Artistic Resources of Media Architecture*

Galina Ptichnikova
Scientific Research Institute of Theory and History of Architecture and Urban Planning
Branch of the Central Institute for Research and Design of the Ministry of Construction and Housing and Communal Services of
the Russian Federation
Moscow, Russia
E-mail: ptichnikova_g@mail.ru

Abstract—**The following article describes the artistic resources of media architecture, allowing for visual communication and informational impact on a person. The author studies the specifics of the artistic means of media architecture using the method of historical analogy. Analysis of a large number of media objects shows that many of the characteristics of media architecture are similar to the artistic means of the Gothic style, separated from the present by many centuries. In the process of research, the author substantiates this hypothesis on the example of well-known objects of media architecture. Based on theoretical approaches, case studies and interdisciplinary research, the author reveals the use of such characteristics as light, color, quality, fluidity, variability. The use of these recourses returns architecture from rational functionality to its artistic foundations.**

Keywords—media architecture; media art; aesthetics; information technologies; "Electronic Gothic"

I. INTRODUCTION

Nowadays, media as a set of technological means and methods of communication, serving for the transmission of information messages, as well as the environment formed by them (the media space) has become an integral part of modern urbanism. Their role has changed radically, and today they themselves determine the cities' way of life and ideas of time and space, affect urban planning and development of architecture. As Japanese architect Toyo Ito emphasizes, modern architecture is turning into a means of "growing into" an information environment: "The contemporary architecture needs to function, in addition, as a means to adjust ourselves to the information environment. It must function as the extended form of skin in relation both to nature and information at once. Architecture today must be a media suite" [1].

Digital data streams invade the space of the modern city, transforming it, merging with it and forming new complex objects, which are called media architecture [2]. Media objects increasingly affect the urban environment through

the use of a wide range of visual and dynamic effects [3], [4], [5]. In this regard, the study of the new visual language and aesthetic characteristics of media objects is an important task of the theory of modern architecture.

The aim of this article is to study the artistic means of media architecture, peculiarities of the tools it uses, which allow carrying out visual communication and information impact on the person.

Scientific works that research architecture in the context of information and digital culture are the most relevant in the context of this article. These include the works of Russian researchers L. S. Akhmedova, E. V. Barchugova, D. V. Galkin, I. A. Dobritsyna, M. V. Dutsev, N. V. Kasyanov, Y. D. Prudenko, N. V. Rochegova, E. V. Salnikova. Among the foreign scientists the works by P. Dalsgaard, T. Ito, L. Manovich, S. McQuire, J. T. W. Mitchell, S. Picon, A. Vande Moere, R. Venturi, P. Virilio, N. Wouters should be noted. The names of a number of well-known architects are associated with the implementation of the projects of media architecture. Such masters as Toyo ito, Zaha Hadid, Erick van Egeraat, Henning Larsen, Heinz Neumann, Carlo Ratti, Ben van Berkel (UNStudio), Stewart A. Veech (WMA), Andrew Melton and Carlos Ferré (A2a MEDIA) especially stand out in this regard.

II. THE HYPOTHESIS OF THE STUDY

In the context of this work media architecture is understood as a type of art, the works of which are created and presented with the help of modern information and communication (or media) technologies, such as video, computer and multimedia technologies, the Internet. These new technologies have allowed a new use of already known artistic means used in architectural works, the main of which are the organization of space and tectonics of form. The author proposes to study the specifics of artistic media objects using the method of historical analogy. The history of architecture makes it possible to objectively assess many of the processes of modernity, which seem to go beyond all known limits. The hypothesis of the research is that digital computer media technologies allowed architecture to reach a qualitatively new level, transformed the structure of the architectural object, gave it new artistic and aesthetic properties, which, however, are similar to the artistic means of the Gothic style. The author is not alone in the quest to

find analogies in the development of modern architecture, wrapped in the shell of media facades, and seemingly well-studied Gothic architecture. The term "Electronic Gothic" in relation to media architecture has been used for the first time by the French philosopher and architect Paul Verilio in 1998 [6]. He was referring to the fact that electronic media architecture affects the perception of people, the same way as medieval architecture of Gothic cathedrals did.

