CONSCIOUSNESS-BASED BIOPHYSICAL FRONTIERS OF COMPLEMENTARY MEDICINE

Dejan Raković

Faculty of Electrical Engineering, P.O.Box 35-54, University of Belgrade &
International Anti-Stress Center (IASC), Smiljaniceva 11/III/7, 11000 Belgrade Yugoslavia

E-mail: board@iasc-bg.org.yu; Web site: www.iasc-bg.org.yu

Abstract. In this paper biophysical bases and frontiers of the consciousness-based complementary medicine are considered. It is pointed out that author's biophysical model of altered and transitional states of consciousness implies that the quantum-holographic-neural-network-like electromagnetic/ionic acupuncture system has not only regulatory role but is deeply connected with conscious information processing and transpersonal quantum-gravitational tunneling of the displaced part of electromagnetic/ionic acupuncture system - simultaneously offering a new insight in psychosomatic health and illness as essentially transpersonal global phenomena of the spatio-temporal associative memory network of collective consciousness.

Keywords: Consciousness, biophysical model, psychotherapeutic implications, altered states (REM sleep, meditation, personality integration,...), transitional states (transcendental states, quantum-gravitational tunneling, collective consciousness, prayer, transpersonal psychology).

INTRODUCTION

In 1998' feasibility study conducted by the Duke University and Durham Veterans Affairs medical centers, angioplasty patients with acute coronary syndromes who were simultaneously prayed for by seven different religious sects around the world did 50 percent to 100 percent better during their hospital stay than patients who were not prayed for by these groups [1]. Although the feasibility study of 150 patients was too small to offer statistically significant comparisons, the results were intriguing enough to initiate larger trial at several USA medical centers.

The above study is on the line of revived scientific interest for investigations of consciousness, one of the oldest scientific problems recognized already in ancient civilizations of East and West, but still scientifically unresolved to date - because of extreme complexity of the phenomenon of consciousness, which required development of fundamental theories and methods, conceptually suitable for resolution of the problem [2]. It is currently estimated that the problem of consciousness belongs to

ten most significant scientific problems, but it might soon become the most significant one owing to its extraordinary potential implications in psychology, biology, medicine, physics, engineering, philosophy, and religion.

BIOPHYSICAL FRONTIERS OF CONSCIOUSNESS-BASED COMPLEMENTARY MEDICINE

According to author's model [3-6,7], consciousness is subtle internal quantum-relativistic display, in the form of electromagnetic (EM) component of the electrooptical microwave/ultralowfrequency (MW/ULF) modulated quantum-holographic neural network-like acupuncture ionic system, in which a complete information (both conscious and unconscious) is permanently coded from brain's electrochemical neural networks, by virtue of brainwaves' interface! This model also imply an ionic nature of the qi entity of the acupuncture system, with possibility of its partial displacements from the skin surface in these states (when the displaced part of ionic acupuncture structure would have a function of an "optical" sensor closely related to consciousness, as reported in different transpersonal interactions [8]).

Then, according to the model, altered states of consciousness (REM sleep, meditation, hypnosis, psychedelic drug influence, some psychopathological states, near-death experiences ...) are characteristics of the low-dielectric altered states of consciousness with displaced part of ionic acupuncture system, characterized by relativistic mixing of normally conscious and unconscious contents, and extremely dilated subjective time base (as the "subjective" reference frame of consciousness is postulated to be related to EM field embedded in inhomogeneous parts of displaceable ionic acupuncture system) [3-6].

Accordingly, the role of dreams might be integration of normally conscious and normally unconscious contents, giving rise to integration of human personality around healthy associative memory ego-state, which results in growth of personality and alleviation of emotional conflicts; on the same grounds, meditation, as a prolonged altered state of consciousness, enables more

efficient integration of a personality [3-6]. However, in the case of persons with strong psychological conflicts, who bear strong conflicting associative memory states alongside with the healthy associative memory ego-state, the result of prolonged meditation might be integration of personality about these associative memory states, with a harmful result of divided (instead of fully integrated) personality [6].

