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SCIENCE-ART IN THE CONTEXT OF METAMODERNISM DEVELOPMENT TRENDS

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The purpose of the article is to reveal the development features of the modern movement Science-Art through the prism of metamodernism trends. Research methodology. The method of theoretical research, analytical, historical and cultural, systematic and structural, typological method, as well as the method of culturological and comparative analysis, are applied, which allowed us to identify the main trends of metamodernism and study the development of modern movement Science-Art. Scientific novelty. Based on culturological analysis, the concept of metamodernism is considered in the context of a new artistic sensuality characteristic of modern art trends that do not correspond to the aesthetics of postmodernism. The Science-Art movement is studied on the example of E. Kac (*Genesis*, 1999, *GFP Bunny*, 2000, *Eighth Day* projects, 2001) and M. de Menezes (*The Nature?* project), and special features of its development are revealed. Conclusions. Current trends in the development of visual culture demonstrate the desire to create irrational experiences, new contemplative or bodily experience in the process of direct immersion in the atmosphere as an emotional state that corresponds to the concept of metamodernism. The characteristic trends of metamodernism are the appeal of artists to unpopular materials and at the same time — the transformation of reality into media reality. Such tendencies are especially acute in Science-Art, which is characterised by an organic combination of traditional expressive methods with scientific and research ones; an artistic way of presenting scientific data, and inventions that acquire aesthetic value in the process of representation; the development in many areas of modern science. The study revealed that Science-Art is a current cultural trend of the active interpenetration of scientific research and artistic practices, characterised by a new aesthetics that is directly related to the philosophy of contemporary art.

Keywords: metamodernism; Science-Art; visual culture; cultural trend; media reality

Introduction

Modern culture, the main feature of which is “the need and unconscious need to depict anything: to present in an obvious visualised form not only people or objects but

also the results of complex research, theoretical concepts, etc.” (Tarapata-Bilchenko, 2019, p. 220), is characterised by an intensive search for innovative styles and images to reflect the surrounding reality in accordance with the expectations of the generation whose aesthetic preferences were formed in the new media reality.

Science-Art as one of the areas of contemporary art, which developed considerably in the first decades of the 21st century within the concept of metamodernism and scientific conceptualism, is a synthesis of art, nature, and science. The relevance of the article is due to the need to conceptualise the features and trends of Science-Art development in order to expand the theoretical understanding of this peculiar cultural practice.

Purpose of the article

The purpose of the article is to identify the development features of the modern movement Science-Art through the prism of metamodernism trends. Based on cultural analysis, the concept of metamodernism is considered in the context of a new artistic sensuality characteristic of modern art trends that do not correspond to the aesthetics of postmodernism. The Science-Art movement is studied on the example of E. Kac (projects *Genesis*, 1999, *GFP Bunny*, 2000, *Eighth Day*, 2001) and M. de Menezes (project *Nature?*), and special features of its development are revealed.

Recent research and publications analysis. Historiographic analysis shows that the issues of metamodernism are the subject of scientific interest for modern Ukrainian researchers — culturologists, art studies scientists, and philosophers. In particular, various cultural and artistic practices are of great interest. For example, H. Siriak (2020) in the article “Ukrainian art in the context of the transition from postmodern hyperreality to the sincerity of metamodernism” analyses the principles of introducing metamodernism in Ukrainian culture; Yu. Shabanova (2019) carries out a system and theoretical analysis of the metamodern paradigm based on modern cultural and philosophical discourse; the features of the psychological orientation of the art of metamodernism are revealed by S. Dienizhna and M. Sova (2020) in the scientific publication “Psychological orientation of the art of metamodernism”, T. Humeniuk (2019) in the article “The culture of the beginning of the third millennium: the discourse of a new worldview” considers the reflection of the new worldview of a modern man in cultural practices through the prism of the concept of metamodernism and others. The scientific publication of L. Tarapata-Bilchenko (2019) “Science-Art as a projection into the future of music” is devoted to the understanding of the modern practices of musical Science-Art as “forms of creation and existence of music, that project its future”. However, from the point of view of modern culturology, this issue has not been properly studied.

Main research material

The determining factor in changing the status of the visual in modern culture is the transformation of the architectonics of reality by means of visual technologies. The emergence and development of 3D, virtual reality (VR) and augmented reality (AR)

technologies have become a factor in the emergence of independent art forms. The interpenetration of traditional fine arts and new digital technologies has provided new opportunities for cultural expression.

The transformation of visual culture is associated with the beginning of a new cultural era — the era of “metamodernism”.

