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REMARKS ON SHAPING RESILIENT DWELLING SPACE

UWAGI O KSZTAŁTOWANIU ELASTYCZNEJ PRZESTRZENI MIESZKANIOWEJ

Abstract

Are there truths about housing architecture? It may seem tautological to say that home architecture reflects our being in the world. The aim of the article is to search for a new theoretical basis for shaping future residential buildings. The problem of inhabitation is presented in an interdisciplinary perspective. The author analyzes the spectrum of architectural literature, as well as contemporary research work on anthropology and neuroaesthetics. The work's conclusion leads to the imperative of flexible, transformable and personalized housing space.

Keywords: identity, housing architecture, dwelling, resilient space, Open Form

Streszczenie

Czy istnieją definitywne prawdy dotyczące architektury mieszkaniowej? Wydawać się może tautologią sformułowanie, że architektura domu odzwierciedla nasze bycie w świecie. Celem artykułu jest poszukiwanie nowej bazy teoretycznej dla kształtowania przyszłej zabudowy mieszkaniowej. Problem zamieszkiwania przedstawiony zostaje w interdyscyplinarnej perspektywie. Autor poddaje analizie spektrum literatury architektonicznej, a także prace badawcze z zakresu antropologii i neuroestetyki. Konkluzja pracy prowadzi ku imperatywowi elastycznej przestrzeni mieszkaniowej, przekształcalnej i spersonalizowanej.

Słowa kluczowe: tożsamość, architektura mieszkaniowa, zamieszkiwanie, przestrzeń elastyczna, Forma Otwarta

1. INTRODUCTION

Every human activity leaves a trace. Forms and artifacts which we create are traces of our culture, and reflection of identity. Housing architecture constitutes particular part of this activity. Christian Norberg-Schulz writes that building a house is an act of dwelling and belonging to a given place on earth.¹ The activity of building a house and the identity of the human being remain in a continuous feedback relationship. Throughout creating of a dwelling place, we express our culture. The house, on the other hand, is the main axis of human existential space. In his essay "Building, dwelling, thinking" Martin Heidegger points out

¹ C. Norberg-Schulz, *The Concept of Dwelling: On the way to figurative architecture*, Rizzoli, New York 1985.

that the meaning of the word “to build” has been lost and replaced by the division between the creation of a building and its habitation. German philosopher points out that:

What, then, does Bauen, building, mean? The Old English and High German word for building, buan, means to dwell. This signifies: to remain, to stay in a place. [...] What then does ich bin mean? The old word bauen, to which the bin belongs, answers: ich bin, du bist mean: I dwell, you dwell. The way in which you are and I am, the manner in which we humans are on the earth, is Buan, dwelling. [...] Dwelling, however, is the basic character of Being in keeping with which mortals exist. [...] ²

The unity of the form of the boat, house and tomb of the peoples who once lived in the Scandinavian areas is the representation of the relationship between man and his work and environment (Ill. 1). These artifacts depict the creator’s vision of the world, a set of assertions, beliefs and statements about the nature of reality. They mark the relation between the originator and the environment. Undeniably, modern man does not lack reasons to doubt the epistemological value of these beliefs. One could even predicate that the image of the world based on mythology was false, in the classic sense of the term. However, it seems impossible



Ill. 1. 9th-century Boat Grave at Westness, Rousay, Orkney. Source: viking.archeurope.info. Access: 5.2.2020

² M. Heidegger, *Budować, mieszkać, myśleć*, Teksty: teoria literatury, krytyka, interpretacja, 1974, no. 6 (18), pp. 137–152.

to deny these artifacts sincerity and authenticity. They are false in the meaning of what they state about the world, but true in the reference of what they express, about the identity of creators and their relationship with the surrounding. Is it possible to find this kind of truthfulness in our contemporary homes? Is our housing architecture true? Is it a reflection of our beliefs and knowledge of reality? Without a doubt, our image of the world is constantly evolving. World-renowned cognitive scientist, Steven Pinker, emphasises contemporary science's discoveries by describing our epoch as a new enlightenment. Is this condition also reflected in the embodied image of the world: the house's architecture? Trying to consider this problem, the author will start by referring to the concepts of a primitive hut presented in the texts of Vitruvius and Laugier, pointing to the genesis of the origin of architecture.