Theoretical modeling of cognitive processes [5] might also account for excellent prophylactic characteristics of autogenic training [9], as the most contemporary method of medical relaxation [10] which helps contextual messages to be associatively memorized at the subconscious level, from where they contribute to softening of undesired psychosomatic reactions on everyday stressful situations, although the practice reveals that this mechanism is not sufficiently efficient for persons with strong psychological conflicts too.

For such persons, the main priority is reprogramming of their psychological conflicts by some psychotherapeutic practice (oriented to recognition of the origin of unconscious conflict and its ascending to conscious level, diminishing corresponding unconscious conflicting associative memory state, which enables further integration of personality around healthy associative memory egostate) or transpersonal Christian/religious technique (with probably essential transpersonal aspect of psychological conflict and necessity of its simultaneous transpersonal reprogramming in all persons involved, contributing to its radical and final reprogramming at the level of spatiotemporal associative memory network of collective consciousness, which seems to be only possible through prayer in transitional states of consciousness) [5].

More precisely, the transitional states of consciousness (as transpersonal biological macroscopic quantum gravitational tunneling phenomena of consciousness, caused by the relativistic generation of wormholes in highly noninertial "subjective" reference frame of consciousness related to EM-field-embedded-in-inhomogeneous-displaceable-ionic-acupuncture-system, fully equivalent to extremely strong gravitational fields according to Einstein's Principle of equivalence [11]) represent an excellent framework for understanding and mental control of transpersonal transcendental states of consciousness described in various religious and esoteric traditions of East and West during the history of civilization [8,12], implying their real biophysical nature.

DISCUSSION

Transitional character of these states also demonstrates why these phenomena are short-lasting and poorly reproducible [13], and also why they are most easily mentally controlled shortly before a waking/sleeping transitional state [6] - which might be an explanation for extraordinary efficiency of prayer accomplished shortly before sleeping, being recommended by all religious traditions (with direct mental

addressing to the person conflicted with, or energetically more efficient indirect mental addressing via ionically abundant disembodied spiritual structures from religious traditions). At the same time, this offers a new insight in psychosomatic health and illness as essentially transpersonal global phenomena [6], because a curing of psychosomatic disorder in only one person involved in some conflict without mutual reprogramming of the psychosomatic conflict is not final - as the non-reprogrammed conflict in the other person causes its (unconscious) transpersonal reinducement in the first one, in mentally-loaded transitional states of consciousness of the second one.

Transitional states of consciousness might be also the basis of anticipation in intuition, precognition and deep creative insights [6]. It should be pointed out that what is really anticipated in transitional states of consciousness of "individual consciousness" might be evolved state of cosmic "collective consciousness" (to which our "individual consciousness" has access, being the constituting part of cosmic "collective consciousness" - God!?), which is quantum mechanically described by its deterministic evolution. Accordingly, it is possible that strong preferences for individual and collective future really exist, determined by spiritual interpersonal loads of spatio-temporal associative memory network of "collective consciousness", as being frequently claimed in Eastern tradition. However, the anticipated state might be redefined by changing initial state of several cognitive/ emotionally related "individual consciousness" and consequently of the cosmic "collective consciousness", thus also changing anticipated preferences for individual and collective future. So, it seems that here exists most space for free will in reprogramming personal wider (mental) environment by prayer for others, fully in accordance with Christian tradition (this being possibly the reason for Christianity to insist on personal repenting and forgiving), as anything else enhances the existing mental/ emotional personal loads and transpersonally enlarges global psychosomatic stress in the world, dismissing an individual and humankind from the final spiritual ideal of healed (sinless/healthy) state of consciousness [6].

It should be finally added that, according to the author's model [3-6], esoteric notions such as psychic body (manomaya, lingasarira, manovijnana, ka, psyche, astral body, subtle body, soul, ...) and spiritual body (vijnanamaya, suksmasarira, manas, ba, thymos, noetic body, mental body, mind, ...) [12] are biophysically inevitably associated with a partly displaced (from the body) ionic acupuncture system, and an EM component of ionic currents embedded within it, respectively. On the same line, the ionic condensations in the structured acupuncture system, with an EM component of ionic currents embedded within it, behave like "distributed centers of consciousness" - this presumably being biophysical basis of yogic chakras [12]; also, the ionic nature of the etheric vitality (qi, prana, pneuma, bioenergy, ...) and etheric body (related to nondifferentiated ions, essentially important for many biochemical processes within the body), might be noticed.

