

Impact of Technology on Evolution Process and Expansion of Art

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Abstract

Human beings have witnessed rapid growth of technology that consumerism and the effects of technological era on art and the audience are unpredictable. Today, the use of various technologies in arts and their impact on the audience is undeniable. Although the mind is an important factor in the creation of artistic works, the evolution process of creation of artistic works expresses the ups and downs of shapes, aesthetics and content. Therefore, the present paper examines the role of technology in the production of work of art; and the impact on the audience in digital-oriented works with the aim to study the interaction of the audience and the digital effect based on the assumption that technology only raised the appearance of artistic forms into the problem. But influence of digital technology in art, the passive audience has become active and eventually intelligent over time, and during the technological developments, the user has taken the role in digital artwork.

Examining the studies and available evidence by descriptive-analytical method, the results indicate that digital world has brought a new identity and new characters that have different psychology. In this situation, the artist and audience are present in a continuous interaction and are constantly converging, so in this interaction, the audience's name becomes the user. In this sense, the user takes the role of the audience of the work of art and artist in an interactive relationship. The space and digital products will place the user in the position to enter the world and new experience, as a child who will experience the absolute universal freedom of the modern world. In this world, some audience as user break down the old code and with a new understanding of the aesthetics of the virtual world will have a new deal with the phenomenon of art. They are producing books that are related to the process of their lives and their understanding of this virtual world.

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1. Introduction

The consumerism and new technologies era lead to the generation of trends that each has its own visual language and unique expression. This multiplicity of expression with the abundance of various technologies, including digital technology, has over shadowed the process of creating and displaying artwork. In fact, in the late twentieth century, the influence of technology on art opened up a new horizon for artists and audiences, and provided the necessity to use digital instruments for audiences such as computers as a means of reaching the speed, accuracy, diversity, creativity and integration of diverse arts; in a way that since 1970s, the production of artworks by the new tools has allocated various names to itself such as computer art and digital art. The digital instruments led to evolution of activities such as painting, designing, sculpturing and music composing, etc. and new forms of art based on digital technology are crystallized as new styles of art. While explaining the position of technology in art, this research attempts to address the technical aspects and the effects of technology on digital art audience in order to achieve the answer to what extent the aesthetic reactions from technology to the audience have gone through the evolution?

2. Art and Technology

So, many researches have been done on art and technology, but they often investigate the issue of technology and art separately, except in certain contexts that only the presence of a technological tool and its evolution in art with the emergence of new forms of art such as digital art has been considered. Most of these studies by means of morphology of the artistic terms and technology have tried to study the process of evolution and formation of artwork during the previous centuries. But the effect of technology on changing the nature of the perspective and behavior of the artist and the audience toward the artwork has not been discussed. Man in the Technology era has been changed biologically and attitudinally. The state of humanity on the nature and capabilities of technology in the production of artistic work provided a lack of authenticity and originality in the field of artistic experience. Thus, various artistic forms emerged is based on reproduction (Gianni Vattimo, 1988: 54). Following the advancements of technology and the artists' lack of satisfaction with what they inherited from their predecessors, in the middle of the twentieth century, the desire for change in art was again created. In the digital era, some principles were broken down by others, and while a multiplicity of meaning appeared, a new artistic discourse was created that articulated the concepts of the artist and artwork in specific time and place.



Fig 1 Marcel Duchamp, Fountain, Prefabricated Porcelain (Marzona, 2010: 16)

In the twentieth century, Marcel Duchamp presented The Fountain to the museum as a work of art in an attempt to protest against the conditions of capitalism and museum managing (Figure 1). According to the institutional theory of art, what is important in line with this work, regardless of spatial and temporal conditions, is its placement in the museum. George Dickey, in the institutional theory of art, "claimed that what transforms artwork into an artistic work is not a specific feature of the work of art, but a special status given to it by a person or people from the artistic community" (Ramin, 2011: 391). Of course, some believe that this kind of attitude in art is the result of plots and initiatives of everyday life, that the reaction to which has led to changes in the nature of art and the emergence of postmodern times (Ocvirik et al., 2011: 467).