2. PRIMITIVE HUT

In architectural theory, the concept of dwelling goes back to the beginning of the field itself. Vitruvius considers the origin of building construction in the creation of the first hut. In his work *Ten books on architecture* he writes:

Mankind originally brought forth like beasts of the field, in woods dens, and groves [...]. A tempest, on a certain occasion, having exceedingly agitated the trees in a particular spot, the friction between some of the branches caused them to take fire [...]. Returning to the spot after the tempest had subsided, and finding the warmth which had thus been created extremely comfortable, they added fuel to the fire excited, in order to preserve the heat, and then went forth to invite others [...] Thus the discovery of fire gave rise to the first assembly of mankind, to their first deliberations, and to their union in a state of society. [...] they were more fitted by the nature than other animals, from their erected posture, which also gave them the advantage of continually viewing the stars and firmament. [...] In the assembly, therefore, which thus brought them first together, they were led to the consideration of sheltering themselves [...] some by making arbours with the boughs of trees, some by excavating caves in the mountains, and others in imitation of the nest [...].³

In this description, Vitruvius draws attention to both utilitarian as well as social character of the building. Simultaneously, he shows the key difference between the adaptive, animal way of living and human character of dwelling. The concept of the primitive hut was continued in the treatise of the French Enlightenment theorist, Marc-Antoin Laugier. Defining the principles of ideal architecture in his work *Essei sur l'architecture* he writes:

[Human] he wants to make himself a dwelling that protects but not bury him. Some fallen branches in the forest are the right material for his purpose; he chooses four of the strongest, raises them upright and arranges them in a square; across their top he lays four other branches; on these he hoists from two sides yet another row of branches which, inclining towards each other, meet at the high point. [...] Thus, man is housed.⁴

In addition, Laugier argues in favor of limiting the language of architecture to three elements: pillar, beam and ceiling and he states: "All the splendors of architecture ever conceived have

³ Vitruvius, *Ten books on architecture*. Lockwood & CO., London 1874, p. 32.

⁴ M.A. Laugier, *An essay on architecture*, T. Osborne and Shipton, London 1755, pp. 11–12.

been modeled on the little rustic hut I have just described.”⁵ In both Vitruvius’s description and Laugier’s enlightenment essay, a fundamental, cognitive difference between an adaptive model of existence and inhabitation through building construction is visible. The boundary between the cave-space, into which man has to fit in, and the active creation of the environment, is clearly drawn (Ill. 2). From the point of view of cognitive abilities, creation means the formation of ideas, intentions and mental images of space *a priori*. The transformation of the environment is an active marking of the space in accordance with one’s ideas and needs. The basis for the architecture of the house is the abandonment of adaptation in the cave-space in favor of creating a dwelling space. This space is a product of the mind and a trace of identity.



Ill. 2. Frontispiece of the second edition of *Essai sur l'Architecture* (1755) by French artist, Charles Eisen. Source: primitivehuts.blogspot.com. Access: 5.6.2020

⁵ *Ibidem*, p. 12.

3. CREATING THE SPACE AS AN ACTION OF THE HUMAN MIND ON THE ENVIRONMENT

Culture understood in this way is the main subject of critical essays by Adolf Loos. Although, the postulates of the Viennese architect for the removal of ornamentation in architecture are often seen as the basis for the idea of modernism and thus the opposition to tradition. In fact, Loos's theory was derived from the analysis of culture as an inter-subjective medium of human identity. His understanding of the relationship between what constitutes public space and private space in architecture is an attempt to take into account human psychological needs. What Loos understands by the term of cultural identity is reflected in his essays on contemporary housing architecture. The architect notes how barren the ornament is when it becomes a kind of paradox, a sign without meaning. Loos applies a similar consideration to the living space which is created and habited by different people. In an article from 1898, he emphasizes the paradox of model flats and the notion of style in house interior design:

