

## TESLA AS A CASE STUDY OF QUANTUM-HOLOGRAPHIC CORRELATIONS OF INDIVIDUAL AND COLLECTIVE CONSCIOUSNESS: CREATIVE IMPLICATIONS

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**Abstract.** Tesla's visions and inventions realized in his controlled altered states of consciousness are proposed as manifestations of his meditative insights through macro-quantum correlations of individual and collective consciousness, with significant quantum-holographic creative-educational implications presented in this paper. They can provide guidance for a deeper understanding of the quantum-holographic framework of holistic control of creativity and education - based on a mentally focused amplification of the macro-quantum correlations of individual and collective consciousness. In a broader context, the overall Tesla research can provide inspiration for re-consideration of global educational / informational / policy goals.

**Keywords:** *Tesla, Hopfield-Like Neural Networks, Quantum-Holographic Framework, Individual & Collective Consciousness, Macro-Quantum Correlations, Transpersonal Psychology, Creativity & Education.*

### 1. Introduction

Nikola Tesla is undoubtedly the greatest inventor in the history of electrical engineering, and what makes him particularly fascinating is his unusual mental control of creative visions. When it comes to Tesla's extraordinary creative experiences in his altered states of consciousness (categorized in his time as non-physical phenomena) - Tesla's belief "when we start studying non-physical phenomena, we will make more progress in ten years than in all the centuries so far" becomes clearer. In this context, Tesla's legacy for the new millennium seems to be his autobiographical introspective testimony of transpersonal creative communications [1], with the fascinating possibility of individual meditative eidetic control and focused amplification of macro-quantum correlations with the quantum-holographic primal source of collective consciousness (cf. Fig. 1a), and could help develop future educational strategies [2-4].

The mentioned phenomenological insights could also serve as an additional confirmation of our Hopfield-like neural macroscopic quantum-holographic / quantum-gravitational (QHQG) theoretical framework for quantum-informational transpersonal psychosomatics, based on the systematic reduction of quantum entropy and macro-quantum correlations of the acupuncture system / individual consciousness and collective consciousness (cf. Fig. 1b), which could help in the development of future strategies of integrative medicine and transpersonal psychology; and in a broader context, these insights could also provide inspiration for a rethinking of global education / information / policy goals - with a reorientation towards holistic soft actions for global solutions to the global risk society, as presented elsewhere [5-8].

It should be added that our macroscopic QHQG framework is also supported by fundamental *holographic principle* [9] according to which any (3D) physical system is *isomorphic* to holographic information embedded on its (2D) surface, which implies that the full quantum-informational content of our 3D body could be *quantum-holographically contained* in the corresponding 2D surface layer - bearing resemblance to *traditional psychosomatic concepts* of energy-informational *acupuncture system / individual consciousness* [7,8].

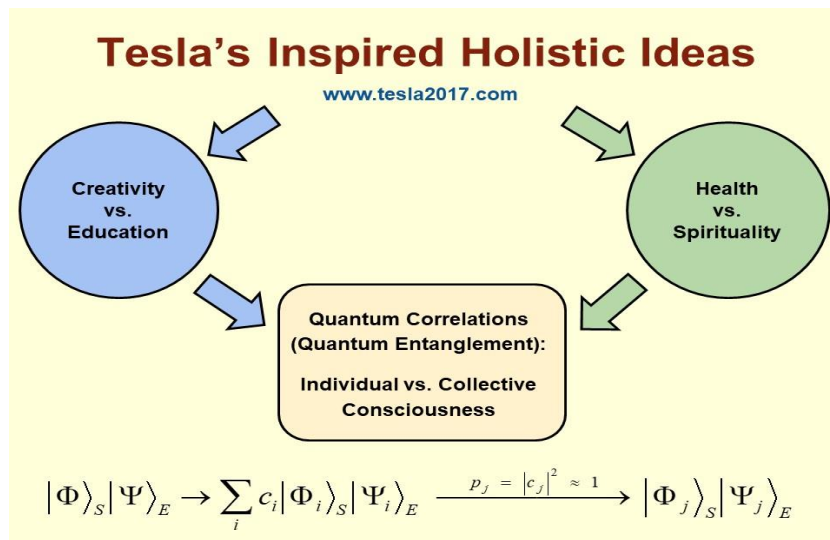
To readers interested in phenomenology of different states of consciousness, the book *Holographic Universe* [10] is also recommended, with numerous well-documented mysterious phenomena in altered states of consciousness. In this book, Michael Talbot draws heavily on the work of famous scientists, quantum physicist David Bohm and neurophysiologist Carl Pribram, who indicate that the Universe could be a giant quantum hologram, a kind of construct of the mind on the subject / object border - relativizing the question of whether objective reality exists or constantly fluctuates between implicate and explicate

orders? The book suggests that many documented mysterious phenomena, related to altered states of consciousness – could be explained within the framework of the proposed holographic paradigm.