Currently, metamodernism is the most famous concept of post-postmodernism, the authors of which — Dutch researchers T. Vermeulen and R. van den Akker (2010) — proposed their term to describe the new artistic sensuality in general and such works of modern art that do not meet the aesthetics of postmodernism (p. 6). Among theorists and practitioners of contemporary art, metamodernism is defined as “a complex of achievements of art, culture, aesthetics and philosophy, formed by an alternative response to postmodernism and characterised by uncertainty of positions regarding the contrasted aspects of modernism and postmodernism” (Dienizhna & Sova, 2020, p. 56).

Researchers note that metamodernism “is designed to reflect in art the changes that occur in modern culture, which is developing in a different direction than postmodernism with its inherent destruction, irony, stylisation, relativism, nihilism, and denial of general concepts” (Dienizhna & Sova, 2020, p. 56).

L. Turner (2011) defines metamodernism as “the mercurial condition between and beyond irony and sincerity, naivety and knowingness, relativism and truth, optimism and doubt, in pursuit of a plurality of disparate and elusive horizons”. Accordingly, the sincerity of representatives of metamodernism is not embodied as the sincerity of the work, which is positioned as a reflection distanced from the light of the mind in the mode of the body, its efforts, and spiritualisation, but remains an internal intention, while the distance with the artist’s own work is significantly reduced, since it no longer represents the artist, but fulfils his desires in real scale and time, reflecting the current state of his environment”.

The characteristic trends of metamodernism are the appeal of artists to recently unpopular materials (for example, clay, stones, wood and metal) and at the same time — the transformation of reality into media reality.

Similar trends are particularly acute in the Science-Art (scientific art) movement, which is characterised by an organic combination of traditional expressive methods with scientific and research; an artistic way of presenting scientific data and inventions that acquire aesthetic value in the process of presentation; the development in many areas of modern science (for example, bio-art, etc.). The tools of scientific art are living (for example, living organisms, bacteria, organic processes) and inanimate material (algorithms, digital tools, electronic devices, etc.). Usually, the representatives of the “scientific art” are scientists who have the appropriate competencies in certain disciplines and the ability to imaginative thinking and creative statements.

Thus, Science-Art is a transdisciplinary field formed at the intersection of science and art — a field within which conditions are created for the fruitful synthesis of discursive thinking and intuitive judgement, numerous and usually successful attempts are made to adapt the methods of natural and exact sciences to create scientifically based art, and art methods to form new scientific theories.

One of the most famous representatives of Science-Art, in particular one of the founders (2000) of its most impressive direction — BioArt, teetering on the edge of aes-

thetically acceptable, is the Brazilian-American artist and professor E. Kac, known for his trilogy: the *Genesis* (1999), *GFP Bunny* (2000) and *Eighth Day* (2001) projects.

The subject of the artist's research in the *Genesis* is the genetic structure of organisms and the ability to rewrite the text of DNA — as part of the project, he wrote down the text from the Bible with the help of nucleotides in the genome of bacteria: "Let man have dominion over the fish of the sea and over the fowl of the air and over everything living that lives upon the Earth" (1:26). E. Kac translated this passage into the Morse code, and converted it into the DNA code (the letters T, C, A, G), then introduced a new DNA of the bacterium and created a new species of living things called "Genesis". The object of art was the presentation of bacteria in a test tube and the projection of videos in the art gallery and on the Internet.

As part of the *GFP Bunny* project, E. Kac created the bioluminescent rabbit Alba, which glows in ultraviolet light (the artist combined the fluorescent jellyfish protein and a rabbit cell), and the *Eighth day* project, according to the author's idea, symbolised a new act of creation, nature changed genetically in the process of human technological progress.

A special place among the scientist's art projects is occupied by the *Edunia* project, presented in 2003. Seeking to creatively witness the crossing of interspecific boundaries, E. Kac grew a plant with its own genes: with the help of biotechnology, he added his own DNA to the petunia, which gave the plant a clear pattern of red lines on the flower, resembling the human circulatory system.

According to researchers, this project has become "a living (literally) manifesto of overcoming the hierarchical structure of life" (Gajewska, 2012, pp. 106–107).

Philosopher and critic of modern aesthetics M. Bakke (2011) notes: "On a symbolic level, this aspect of artistic realisation is of the greatest importance, because a human antibody that evolved to be hostile to strangers becomes integrated into a foreign body. Hence, this is not a case of competition between life forms, but complicity in materiality, manifested at the molecular level of life (p. 123).

The *Natural History of the Enigma* BioArt project, which includes *Edunia*, large-scale sculpture, photographs, graphics, seeds of animals and plants, cards with a description of the project, is "an art project in which the artist's action takes a strange and radical form of "humanisation" of the inhuman other" (Bakke, 2011, p. 123).