The foundation of the discourse of art, in each historical period, focuses on understanding the world and achieving a goal which, in contemporary times, has entered the global process with the collapse of the walls between cultures. Therefore, the artistic nature of a work cannot be searched just in its appearance, but outside the work such as keeping with the theoretical foundations, the historical passage and the nature of the instrument involved in the work of art.

3. Method

It is certain that technology is based on human imagination in relation to its surrounding environment and has changed according to the characteristics of each society. An interdisciplinary knowledge of technology plays an active role and influences on its thinking through its presence in all aspects of human society. Similarly, it is equipped with human resources that regulate and interact with the world in different ways. The present study was conducted by using a descriptive method and referring to library resources with the aim of achieving the concept of the artwork audience in the era of technology tried with the investigation of the relations between art and technology, examined the position of digital technology in the audience's aesthetics. Thus, with a profound look at digital art as a consequence of technology, the behavior of the audience and how it evolves in terms of digital phenomena can be examined.

4. Discussion

4.1. Technology Explanation

The explanation of technology is directly related to the evolution of knowledge. In Mesopotamia, people kept thousands of clay tablets related to legal contracts, sales, and laws in libraries in the city center, but with the invention of print more than 500 years ago and the advent of the Renaissance and the Enlightenment, the function of knowledge evolved. This development can be seen from two aspects: first, knowledge is as capital, and the main purpose is to transfer the correct information at the right time at lowest possible cost, but in the second strain, knowledge is a tool that creates conditions to the ease of sharing knowledge and practice based on the ultimate goal. Therefore, each strain leads to interaction.

Events and discoveries of the 15th century opened the door of the whole world to Europe, to the point where the Enlightenment era brought all humanity and the universe into itself. It is not possible to easily reach a point of sharing in defining issues that depend on human experience. The philosophy of technology is one of the issues that, because of its relationship to reality or human experience, the definition or conceptualization are disputed. The term technology has been used since the beginning of the emergence of modern society, and generally refers to nineteenth-century instruments, systems, and technical, industrial and electronic processes.

This term was also used to describe the design, painting and sculpting practice. Of course, design and painting, and even the nineteenth-century photography, have become fashionable and aging, because the term "new technology", such as digital and electronic systems, the production and display of video, DVD, computer simulation, and even Internet technologies are used in art. So, while painting brush as a tool of technology, it was difficult to understand brushes as a technology in such a situation. From the perspective of contemporary visual arts, with the advances in technology since the 1970s, contemporary artists have ceased to work with the traditional painting and sculpture media; rather, they have been working on animated or multimedia-based products. (Harris, 2006: 316- 317).

4.2. Technologic Art

In recent centuries, the presence of new technologies is evident not only in software, but also in the production of games, digital media, advertising and information. Thus, with the advent of technology in the human livelihood process, a new conception of culture and subculture was born. So that, if all the mechanical innovations of the past five millennia disappeared from mankind, a wicked harm would come into his life, but man would still remain human; but if the interpretation was taken from him, the planet would be destroyed more quickly than imagined; and mankind more than any animal is in a helpless state. Since human beings have a sense of thought, the human goal has been to use its organic resources to achieve the achievements of technology, in order to fulfill its wishes. That's why Lewis Mam Ford believes that "human essence is not making, but finding or interpreting" (Mitcham, 2013: 55).

Concurrent with technology development and the artists' interest in using it in creating the artwork, the artists' communities were divided into two groups. The first group was those who, without paying attention to galleries and museums, used direct dialogue to maintain their contact and audience, and the second group used the digital page to pursue their goal. Gradually, they provided possibility that the respondent comes out of his potential state and finds the possibility of interference in the provided work (Baqi, 2011: 19). Contemporary art has strengthened the feeling

that every work of art can be experienced on the basis of the inner principles and without reference to other objects in the world through technology that is used in it (Wared, 2005: 103). So, can any work that utilizes the capabilities of the tool be considered as an artwork? The answer to this question leads us to the theory of Roman Jakobson about the linguistic role of artwork. He points to five functions.