In this context, the millennial Hindu meditative mapping of the hierarchy of levels of collective and individual consciousness should be pointed out [11,12], with main insight of (quantum-holographic-like) relationship *Brahman / Atman*, as a whole and the part which contains information about the whole. Several decades ago, this helped Ken Wilber to first formulate the *Spectrum of Consciousness* and then his ambitious psychological *Integral Theory* [13,14]. It should be noted that our macroscopic QHQP framework also imply that quantum-holographic hierarchical parts carry information about the whole, pointing to subtle *fractal coupling of various hierarchical levels* in Nature [15,16], and to *origin of the amazing creativities* (with Tesla and Mozart as extraordinary case studies [2-4,17]!).

## 2. Creative Implications of Quantum Correlations of Individual & Collective Consciousness: Tesla’s Path of Mentally Controlled Directed Transpersonal Entangling

Tesla's introspective analyzes can provide a direct key to a deeper understanding of our quantum-holographic framework for holistic control of creativity and education – based on meditative insights and focused controlled and amplified macro-quantum correlations of individual consciousness and collective consciousness, as will be elaborated bellow.



**Figure 1a (left-hand side)** Symbolic representation of *mentally controlled-directed increasing* of macro-quantum correlations of interacting individual consciousness (*S*) and collective consciousness / environment (*E*) in *transpersonally-entangling creative phases* (left-hand side of the image and formula above, with previous mental increase of the focused weight contribution  $c_j$  and subsequent (practically non-stochastic) classically-reduced selection of this dominant weight contribution  $c_j$ ).

**Figure 1b (right-hand side)** Symbolic representation of *mentally controlled-systemic decreasing* of macro-quantum correlations of interacting individual consciousness (*S*) and collective consciousness / environment (*E*) in *transpersonally-disentangling spiritual phases* (right-hand side of the image and formula above), with previously systemic mental decreasing of almost all weight contributions  $c_i$  and subsequent (practically non-stochastic) classically-reduced selection of the remaining dominant weight contribution  $c_j$  (related essentially to mentally-embedded address on the founder of the corresponding mystical tradition).

During his stay in Budapest (1881/1882), in looking for employment after leaving his engineering studies, Tesla was beset by his need to detach the commutator from the machine [1]: *"I started by first picturing in my mind a direct current machine, running it and following the changing flow"...* His incessant thinking produced a complete nervous breakdown... After nearly a year of unsuccessful treatment... on one occasion, during a recovery walk in the park toward the end of February, Tesla looked at the setting sun, and began to recite the glorious passage from Goethe's Faust [...] *"As I uttered these words, the idea came like a flash of lightning... and in an instant the truth was revealed. I drew with a stick on the sand the diagram of my motor... In less than two months, I evolved virtually all the types of motors*

*and modifications of the system now identified with my name... Ideas came in an uninterrupted stream and the only difficulty I had was to hold them fast."*

Tesla was absolutely convinced in similarity of scientific and artistic ideas, which Tesla had experienced from the boyhood [1]: *"They are coming from the same source." ... "When a word was spoken to me the image of the object it designated would present itself vividly to my vision and sometime I was quite unable to distinguish whether what I saw was tangible or not... Sometimes it would remain fixed in space though I pushed my hand through it... [Quantum hologram [2], in Tesla's quantum-coherent stationary altered states of consciousness? (Author's note)] ... I have been practicing this until my seventeens, when my thoughts turned to inventions seriously."* This view is similar to Plato's, and described in more details in Patanjali's Yoga Sutras as *Ritam Bhara Pragya*, the most individual 'state of mind experiencing things as they are' [18], through the connection with this *highest meditation-reachable individual level of the Spectrum of Consciousness*.