So, let's analyze what artistic means does media architecture use to create a space that plays with form and imagination and brings to life exciting visual images.

III. THE SPACE OF LIGHT AND COLOR

The light-color spectacle of modern media architecture relies on the sensual impression the same way Gothic architecture did. The stained-glass window shining with colored reflections in the gloomy space of cathedral reflects the idea of divine light. Light as the primary source of existence determines the light symbolism of medieval architecture. Light is the boundary between the material and the divine worlds, between visible and invisible. In many ways, the aesthetic essence of Gothic architecture is transmitted by means of light and color, forming the space of the church. Ornaments, patterns, images make up a special color-light structure, which makes a stunning impression on believers by the play of light and color.

The structural role and logic of the use of light and color is determined by their objective and illusory properties, evoking psychological associations. The introduction of modern media facade technologies, interactive and led technologies, made possible to visually change the volumetric and spatial characteristics of buildings through the dynamic management of lighting scenarios. 40-storey "Light House 888 Collins Street" skyscraper in Melbourne, Australia, built in 2017 is the image of the modern cathedral. The prism-shaped building is "wrapped" in a glowing "skin", which interprets incoming weather data and translates it into digital visualizations. Light images move around the facade and change color to provide information about current and upcoming weather conditions. Information content is displayed by lines of LEDs built into thirty-five vertical edges placed on the facade. Depending on the forecasts of meteorologists their length, intensity and color change.

The play of light-color effects in media architecture objects is similar to the use of artistic means in painting. In other words, from painting architecture seeks to borrow a new force of expressiveness and impact on the viewer [7]. The facade goes to the front and puts the architectural object in one row with visual arts. The same way as visual art forms exist in the realms of illusion and imagination, media architecture, returns to the bosom of the artistic process, and becomes the art of illusion.

IV. DE-MATERIALIZATION OF FORM

Media architecture is the successor of Gothic, performing the dematerialization of the material. Well-known Russian theorist of architecture Irina Dobritsyna

writes: "Architecture, aspiring to novelty, carries out a number of theoretical moves: completely separates the problems of form from function, separates the concepts of form and image, conducts a very rigid separation of the structure and the shell" [8]. Media architecture goes for the destruction of any trace of constructive tectonics, integrity. Dynamic curved shells of facades are connected to information displays, which are perceived as an ultra-sensitive phenomenon.

The facade plays an important role, being the main means of architectural communication. The forms, proportions and decorations of the facade for centuries have been determined by the purpose of an architectural structure, its design features, and the stylistic solution of its architectural image. Practice shows that currently, when "putting on" the media facade, an architectural object abandons these principles. An Architect-urbanist, professor at the Massachusetts Institute of technology W. Mitchell emphasized that architecture is no longer a plastic game of masses in the light. It now includes a play of digital information in space. [9]

An example of an atectonic shape when the shell acquires complete autonomy is a shopping arcade Galleria CenterCity in Cheonan, Korea, built in 2010.The authors have implemented the concept of a hybrid public space, when a commercial facility is combined with socio-cultural practices. The idea of the realization of visual and spatial interaction of the building with the environment was born on the basis of this concept. The outer shell of the building is absolutely "silent" about its internal organization. There are no hints of horizontal levels, rooms, stairs or escalators. Such atectonism creates the illusion of changes of scale and size of the building. In Gothic architecture, the visual structure also does not coincide with the real structure.

During the day, the shell of the shopping gallery is monochrome, but at night soft play of color is used to create waves. The lighting and animation program transforms the shopping center into the shining urban beacon. Computer animations include themes of fashion, art, social life of the city.

V. AESTHETICS OF FLUIDITY

In media architecture reality disappears in a kaleidoscope of fantastic images that change with great speed. American researcher Lev Manovich in his analysis of the language of new media, distinguishes this effect of "fluidity" of media as a separate category of "variability" [10]. It connects this quality with programmability, that is, the algorithmization of processes of the succession of changes.

