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CITY AS A HOUSE? BIOPHILIC IMPLICATIONS

MIASTO JAKO DOM? IMPLIKACJE BIOFILICZNE

Abstract

Home is the place for satisfying biological and existential needs, rest and recovery. Therefore, it never meant, a sole physical “container”, but rather one of the most important centre of living existential space, within the whole system of concentric centres of “concretization of value”¹. After all, even the road, a contemporary symbol of progress, investment and economic development, should end with a return to home. The modern house and the apartment are often more a product than an archetypal space of rooting. In house-products it is plan and interior that are increasingly important, but the (real or created marketing) view outside, the image, and the image of architecture. Do these houses co-create the city? The extension of house-products becoming a space outside – perhaps even an entire city. Can it become, again, a new home?

Keywords: architecture, urban design, biophilia, pattern language

Streszczenie

Dom to miejsce zaspokojenia biologicznych i egzystencjalnych potrzeb, odpoczynku i regeneracji. Nigdy nie oznaczał zatem tylko fizycznego „pojemnika”, ale raczej jedno z najważniejszych centrów żywej przestrzeni egzystencjalnej, w systemie wielu koncentrycznych centrów „konkretyzacji wartości”². Nawet droga, współczesny symbol postępu, inwestycji i rozwoju gospodarczego, kończyć się wszak powinna powrotem do domu. Współczesny dom i mieszkanie to często bardziej produkt niż archetypicznie ukształtowane miejsce zakorzenienia. W domach -produktach coraz większe znaczenie odgrywa nie plan i wnętrze, ale rzeczywisty lub marketingowo wykreowany widok na zewnątrz, obraz i wizerunek architektoniczny. Czy domy te współtworzą miasto? Rozszerzeniem domów-produktów staje się przestrzeń poza – być może nawet całe miasto. Czy może stać się ono, ponownie, nowym domem?

Słowa kluczowe: architektura, urbanistyka, biofilia, język wzorców

¹ Y. Tuan, *Przestrzeń i miejsce*, Warszawa 1987.

² Tuan, 1987.

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1. INTRODUCTION

A dwelling, the first place of shelter, as well as a place of reference and identity, is literally and figuratively an existential centre and the image of the world – reflected awareness, thinking and perception of it: “*The house provides an image of the past (...) lies in the middle of human life, and the centre (as we saw) is the starting point and the beginning*”³. In the vertical, hierarchical context the concept of *home* corresponds to the anthropocentric system of overlapping places-centres: the “*family home, the old neighbourhood, hometown, home country*”⁴. Therefore, it can be said, that, “*The concept of the city, house, building and habitation are in some cases synonymous*”⁵. In a horizontal context, in the urban space, the *house* is a building and residential function atom. As Zuziak noted: “*The basic material of the urban tissue is a housing tissue (...) the quality of the residential environment is a function of the rationality of urban structure*”⁶. The spatial distribution of houses can be quantified and described morphologically: proximity, concentration and similarity of houses create figuratively recognizable rows – streets, coaxial places – squares, and characteristic larger clusters – districts⁷. Cities deprived of that function basically do not exist, or rather, they are not cities⁸, but beside that two-dimensional configuration pattern of the dwelling function, an often overlooked part of modern architectural design is the physical form of the resulting common part of a local group of houses, which in the case of concentration and compatibility with the surrounding space and the observer builds a three-dimensional framework of the so-called *urban interface*⁹.

2. THEORY OF BIOPHILIA

Urban space, the system of third places, or *meta-interface* can become a *home*, not only in a poetic or intellectual metaphor, but in a real and architectural dimension, if it responds to the psychological and biological needs of its participants: a sense of security, shelter, existential certainty, and at the same time (bio)diversity and the stimulation of the human capacity for processing information¹⁰, of a complex, fascinating urban environment. Biophilia, the concept proposed by the psychologist E. Fromm and a widespread hypothesis by biologist E. O. Wilson literally means love (*philia*) of life and living forms. Affective response and consequently the value of the built environment (acc. Ulrich) according to the immediate, automatic and unconscious reception (positive or negative) to the environment. Thus, biophilia assumes a biological (not cultural) nature of the need for contact with nature (E.O. Wilson, R. Ulrich), the search of places indicating existential security, chance for development and reproduction (G.H. Orians,

³ C. Norberg-Schulz, *Znaczenie w architekturze zachodu*, Warszawa 1999, p. 164.

⁴ Y. Tuan, *op.cit.*, p. 13.

⁵ A. Bańska, *Spoleczna psychologia środowiskowa*, Warszawa 2002, p. 246.

⁶ Z. Zuziak, *O tożsamości urbanistyki*, Kraków 2008, p. 57.

⁷ Vide C. Norberg-Schulz, *Bycie, przestrzeń i architektura*, Warszawa 2000.