Furthermore, as the EM field is presumably only one out of four manifestations (electromagnetic, gravitational, weak and strong nuclear forces) of the unified physical field [14], it can be tentatively generalized that the unified field itself may be internal conscious display for various physical processes at different structural levels, from macroscopic cosmic to microscopic subnuclear ones. As a consequence, one could conjecture that consciousness is the fractal property (supported experimentally at EEG level [15]) of Nature at different structural levels (macroscopic and microscopic, animate and inanimate), as widely claimed in traditional esoteric knowledge [12,16] - which might be supported by analogous mathematical formalisms of the dynamics of Hopfield's associative neural networks and Feynman's propagator version of Quantum mechanics [17]. Although such nonlocal pantheistic idea of consciousness is rather bizarre, it might naturally help in resolving the fundamental problem of the wave function reduction in the Quantum theory of measurement [18].

CONCLUSIONS

In this paper biophysical frontiers of consciousnessbased complementary medicine were considered, as well as biophysical bases of psychosomatic disorders on the level of consciousness.

It is pointed out that author's biophysical model of altered and transitional states of consciousness implies that the quantum-holographic-neural-network-like electromagnetic/ionic acupuncture system has not only regulatory role but is deeply connected with conscious information processing and transpersonal quantum-gravitational tunneling of the displaced part of electromagnetic/ionic acupuncture system - simultaneously offering a new insight in psychosomatic health and illness as essentially transpersonal global phenomena of the spatio-temporal associative memory network of collective consciousness, as the non-reprogrammed interpersonal conflict in the one person causes its (unconscious) transpersonal biophysical reinducement in the second one, in mentally-loaded transitional states of consciousness of the first one.

All this suggests that deeper biophysical understanding of the nature of consciousness and transpersonal phenomena might soon give rise to scientific understanding and empirical verification of even fundamental philosophical/religious questions (like practical/spiritual significance of imperative moral behavior of every individual, extremely important for accelerated integration and spiritual evolution of personality) - and appearance of a new/old humanism with spirituality embedded, without meaningless and painful interpersonal, interethnical, and interreligious conflicts.

REFERENCES

[1] www.dukenews.duke.edu, News, Medical Center News Office, Duke University, NC, USA, Nov. 9, 1998.

