NEURO-ART IN THE CONTEXT OF CREATIVITY

Purpose of Article. The research aims to identify related art parallels between time-disparate cultural periods and innovative scientific discoveries that determine the mechanisms for the functioning of the mentioned links. Methodology. The choice of research strategies within studying the dynamics of changes in the socio-cultural system, identified the application of systemic and sophisticated approaches, as well as comparative and heuristic research methods, caused by the actual technological progress of the present time. In terms of the particular context, we use the construction of the research, which involves the building of new value models and symbols reflecting social relations and cultural ones as well as artistic forms of modern civilization. The application of the mentioned methods of the research contributed to obtaining the own theoretical results. The scientific novelty of the study consists of the formulation and development of an actual topic, which has not received comprehensive and objective coverage and is being investigated for the first time regarding the scientific dimension. The core idea is based on the fact that the results of understanding the essence of neuro-art can serve as an essential component in the context of contemporary cultural achievements study, as well as within the definition of value categories of the hyper-informational society. Conclusions. The development of the humankind culture demonstrates the presence of internal artistic parallels between separated time periods. It is noted that the similarity is inspired by the existence of internal mechanisms formed in the conditions of being investigated for the first time regarding the scientific dimension. The results of understanding the essence of neuro-art can serve as an essential component in the context of contemporary cultural achievements study, as well as within the definition of value categories of the hyper-informational society. The dynamics of the cultural trends is associated with the subconscious impulses of the human brain, which determined the importance for the introduction of such innovative terms as neuro-aesthetics and neuro-art.

Key words: eidetic imagery, primitive culture, information society, neuro-aesthetics, neuro-art.

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Relevance of the topic. A tangible offensive of globalization processes distinguishes modern society, inspired cultural universalization in the conditions of rapid growth of sociocultural interactions [16, 313]. The mentioned state was inspired by the active artistic step of the twentieth century, as well as by innovative scientific technologies and discoveries that affect social development and require a predictive assessment. Thus, numerous concepts of culture arose on this basis, but the fact of the features of the human brain producing stable patterns of behavior even under the conditions of primitive society was not taken into account, which led to the emergence of a new scientific discipline of neuroaesthetics. Therefore, it is especially relevant to use this direction as a marker for determining related art parallels between time-disparate cultural periods and identifying the mechanisms for the functioning of the specific links, provided for clarification and extension of this period as neuro-art.

Analysis of existing studies and publications. The general strategy for the culture development study demonstrates the focus on the search for universals which despite the diversity of customs and traditions of various ethnic groups have shown a convincing identity throughout the world at all times. The mentioned similarity was noted by Levi-Strauss [9, 10], Clarkson [20], Hershkowitz [19] and many others, which led to an inevitable tendency of comparison and generalization. A detailed review of the methodology is present in the work of Girz [3], but the scientist refuses such a direction of research and offers the own solution based on treating culture as a purely symbolic system by isolating its elements, revealing the internal relationships between the certain items with the subsequent characterization of the system in general, in accordance with the central symbols around which it is organized, with the primary structures that it expresses outwardly, and with ideological principles on which it relies. The formulation of culture leads to the interpretation of human through the prism of mechanisms that encourage a real action. Hence, the neurophysiologist Ramachandran considers the interest in the broad functions of human thinking from the standpoint of the formation of the canons of beauty of primitive man [13], Kaiku in the context of the structure of the human brain [5] or Stepurko in the context of manifestations of artistic introversion in composers' creativity [15]. Besides, it is essential to realize the global socio-cultural changes noted in the writings of Yu Lotman [12], Lichkovak [11], Kiyanovsky [6]. As Yuri Lotman pointed out: "Culture is a complexly organized mechanism that stores information, constantly produces the most compact methods, gets new, encrypts, and decipher messages from one system of signs to another" [122, p. 147]. Therefore, the annotation of ancient iconic artistic constants in the context of correlation with the characteristic currents of modern culture will allow to determine the forms of their interpretations and to justify the use of innovative terminology, in particular, the terms of NeuroEsthetics and NeuroArt.

