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POINT OF VIEW

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Resonant Actualization of Cultural Codes as a Determinant of Mental and Social Transformations (Part 1)

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Abstract

The unification of cultural codes forms the basic set of code symbols (image+sense), which are the basis for recognition, orientation, social cooperation, and response to external appeals. The result of unification is a stable system of deterministic goal-setting and behavioral equivalents. Cultural codes, as a derivative of upbringing, education, and cultural landscape, are the result of spatiotemporal transformation (from fields of reception to displacement from consciousness and compression) of organized information constructs - "dominants" encoded in the form of electro/magnetic patterns. "Dominant" in this message is a generalized definition of organized, hierarchical constructs (packages) of information carriers, forced out of the conscious levels of the psyche and continuing to circulate in closed, reverberant neural circuits. The "dominants" forced out of consciousness circulate through recurrent neural circuits, the activity of which is reduced to several stable states, performing the functions of information retention. The electrical and magnetic parameters of the repressed "dominants" are the basic potential of frequency resonance upon presentation of a perceptual/cognitive construct that is close in frequency parameters - a "code key" at the entrance to the psyche system. The basic principle of information exchange is the formation of the initial resonance potential: the arsenal of "dominants," the concentration of information in frequency electro-magnetic patterns. The interaction of the "information universe" with the arsenal of "dominants" is a resonant process of frequency coincidence of the patterns of the "code key" and the "dominant" displaced from consciousness, which results in actualization, the appearance of an object of resonance in the field of voluntary attention, in consciousness. The updated "dominant," as a "resonant operator," determines the dynamics of the system as a whole for the period of relevance. The phase transition in the socio/cultural environment is the result of changes in the hidden meanings of social frames. The dynamics of the perception of the transformation of frames under changing (appearing new) hidden meanings ["habituation">>"acceptability">>"acceptability"] determines the growth of the frustration potential associated with acquired needs. The transformation of basic cultural codes rebuilds the mechanism of reproduction of the ethnocultural matrix and congruent social structures. (**International Journal of Biomedicine. 2022;12(3):476-479.**)

Keywords: resonance • phase synchronization • cultural code • dominant focus • neuronal networks • information universe

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Abbreviations

HS, Homo sapiens; IU, information universe; STT, spatiotemporal transformation.

Basic Part

The unification of cultural codes (standardization of upbringing, education, evaluation criteria, and the formation of stable stereotypes) creates basic character sets as the

basis of orientation, social cooperation, and the addressee for external appeals (including suggestive ones). The constructive result of unification represents an arsenal of code symbols (image+sense)⁽¹⁾ that have a minimal (close to the Miller number)⁽²⁾ audio/visual set of characters ("code key") associated with shape, color, and audio equivalents that are the basic forms of perception (for example, shape-cross, color-banner, sound-drum). Unification creates a coordinate system of deterministic vector goal-setting and behavioral

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equivalents. We consider the “cultural code” as a fixed set of images associated with the complexes of stereotypes integrated with the “unconscious meaning of a thing/phenomenon in the context of ethnic culture.”⁽³⁾ The totality of images formed by upbringing, education, social interaction, and ethnic and cultural landscape is the main source of the motivational arsenal.

The structure of the cultural landscape is formed by creative individuals who create images isomorphic to personal (frustrated) ideas, an individual picture of the world throughout the entire spectrum of creative activity. Their representations are determined by psychological, educational, and cultural features of perception and interpretation. The creative images are not isomorphic to reality but are homomorphic artifacts. The distribution of the image (information) sequences created by “masters of art” occurs in social strata that initially have a similar set of educational and cultural codes. Artistic production programs the modality and sequence of associations, emotions, and images of the recipient in all spheres of art. The transfer of information from the donor to the recipient (author>consumer) determines the standards of goal-setting and behavioral responses. In other words, a creative individual creates, based on the initial cultural level and experience, a creative product that has a programming effect on the cognitive and behavioral functions of the reference social group, forming stereotypes of thinking and imitative forms of behavior.

The quality and level of basic awareness and cultural level (ethics/aesthetics) of the recipient are the filters of the information received and the subsequent associative constructions, including the perceived levels of the psyche. Education and life experience change the basic information level of an individual, determining the dynamics of the associative potential. Using simplification as a way to reveal principles of the internal structure of the phenomenon, we consider the generated cultural codes as the result of a cascade transformation of “dominants” (fields of reception>analyzers>consciousness>repression>compression), formatting a complete image, and as “information” encoded in electro/magnetic frequency patterns. Being neither matter nor energy, information needs a carrier.⁽⁴⁾ “Dominant” in this message is a generalized definition of organized, hierarchical constructs (packages) of information carriers, forced out of the conscious levels of the psyche and continuing to circulate in closed, reverberant neural circuits.⁽⁵⁾ In other words, we believe that the information carriers, unactualized and forced out of consciousness (from the field of voluntary attention), circulate through recurrent neural networks with symmetrical connections, the activity of which comes down, over time, to several stable states.⁽⁶⁾ These networks perform the functions of information retention with error correction and reproduction of the retained states.⁽⁷⁾

