis. Belgrade: Medical Faculty, 1995, Ch. 1.2, in Serbian.
12. Adey WR. Frequency and power windowing in tissue interactions with weak electromagnetic fields. *Proc. IEEE* 1980; 68: 119-125; and refs therein.
13. Zalyubovskaya NP. An Estimation of Effects of Millimetre and Submillimetre Microwaves upon Various Biological Objects. MS Thesis in Biological Sciences. Kharkov: Kharkov State University, 1970, in Russian.
14. Devyatkov ND. Influence of the millimetre wavelength range electromagnetic radiation upon biological objects. *Soviet Physics - Uspekhi* 1973; 110: 452-469.
15. Andreyev YeA, Bely MU, Sit'ko SP. *Manifestation Of Characteristic Eigenfrequencies Of Human Organism. Application for the Discovery to the Committee of Inventions and Discovery at the Council of Ministers of the USSR, No. 32-OT-10609, 22 May 1982, in Russian*.
16. Sit'ko SP, Mkrтчian LN. *Introduction to Quantum Medicine*. Kiev: Pattern, 1994; and refs therein.
17. Devyatkov ND, Betskii O. (eds.), *Biological Aspects of Low Intensity Millimetre Waves*. Moscow: Seven Plus, 1994; and refs therein.
18. CEM Report on Clinical Evaluation for Apparatus EHF-IR Therapies Portable with Changeable Oscillators CEM TECH. Nizhniy Novgorod: CEM Corp., 2008; www.cem-tech.ru
19. Prigogine I. *Introduction to Thermodynamics of Irreversible Processes*. New York: Wiley, 1967.
20. Jovanović-Ignjatić Z., Raković D. A review of current research in microwave resonance therapy: Novel opportunities in medical treatment. *Acup. & Electro-Therap. Res., The Int. J.* 1999; 24: 105-125.
21. Raković D. Biophysical bases of the acupuncture and microwave resonance stimulation. *Physics of the Alive* 2001; 9: 23-34.
22. Fröhlich H. Long-range coherence and energy storage in biological system. *Int. J. Quantum Chem.* 1968; 2: 641-649.
23. Kandel ER, Siegelbaum SA, Schwartz JH. Synaptic transmission. In: Kandel ER, Schwartz JH, Jessell TM (eds.): *Principles of Neural Science*. New York: Elsevier, 1991, Ch. 9.
24. Callahan RJ, Callahan J. *Thought Field Therapy and Trauma: Treatment and Theory*. Indian Wells, CA: 1996.
25. Mihajlović Slavinski Ž. *PEAT and Neutralization of Primeival Polarities*. Belgrade: 2001.
26. Raković D, Mihajlović Slavinski Ž. Phenomenology of meridian (psycho)therapies and quantum-holographic psychosomatic-cognitive implications. The 1st Symposium of Cure and Consciousness, Recife, Brasil, 27-29 November 2009, Invited lecture.
27. Raković D. Hopfield-like quantum associative neural networks and (quantum) holistic psychosomatic implications. In: Reljin B, Stanković S (eds): *Proc. NEUREL-2002*. Belgrade: IEEE Yugoslavia Section, 2002.
28. Chopra D. *Quantum Healing: Exploring the Frontiers of Mind/Body Medicine*. New York: Bantam, 1989.
29. Von Neumann J. *Mathematical Foundations of Quantum Mechanics*. Princeton NJ: Princeton Univ. Press, 1955.
30. Stapp H. *Mind, Matter, and Quantum Mechanics*. New York & Berlin: Springer, 1993.
31. Raković D. Brainwaves, neural networks, and ionic structures: Biophysical model for altered states of consciousness. In: D. Raković, Dj. Koruga (eds.): *Consciousness: Scientific Challenge of the 21st Century*. Belgrade: ECPD, 1995.
32. Tegmark M. Importance of quantum decoherence in brain processes. *Phys. Rev. E* 2000; 61: 4194-4206.
33. Raković D, Dugić M. Quantum-holographic and classical Hopfield-like associative networks: Implications for modelling two cognitive modes of consciousness. *Opticheski J.* 2005; 72(5): 13-18 (Special Issue on Topical Meeting on Optoinformatics 'Optics Meets Optika', Saint-Petersburg, 18-21 Oct. 2004).
34. Raković D, Dugić M, Plavšić M, Keković G., Cosic I, Davidović D. Quantum decoherence and quantum-holographic information processes: From biomolecules to biosystems. *Mater. Sci. Forum* 2006; 518: 485-490; and refs therein.
35. Raković D. Scientific bases of quantum-holographic paradigm. In: I. Kononeko (ed.): *Proc. Int. Conf. Measuring Energy Fields*. Kamnik, Slovenia: 2007, Invited lecture.
36. Raković D, Vasić A. Classical-neural and quantum-holographic informatics: Psychosomatic-cognitive implications, In: Reljin B, Stanković S (eds): *Proc. NEUREL-2008*. Belgrade: IEEE Serbia & Montenegro Section.