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PERSPECTIVES OF AVANT-GARDE IN THE ARCHITECTURE OF NATURAL AND VIRTUAL SPACE

PERSPEKTYWY AWANGARDY W ARCHITEKTURZE PRZESTRZENI NATURALNEJ ORAZ WIRTUALNEJ

Abstract:

The avant-garde rejecting conventions was the result of the ambition of originality. After modernism abandoned tradition and postmodernism the remaining principles, there is no place for avant-garde. The pursuit of originality has been replaced by the pressure of innovation. New paths of development are marked by virtual space. Studies of architecture evolution in the conditions of fading boundaries between natural and virtual worlds indicate that progressive cyberspace can constitute a breeding ground for avant-garde inspired by new possibilities.

Keywords: avant-garde, cyberspace, virtual space, natural space

Streszczenie:

Odrzucająca konwencje awangarda była efektem ambicji oryginalności. Gdy modernizm odrzucił tradycję, a postmodernizm pozostałe reguły, nie ma już miejsca na awangardę. Dążenie do oryginalności zostało zastąpione presją innowacyjności. Nowe ścieżki rozwoju wyznacza przestrzeń wirtualna. Badania ewolucji architektury w warunkach zacierania się granic pomiędzy światami naturalnym oraz wirtualnym wskazują, że cyberprzestrzeń może stanowić pożywkę dla awangardy sprowokowanej nowymi możliwościami.

Słowa kluczowe: awangarda, cyberprzestrzeń, przestrzeń wirtualna, przestrzeń naturalna

1. INTRODUCTION

Perhaps the most striking transformation effected by these technologies is the change in our perceptions of materiality, space, and information, which is bound directly or indirectly to affect how we understand architecture, habitation, and the built environment.

Elizabeth Grosz on digital technologies¹

¹ E. Grosz, *Architecture from the Outside: Essays on Virtual and Real Space*, The MIT Press Cambridge, Massachusetts, London 2001, p. 76.

Before the rapid development of information technologies, physical space – a part of the Earth's surface between its crust and the stratosphere – constituted an almost exclusive stage for architectural activity. Its extension was the space of imagination expressed through art: paintings, literature or designs that made it possible to create spatial concepts that were not implemented or could not exist in the physical space but existed in the collective consciousness thanks to representations and descriptions². We are currently witnessing ambitious plans to expand the physical field of urban and architectural activity through the colonization of extra-terrestrial space and the related development of the concepts of space architecture.

In the meantime, an alternative, pioneering phenomenon has emerged – *a virtual space* – offering unprecedented opportunities for architectural expansion. The new phenomenon is already shaping the way developed societies function in their daily activities, enabling remote work and learning, simulated training, and offering new forms of entertainment. As Elizabeth Grosz notes, cyberspace is the most imaginative discovery of the information age, with its own potential for development as a separate and parallel reality to the physical world³.

Virtual reality can influence architecture by creating new perspectives for the avant-garde, whose existence in liquid postmodernity was impossible or at least uncertain⁴. In the past, avant-garde understood as creativity rejecting conventions was a consequence of egocentric ambition of originality. After modernism rejected tradition and pluralistic postmodernism the remaining rules, there was no place for the avant-garde in architecture. In the face of cultural change and the spectre of climate catastrophe, the egocentric ambition for originality has been replaced by the democratic pressure for innovation. Architecture is now expected to provide not only spatial, but also social and ecological solutions. While at the turn of the 20th and 21st centuries there was a lack of conditions for avant-garde in architecture, the emergence of a new field of expansion may change this situation by providing technological unification of the direction of development in shaping space in a new, universal environment devoid of the laws of physics and spatial or temporal limitations. The design ideas and solutions developed in the unconventional environment can influence the ways of transforming natural space. Referring to the initial quotation, cyberspace is already changing perceptions of physical space, its transformations and processes of inhabitation.

2. RESEARCH OBJECTIVES AND METHODS

The aim of the research is to evaluate the perspectives of the avant-garde in the architecture of natural and virtual space. The hypothesis constituting the initial point of investigation is an assumption that due to a new area of expansion, unfettered by the laws of physics and the limitations of time and space – which is the virtual space – in postmodern reality there may appear conditions for the emergence of avant-garde in architecture. In order to conduct that assessment, I analyze the phenomenon of virtual reality as a pristine land ready for the arrival

² The diversity of the imagined world of architecture and urban planning can be witnessed in the guidebook authored by A. Manguel, G. Guadalupi, *Słownik miejsc wyobrażonych*, Państwowy Instytut Wydawniczy, Warszawa 2019.