Purpose of Article. The study aims to identify related art parallels between time-disparate cultural periods and innovative scientific discoveries that determine the mechanisms for the links functioning.

Statement of the primary material. The definition by Girz concerning culture from the standpoint of a set of control mechanisms-rules inspires the identification of a person with an “animal,” literally depends on various non-genetic control mechanisms or "cultural programs" that determine its behavior. Also, the society demonstrates various forms of the cultural development organization which, within the formulation of Girz are based on three main pillars: ideological principles, basic structures as the forms of interaction of system elements and central symbols, and the aspects of culture themselves. If human behavior is considered the mediator between the mentioned landmarks, we can build a scheme of the socio-cultural way with the components discussed above:

1. Ideological principles aimed at cultivating the individual as the center and driving force of the social order and its functioning.
2. Primary structures, as world outlook dominants, archetypes, and symbols, means of communication and operation of society, defined by ideological principles.
3. Elements or cultural and artistic forms that reflect the priorities of community in the context of its aesthetic demands and representations.
The further scheme traces the gradual variability of priorities, if we take into account the European area:

Pre-Christian society (primitive society and antiquity)
1. Ideological principles: polytheism – the pantheon of pagan gods.
2. Basic structures: mythology and ritual as the basis of communication of society.
3. Elements or cultural and artistic forms: the foundations of primitive art with the support of the particular eidetic significance [1, 7] with the subsequent formation of the beauty canon and expediency in all art forms of the ancient times.

The Middle Ages
1. Ideological principles: monotheism with the canonization of Christianity.
2. Basic structures: Scripture and rite as an indisputable imperative of human existence.
3. Elements or cultural and artistic forms: the aesthetics of Christian sacral art, the absolute spiritual advantage over the physical.

The process of secularization begins in the Renaissance, the rise of a person as an individual inspires the emergence of new cultural forms in a Christian society.
1. Ideological principles: Monotheism and humanistic ideas.
2. Basic structures: worldview anthropocentrism, secular artistic background, and theatricality of social relations.
3. Elements or cultural and artistic forms: the aesthetics of art from the Renaissance to Romanticism develops within the limits of the styles’ replacement, but is based on the constructiveness and the certainty of the essential characteristics.

The very vector of the specific historical changes is symptomatic; from the adoption of "man by the measure of all things" in the Renaissance, in spite of the baroque dualism of good and evil in man ("Our virtues are most often ingeniously disguised flaws" – this aphorism begins The Maxims by François de La Rochefoucauld [ 8]), despite the ideal of vir eruditus, a man educated in classicism to the messianism of artists in the era of romanticism, worship of the creative power of inspiration.

At the turn of the nineteenth and twentieth centuries, a transgressive transition beyond established traditions led to a dramatic change in value orientations due to the progress of science and the disappointment of society in ideals [11].
1. Ideological principles: The human subconscious.
2. Basic structures: The world as Text and Intertext, the public game and the invariants of the relationship, which go beyond the framework of moral and artistic-aesthetic norms, the substitution of concepts (jungle-city).
3. Elements or cultural and artistic forms: aesthetics pluralism, destructiveness, comparable to the aesthetic principles of primitive society by eidetic significance. It is important to note that the art critic Lyubov Kiyanska emphasizes the eidetic filling of many artistic artifacts of recent decades and suggests applying the term "eidetic imagery" to the definition of the present style [6].

Scientific progress of the late twentieth century leads to the following condensation of the facets of human existence:
1. Ideological principles The human brain as a neural system.
2. Basic structures: the world as Screen, technology and "show" as the dominant of the globalizing social space.
3. Elements or cultural and artistic forms: artistic forms and public inquiries are centered around the screen's capabilities to influence the neuropsychological receptors of a person, which led to the implementation of the NeuroArt term.