Paul Virilio distinguishes two kinds of aesthetics: the aesthetics of appearance and the aesthetics of disappearance [11]. The first type of aesthetics refers to paintings or sculptures that appear before the audience as stable forms that remain in their materiality. Virilio noted that Gothic cathedrals convey constant static messages through sculptures, tapestries and mosaics. The second type of aesthetics — the aesthetics of disappearance can be

represented by cinema, where the image exists only when it disappears. This image is fluid, changeable. The cinematic aesthetics of disappearance has had a huge impact on contemporary art [12]. It initiated the transition to the presentation of images and forms that supersede the real.

In the aesthetics of disappearance, temporal changes, rather than spatial or material qualities, come to the fore. There is a transition of immediate reality into virtual reality happening, which destroys reality itself. The metaphor of the "disappearance" of sensual images in the media facades seems to be the essential characteristics of the model of the information society, allowing fixing the ultimate base for the aesthetization of subjective reality.

Digital transformation soft the media facades of the hotels in Sanyaon the Phoenix Island, China, built in 2013, are a memorable spectacle. Several curved buildings, erected on an artificial island, look like corals growing from right out of the sea, and are perfectly visible from everywhere on the promenade of Sanya. True media performances take place there at night. From time to time huge dragons fly from one building to another or giant jelly fishes fly up from the depths of the sea. Suddenly, each building turns into a globe with the characteristic outlines of continents, and seven planets start spinning before the amazed audience.

Today media buildings transmit active and ever-changing visual messages. The flow of informational images often makes reading the textual-semantic content of the components of culture impossible, leading to their replacement by non-verbal and pictorial forms. This aesthetics of variability make the connection with the very essence of digital culture obvious: fluidity, incompleteness, constant updating are the attributes of any database [13].

A striking example of the dynamic transformation of the shape of the building is the tower of the "Uniqa" insurance company — the Uniqa tower in Vienna, Austria, built in 2006 above the Danube canal. Night is the main time of day for the Uniqa tower, when the building turns into a light sculpture. High resolution screen consisting of 40 thousand pixels, allows the media facade to show photographic images. The flow of visual images is literally bewitching. A fascinating performance in which abstract geometric images replace each other unfolds before the eyes of the audience. They sway like the waves of Danube, or form into blocks with deformed geometry, or disappear for a moment, only to appear in unexpected places, turning the building into a mystical sight. The very slim body of the skyscraper warps, turns over, and grows strange convexities and concavities. The illusion appears that the building spins or shrinks, or then flattens, or on the contrary flies up defeating gravity.

VI. CONCLUSION

The aesthetics of media architecture are radically different from the aesthetics of modernist architecture, including the choice of the artistic resources. The values of constructive truth and honesty of displaying the inner content of the modernist building in media objects are replaced by a decisive split between the structural basis and

the shell. The media facade is now created and works according to different rules than the building filling. The external "skin" of the building does not care about transferring the information on the internal structure of the "body" to the outside world. Media facades have very different tasks. The facade is perceived as an interface of urban fabric, it turns into an informational membrane between the architectural object and the surrounding urban space [14].

The main artistic resources of media architecture are light and color, ephemeral substances that are prone to change and movement. The works of "Electronic Gothic" strike with the play of fantastic images of light and color. In contrast to the architecture of modernism with its monochrome coloring, polychrome mysteries offer the viewer a magical mystical transformation of color waves. This virtual world envelops, fascinates and gradually grows into the material reality of the city. Media spaces with ideal computer images involve a person into the global world, into a uniform digital space [15].

Media architecture refers to artistic and expressive means of painting: color, line, spot, light contrast. The essence of the picturesque approach used by media architecture is the creation of images related to the light and air environment surrounding them, in fine gradation of tones and soft color transitions. Movements, fluidity, variability of visual images, which media facades have, have replaced the aesthetics of constancy. These qualities are inherent in the digital environment and natural to the changes in databases. These characteristics bring the sense of endless transformations in the urban environment de-materializing it, reflecting the essence of information flows of the digital world.

All these processes show the need for further research of media architecture as a new phenomenon of modern culture.

REFERENCES

[1] T. Ito. Image of Architecture in Electronic Age. URL: http://umdb.um.u-tokyo.ac.jp/DKankoub/Publish_db/1997VA/english/virtual/01.html (accessed November 27, 2018).