[...] the carpenters have exhibited their products. [...] the exemplary rooms are exhibited [...]. Poor audience! They are not allowed to decide on the decoration of their own apartments. [...] A stylish apartment is the achievement of our century [...].⁶

Subsequently, he points out the cause of the problem of the furniture industry which, he argues, is not able to act in the spirit of the times, only imitating the patterns of past eras: "Suffice it to say that there was dissatisfaction with one's own era. [...] Man [...] Immersed himself in another era and achieved happiness as an ancient Greek, as a medieval symbolist or Renaissance man,"⁷ In the second part of the same year's article entitled *Interiors in the Rotunda*, Loos continues his remarks on the decoration industry. He focuses his criticism on the housing architecture ignoring personal, psychological aspect of dwelling. "Such interiors bullied their poor owners. Woe to the wretched man who dared to complete the interior and make a purchase himself!"⁸ He underlines what makes up the essence of the interior and the home: it consists of a private space, matching and representing the residents' identity. He identifies the fundamental design problem of the housing domain:

After all, an architect or decorator only knows the name of his client. If the owner had even bought these rooms a hundred times, it would still not be his apartment. It will remain forever the spiritual ownership of the one who invented it [...] Thank God I did not grow up in any stylish apartment [...] Here's a table, a pretty crazy, strange piece of furniture, folded with a bad slider. But our table, our table! Do you know what that means?⁹

Writing about the designer's spiritual ownership, Loos emphasizes the problem of intentions and ideas. Space is the work of the designer's mind, and the inhabitant is forced to accept it.

An analogous narrative is carried out in the essay *The Poor Rich Man*, pointing out the contradictions behind designing a style for apartments. In his later works – *Ornament*

⁶ A. Loos, *Wnętrza* [in:] A. Loos, *Ornament i Zbrodnia. Eseje wybrane*, Fundacja Centrum Architektury, Warszawa 2013, p. 54.

⁷ *Ibidem*, p. 55.

⁸ A. Loos, *Wnętrza w Rotundzie* [in:] *ibidem*, p. 60.

⁹ *Ibidem*, p. 61.

and *Crime* (1910), *Architecture* (1910) – he also drew attention to the problem of fashion in architecture and housing style. What supposed to be an expression of identity becomes a stream of meaningless symbols and trends. For Loos, culture means creating an authentic environment, a true one: “Soon I will give a lecture on why the Papuans have a culture and the Germans do not,”¹⁰ Although, the deliberations of the Viennese architect focus on concrete examples: ornament, everyday objects or building form, they show the nature of his thoughts on the role of the inhabitant in creating one’s own environment. What man creates is the construction of one’s mind. As a result, it is a representation of his identity. Creation, not adaptation to space, is the basis of dwelling.

4. ENVIRONMENT AS A MIND-SHAPING FACTOR

The picture of the issue so far has focused on discussing the difference between the inhabitant’s exploitation of the already defined space, and its creation: dwelling. This relationship between man and the environment seems to be directed only from the body to the environment. Concepts, ideas and mental representations, as Ingold points out, are never arbitrarily imposed on the world.¹¹ On the contrary, they are rooted in it. In his work, the British anthropologist makes a division between the perspective of building and the perspective of dwelling. The first is limited to the human impact on the environment. The source of this activity would be the arbitrary imposition of symbolic and meaningful frames on the world. Ingold points out that such reasoning leads directly to Cartesian dualism, in which what is mental (*res cogitans*) is separated from the material world (*res extensa*). In the essay *Building, Dwelling, Living*, he writes: “The starting point in all such accounts is an imagined separation between the perceiver and the world, such that the perceiver has to reconstruct the world, in the mind, prior to any meaningful engagement with it.”¹² In response, the anthropologist derives the second of the presented positions: the perspective of dwelling. Ingold’s idea is based on the works of Uexküll and Heidegger. Its key aspect is to take into account the role of the environment as a medium for all activities, as well as materials, as a source of ideas in the mind. In this view, building never has a clearly defined end. It is a process that takes place as long as a given structure is inhabited by people.