1. *The emotive (alternatively called "expressive" or "affective") function*: Emphasizes the expression of inner feelings.
2. *The cognitive function*: Refers to the involvement of audience in doing something. (Works such as advertising teasers, military marches, etc.).
3. *The metalingual (alternatively called "metalinguistic" or "reflexive") function*: It deals with the media itself. For example, a movie that deals with cinema and film itself.
4. *The referential function*: Represents information such as news posters and personnel photographs.
5. *The phatic function*: The orientation of the message towards the channel of communication (Sassani, 2010: 208).

It is worth noting that every artistic feature must have a realm of expression and discovery specific to itself, but in technology-based works, the instrumental nature plays an important role. Accordingly, Marshal McLuhan believed that new technologies would enhance human perception, and moot themselves as a message. In his view, content is less important than the media structure, and it is the media structure that deeply shapes human consciousness. In McLuhan's perspective, the media is a continuum of human senses that leads to the expansion of the relationship and the emergence of a global village, and human beings will become more and more developed as a result of technology, and they will establish a close relationship with real issue (Parhizkar, 2010: 187). In discussion of the medium of the message, McLuhan emphasizes that the message media sends a message related to the technical nature of the medium and is decoded. Therefore, media imposes itself as a message, but what we consume is outcome of a world which is interpreted in terms of media, because in most cases the real role of the media is hidden from the audience and the media presents itself as a message. For example, TV "message" is not the images that it sends, but new ways of communication and understanding that it imposes. In fact, the truth of the media lies in neutralizing the unique, universal, and ultimate characteristics of the world and replaces the multifold world of the media with it. "This means that the true message that the media sends, is the message that is decoded and is used internally and unconsciously, the clear concept is not sounds and images, but this message is a limiting pattern (related to the technical nature of that medium) of the separation of reality to sequential and equivalent symbols" (Baudrillard, 2001: 113).

The question now is how can the outcome of this attitude be evaluated in art? This attitude in the realm of art has come about in societies where technology has increasingly transformed the existing personal beliefs with the massive influx of very large and varied information, and this transformation has created an interactive insight into art.

4.3. Computer Art (Digital)

Following advances in technology, the introduction of computers into the realm of new wave of art created the realization of Marcel Dushan's belief on the dependence of the concept of artwork on the audience. Because visual information in digital technology was so flexible, that the image in the language of the medium became information and could be manipulated. Therefore, technological advances encouraged artists to use the modern media to produce their works. Another, technical facilities for strangers were not strange and unfamiliar but were considered as an encouraging

factor, resulting in numerous performances in art. In the second half of the twentieth century, digital technologies such as computers were the means by which computer art was created, and the artistic work of computer and digital tools was formed. Artwork is provided using digital media and in graphic forms. Until the mid-1960s, only engineers and scientists were involved in the creation of computer art through research laboratories. According to Darley, the 60s is a decade of optimism toward computers, as it has solved many social and political problems. In this decade, programmers are beginning to write algorithms that can produce consistent and linear images.

Darley envisages two types of orientation in aesthetics of computer imaging or, in general, digital art. First, in the 1970s, software engineers tried to create tools that could interact with the audience. Secondly, with the help of realistic aesthetics and the realization of boundaries, they tried to transform the virtual experience of the audience into real experience (Moridi, 2015: 94-96). Michael Noll was one of the first digital artists who worked on the quality of telephone transmission. In 1962, he designed a computer that produced a visual pattern for artistic purposes. Computer models produced simulations of Mondrian and Rayleigh paintings (Rush, 2010: 199).

Lev Manovich calls this trend as a balancing act of art and software. By the way, when a picture is presented as a numeric matrix, it can be used to execute various algorithms such as color contrast and contrast, automatic changeover and reproduction (Manovich, 2002: 141-145). This interpretation is very important in computer art. Because in this computer art, they are not aware of the nature of the data, and they all have the same importance at a glance.

5. The Aesthetic of Digital Art

New media, a form of art under the umbrella of aesthetic issues, provided new types of modes and forms of production and consumption through sensory data, and set new challenges for the semantics of the audience. In the era of digital forensics, artwork is never definite, because it is always in the hands of the consumer, both the interpreter and the creator of the work. During the transition from the industrial age to the electronic age, artists gradually become interested in the commons between arts and technology community, which has worked together with engineers and artists such as Andy Warhol, Robert Rauschenberg, Tingley, John Cage and Jasper Jones, and eventually turned into a feature of digital art.