NeuroArt is modern artistic means, combining the inherent expressive possibilities of sound, image and text form the idea that is projected onto the human subconscious, using for this purpose numerous methods of modern technology represented in the image of the Screen (telephone, computer, television, etc.). Thus, a person through the screen accumulates in the own subconscious information, which later extrapolates to the outside world, forms a new reality of human existence. NeuroArt is the creation of internal images in the human subconscious under the influence of sensory life experience, and the image cannot always find an external form.

The mentioned phenomenon is a new view of the artist's personality within Victor Stepurko's study, which represents artistic introversion as an inner creative impulse that originated in the subconscious or super-consciousness of the artist, as intentionality directed at his inner world, experience, the sensual character of artistic creativity inherent in all kinds of art [ 15]. As a result, a person finds himself outside of society in the own created world, in which art is identified with an internal state reflected in the external images. The particular issue is also seen regarding the text in the sense of the image subtext [14] and consequently refers to the subtlest neural layers. This, again, directs to the study of the profound nature of human feelings and the search for ways to influence directly the subconscious.

Counting the entry of man into the world of his mysterious, irrational essence – the subconscious, one can safely date the transgressive cultural break at the turn of the 19th and 20th centuries manifested itself in the appearance of incredible artistic combinations, and project the cultural background of future decades. Such a situation is closely linked to the internal change of the Person himself, which appeared
entirely in a new way, as Girtz claimed: "If the eighteenth century created the image of man as a naked philosopher, taking off his costumes of culture, the anthropology of the late XIX and the beginning of the twentieth century changed this image to the one of the transfigured animals, which became a man, putting them on himself back"[3, 48]. This is evidenced by the sharp destruction of established traditions embodied in architecture, sculpture, painting, music, and the like. Under the heavy flow of cultural innovations, the very notion of "style" has blurred – as well as the present and matured evidence of the titanic work of the creative community of many generations. As a consequence, the following artistic branches have replaced the long styles and currents of previous eras: Secession, Modernism, Symbolism, Impressionism, Fauvism, Cubism, Dadaism, Expressionism, Futurism, Imagism, Tachisme, Orphism, Surrealism, Constructivism, Abstract Art, Pop Art, Op-art, Primitivism, and others. All of them were united by at least one prominent feature – the rejection of external similarity with life realities. Therefore, such characteristic forms of thinking as metaphoricity, associativity, fantastic imagery, sensuality, abstractness, etc. came to the fore, is collectively associated with the characteristics of eidetic imagery. Alongside such deconstructionism envisaged only a "complex bouquet" of uniformed opportunities, stimulating interpretative potential [17,137]. Thus, the human intellect abandoned traditions and focused on the inner sensations of man and experimenting with "streams of consciousness," which fully fits into the current predictions of the future. As Michiko Kaiku predicts, in the future people will upload their impressions to the neuro system, because today: "Scientists, computer scientists, and neurologists are trying to disassemble the object, the most complex of all objects known to us in the universe, is much more complex, the human brain, and then collect it again, the neuron behind the neuron" [5, 291]. It does not seem like a fantasy, as the modern world is aggressively studying the possibilities of the brain, in particular, the company of Elon Musk, with the eloquent title "Neuralink," examines the forms of a person's spin-wooing with artificial intelligence; Facebook dreams of typing the text with the power of thought, and the startup Kernel received $ 100,000,000 investment for the development of neurotechnologies. It is important that in this spectrum of research there is an artistic direction – the company Google, which conducts experiments with artificial intelligence, designed the system, practically performs the role of an "art critic," recognizing aesthetically attractive photographs [21]. These, as well as similar examples, encourage the use of the heuristic method of research, convinces the active transition of mankind to the world of technology, in which the predominant role will be played by artificial intelligence, developed by the physiological properties of the brain. In particular, from the implanted interface it will be possible to formulate artistic images or texts, everything that is desired by a person desires [22].