One possible interpretation of the project is an attempt to provoke viewers to re-think the boundaries between humans and plants. In this sense, *Edunia* is intended to remind people that they are part of an evolving nature, and that this heritage has been recorded in human genes. The artist decided to combine parts of his biological system with an ornamental plant, which not only undermines the Aristotelian and Judeo-Christian traditions of the hierarchical structure of living organisms but also contradicts the stereotypical belief that hybridisation can only have negative consequences. *Edunia* is not only aesthetically appealing, but more importantly, it is a living (literally) manifesto of violation of the hierarchical structure of beings. From this point of view, Kac's project fits into the intellectual trend known as posthumanism, whose supporters note the need to shift the focus from intellectual issues and attitudes that emphasise the privileged position of a person in the world to non-anthropocentric attitudes.

An equally prominent representative of Science-Art is Marta M. de Menezes, a Portuguese biologist, and artist who explores the opportunities offered by contemporary

biology working with biology and biotechnology as new art media, seeking to incorporate biological material as a transmission of the artistic discourse.

In particular, the *Nature?* project demonstrates the possibilities of changing the pattern on butterfly wings for artistic purposes. This was achieved by interfering with the normal development of the wing, causing the development of a new pattern that has never been seen before in nature — butterfly wings consist exclusively of normal cells, without artificial pigments and scars, but are created by an artist. An artistic intervention does not lead to genetic changes, so new patterns are not passed on to the next generation of modified butterflies. The artist's works are an example of art with a lifespan similar to that of a butterfly, an example of what is both art and life ("Nature", n.d.).

Using classical elements in innovative configurations, artists create original works of contemporary art.

Conclusions

Current trends in the development of visual culture demonstrate the desire to create irrational experiences, and new contemplative or bodily experience in the process of direct immersion in the atmosphere as an emotional state that corresponds to the concept of metamodernism.

The characteristic trends of metamodernism are the appeal of artists to unpopular materials and at the same time — the transformation of reality into media reality. Such tendencies are especially acute in Science-Art, which is characterised by an organic combination of traditional expressive methods with scientific and research ones; an artistic way of presenting scientific data and inventions that acquire aesthetic value in the process of representation; the development in many areas of modern science.

The study revealed that Science-Art is a current cultural trend of the active interpenetration of scientific research and artistic practices, characterised by a new aesthetics that is directly related to the philosophy of contemporary art.

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SCIENCE-ART В КОНТЕКСТІ ТЕНДЕНЦІЙ РОЗВИТКУ МЕТАМОДЕРНІЗМУ

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Мета статті — виявити особливості розвитку сучасного напрямку «science-art» крізь призму тенденцій метамодернізму. Методи дослідження. Застосовано метод теоретичного дослідження, аналітичний, історико-культурний, системно-структурний, типологічний метод, а також метод культурологічного та компаративного аналізу що дозволило виявити основні тенденції метамодернізму та дослідити розвиток сучасного напрямку «science-art». Наукова новизна. На основі культурологічного аналізу розглянуто концепцію метамодернізму в контексті нової художньої чуттєвості, характерної для сучасних напрямів мистецтва, що не відповідають естетиці постмодернізму. Досліджено напрямок «science-art» на прикладі діяльності Е. Каца (проекти проектів «Genesis», 1999 р., «GFP Bunny», 2000 р., «Eighth Day», 2001 р.) та М. де Менезес (проект «Nature?») та виявлено особливості його розвитку. Висновки. Сучасні тенденції розвитку візуальної культури демонструють прагнення створювати іраціональні переживання, новий споглядальний або тілесний досвід в процесі безпосереднього занурення в атмосферу як емоційний стан, що відповідає концепції метамодернізму. Характерними тенденціями метамодернізму є звернення митців до непопулярних матеріалів та водночас — перетворення реальності на медіареальність. Подібні тенденції особливо гостро відчуються в напрямку «science-art», що вирізняється органічним поєднанням традиційних виражальних методів з науковими

і дослідницькими; художнім способом репрезентації наукових даних та винаходів, що набувають естетичної цінності в процесі репрезентації; розвитком у багатьох напрямках сучасної науки. Дослідження виявило, що «science-art» — актуальна культурна тенденція активного взаємопроникнення наукових досліджень та художніх практик, що характеризується новою естетикою, що безпосередньо пов'язана з філософією актуального мистецтва.

Ключові слова: метамодернізм; «science-art»; візуальна культура; культурна тенденція; медареальність

