Technologies as a Mediator between Creator and Audience in Postmodern Art Practices

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Abstract: *The article analyzes the interaction between creator and audience that occurs in the new modes of art practices. Within this field, experimenting with technology is accompanied by emergence of new art forms and genres. Thus, it seems appropriate to view technologies as a mediator in the dynamic process of communication between the creator and viewer. In this context, a number of innovative projects were considered that emerged in the art practices of the recent decades. The choice of the projects is determined by the specific expressive means and by the features of interaction of these means on the basis of contemporary technologies. Creation of these projects resulted from the ideas and achievements of the 1970s–1990s. At first, it was "pure" experimentation, aimed at expanding the range of new expressive components and testing them. Afterwards, modern art products created within this direction are mature and complete. To evoke the interest of the audience, the use of multimedia and installations based on interactive technologies are employed. Technologies stimulate further evolution of art, i.e. they contribute to forming the new genres, and trends. It was concluded that technologies constitute a toolkit that de facto serves as a catalyst enabling practical realization of the artistic polylogue within the creative process: from the point when the idea is conceived, through its fulfillment in the creator's design and up to its presentation when its communicative models of influence aimed at the art communities are activated.*

Keywords: *art practices; postmodern; contemporary digital technologies; installation; performance; virtual reality; interactivity; immersiveness.*

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Introduction

All of the spheres of our everyday reality are significantly affected by the development of technologies. It is especially visible in the field of culture and art, as the artists always almost instantly react on the global changes in the world order and transform their feelings and ideas into their creative pieces which involve cutting-edge technological achievements. This process reflects the dominant tendency aimed at continually enhancing the framework of perception of the world and at self-identification as an important communicative mechanism of the artistic discourse of time. It is manifested in constant combination and inclusion of the newest experimental technical innovations in the creative process that prompts the development of new sensations, methods, and forms of existence of an artwork.

These tendencies, based on involvement of the latest scientific achievements in the art processes and thus rethinking the very creative process as such, regulate the new roles of the creator. Practically, creator arises as an active explorer in the field of technical innovations of his era, while in the dimension of artistic discourse of time his actions may be identified as experimentation, similar to the one of the avant-garde second wave in the field of sound or the experiments with the magnetic tape. Composers Pierre Schaeffer (in «Etude violette»), Karlheinz Stockhausen (in «Contacts»), Terry Riley (in album «A Rainbow in Curved Air»), Steve Reich (in piece «It's Gonna Rain») experimented with magnetic tape, processing and combining recorded fragments at different points, using the output tape at different speeds, and carried out other manipulations with which they achieved an unusual sound.

These days, technical achievements urge a creator to reach for the ontology of creativity. Creativity "on the edge" is the most illustrative in this regard. Interaction of personified creator and algorithms of a machine is a realization of the main narratives of the post-humanistic concepts of being. Such algorithmic expansion of artistic discourse that could not be linked to the achievement of the creator at all times, offers a glimpse of the art world in the future. This future is not totally bright and shiny as the potential of machine-creator and other technologies grow exponentially while the intellectual capacity of human-creator has been more or less stable for couple of recent millennia. The proof for that are the experiments with the potential of the artificial intelligence in the process of restoration of existing artworks and in creation of stylized models where an algorithm of artificial

intelligence (only partly regulated by the acts of its creator) serves as the author of conventionally artistic products. As an example of imitation of style in painting can be indicated «The Next Rembrandt», which «was based on the results of a deep learning algorithm analyzing over 300 scans of the existing works by Rembrandt and coming up with their most characteristic features» (Zylinska, 2020, pp. 50-51).

Currently, further merging of the arts is evident, when synthetic genres are actualized and communication technologies as an instrument for realization of art dialogs are employed. In such an intertwined interplay of cultural-communicational fields of creativity between an author and recipient, the process of the birth of an idea and its transformation (as a specific co-existence of author and recipient within the artistic design) is carried out. Recipient—a target for the artistic and communicative content—may as well be a co-author who completes the design. He as well may be an interpreter, a hermeneutist when the design is expressed verbally and certain audible or audiovisual style reality (music performing process) has to be created. Or a direct recipient of the artistic content expected to provide certain reaction that forms the style discourses of time based on prevalence of some tastes over the others.