Regarding Tesla's creative meditative experiences described above, it should be noted that our macroscopic QHQG framework also confirms existence of *two modes of knowledge* (discovered empirically in Hinduism [11,12]), according to the coupling strength consciousness-body-environment [2-4]: *weakly-coupled direct mode* (in the *out-of-body* spiritual-creative *quantum-entangled non-stationary transitional states of consciousness / quantum-coherent stationary altered states of consciousness*, like prayer, meditation, daydreams, lucid dreams, creative insights...) and *strongly-coupled indirect mode* (in *bodily* perceptively-rationally mediated *classically-reduced stationary normal states of consciousness*, like sensory perception, logic and scientific reasoning...) – with *conditions of mutual transformation*.

In the context of creative insights and amazing inventions of Tesla (directly visualized in consciousness with the details of the functioning of devices, without any application of Maxwell's electromagnetics!), it is interesting to consider the possibility of mental control of creative processes in the context of our macroscopic QHQG framework [2-4]. They predict the transpersonal properties of psyche in short-lived quantum-entangled non-stationary transitional states of consciousness (with the subsequent classically-reduced stationary extrasensory perception of the previously focused mentally-addressed out-of-body complementary environment, cf. also Fig. 1a, which can be Jung's "archetype" problem-with-solution at the level of quantum-holographic collective consciousness too, associated with Tesla's "mental inventions" and Plato's "world of ideas").

Then, upon the return of the dislocated consciousness to the body, in order to bring the classically-reduced information received transpersonally to the level of the normal state of consciousness, it is necessary to overcome two filters [2-4]: the acupuncture / neural threshold filter (which requires the "emotional coloring" of the resolved problem) and the brain's fronto-limbic priority filter (which requires the "emotional-thought priority" of the solved problem). According to our theoretical research, all the above-mentioned conditions can be realized in the waking state in a quantum-coherent stationary state of meditation (entering this prolonged altered state of consciousness, with mental addressing of the solved problem) - which Tesla did by persistent mental focusing on the solved problem!

On the other hand, during the sleep period, the above-mentioned conditions can be realized in quantum-entangled non-stationary transitional states of falling asleep and quantum-coherent stationary states of REM-dreaming (with previous intense concentration on the solved problem before sleep and subsequent amplification of the obtained classically-reduced stationary response most often in the form of a symbolic dream, which should be correctly interpreted in the context of the individual's internal personal symbolism) – which is widely applicable even by meditative-untrained persons [2-4]! Certainly, to solve conceptually complex scientific problems, it is also necessary that the individual is an expert in the given field, in order to scientifically rationalize the answer that represents the appropriate scientific progress.

The same applies to artistic creative experiences and their later artistic expressions (Mozart as an outstanding example [17]), whereby the works of art themselves then represent a kind of mental addresses of "archetypes" with which the artist was in mentally-addressed transpersonal communication during the act of creation. Then the deep artistic experiences of the audience can have a strong spiritual note, through the spontaneous mental addressing of the artistic audience to the masterpiece and emotionally-induced arousal into a transitional state of consciousness.

Finally, the same can be extended to the deep spiritual experiences of believers through mental addressing of icons / relics and emotionally-induced arousal into a transitional state of consciousness – with healing local-scale and global-scale spiritual-emotional dis-entangling epigenetic social effects on the overall QHOG network of Collective consciousness, elaborated previously in [5-8] (cf. also Fig. 1b), as spiritually available human influence on *Spectrum of Consciousness* [11-13].

But it should be pointed out, since both Individual and Collective consciousness contain different sublevels of the *Spectrum of Consciousness* [11-13], it is necessary to cultivate and strengthen the highest level of Individual Consciousness (*Rhythm Bhara Pragya* in Hinduism [18]) in order to come into resonant contact with the highest meditation-reachable level of Collective Consciousness, as a source of all creative information available. On the contrary, cultivating and strengthening the lower levels of Individual Consciousness would lead to resonant contact with the lower levels of Collective Consciousness, contributing to unwilling additional negative psychosomatic burdens [5-8].

### 3. Conclusion

*Tesla's autobiography* with introspective transpersonal creative experiences, *Talbot's book* with numerous well-documented mysterious phenomena in altered states of consciousness, as well as the development of our *macroscopic QHOG framework* for transpersonal psychology and control of creative processes (and integrative medicine as well), are certainly in line with the reawakened scientific interest in *consciousness research* in recent decades. All this indicates that Tesla's holistic research methods provide an *inspiration for re-consideration of global educational / informational / policy goals* – suggesting necessity of *grand synthesis of two modes of knowledge* in the framework of our *macroscopic QHOG paradigm*.

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