Fixed frequency electrical and magnetic characteristics of “dominant” are the basic resonance potential upon presentation of a perceptual/cognitive construct close in frequency characteristics at the entrance to the system (psyche). We emphasize that the propagation vectors of an electrical impulse are determined by the electrical conductivity of biological tissues. At the same time, a magnetic impulse

has no restrictions, which suggests the possibility of remote contactless transmission of information by a magnetic carrier. We believe that the frequency resonance presented at the entrance to the system “code key” and the repressed “Dominant” is a mechanism for updating “dominant,” recognition, updating past experience, one of the key ways to implement social behavior.

All types of perceptual information have the same physical nature, transforming in the receptor field into electrical (frequency) and magnetic patterns with transfer to the projection fields of analyzers. Frequency characteristics of oscillations are a way of encoding information in functional biological systems.^(8,9) All types of electro/magnetic transfer have metabolic support, electrical, magnetic, and hemodynamic⁽¹⁰⁾ equivalents that have a physical nature and the probability of registration. The dynamics of information that has undergone STT (conversion of the energy of a physical carrier at the entrance to the system, transfer to analyzers, divergence-convergence, actualization, displacement, and subsequent compression [reduction of redundancy of information, in which the completeness of the information is preserved]⁽¹¹⁾) forms packages of electro/magnetic patterns circulating in closed neural constellations. The sources of input information for STT are repetitive perceptual/cognitive information cycles across the entire spectrum of life: education, upbringing, labor, arts, etc.

Quanta of “dominants,” which have passed the SST cycles, make up the content of the entire spectrum of perceptual/cognitive information volume (memory, experience), and create the potential for conscious/extra-conscious modeling, forecasting, and response in all directions of the activity. We believe that all perceptual/cognitive information converted into quantized electro/magnetic flows is unified and transformed into a series of homogeneous sequences due to changes in space-time relationships and the compression of information.

The dissemination (diffusion, interference) of cultural information in society is realized by “communicators” (teachers, politicians, media, etc.), replicating adapted images of symbols that are adequate to perception in different strata of society. All types of education and upbringing are based on the introduction into the psyche of sustainable ethical and behavioral standards that create a basic set of cultural code elements. The continuing education details and formats the “base,” and creates stable (perceived as logical) systems from primary and additional code elements. The carriers of sets of stable cultural codes are basic for the main strata of society, which have structural mental filters between formations: the first basic stratum - a fixed educational/cultural set, rigid thinking, fixing the range of needs, and developmental slowdown; second basic stratum - further education, expanding the range of cultural elements, flexible thinking with development potential, and growth of frustration potential based on acquired needs.

We consider society as a self-regulating system, the elements of which are all observable personal/interpersonal phenomena, the interaction among which is the content of the “social” phenomenon. This approach makes it possible to quantitatively and qualitatively measure both the structural components (phenomena) and the system (society) as a

whole. A phase transition in the socio/cultural environment is a spontaneous transformation of information, the carriers of which are “passionate” individuals at the initial stages, into the substance of society when a quantitative threshold level is exceeded. This transition leads to the dominance of new attitudes, determining the dynamics of the algorithms of individual and social behavior. At present, the information (IU) has again become the dominant feature of the “social.”^(12,13) IU is a new substratum of society, in which instead of hierarchical “structures,” “networks” are formed,⁽¹⁴⁾ forming horizontal network social communities that do not have a hierarchy or a clear structure and strive for extensive unlimited growth. Information (signal/sum of signals) from the “intermediary” of relations (“individual/society”) was transformed into the “form and content” of social reality, determining the probabilistic behavior of the system based on the transformation of the structure and potential properties. Information exchange in biosystems is a wave process that provides the possibility of self-organization.⁽¹⁵⁾ We consider the formation of the resonance potential as the starting stage of information exchange: creating “dominant,” the concentration of information in one frequency electrical and magnetic range. The actual “dominant” (stable frequency pattern), which is dominant “here and now,” acquires the properties and qualities of a “resonant operator,”⁽¹⁶⁾ determining the dynamics of the development of the system as a whole for the time of relevance. “Dominant” is a material object formed on the basis of the information, defining goals and behavioral equivalents, having physical characteristics.

We believe that the mechanism of the IU influence on the HS psyche is a resonant process of coincidence of the electro/magnetic frequencies of the incoming information with the frequency parameters of “dominants” displaced from the consciousness. The results are the actualization and appearance of an object of resonance in the field of voluntary attention (in mind).