These tendencies define the context of artwork, its content and idea, a type of semantic means which were used by the author to convey the idea of the work to its target audience. Recent decades are marked with the intensification of these tendencies and their further strengthening in the art practices will be discussed below.

The article aims at analyzing and revealing the methods of involvement of technologies for strengthening interaction between creator and audience in the contemporary art practices.

Literature Review

Issues of cultural progress based on technical achievements are raised in the writings by Marshall McLuhan. Specific language of the arts is a subject of considerable research interest in the context of the problem of uniqueness and originality of the expressive means of contemporary art. These ideas were covered in the academic works of the second half of the 20th century. Yuri Lotman pointed at the ambivalent dialog of tradition and innovation where "the 'photographic' aspiration for precision … causes the situation when the higher imitation of reality is, the more nominal the image becomes" (Lotman, 1994, pp. 432-438). At Lotman's opinion, it is important to understand the language of art as a semiotic system where the process of broadening artistic knowledge occurs under different communicative

scenarios, among which an autocommunicative model as rediscovering oneself in creativity is also significant (Lotman, 1996).

Ukrainian researcher Ganna Chmil studies the formation of a new cultural reality and epy issues of visualization of the real in postmodern cultural space. Ganna Chmil suggests that contemporary individual who uses technologies in his everyday life becomes a witness and at the same time a participant of creation of a new, artificial, virtual reality which in its core is incognizable, unobservable, and unregistrable (Chmil & Korabliova, 2013). Ukrainian researchers who work on the problems of functioning of cultural reality in the present-day conditions (Bohutskyi et al., 2013) share their thoughts on systemic and continual nature of information and art space which is backed up with the technological nature of contemporary creativity.

Attempting to capture the essence of what is happening in the sphere of contemporary art one should remember opinions and arguments of the aestheticists who back in the mid-20th century noticed the transgressive nature of art space; emergence of new technologies and techniques used in the artworks of the various arts; intention of art form to become more mobile, open, and multidimensional; ever-growing synergy of arts and science; multiculturalism, interdisciplinarity in the interaction of different languages of art within the artwork, etc.

In the works of contemporary scholars and practitioners of art a number of aspects of studying postmodern art was raised, primarily the role of technology in the art processes. The publications by Abraham A. Moles (1967), Boris Groys (2016), Victor Sydorenko (2015), Oksana Chepelyk (2018), Rosalind Krauss (2003), Marshall McLuhan (2007), and others are of particular importance.

Known Ukrainian artist and researcher Victor Sydorenko considers the model of cultural hero to be one of the important communicative mechanisms facilitating adoption of changes in the content and expressive elements of the visual art. "Cultural hero [of a certain time period] becomes a link connecting the viewer and the artist not only at the time of creation of the artwork, but predominantly in the times to come. In fact, cultural hero is not so much a portrait of a contemporary person as the model of time, embodied in anthropomorphic images. Cultural hero to a certain extent also objectifies an aesthetic ideal as a mean of artistic reality. Thus, the visual interpretation of a cultural hero defines not only the contexts of emergence of an artwork but also the cultural identity of the author as such" (Sydorenko, 2015, p. 102).

Researcher of contemporary art Zoya Skolota thinks that, "by transforming the space of traditional art further, technologies these days

capture the creator to such extent that his experiments with the 'material' overshadow all other senses and purposes of art, producing the art of technologies" (Skolota, 2013, p. 852). This is a traditional approach of the second-wave avant-garde.

"Ben Shneiderman has stated that virtual reality offers a lively new alternative for those who seek immersion experiences via blocking out the real world with goggles on their eyes" (Preece et al. 1994, as cited in Serafin et al., 2016, p. 23). Virtual reality opens possibilities for a certain participation of a recipient, for interactivity in choosing the variants of development of events in the immersive artwork/space.