- [2] K.R.Poper and J.C.Eccles, The Self and Its Brain (Springer, Berlin, 1977), Chs. E2,8; B.J.Baars, A Cognitive Theory of Consciousness (Cambridge Univ. Press, Cambridge, MA, 1988); F.Crick, The Astonishing Hypothesis: The Scientific Search for the Soul (Charles Scribner's Sons, New York, 1994); R.Penrose, Shadows of the Mind: A Search for the Missing Science of Consciousness (Oxford University Press, Oxford, 1994); D.Raković and Dj.Koruga, eds., Consciousness: Scientific Challenge of the 21st Century (ECPD, Belgrade, 1995; 1996).
- [3] D.Raković, Fundamentals of Biophysics (Grosknjiga, Belgrade, 1994; 1995), in Serbian; Group of authors, Anti-Stress Holistic Handbook, With Fundamentals of Acupuncture, Microwave Resonance Therapy, Relaxation Massage, Airoionotherapy, Autogenic Training, and Consciousness (IASC, Belgrade, 1999), in Serbian.
- [4] D.Raković, Neural networks, brainwaves, and ionic structures: Acupuncture vs. altered states of consciousness, *Acup. & Electro-Therap. Res., The Int. J.* 16 (1991), pp. 88-99; D.Raković, Brainwaves, neural networks, and ionic structures: Biophysical model for altered states of consciousness, in D.Raković and Dj.Koruga, eds., *Consciousness: Scientific Challenge of the 21st Century* (ECPD, Belgrade, 1995; 1996).
- [5] D.Raković, Hierarchical neural networks and brainwaves: Towards a theory of consciousness, in Lj.Rakić, G.Kostopoulos, D.Raković, and Dj.Koruga, eds., *Brain & Consciousness: Proc. ECPD Workshop* (ECPD, Belgrade, 1997); D.Raković, Thinking and language: EEG maturation and model of contextual language learning, in *Proc. Int. Meet. Speech and Language at the Beginning of III Millenium* (IEFPG, Belgrade, 1999).
- [6] D.Raković, Traditional medicine and traditional psychology: Biophysical bases of psychosomatic disorders and transpersonal stress reprogramming, in *Basic and Clinical Aspects of the Theory of Functional Systems*, B.Lažetić and K.V.Sudakov, eds. (Medical Faculty, Novi Sad & P.K.Anokhin Institute of Normal Physiology RAM, Moscow, 1998); D.Raković, Transitional states of consciousness as a biophysical basis of transpersonal transcendental phenomena, *Int. J. Appl. Sci. & Computat.* 7 (2000), pp. 174-187 (also presented at *Int. Conf. Consciousness in Science & Philosophy*, Charleston, IL, USA, 1998).
- [7] Z.Jovanović-Ignjatić and D.Raković, A review of current research in microwave resonance therapy: Novel opportunities in medical treatment, Acup. & Electro-Therap. Res., Int. J. 24 (1999), pp. 105-125; D.Raković, Z.Jovanović-Ignjatić, D.Radenović, M.Tomašević, E.Jovanov, V.Radivojević, Ž.Martinović, P.Šuković, M.Car, and L.Škarić, An overview of microwave resonance therapy and EEG correlates of microwave resonance relaxation and other consciousness altering techniques, Electro- and Magnetobiology 19 (2000), pp. 195-222 (also presented at 10th Int. Montreux Congress on Stress, Montreux, 1999).

- [8] K.C.Markides, Fire in the Heart. Healers, Sages and Mystics (Paragon House, New York, 1990).
- [9] J.H. Schultz, Das Autogene Training (Thieme, Stuttgart, 1951), 7th ed.; H. Lindemann, Autogenic Training (Prosvjeta, Zagreb, 1976), Serbocroat transl.
- [10] A. Poro, *Encyclopedia of Psychiatry* (Nolit, Belgrade, 1990), Serbian transl.
- [11] K.S. Thorne, *Black Holes and Time Warps: Einstein's Outrageous Legacy* (Picador, London, 1994), Ch. 14, and references therein.
- [12] K.Wilber, The Atman Project (Quest, Wheaton, IL, 1980); P.Vujičin, States of consciousness in esoteric practice, in D.Raković and Dj.Koruga, eds., Consciousness: Scientific Challenge of 21st Century (ECPD, Belgrade, 1995), and references therein.
- [13] R.G. Jahn, The persistent paradox of psychic phenomena: An engineering perspective, *Proc. IEEE* 70 (1982), pp. 136-170.
- [14] J.H.Schwarz, Superstrings, *Physics Today*, Nov. 1987, pp. 33-40, and references therein.

- [15] A.Babloyantz, Chaotic dynamics in brain activity, in E.Basar, ed., *Dynamics of Sensory and Cognitive Processing by the Brain* (Springer, Berlin, 1988), pp. 196-202.
- [16] J.S.Hagelin, Is consciousness the unified field? A field theorist's perspective, *Modern Science and Vedic Science* 1 (1987), pp. 29-88, and references therein.
- [17] M.Peruš, Neuro-quantum parallelism in mind-brain and computers, *Informatica* 20 (1996), pp. 173-183; M.Peruš, A quantum information-processing "algorithm" based on neural nets, *Proc. 3rd Int. Conf. Computational Intelligence & Neuroscience* (Joint Conf. Information Sciences, RTP/Durham, NC, 1998), Vol.2; and references therein.
- [18] D.Raković, Consciousness and quantum collapse: Biophysics versus relativity, *The Noetic J.* 1 (1997), pp. 34-41.