Resonance is a sharp increase in the amplitude of forced oscillations when the external influence frequencies approach the subject’s resonant frequencies. An oscillatory system is exceptionally responsive at frequencies of increasing force approaching the natural frequencies of the system. Resonant interaction leads to the selection and amplification of parameters corresponding to wave frequencies and wavelengths, which are close to resonantly interacting objects.

We believe that the phase synchronization of oscillations of distant groups of neurons, which ensures the transmission of information,⁽¹⁷⁾ is realized through frequency resonance of electro/magnetic genesis. The frequency patterns of “dominants,” which have inclusions from different receptive fields and have undergone divergence/convergence with transformation to the minimum informational level (package, quantum), and forced into “extra-conscious” levels of the psyche, reverberate, circulating in the form of an electro/magnetic “package” on the ways of closed neural circuits. We believe that the interaction of reverberant structures may include the interference of patterns (having fragments from different reception fields in the structure) with a partial coincidence of neural “pathways.” The effect of this interference, with

the actualization of “dominant,” can be the phenomena of synesthesia, eideticism, and some types of hallucinations. Unified patterns create “dominants” with standard behavioral equivalents and the potential for distribution, “infection” (e.g., fashion) in social groups upon presentation of the “code key.” The mechanism of frequency resonant actualization of the repressed “dominants” is believed to be universal and relevant for all forms of mental activity, including the default system of the brain. Arbitrary attention (consciousness) forms a state of pre-perception, in which an object is fixed that must be preserved.⁽¹⁸⁾

The reticular formation of the thalamus forms a “spotlight of consciousness” that determines the choice of the “module of consciousness” as an object of voluntary attention, which is replaced by the next object when the “spotlight of consciousness” is moved.^(19,20) Without considering the processing mechanisms and stages of information transfer from sensory to long-term memory,⁽²¹⁾ we emphasize that the main volume is visual information⁽²²⁾ compared to the sensory modalities of other fields of reception.

Social interactions (where information is an intermediary), the basis for the existence of the system as a whole, is the oscillatory circuit of society, initiating adaptive oscillations of all elements of its structure. Normally, the instability range, i.e., oscillatory processes of individuals/communities, is limited by ethics and normative codes that make up social “frames” (confidence interval boundaries). We believe that preceding the phase transition, the transformation of “frames,” the content of which is a hidden meaning, forms subthreshold (unconscious) qualitative changes in evaluation criteria, transforming ethical and behavioral algorithms. The transformation of frames outside the conscious levels of the psyche predetermines the spontaneity of the phase transition. In other words, the phase sequence of perception of the transformation of frames under changing (appearing new) hidden meanings [“habituation” – phase 1; “permissibility” – phase 2; “acceptability” – phase 3] creates the conditions for the start of the phase transition.

The probabilistic forecast of the phase transition can be based on the fixation/integration of subthreshold values of reference points of the society (syndrome of small signs). Resonance leads to above-threshold changes in the amplitude and synchrony of the adaptive fluctuations of the individual/society, destroying the restrictive mechanisms, forming new contours of the “frame,” creating the alternative (online/offline) social structures and spaces.

The “social” at the personal level incorporates the “individual” through the IU, returning HS to mythological thinking. In other words, the diffusion and interference of the information between the strata of society change the boundaries and parameters of social “frames” up to the imbalance and destruction of the system as a whole, the creation of new forms of ethics and society. The transformation of the social action and interaction, goal-setting and motivation, displacing and replacing the structural formations of basic cultural codes (for example, replacing “conceptual” thinking with “clip”^{12,13,23}), changes the semantic structures of “frames”, rebuilds the mechanism for reproducing the ethnocultural matrix and, as a result, congruent social structures.⁽¹³⁾

Conclusion

The electro/magnetic characteristics (codes) of the “dominants” repressed from consciousness are the potential of frequency resonance upon presentation of a perceptual/cognitive construct (“code key”) close in frequency parameters at the entrance to the psyche system. The basic principle of information exchange in the system of the human psyche is the creation of a “dominant” - the concentration of information in the pattern of the electro/magnetic range. The result of the frequency coincidence of the “code key” at the entrance to the psyche and the “dominant” displaced from consciousness is actualization, the appearance in the mind of the object of resonance – it is this “dominant,” with the functions of the “resonant operator,” which determines the dynamics of the entire system for the time of actualization. The dynamics of the hidden meanings of social frames can initiate a phase transition in the socio/cultural environment. The transformation of basic cultural codes rebuilds the mechanism of reproduction of the ethnocultural matrix and congruent social structures.

Competing Interests

The authors declare that they have no competing interests.

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