Ben Shneiderman points to a possibility to significantly broaden the palette of expressive means in music if digital technologies are involved, "In particular, Cook's principle that 'copying an instrument is dumb, leveraging expert technique is smart' (i.e., advice not to replace or copy existing instruments, but to consider controllers inspired by virtuosity: violins, trumpets, microphone stands, turntables, beat-boxers, ethnic instruments, and so forth) is relevant also to VRMIs" (Shneiderman, 2016, p. 25, as cited in Serafin et al., 2016, p. 25).

After analyzing a number of publications that cover various standpoints on the process of implementation of technologies into art, we consider it to be natural and to some extent inevitable. However, the ways, methods, and instruments that are used to achieve the artistic goal of the project are developed individually by each artist. We agree with the artist John Craig Freeman, who uses new technologies to shape a new form of public art, in his point: "If an artist tries to work with his time and participate in the life of the world, then he or she would be drawn to a new technology" (Iskakova, 2020). Methodology of the research includes a combination of historical-systemic and culturological methods that analyze the subject matter of the artworks and art projects and reveal the main trends and phenomena of postmodern art in the context of their connections with the sociocultural foundations of artistic creativity.

Theoretical foundations of the interaction of art and technology

In the second half of the 20th century, there occurred a rapid development of information technologies as a system of informational social relations which manifest themselves in all the fields of socio-cultural and creative activity. As historical analysis proves, equilibrium of information relations (influencing both the process of creation and features of perception of art) is a component of information society. Contemporary era is often called information age as it forms global media environment on the basis of

digital technologies. Marshall McLuhan states, "The effects of technology do not occur at the level of opinion or concepts, but alter sense ratios or patterns of perception steadily and without any resistance. The serious artist is the only person able to encounter technology with impunity, just because he is an expert aware of the changes in sense perception. (McLuhan, 1994, p.18)

The art of the latest decades shows the new modes of presenting the art projects to their recipients. Technologies, integrated in contemporary art by the artist, play a key role in that. Technologies may be included in the art process on various stages or be more or less represented in the artworks.

Thus, the use of technologies nowadays is an integral component of language and discourse of contemporary art. It is crucial to distinguish the *two trends in the use of technologies*: internal (their involvement of the process of creating an art form) and external (aimed at the audience). The first, internal, trend entails the use of technologies predominantly as a material, form or method.

The material, based on the high technologies, has a significant expressive load for the realization of the idea of an artwork. Technology used by the artist often anticipates, dictates, and determines the form of an artwork.

Internal trend in the use of technologies also includes immersion of the artist into creative activity when the latter is perceived as an initial chaos of creative ideas that are put in order by the use of technologies. Nevertheless, it should be noted that involvement of media allows the author to include the semantic components of different arts in the artwork; it may be used both in internal and external trends.

In the context of the internal trend, art-tech should be considered in the first place. It includes game art, motion design, and graphic design. It was game art that first used the technologies of virtual reality (VR) and augmented reality (AR). Generative art also is one of the trends of digital art which often involves artificial intelligence in its creative space. *Facets of AGI*, the project of the French art group Obvious, may serve as an example: the audience was presented a series of twenty-two African masks created with the use of artificial general intelligence.

In this context, the practices of the Massachusetts Institute of Technology in using artificial intelligence for restoring and recovering the paintings, when 3D-modeling is used for that purpose, should be mentioned (*Naukovtsi vykorystovuiut shtuchnyi intelekt*, 2018).

External trend covers a wide spectrum of technologically conditioned and at the same time interactive means of creation and presentation of art

projects. The theme, genre, and form of interactive art projects are defined by the influence of the social environment, i.e. its aspirations, needs, and requirements. On the other hand, the computer technologies facilitate access to a large amount of information in different areas of human knowledge. For example, now one may gain knowledge and skills in the desired field thanks to the web-resources, may teach oneself the instruments for certain art experiments with contemporary technologies: "Each artist who endeavors in combinatorics, permutation of this most varied symbolic material would create not only the new works of art by a new kinds of art!" (McLuhan, 2007, p. 315).