[2] S. McQuire. Rethinking Media Events: Large Screens, Public Space Broadcasting and Beyond. New Media & Society. 2010. pp. 567-582.

[3] I. A. Dobritsyna. New problems of architecture in the era of digital culture. Academia, 2013. No. 4. pp. 42-53. I. A. Dobritsyna. Novye problemy arkhitektury v epokhu tsifrovoi kul'tury. Academia. 2013. No. 4. S. 42-53. (in Russian)

[4] M. Struppek. Urban Screens — The Urbane Potential of Public Screens for Interaction. Intelligent Agent. vol. 6. No. 2. (July 2006). URL: http://www.intelligentagent.com/archive/Vol6_No2_interactive_city_struppek.htm (accessed November 27, 2018).

[5] E. V. Salnikova. Visual Culture in the Media Environment. Current Trends and Historical Excursions. Moscow: Progress-Tradition Press. 2017. p. 552. E.V. Sal'nikova. Vizual'naia kul'tura v mediasrede. Sovremennye tendentsii i istoricheskie ekskursy. M.: Progress-Traditsiia, 2017. 552 s. (in Russian)

[6] P. Virilio. We May Be Entering an Electronic Gothic Era. Architectural Design. Architects in Cyberspace II. vol.68, No. 11/12. 1998. pp. 61-65.

[7] G. A. Ptichnikova, O.A. Antyufeeva. Art in the Architectural Space of the Modern City. Sociology of City. 2017. No. 2. pp. 62-74. G.A. Ptichnikova, O.A. Antiufeeva. Iskusstvo v arkhitekturnom prostranstve sovremennogo goroda. Sotsiologiia goroda. 2017. No. 2. S. 62-74. (in Russian)

[8] I. A. Dobritsyna. From Postmodernism to Nonlinear Architecture: Architecture in the Context of Modern Philosophy and Science. Moscow: Progress-Tradition Press. 2004. p. 266. I.A. Dobritsyna. Ot postmodernizma k nelineinoi arkhitekture: Arkhitektura v kontekste sovremennoi filosofii i nauki. M.: Progress-Traditsiia, 2004. S. 266. (in Russian)

[9] W.J. T. Mitchell. E-Topia: Urban Life, Jim — But Not as we Know It. Cambridge,Massachusetts: MIT Press. 1999. p.184.

[10] L. Manovich. The Language of New Media. Cambridge, Massachusetts: MIT Press, 2001. p. 202.

[11] P. Virilio. The Lost Dimension. New York: Semiotext (e). 1991. pp. 25-26.

[12] G. A. Ptichnikova. Architecture Design Fabulous Reality: The Cinema, Theme Parks and Disneyland. The Modern Architecture of the World. No.1. Ed. N.A. Konovalova. Moscow: Nestor-History Press. 2011, vol.1.pp. 89-108. G.A. Ptichnikova. Arkhitektura kak konstruirovanie skazochnoi real'nosti: kinematograf, tematicheskie parki i Disneilendy. Sovremennaia arkhitektura mira. Vyp.1. Otv. red. N.A. Konovalova. M.: Nestor-Istoriia, 2011. S. 89-108. (in Russian)

[13] L. Manovich. The Poetics of Urban Media Surfaces. First Monday. Special Issue No. 4: Urban Screens: Discovering the Potential of Outdoor Screens for Urban Society. (February 2006). URL: http://firstmonday.org/issues/special11_2/manovich/index.html (accessed November 05, 2018).

[14] J. Sauter. Das Vierte Format: die Fassadeals Mediale Haut der Architektur Digitale Transformationen. URL: http://www.netzspannung.org/cat/servlet/CatServlet?cmd=netzkollekt or&subCommand=showEntry&entryId=257044&lang=de (accessed November 05, 2018).

[15] E. A. Akhmedova, A. D. Kandalova. Media Technologies in the Modern City. Bulletin SSACU. Urban Planning and Architecture. 2016. No. 3 (24). pp. 44-48. E.A. Akhmedova, A.D. Kandalova. Mediatekhnologii v sovremennom gorode. Vestnik SGASU. Gradostroitel'stvo i arkhitektura. 2016. No. 3 (24). S. 44–48. (in Russian)