⁸ A. Rossi, *The Architecture of the City*, Cambridge 1984, p. 70.

⁹ Vide English Partnership, The Housing Corporation, *Urban Design Compendium*, London 2007, p. 85.

¹⁰ Vide P. A. Bell et al., *Psychologia środowiskowa*, Gdańsk 2004, p. 69.

J.H. Heerwagen et al.) and references to clear imitation of natural organization, ordered complexity of visual and morphological environment, where anthropogenic and geometric nature prevails (J. Jacobs, J. Appleton, G. Hildebrandt, C. Alexander, NA Salingaros, M. Batty, P. Longley, M. Mehaffy, J. Joye et al.). Spaces, places and buildings of a certain form, structure, or patterns can provide the environment with the desired characteristics of informational and regenerational character (R. Ulrich, S. Kaplan, R. Kaplan). According to Kaplan's preferences model, an informative valuable environment is determined by four characteristics: consistency and readability (making sense) and the complexity and mystery (involvement in exploration) of environment¹¹. An environment can therefore *communicate* good health¹². However, biophilic architecture does not mimic the spectacular forms of nature, but stimulates the influence of the environment structural features, to reduce stress, enhance the cognitive effectiveness or mood¹³, through biomorphic ornament, detail or exposed structure (not necessarily forms, which are essentially alien to everyday users experience and formal experiments violating a sense of security, causing cognitive dissonance, or disturbing the balance of the sense of gravity), direct contact with the natural (or resembling natural) materials and finally – the organized complexity of the architectural form: self-similarity and iterations of buildings parts and articulation, or the fractal silhouette of the roof (on the background of the sky). In the urban scale, it strengthens diversity connections within urban structure¹⁴. The relaxing nature of the place is thus determined by familiar elements, natural materials, and ordering principles¹⁵. Too simplified architecture (but also one overly complicated geometrically) can cause stress and symptoms comparable to a shortage of oxygen¹⁶.

3. CONCEPT AND CENTRALITY AND URBAN INTERFACE

The centrality of the concept of home refers both to the traditional layout and arrangement of focal points of home life and the organization of time in everyday and special moments: “(...) *the word house tells us simply that in the personal world every man has his centre*”¹⁷. Centres are not visible points, objects or elements in the geometric sense, but “something”, a field of energy and information concentration, not only noticeable in their environment, but above all, ordering it¹⁸. They consist of smaller centres and are part of a larger field, the region: “*In a sense, the region is a place because they define by closing or by proximity and similarity components*”¹⁹. In the scale of urban design a centre correspond to the node and its district (in the terminology of Lynch). It has the power to create new local symmetry, neighbouring centres of activity. This is possible when the (single building or a whole

¹¹ *Ibidem*, p. 71.

¹² *Ibidem*.

¹³ W. Browning et al., *14 Patterns of Biophilic Design*, Terrapin Bright Green 2014.

¹⁴ *Ibidem*.

¹⁵ J. L. Nasar, *Urban design aesthetics: The evaluative qualities of building exteriors*, Environment and Behaviour 26, 1994.

¹⁶ W. Browning, *op.cit*.

¹⁷ C. Norberg-Schulz, *Znaczenie...*, p. 224.

¹⁸ C. Alexander C. et al., *A New Theory of Urban Design*, New York 1987, p. 92.

¹⁹ C. Norberg-Schulz, *Znaczenie...*, p. 224.

quarter) is not a defensive and dissuasive, closed form, but actively corresponds with the neighbourhood through intermeshing, substantial boundaries focusing life generated by architecture²⁰. Concepts of paths and edges, as proposed by Lynch in “The Image of the City” (Kevin Lynch, Archiwolta, Kraków 2011), should be combined into one living edge between districts. The movement (and living) in nature often takes place “along something”, which is defined by the concept of thigmotaxis – sticking to the surface by living organisms (e.g. the river bed), or moving along the edge of the walls. Jane Jacobs wrote: “*The walkway itself is irrelevant. It is an abstract being. It takes it only together with the buildings and features, which it runs along (...)*”²¹. Cullen, in turn, uses the term “viscosity” of space²².

People rather tend to reside within semi-closed, permeable, inviting areas; avoiding in turn artefacts with sharp edges. In the theory of Alexander and Salingaros, wide boundary is a tangible structure, a separate zone, conditioning the form and existence of the centre. The facade of the building corresponds (as noted by Sitte himself), with the space directly in front of her. If this bond is to be efficient and powerful, the interface must be characterized by a *soft* and *concave* shape²³, allowing presence and observation of the environment – According to Appleton’s prospect-refuge theory²⁴, people prefer being at the edge and the cover (than in the uncovered land / the open sky) with the possibility of observation and reaction to incoming events. Hildebrandt²⁵ interprets the “view”, as the exploration of the unknown, the search complexity of the environment, while “refuge” as the need for order (control). Gehl also notes that the principle of soft edge forming relates not only to housing, but also to other types of urban functions²⁶.