³ E. Grosz, *op. cit.*, p. 75.

⁴ Z. Bauman, *Ponowoczesność, czyli o niemożliwości awangardy*, "Teksty Drugie. Teoria literatury, krytyka, interpretacja" 1994, nr 5/6 (29/30), p. 171.

of *arte dello spazio* and the contexts of the 20th-century avant-garde understood as a pursuit of originality and exploration of the unknown.

3. VIRTUAL SPACE AND ITS IMPLICATIONS FOR ARCHITECTURE

Creating architecture understood as transformation of existing space is an element of our being in space and time. Spatiality and substance mark our perception and define our existence⁵. In our search for better living conditions, we began to transform natural space, and through evolution we established the profession of architect, whose primary task is to develop a project that is eventually implemented. The transformation of natural space is achieved by the following process: *idea – drawing – realization*⁶. Thus, a particular part of the architect's work is the preparation of documentation representing his/her intention, the purpose of which is to reflect as fully as possible the spatial, that is, three-dimensional concept in a manner reduced most frequently to two dimensions. There emerges the issue of *representation of space*, which is the subject of systematic improvements⁷. Due to the development of information technology, a new digital spatial environment has been created that allows the creation and exploration of three-dimensional models⁸.

Virtual space is not solely a representation of natural space, but its *simulacra*⁹, although it can be used for the purpose of representation – constitutes an alternative spatial reality with its own possibilities of development. The essential features of virtual reality are: the possibility of *atavistic exploration*, progress in satisfying the full *sensory experience of space*, and the *independence* of virtual space in relation to the natural world. The possibilities of shaping virtual space seem to have no limits, relative to natural space we can point out the following distinctions:

- infinity of space resources,
- lack of physical laws,
- lack of continuity of space,
- possibility of sharing space from any place and at any time,
- lack of material limitations¹⁰.

Both a threat and a challenge resulting from the dynamic development of virtual reality technology seems to be the breaking of the basic dependence of space on the world of materiality. This relationship still remains, information is recorded in the material world of discs, but it is becoming more and more delusive.

The appearance of such a different spatial reality, alternative to the natural one, creates an opportunity to shape spatial structures in a new environment and by using new methods.

⁵ T. Ingold, *Splatać otwarty świat. Architektura, antropologia, design*, Instytut Architektury, Kraków 2018, p. 93.

⁶ M. Misiągiewicz, *On the presentation of the architectural idea*, Wydawnictwo Politechniki Krakowskiej, Kraków 2017, p. 35.

⁷ B. Zevi, *Architecture as Space. How to Look at Architecture*, Horizon Press, New York 1957, pp. 45–60.

⁸ A. Śliwa, *IT technologies in architecture and space representation. Bruno Zevi methods revisited*, "Architecture Civil Engineering Environment" 2019, no. 3, pp. 35–40.

⁹ J. Baudrillard, *Symulakry i symulacja*, Sic!, Warszawa 2005.

¹⁰ Transformations take place through information, which is a replicable and unlimited resource.

If three-dimensional modeling and exploration of virtual space become for architecture what drawing has been so far, then through approximation we should expect fundamental transformations. Referring to the words of Maria Misiągiewicz, drawing is not only a passive record of an idea, but also its analysis, an active process of shaping and concretizing the idea¹¹.

If the design method is fundamentally changed, the designs themselves will also have to change, as we are witnessing with BIM technology¹², digital twins and parametric design. The dynamic development of architecture in the 19th and 20th centuries may serve as an example of analogous transformations in architecture due to the technological revolution. The conflict between Ecole des Beaux-Arts and Ecole Polytechnique illustrated the divergence between architecture and technology, in which the former was held behind¹³. The result of architects catching up was a truly avant-garde modernist revolution.

It seems that it is impossible to predict the effects of the future expansion of architecture in virtual reality, but in such pioneering conditions there is a probability of forming a legitimate architectural avant-garde, whose consequences will also apply to natural space, which remains our primary and dominant environment. It is a hypothesis that cannot be verified at present, and in order to confirm or deny the above assumption we have to wait for what the future will bring. However, in the light of the experience of both architecture and avant-garde there are arguments *for* and *against*, which I consider in this work.