A Scottish philosopher, David Hume, argued in favor of the thesis that every idea in the mind is derived from sensual impression.¹³ In other, poetic terms, Merleau-Ponty described it, writing that the world is the homeland of thought.¹⁴ The next part of the text presents arguments for treating the relationship between man and the surrounding world as a two-way street: by creating an environment we transform the world. On the other hand, the environment is constantly and actively shaping our minds. During the CIAM congress in Otterlo 59’, Zofia and Oskar Hansen gave a manifesto of Open Form in Architecture. The architects declared:

¹⁰ A. Loos, *Architektura* [in:] *ibidem*, p. 145.

¹¹ T. Ingold, *Building, dwelling, living: how animals and people make themselves at home in the world* [in:] T. Ingold, *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*, Taylor & Francis, London 2011, pp. 172–188.

¹² *Ibidem*, p. 178.

¹³ D. Hume, *Badania dotyczące rozumu ludzkiego*, Zielona Sowa, Kraków 2004, pp. 17–33.

¹⁴ M. Merleau-Ponty, *Fenomenologia percepcji*, Fundacja Aletheia, Warszawa 2001.

Architecture until now: has not solved the problem of necessary quantity. [...] has as a “closed form”, not accepted changes in the mode of life, and becomes obsolete before it is even realized. (It) has broadly disregarded the tenant’s psychological needs and is often inhuman.¹⁵

The manifesto of Open Form is based on the need to define the relationship between an individual and the world. Three scales are distinguished, and for each of them appropriate architectural measures for the creation of housing are assigned. The macro scale is the place of the individual in the world. Here, the Hansens postulate the participation of the authorities in the designation of settlement sites and general urban planning. On a mezzo scale, it is the role of the community to commit the housing construction. An essential role is to be played by the architect, who accepts the order and plans to create a framework for the further activities of the residents. This is linked to the last and most private micro scale. The aim of design is to allow maximum flexibility of space, for the owners to continue creating their homes. The Hansens also pay attention to the semantic level of the Open Form. While the former Closed Form in art and architecture was representative, the Open Form allows each person to find their own interpretation. It claims to be an egalitarian art. For the Hansens, building is not about creating a finished and closed work, but rather about designing a kind of substructure for the inhabitants’ further actions. It is about an initiation of the process through an appropriate background. “[...] In housing we shall have a polemic of viewpoints on the creation of one’s own surroundings, characterized by an appropriate ‘background.’”¹⁶ The relationship between man and his space is defined as a feedback, described by the Hansens as an active negative. Man participates in the creation of the world, and the world gives the framework for one’s existence. The world is captured smoothly and continuously. The Hansens stance is compared to the hodological space, a construct in the field theory created by Kurt Lewin.¹⁷ The environment and man, in it, form two mutually interacting elements of one system. Lewin’s environmental psychology brings the discussion closer to another important point: James Gibson’s theory of direct perception.

According to the concept of *affordance*, the perception of the environment is not mediated by the mental representation of objects in the environment. Gibson’s model is based on direct perception of subjective utility of objects. Space is thus perceived by the multitude of activities it offers to man.¹⁸ The world is not a static image on the retina, but a collection of potential actions. Perception is not purely visual, but being multimodal in nature, it is anchored in embodiment.

Similar conclusions were reached by researchers in the field of neuroaesthetics who deal with the functioning of the so-called mirror neuron system. In their experiments, Vittorio Gallese and his team led to the discovery of a special group of neurons in the motor cortex of macaques. This specific group of brain cells reacted with activation, both while performing a given movement activity and observing its performance by others or even simulating it.

¹⁵ O. Hansen, Z. Hansen, *The Open Form in Architecture – the Art of the Great Number* [in:] A. Kędziołek, Ł. Rodunda (eds.), *Oskar Hansen: Opening Modernism*, Muzeum Sztuki Nowoczesnej w Warszawie, 2014, pp. 7–8.

¹⁶ *Ibidem*, p. 8.

¹⁷ J. Ockman, *Oskar Hansen’s Radical Humanism: Open Form Against a Cold War Background* [in:] A. Kędziołek, Ł. Rodunda (eds.), *Oskar Hansen: Opening Modernism*, Muzeum Sztuki Nowoczesnej w Warszawie, 2014, p. 32.