It is worth mentioning that digital media-based arts, for interacting with the environment and the audience, provide new criteria for structuring and interpreting the work. The idea of artistic work as a time-consuming and short-lived existential interferes with the fluid structure of media-centered works and, by placing multiple systems in it, leads to genre displacement. In fact, art based on digital technologies challenges time, place and space and turns into a combination of information retrieval and communication tools; therefore, new insights are created about the creation of meaning, physical presence, and true conscience. Therefore, digital aesthetics is based not on the form's analysis, but on the basis of a structural understanding of the relationship between ontology and observation, and reflects certain developments that are of a computer-like nature (Boccampman, 2001: 25-27).

6. The Meaning of Interaction in Art

From the beginning of the 20th century, in order to personalization and empiricism in the artworks, the artist looked at his existence with doubts. At this time, the artist was no longer looking to create beautiful images. Therefore, conditions were created to make interactive insight in art.

Marcel Duchamp and his associates create works that were sometimes interacting with the audience and the environment. Duchamp emphasized the involvement of the audience and believed that audience is part of the work of art and its completion factor. This idea was implemented in the late 20th century in new and interactive art. For example, the Duchamp's rotative plaques verre (Figure 2), created in 1920 with the help of Man Ray, it is made up of a visual machine and invites users to turn the device on and off at a certain distance, and observe the revealed effects. Transformation of the object into the concept that is embodied in many works of the new art can be seen as the previous generation of the concept of the virtual object as a structure in the works of Duchamp. By looking at the new works, especially the works that are possible to capture and manipulate the images in them, digital art works can be considered as interactive effects

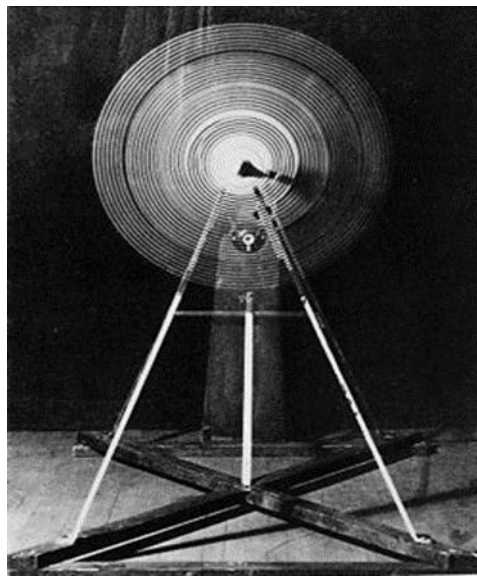


Fig 2 Marcel Duchamp and Man Ray, Rotative plaques verre, 1920 (www.dada-companion.com)

In the new art, the artist uses digital instruments as artistic media and sees it as part of the process of producing his work. Nowadays, with the lack of border between arts and the presence of computer and digital facilities, the boundaries between styles and artistic events are more confusing and by the means of computer images manipulation can take place (Lucie Smith, 2011: 20).

7. The Audience's Position in Interacting with Digital Art

Technology development has stimulated visibility so much that a new kind of movement abstraction emerged and digital art was named (Halby, 2003:180). This art takes two types of orientation. First, software and hardware engineers in the 1970s tried to create that could interact with the audience. Secondly, with the help of realistic aesthetics and crossing the realities of the boundaries, they tried to transform the virtual experience of the audience into real experience (Moridi, 2015: 94-96).

Collaboration between the audience and the author is one of the most fundamental features of digital technology that eliminates the boundaries between the audience and the author, because the audience is able to manipulate and change the content produced by the authors. Audiences can attach something to the original content or even remove something from it; therefore, in the

interactive process, the choice of the audience is important, because it affects the process of formation of the work. For example, in multimedia works, the author finds this possibility at any time to use commonly used expressions in a variety of media; equally, audience can also interact with the quality of content at the same time as receiving a message. It is important to note that in this systematic process, by the impressibility of the emotions of the audience the mental challenge is formed. The artist, with a logical look, transforms beauty into an algorithm, which is generally influenced by the laws of natural and predictable nature. Therefore, what determines the cultural and technological community in a given technological society is the understanding of the following three points: 1. The values of the audience, 2. The cultural expression, 3. Cultural Institutions and their social functioning (Mouchtouris, 2015: 83).