4. AVANT-GARDE CONTEXTS

The first avant-garde of the early 20th century appeared in a specific context; today, with the benefit of hindsight, we can say that it grew out of modernism and is its domain¹⁴. The context is decisive, the phenomenon occurred due to certain premises, quoting after Renato Poggioli: “[Avant-garde] would have been historically inconceivable without the romantic precedent”¹⁵. The very definition of the avant-garde remains relative¹⁶ and difficult to establish; there is not a lack of information but an overabundance of it, in the above area – theories proliferate instead of being concrete. Perhaps in order to establish a definitive term, the time distance is still too short to fully perceive and evaluate the phenomenon. Instead of definitions there appear factors defining the nature of what is avant-garde, Renato Poggioli lists: activism, antagonism, nihilism and agonism¹⁷, while Stefan Morawiecki: the radical innovation that re-evaluates creativity itself, the distancing from the existing reality, the fascination with the present and the future, theorizing and self-reflection, the tendency to self-organization in artistic movements and associations, and finally the fact that the avant-garde is not only an artistic activity, but a kind of life attitude¹⁸. Qualities allow to characterize the avant-garde by building a fragmentary collage of features. For the purposes of this paper, I adopt a sim-

¹¹ M. Misiągiewicz, *op. cit.*, p. 152.

¹² Building Information Modeling.

¹³ Giedion S., *Przestrzeń, czas i architektura. Narodziny nowej tradycji*, Państwowe Wydawnictwo Naukowe, Warszawa 1968, pp. 240–242.

¹⁴ R. Poggioli, *The Theory of the Avant-Garde*, Harvard University Press, London 1982, p. 1.

¹⁵ *Ibidem*, p. 52.

¹⁶ S. Morawski, *Na zakręcie. Od sztuki do po-sztuki*, Wydawnictwo Literackie, Kraków 1985., p. 176

¹⁷ R. Poggioli, *op. cit.*

¹⁸ S. Morawski, *op. cit.*, pp. 258–260.

ilar method – through the analysis of selected contexts, I explore the possibility of the re-emergence of architectural phenomena exhibiting avant-garde characteristics.

4.1. THE PAST – THE IMPOSSIBILITY OF THE AVANT-GARDE

The term 'avant-garde' derives [...] meaning from the assumption of an organization of both space and time and of a fundamental coordination towards the orders. In a world in which it is possible to speak meaningfully of the 'avant-garde', 'front' and 'back' have both a spatial and a temporal dimension. For this reason, it makes no sense to speak of the 'avant-garde' in the postmodern world. This world is full of movement, but disorderly movement in which one change of place does not differ from another – or in any case it is impossible to judge the differences between them, since it is no longer possible to inscribe the temporal dimension in spatial distances, and space and time themselves are no longer orderly, internally differentiated systems. One does not know here where is the front and where is the back, and therefore one does not know what is 'progressive' and what is 'retrograde'.

Zygmunt Bauman on Avant-garde¹⁹

As Zygmunt Bauman notes, in the contemporary, pluralistic, and multithreaded reality the avant-garde is no longer possible. In order for it to exist, it is necessary to set a precise direction of development, to define what is past and what is yet to come. Meanwhile, the ongoing postmodernism has disturbed the former linear order of evolution in arts, introducing simultaneous multidirectionality, making it impossible to establish a universal goal. The task seems to be even more difficult due to globalization processes which allow for the broader perspective embracing many environments representing various cultures and levels of civilizational and technological advancement. The original avant-garde was a minority opposition, averse to everything past and oriented towards changes leading to the future. The modernists' aversion to the past gave direction to their work for the future, so the *front guard* not only made sense but also had a proper context²⁰. In the condition of postmodernism, where many trends openly display sentiments towards the heritage of the past, adopting such a vector is no longer possible. Summing up the achievements of the architectural industry in the 20th century, Charles Jencks emphasizes that the whole century was subordinated to the dogma of competition and consumption, to the temporariness and the resulting dynamism²¹. His *tree of the architectural evolution* is an illustration of the richness or otherwise the cacophony of trends and styles shaping architecture in the turbulent times of wars, the internet age and globalism (Ill. 1). The assumption that each individual artistic voice in the polyphonic postmodern reality can have its own avant-garde cannot be true. On the other hand, from the perspective of the multiplicity and diversity of avant-garde trends²², perhaps,

¹⁹ Z. Bauman, *op. cit.*, pp. 171–172, author's translation.