¹⁸ D. Dotov, L. Nie, M.M. de Wit, *Zrozumieć afordancje: przegląd badań nad główną tezą Jamesa J. Gibsona*, *Avant*, 2012, vol. 3, no. 2, pp. 282–295.

Gallese's further work aimed to indicate the occurrence of this system in humans as well and to test the theory of embodied simulation – a hypothesis put forward by the Italian researcher, according to which seeing involves the reaction of the whole body, taking place by simulating both potential actions in the environment and the behaviour of other people.¹⁹ Gallese argues that the mirror system in humans is a kind of medium between the solipsistic self and the intersubjective sphere of culture and environment.²⁰ Ramachandran draws attention to the importance of the mirror neuron system for the creation of the human species.²¹ Due to the ability to recognize actions, through their internal simulation, humanity was able to move away from an adaptive model of life and move on to producing tools or houses. These discoveries lay the foundations for understanding the experience of space. The reception of space is embodied. This way, we perceive the world as a plane of action. We recognize the potential for action – obstacle, opening, stairs. The organism has a continuous relationship and feedback with the environment. Juhani Pallasmaa writes:

We behold, touch, listen and measure the world with our entire bodily constitution and existence, and the experiential world is organised and articulated around the centre of the body. "I am the space where I am", as the poet Noel Arnaud put it.²²

5. THE POTENTIAL OF A FREE PLAN

Laugier's rationalistic concept of the genesis of the first hut assumes that only elements that provide shelter and resist the force of gravity are needed to erect a building. The archetype of the house so defined consists only of pillars, beams and the ceiling. In the story of the French architect, leaving the cave means moving away from the use of space towards its creation. A pillar is a defining element of the space, but not the closing one. Laugier's argumentation lays the foundations for the idea of a free plan.

The *plan libre* concept was proposed by Le Corbusier in the early 20th century. Although Le Corbusier uses the pillar as a formal procedure, he seems to completely dismiss the resident as an active subject. The house is not considered as a private space, but as a product: "[...] There is a lack of a proper state of mind. [...] the state of mind necessary to live in mass produced houses [...]."²³ Technical criteria are predominant:

[...] the question is: can't you produce houses? This is a truly modern state of mind [...]. The house [...] will be a tool, just like a car. [...] If we root out the unchanging concepts of the home from the heart and mind and consider this issue from a critical, objective point of view, we will come to the house as a tool [...].²⁴

¹⁹ V. Gallese, *Finding the Body in the Brain. From Simulation Theory to Embodied Simulation* [in:] B.P. McLaughlin, H. Kornblith (eds.), *Goldman and His Critics*, Wiley-Blackwell, Chichester 2016, pp. 297–314.

²⁰ V. Gallese, *Embodied Simulation: From Neurons to Phenomenal Experience*, Phenomenology and the Cognitive Sciences, 2005, vol. 4, no. 1, pp. 23–48.