In addition, we include into the external trend the widespread use of the multimedia means of creating virtual and augmented reality in the sociocultural and art space. Thus, immersive technologies overcome physical limitations and open space for the daring new experiments with the perception of artificially formed reality and with immersion into the latter. The art projects presented in the Modern Art Research Institute of the National Academy of Arts of Ukraine in the recent years could serve as an example to both trends.

Practice of technology involvement in art

They Breathe by Tetiana Khoroshun was an interactive sound installation presented within the project *Alchemy of Motivation*. By using an interactive technology of transforming a touch into a soundtrack, the author attempted to recreate community and conditionality of the sociocultural processes, by appealing to the Revolution of Dignity in Ukraine. For the artist, a touch is like a breath, similar to the reflection of the ideas of antiquity in the music of the spheres. *They Breathe* is an interactive sound installation that reflects memory enabling to perceive their past experience and to come to terms with it. The concept of the project stands out due to its anticipated communicative perception. The artist consciously constructed auto communicative model of transformation of expressive means that allowed to penetrate deeply into the processes of transformation of expressive elements and to observe new dimensions of development of artistic concept by seeing the parallels between the tactile and musical-intonational reverberations, which represent specific configuration changes in the recollections of the tragic experience (*Dykhaiut*, December 21, 2019).

It seems important to draw attention to the undeniable fact that contemporary multimedia technologies also contribute to the dissemination of information about the artwork when the latter is being presented. The presentations of the present-day temporary museum expositions are

especially illustrative of that: multimedia prove to be the efficient tools to engage the audience in the context of the displayed artworks. In this process, several sensory perception channels are combined that is key to reinforce the impression from the artwork, creating the effect of full presence.

The immersive opera *Noor: A Brain Opera* by Ellen Pearlman is a striking example of combination of internal and external trends of the use of technologies in art. This is the first-ever 360-degree immersive opera. The headset Emotiv EEG with the special sensors reads the emotions and brain activity of the performer and transforms them into the visual images that are transmitted on screens in abstract color forms and video footage played from a random library. "In conversation with the performer, Pearlman tells the story of Noor Inayat Khan, a covert wireless operative inside Nazi occupied France during WWII. The violent tale is meant to trigger different emotional responses" (Ainley, 2016). In such a way, viewer witnesses emotional changes experienced by the performer. The most important feature of the opera is its uniqueness that, on the one hand, is conditioned with impossibility to reproduce the same emotions during the next performance, on the other hand, the images which are generated on screen, are random and also would not be the same next time.

In Pearlman's own words, "My arts practice is motivated by issues of biometrics, Artificial Intelligence, surveillance, cognition, and notions of the quantified self. As the line between the human, animal and digital interfaces narrows and merges individuality and privacy will be monitored, used, and abused by those in positions of power. I create immersive, interactive operas using sonic environments, manipulated videos, librettos, movement and biometric EEG brainwave monitoring to tell compelling stories" (*Ellen Pearlman and Rashin Fahandej Selected*, 2019).

Krzysztof Penderecki equally used information based on the technology that reads human physiological data in his 1961 *Polymorphia*. The composer utilized encephalograms of mentally ill people made while they were listening to his *Threnody to the Victims of Hiroshima* for 52 string instruments. The sound canvas of both pieces consists of mobile sonoristic complex clusters.

Involvement of technologies and the laws of natural sciences allows fulfilling the creative design on a whole new level of quality. The experiments by the Switzerland-based artist and photographer Fabian Oefner who calls his activity "painting with physics" may be as an example for that. His photographic works are based on the natural laws of physics, chemistry, mathematics; when applied to color pigments and captured with a high-speed camera, these unique phenomena are considered to be high art.

In this context, the large-scale projects by Daniel Wurtzel come to mind. The artist creates original moving pieces using color, texture, and the laws of physics. The laws of physics also play a significant part in the artworks by Zimoun. Ordinary materials used for his sound sculptures—cardboard boxes, wooden dowels, and cotton balls—recreate unique artist's vision based on techniques and technologies inside the exhibition spaces.