²⁰ *Ibidem*, p. 172.

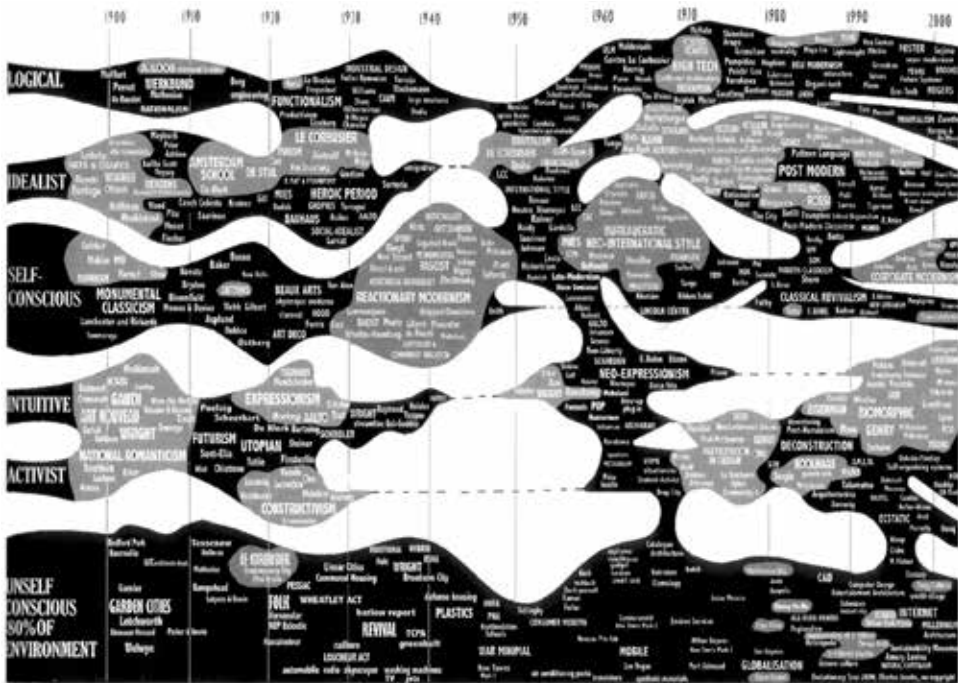
²¹ C. Jencks, *Jencks' theory of evolution, an overview of 20th Century architecture*, "The Architectural Review", 12 July 2000, pp. 76–79.

²² Among others Futurism, Expressionism, Dadaism, Surrealism or Pop Art, T. Kozłowski, *Avant-Garde*

following the example of theoreticians, it is necessary to look for its individual characteristics within the framework of specific works or activities rather than to try to prove the existence or impossibility of a unified avant-garde.

One might say that the avant-garde turned out to be modern in intent but postmodern in effect [...]

Zygmunt Bauman²³



III. 1. Charles Jencks's Evolutionary Tree of Twentieth-Century Architecture with its attractor basins, from *Architectural Review*, July 2000, p. 77, source: <https://archive.org/details/Evolutionary-Tree2000CharlesJencks>, usage license: CC0 1.0 Universal.

4.2. THE PRESENT – READY-MADE ARCHITECTURE

The avant-garde understood as a search for originality was not entirely independent from tradition but benefited from previous cultural resources. Marcel Duchamp's *Fountain*, the symbol of ready-made art, was an example of searching for artistic values in ordinary objects. Its quintessence was not to create new *content*, but to search for new *meaning* by changing perception and redefinition.

I shall first mention deconstructivist architecture as one of the examples of works with sculptural aspirations that result in objects that surprise and evoke emotions due to their unobvious form. Apart from the analytical and critical elements characteristic for the

and contemporary architecture, "Space & Form" 2020, no 43, pp. 55–70.

²³ Z. Bauman, *op. cit.*, p. 176, author's translation.

avant-garde, there appears the element of surprise, the building apart from its basic function becomes a sculpture, an artistic landmark, a carrier of additional sense while preserving the basic essence. In the case of architecture, the avant-garde gains an additional distinction between aesthetic and utilitarian values²⁴.



Ill. 2. Marcel Duchamp *Fountain*, photo by Alfred Stieglitz, source: https://upload.wikimedia.org/wikipedia/commons/f/f6/Duchamp_Fountain.jpg, usage license: Public domain.

Certain elements of the ready-made idea can be seen in at least several trends present in contemporary architecture, which requires the appropriate perspective²⁵.