Bourdieu believes that the taste of individuals varies according to their social class. He relates cultural investment with the concept of form or internalized class conditions and its conditionality's, and divides the audience's attitude into two categories. One is a pure look at the production and understanding the works and the other is a practical or non-functional look. At first glance, representativeness is more important in representing the subject. An eye that sees a work legitimate and contemporary is created and cultivated with the creator of a cultural production field. This eye is a product of history and history is reproduced with instruction. The folk patronage of art not only does not refer to art history, but rather shows need for empathy and clarity. Bourdieu notes that the working class people all expect images, pictures or paintings, to work, and their judgments, praised or blamed clearly issued on the basis of norms of morality or custom.

"The audience is the key to understand art, because the produced meanings and the ways in which art is used does not depend on the creators but also on its consumers" (Victoria Di, 2014: 279). According to the institutional theory of art, "the work of art is legitimized by the institution, but it's strength true values are achieved from the welcome received by the audience" (Mouchtouris, 2015: 45). Following the disappearance of the boundary between art and everyday life, the sixties coincided with the emergence of the twentieth century's subcultures and strategies. During these years, Dushan was praised with ready work, and this story has a two-sided approach. At first glance, direct struggle against art and the ultimate dehumanization of art, and moreover, the existence of art in everywhere and everything means that art is found in anti-art and every product and consumer goods, or even in human body and body (Fetherston, 2001: 189).

Audiences are generally associated with artistic works through one of two general aesthetic approaches. People's aesthetics, which is emotional and passionate, rewards visual realism and pure aesthetics that values art not in terms of the subject, but because of its form (Victoria Dee, 2014: 429). They are actively involved with the artwork, because the levels of individual attention to artwork vary. In fact, how productivity and attitude of the audience are determinants. In the shadow of the interaction of the new arts and media, the quality, originality and unity of the artwork collapsed due to the influence of media patterns and the multiplicity of works and made it a cultural commodity in the capitalist system and consumption and industrial production. Conceptually, therefore, the semantic relationship of these works with capitalist society, media and consumer culture is formed. As the decline of the modern age-era isms and the emergence of new media, the classification of work of art is made possible through the productivity of technology in the creation of works. In fact, technology is the basis of designing, creating and displaying work, but what is certain is the presence of a technology user who uses his idea of converting his idea of it as a tool.

8. Conclusion

In the present era, man has an abstract nature and it is constantly changing, and s/he is defined in different ways, for instance, based on place, time, specific kind of media, content, social situations, and tendencies and beliefs.

Digital art in this decade brought about a change in the artist's concept that the work of art had no longer a creator, but a collection of artists and specialists based on the original idea of an artist designer, produced an artwork. The work of art is no longer a unique work; it has the ability to produce and reproduce. Due to the media surge, each artist uses his or her media from photography, painting, performance, film, or animation to create his own work and by taking into account the particular manner of expression, s/he interferes his or her personal with work. For this reason, interactivity is one of the features of these works. This means that the works involves a virtual environment (two or three dimensional), built by the computer, and the viewer often interacts with the intermediaries with the effect.

In the virtual space, it's not possible to categorize the author and the audience. We deal with people who as much as are authors can be considered as audience. In other words, there is no particular difference between the author as creator and the author in the role of the audience. In general, these interweaved roles can be called the user. The digital product spaces and software will put the user in the position of entering the new world and experience. When he enters this world, sees a vast array of possibilities in front of him, and as he experiences the world as a child in which he has achieved absolute freedom and tries to understand the necessities and ethics of this world; therefore, many of the audience come out of the role of the user and they compose and produce something. From this perspective, some audiences, and certainly not all of them, break the old codes and have a new understanding of the aesthetics of the virtual world and a new interaction with the phenomenon of art, which is related to the process of their living and their recognition of this virtual world. So the digital world brings a new identity and brings new characters that have different psychology. In this community, the artist and the audience are in continuous interaction and are constantly evolving.

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