Including technologies in the art process, using technologies as a metalanguage of sorts is a trademark of the projects by Damien Hirst, famous British artist and entrepreneur. His neoconceptual ideas are practically realized with the technological achievements which provide the contemporary artist with space and means to fulfill the most daring designs. His fellow British artist Marc Quinn also engages technologies in recreating reality in the art forms. According to the American Jeff Koons, "Art is really just communication of something," thus art in our days has to communicate creative fantasy of the artist into the outside world. Prior to conducting the final work, Jeff Koons digitalizes his sketches by using the computer graphics that enables to recreate the further process of complicated collective work on the project up to the moment of displaying the plastic or metal figures.

Promising directions of art and technology interaction

The very notion of creative activity undergoes changes these days, as it now denotes a range of artistic ideas and means of their realization, almost unlimited with any established rules and conceptions, with technologies often being a contributing factor to that. During the latest decades, they play a key role in changing the perception and interpretation of art events. In this context, immersive technologies are indicative, as they create an effect of immersion by using virtual reality and changing regular patterns/framework of perception. In order to achieve this, sound, touch, and smells are often used besides the visual component.

Japanese interactive museum MORI Building Digital Art Museum is a clear example of interactive/immersive involvement of the viewers. The projection on all the surfaces of the exhibition hall reacts on the moves of an individual, changing the picture according to the actions of the visitor. Creatively included in the artist's design, which hints at ontology of human existence, museum space prompts visitor to perform seemingly simple and logical and yet non-random, foreseen moves that eventually constitute the immanent essence of human existence. On the other hand, such creative technologies always engage recipient's attention, channeling his interactive

ways to explore the world into intercommunicative inclusion in the artist's design.

Furthermore, attention should be paid to the fact that the newest technologies stimulate intensification of interconnection between previously more autonomous social functions of art—entertainment, communication, and cognition. The latter acquire new senses now due to social orientation of postmodern art and due to its significance for the development of both an individual and society in general. Thus, the highly important process may be observed when the artworks become an interactive field of sorts where the audience is engaged in the process of creation and recipient becomes an equal participant of the art practices. For instance, in the project LINES — An Interactive Sound Art Exhibition the viewer becomes a participant of musical-acoustic creativity, when individual, space, and sound meet with the assistance of interactive technologies.

It is important to emphasize that the very idea of an artwork and its content, as well as significant social issues raised, distinguish art from pure entertainment. Nevertheless, the tendency for gamification of education and business—the use of game elements for teaching and personnel management—should be acknowledged. It allows to motivate people to solve problems which is integral part of the general system of knowledge and skills. These processes once again prove the major role of technologies in development of various spheres of human activity and bridging the gap between them.

Contemporary artists position themselves as the explorers of topical issues of our time. In their projects, they transgress established social taboos, norms, and rules in order to make society acknowledge and subsequently solve these problems. In such context, an artwork becomes a result of analytical and creative work. This work, as well as the stages of creation of the project, may be captured and presented to the viewer in technical and technological means of the virtual reality; hence, the audience observes all the stages of conception of the idea, its practical realization, and further existence of the completed artwork in society. In such a way, old mythologeme of eternal life of an artwork is kickstarted.

The next aspect to be addressed is *inventing the new materials* for creation of a polysemantic object. Understandably, the new materials occupy a significant place in art practice while the contemporary genres and genre precedents are developed; they are artistic artifacts, original art objects of sorts. Most often, these separate tree-dimensional artworks are assemblages and ready-mades. Such objects preserve the monolithic character of form, which installations and environment now lack, as they show only

compositional integrity. The practice of postmodern art of Ukraine includes objects since the 1960s (the first to create them were Sergei Parajanov, Karlo Zvirynskyi, Borys Lobanovskyi, etc.).