There is a thread of existing resource and new perspective in the ecological architecture of *revitalization* using existing building assets, giving new life to old buildings. The 2021

²⁴ S. Morawski, *op. cit.*, p. 334.

²⁵ T. Kozłowski, *op. cit.*, p. 69.

Pritzker Prize granted to the duo Anne Lacaton and Jean-Philippe Vassal, whose projects are largely modernizations of residential blocks, is the evidence of the industry's shifting center of attention from formal showpieces to socially and ecologically engaged revitalizations.

Another architectural trend that manifests ready-made elements is *trash architecture*, which, apart from the obvious use of existing waste materials to build architectural structures, is also a conscious form of polemics against the mainstream purist and smoothed aesthetics as well as the culture of consumptionism or economic exclusion²⁶.

4.3. THE FUTURE – PHANTOMATICS

*Is it possible – we will ask – to create an artificial reality,
completely similar to natural reality, but indistinguishable from it?
The first subject – is the creation of worlds; the second – of illusions.
But perfect illusions. I do not know, anyway,
whether they can be called only illusions.*

Stanisław Lem²⁷



III. 3. Plaque at the entrance of Disneyland, Author: User: Cburnett, source: https://commons.wikimedia.org/wiki/File:Disneyland_plaque.jpg, usage license: Creative Commons Attribution-Share Alike 3.0 Unported.

Stanisław Lem already in 1964 in *Summa Technologiae* describes the technology of virtual reality, naming it *phantomatics*. His concepts of *hard science fiction* are becoming increasingly close to realization. Creating the illusion of place and the full spectrum of sensory stimuli is today the subject of a technological and commercial competition. Lem writes about glasses

²⁶ T. Wagner, *Śmieci i odpady w architekturze*, “Systemy Wspomagania w Inżynierii Produkcji” 2018, no. 3, pp. 119–134.

²⁷ S. Lem, *Summa technologiae*, Wydawnictwo Literackie, Kraków 2020, p. 149, author's translation.

and anti-eye – in practice about VR²⁸ goggles, he writes about two-way connections between the created reality and the viewer, that is about the *responsive environment*, remembering at the same time about the need for information storage²⁹. On the borderline of entertainment and art, mentioned in the chapter devoted to phantomatics, we can already place the industry of *immersive games* that create the appearance of participation in created events in created worlds. These worlds have their architects.

Phantomatics seems to represent a kind of summit towards which many of the entertainment techniques of modern times are moving. They include 'amusement parks', 'illusions', 'ghost palaces', and finally, one big, primitive pseudophantom is the whole of Disneyland.

Stanisław Lem³⁰

5. CONCLUSIONS

The variety and diversity of trends associated with avant-garde seems to indicate that there is not so much a coherent tendency in art, but rather that there are certain avant-garde characteristics of works that can also be identified in architecture. Virtual reality can be interpreted as a method of space representation that is approaching perfection, which has established an independent, alternative reality. The change of environment and design methods can potentially lead to the re-emergence of the avant-garde in architecture.

In the context of the impossibility of the avant-garde in postmodern reality, virtual reality as a new field of activity can change this status quo by establishing a unified goal – a stimulus that enables the avant-garde to exist in the future. In the context of contemporary trends in architecture, we can observe some features of the avant-garde, in particular of the ready-made trend: the search for new meanings for the existing content, analytical and critical elements, the use of existing resources in the form of revitalizations that minimize environmental impact, or trash architecture that opposes the dominant aesthetics as an objection to the culture of consumption and exclusion. In the context of the potential of the dynamically developing technology of virtual reality, which Stanisław Lem called phantomatics, the future may bring unlimited and difficult to estimate possibilities. Will the conditions of blurring the boundaries between what is natural and real with what is virtual and illusory turn out to be sufficient for the avant-garde to emerge? Who knows, perhaps the fullness of the avant-garde is yet to come.

6. SUMMARY

The existence of the avant-garde, both in the past and in the future, depends on external conditions which favor the search for new ideas, inextricably linked with the abandonment

²⁸ Virtual Reality.

²⁹ S. Lem, *op. cit.*, pp. 152–153.

³⁰ *Ibidem*, p. 160.

of the established. In the architectural reality there cannot be a complete separation from a tradition, but in some areas, it has happened in the past, so it is probable that avant-garde will appear again, in a new, changed form. Virtual space may become a stimulus for its appearance.

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