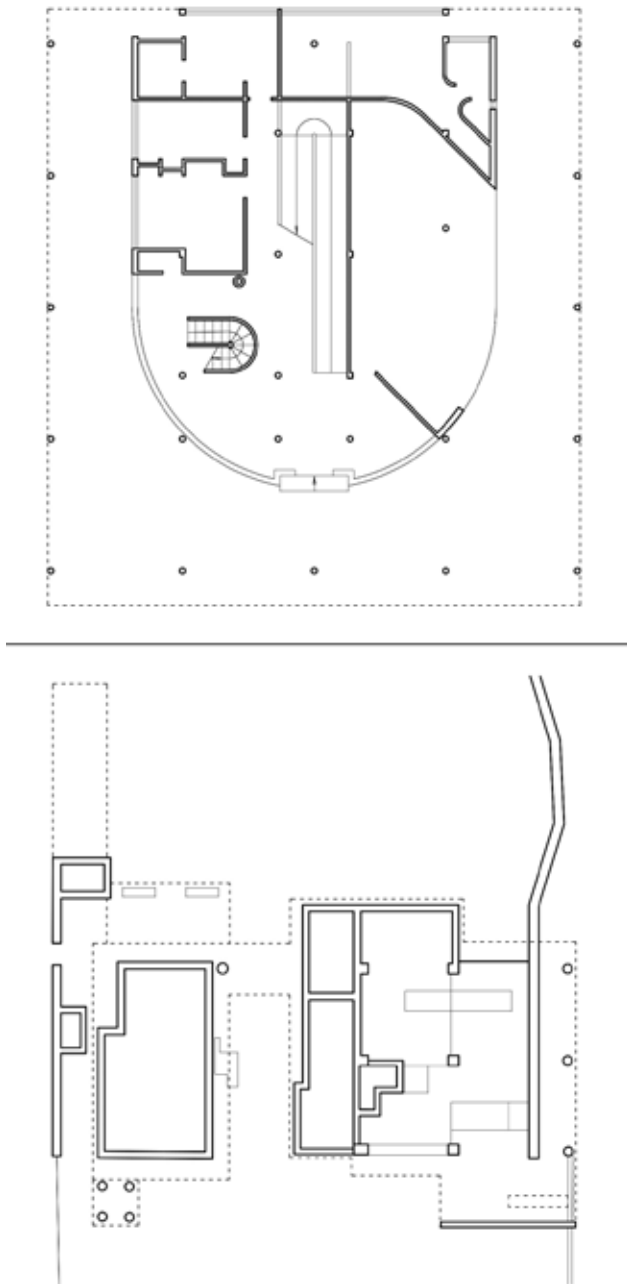
²¹ V.S. Ramachandran, *Neuronauka o podstawach człowieczeństwa*, Wydawnictwo Uniwersytetu Warszawskiego, Warszawa 2012, pp. 138–155.

²² J. Pallasmaa, *The Embodied Image: Imagination and Imagery in Architecture*, John Wiley & Sons, Chichester 2011, p. 125.

²³ Le Corbusier, *W stronę architektury*, Centrum Architektury, Warszawa 2012, pp. 253–263.

²⁴ *Ibidem*, p. 257.

Le Corbusier's free plan is far from the idea of a home, as defined by Laugier. The modernist concept serves as a formal manipulation, a composition of a finished work.



III. 3. Comparison of scheme plans of Villa Savoye (at the top) and Szumin House (bottom). Prepared by the author

This very finality of the work is criticized in the manifesto of the Open Form. Although the Hansens are undoubtedly influenced by Le Corbusier's ideas, their concept presents a free plan as a liberation of space from limitations, in favour of giving a multitude of possibilities in its shaping to the household. The plan for Villa Savoye is tidied up, finished before the inhabitant is included in the process. The plan of the Hansen's Szumin house represents a form and composition constantly subject to transformation, a space for dwelling (Ill. 3). Their comparison illustrates the difference between a house as a work of art and a house belonging to a resident.

6. CONCLUSION

We should return to the question posed in the introduction: is it possible to create real housing architecture today? The aim of the considerations was to indicate the basis for creating a housing environment: the shaping of space by the mind of a resident and the influence of the housing environment on the mind of a resident. Nowadays, the architect has become an intermediary between the design of the house and its erection and the subsequent dwelling of the tenant. Is it possible for an architect to create a house as the embodiment of cultural identity of the inhabitants? Today's images of the world seem to be more polarized than ever, and thus impossible to unify on a social scale. How to find common ground for the image of the world proposed by naive realism and the one presented by science? Attention in the creation of housing should be directed at restoring the original relationship between building and dwelling. The typology of the building consisting of brick walls and unchanging layouts of rooms is closer to the typology of the cave than the archetype of Laugier's or Vitruvius's house. To reflect the original character of the unity of building and dwelling, the architect is forced to re-evaluate his position in the process. It seems to be an imperative to stop creating a housing space in the form of defined, unchangeable room layouts and at the same time to notice the potential of a free plan. Only due to its utilisation, the inhabitant becomes an active creator of space and the house becomes a space of *true* dwelling.

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