In order to intensify implementation of the new technologies in the postmodern art practice, including environment, Modern Art Research Institute of the National Academy of Arts of Ukraine jointly with the Institute for Scintillation Materials of the National Academy of Sciences of Ukraine conducts experiments in this interesting field since 2003. During the recent years, the following areas have been covered: the model of a cone based on the plastic scintillator was developed and produced; the method of producing the plaster compositions up to 2 t was developed; the method of producing the plaster samples of complex configuration in a luminescent polystyrene composition up to 0.5 t was developed; luminescent radiation was used and the optimal conditions of its dissemination in the polymer environment were determined; the dye synthesis for artistic coloring of polystyrene was used in art projects; the optimal mix of dyes and their quantity proportion for creating art objects were determined.

The exact calculation of the project and its material embodiment in the originally designed media gets a metaphysical meaning. In the artworks where the new media were used the creation of a new artistic form and new artistic image as if concur. And if it is the artist who defines the shape of the artwork, the images emerging in the mind of the viewer to a great extent depend of the unusual materials used for the piece. It is up to the artists—whether to share and disseminate ideas about the use of such media.

Communicative aspects of modern artistic practices

Speaking of the role of technology in development of postmodern art, what one should keep in mind is the social focus of artistic activity. Contemporary artist seeks the artwork to be liked; the main objective of the project is the emotional response of the audience. On the contemporary stage of its development, the aim of art is to reveal topical social issues which become pressing amid limited social contacts and communications. Non-random social narratives of the postmodern art are ambiguous, extending far beyond museums and galleries that significantly broadens communicative space of art. Intervention of art in social life becomes more and more active.

The quote by Damien Hirst ("People don't like contemporary art, but all art starts life as contemporary—I can't really see a difference") about the inevitability of the contemporary turning into the classical becomes yet

more evident: the pieces striking with their innovativeness are considered academic classic the next day (*Iskusstvo za pyat minut*, n.d.).

As the dominant narrative of any time is defined primarily with the interrelations between a person and surrounding world, all the tendencies in art, mentioned in the article, probably come down to the attempts of the art to most explicitly express the complex and contradictory nature of our time and contemporary man.

Ukrainian contemporary artist and researcher Oksana Chepelyk analyzes the practices of Ukrainian VR/AR art pondering over the question if the virtual reality could be made a "place for reflection"—a space to pose questions. Thus, Oksana Chepelyk forms a communicative space for understanding and interpretation of the authors' narratives set in her own visual art projects. Considering immersive documentaries *Chornobyl 360, Wounds 360, Shepherds*, the researcher observes that postmodern art is an important communicative mechanism in determining the significant socio-communicative dilemmas of the present day (Chepelyk, 2018, p. 60).

Conclusions

Amid the 2020-2022 pandemic, the influence of media means on the development of culture becomes even more evident. The processes of digitalization/virtualization of art projects have intensified. Globally, organizers of art events and museum workers have started to shift towards the development of media technologies in order to cover the widest possible audience with their content. In musical art, there were web-concerts, in visual art—virtual tours around the exhibition spaces. Most probably, such forms of presentations would evolve and spread further. Virtual reality allows to extend the boundaries of understanding of the surrounding world which is utterly topical for the art sphere.

The newest technologies stimulate intensification of interconnections between previously autonomous functions of art: entertainment, communication, and cognition. Thus, information technologies pave the way for reinforcement of interplay between the arts. This occurs due to openness and accessibility of the significant number of cultural, art, educational resources and grants a possibility of self-education and self-development, of practical use of the self-gained knowledge in certain art sphere. At the same time, the use of technologies in art assists the process of its "democratization", particularly in the aspect of value of specialized training for creative professionals. In the present time, public recognition often serves as a marker of professionalism. An individual of

practically any professional profile who initiates and realizes successful, resonating art projects may be considered an artist these days.

Artistic communication increasingly resembles a polylogue of cultures that is reflected in the interpretations of perception of the artworks; the latter are given the right to exist under any, sometimes contradictory, interpretations. The pluralism of styles, genres, trends, expressive means, which was never seen before, vividly showcases certain advantages of global society, allowing the artist to be almost completely free in his creative self-expression. Undoubtedly, rapid development of information technologies plays a significant role in these processes.

Acknowledgement

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