The mentioned information testifies to the breakdown of the social consciousness of the twentieth century, calls for new methods of studying contemporary art, taking into account the deep-acting factors of the human brain. Therefore, the emergence in this direction of a new science – neuroaesthetics, which arose by searching for subconscious sources of artistic impulses hidden in the depths of the human brain – is natural. Studies of the causes of our unconscious definition of beauty revealed the close connection of modern man with the experience of the functioning of primitive society. Given that the primary goal of the original community was survival in a dangerous environment, all the reactions were directed to the formation of patterns of behavior and customs that ensured the maximum extension of the genus. Over time, it was imprinted in the human brain, and only modern researchers suggested that a gradual loss of sense of danger, primitive instinctual reactions developed into a subconscious sense of aesthetic pleasure for the first time.

The topic is devoted to the work of Vilayanur Subramanian Ramachandran "The Tell-Tale Brain: A Neuroscientist's Quest for What Makes Us Human" [13], where nine aesthetic laws are formulated: grouping, maximal displacement, contrast, isolation, perceptual solution of the problem, aversion to coincidences, order, symmetry, and metaphors. These laws are based on three basic questions: what is the internal logical structure of the feature that you are considering, what is the biological function for which this feature evolved and how the nervous mechanism in the brain embodies this feature or law. With the help of the example of the law of grouping, the researcher notes that structurally, the process consists of combining the fragments of the skin hidden between the trees by the brain, which allows one to identify the animal, probably a predator; it allows you to save lives from death or starvation when it comes to hunting, and at the neural level literally "gluing" the signals of various parts of the brain and forming one of them. Successful groupings began to bring pleasure and turned into an aesthetic category. The definite opposite is the law of isolation, literally cutting off the extra parts of the subject. The original picture, where the early stage of the visual process takes place, perceives only the lines. Also, a full-fledged image disperses attention around composition, material, color, and other details, and one aspect automatically focuses attention on the unit, in particular, the form, if the contour is highlighted (see Ill. 1, 2). Similarly, Ramachandran explains the other laws, collectively enabling him to draw a symbolic analogy between the powerful energies of primitive humanity and the release of subconscious intentions of contemporary art. The idea suggests that a person is entering a zone of powerful vibration of the "naked nerves" of primitive society, whose eidetic expression is particularly evident in various artistic trends of the XX-XXI centuries. It is symptomatic that the laws of neuroaesthetics, formed in the challenging conditions of survival, say, in the jungle, are so close to the present that lies in the whirlpool of urban wilderness – in the space of a foreign man of the City [2, 60]. Therefore, it is not accidental that these, at first glance, interconnected radically different environments is based on the commonality of mechanisms that determine the artistic priorities of time-consuming creative inspirations.
In this context, the contemporary interpretation of NeuroArt is particularly promising, because it tries to lay a bridge between society and the world of irrational intentions and sensations that are reflected at the extreme points of the diametrical plane: the primitive and modern worlds. A bright cultural aura stretches out over this immense distance in hundreds of thousands of years, in a unique way, retaining accurate information in reliable corners of neural plexuses awakened at the turn of the XX-XXI centuries. Probably, during this period, there was a process of activating the original codes or neural models, which were manifested in the semiotic system of various movements of Modernism in the interpreted form and continued to develop in the future. This is one of the tasks of neuro-arts, which in its perspective contribute to the in-depth knowledge of the person of his essence.

Conclusion. The development of humankind culture has demonstrated the existence of internal artistic parallels between periods remote in time. It is emphasized that this similarity is inspired by the presence of internal mechanisms formed in the conditions of primitive society with its inherent expression of eidetic expression. It is stated that the dynamics of such cultural tendencies is associated with subconscious impulses of the human brain and has determined the necessity of introducing such innovative terms as neuroaesthetics and NeuroArt. Apparently, the understanding these cultural processes from the standpoint of modern technological innovations will help to realize the importance of a person in the formation of world-view imperatives of current times.
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