The urban interface, according to Salingaro²⁷, is characterized by geometric coupling of space through: the diversity of texture and colour of both the components of vertical and horizontal character, which are building elements (elevation, building corner, roof line, doors and windows, materials and colour of the facade) and public space (square, street and pavement, flooring, plants, urban furniture, lighting, art. etc.), as well as intermeshing, interpenetration and permeability, that is, elements connecting the first two by common parts: stairs, fences, patios, gardens, hedges, seats, patios, or walkways²⁸. The urban interface works when:

The boundary (larger settlements) has a width, its own function and clearly marked entrance areas (urban gates);

New Building co-creates continuity, while available (permeable) of the ground floor;

The facade is not a flat surface, but a living structure defining the shape of the public space;

Private space of the building (in different ways) “opens” onto the street²⁹.

²⁰ Vide J. Gehl, *Życie między budynkami. Użytkowanie przestrzeni publicznych*, Kraków 2009; Idem, *Miasta dla ludzi*, Kraków 2013.

²¹ J. Jacobs, *Śmierć i życie wielkich miast Ameryki*, Warszawa 2014, p. 47.

²² G. Cullen, *Obraz Miasta*, Lublin 2011, p. 24.

²³ J. Gehl, 2009, *Życie...*, p. 187.

²⁴ J. Appleton, *The Experience of Landscape*, New York 1975.

²⁵ G. Hildebrandt, *Origins of architectural pleasure*, Berkeley CA, 1999.

²⁶ J. Gehl, 2009, *Życie...*, p. 197.

²⁷ N. A. Salingaros, *Complexity and Urban Coherence*, Journal of Urban Design, vol. 5 (2000A).

²⁸ *Urban Design Compendium* 2007, p. 85.

²⁹ N. A. Salingaros, *The Structure of Pattern Languages*, Architectural Research Quarterly vol. 4 (2000B).

Nasar³⁰ proposes six characteristics of a satisfactory environment (*pleasantness*): ordering parts (compatibility, visibility, desirability design), familiar elements (also of a historic character), limited complexity, limited derogations from the original (pattern), more common than “high” style, reduction of artificial elements (technical, image, spatial, etc.). This *traditional pattern* can be derived from the *pattern language* of Alexander³¹. It comprises four essential elements of the urban interface:

Facade: building height to 4 storeys; hierarchical differentiation of building or group of smaller buildings (pavilion system); direct connection to the upper storey of the area through external stairs; openings bordered as a significant element of the facade articulation; green vines and walls; ornament as the “binding energy” for the observer; the ability to stay and observation, benches in front of the entrance (patterns: 21, 95, 158, 225, 246, 249);

Entrance: a clear hierarchy and sequence of available space; entrances as a visible group of similar openings; a main entrance of distinguished shape and height on the axis of visible approach; distinguished front space in front of the building; courtyards opened to a larger space; continuation of ground floor in the vicinity of the building (patterns: 98, 102, 110, 112, 115, 168, 242);

Windows: contact with the street reinforces the view of the busy street from the first and second floors; large window area (up to 1/4 of the floor); not necessarily regular, symmetrical and standard distribution and size of the windows; window size gradation on gradation on floors; avoiding non opening windows (and air conditioning); window divisions into multiple views (patterns: 164, 192, 221, 236, 239);

Roof configuration: reflects the internal hierarchy of the space; roof as a hierarchical set of smaller elements (from the centre to the outside); shell or ogive roof shape; connection to the outside world through the skylights; human accent at the culmination of the roof (link with heaven); canvas roofs and awnings on the ground level (patterns: 209, 116, 117, 220, 231, 232, 244).

It is worth mentioning that the antique townhouse basically did not have the element that we might today call the interface. It was turned to the inside (literally and existentially), to the centre symbolized by the vertical axis of the inner courtyard with a view of the open sky³². Interestingly this arrangement corresponds to the organization of modern large-scale shopping centres, containing elements and features of the “savannah” environment, such as the open, visible central space, real or symbolic “trees” (columns), sight (and sound) of water ponds, or even a small source of fire³³.

4. CONTEMPORARY IMPLICATIONS

With regard to the emerging contemporary realizations one can distinguish certain characteristics (as noticed by Żurawski) of contemporary architectural production. Nasar draws attention to the new buildings changing (usually for the worse) the reception of the

³⁰ J. L. Nasar, *op.cit.*

³¹ C. Alexander et al., *Język Wzorców*, Gdańsk 2008.

³² Y. Tuan, *op.cit.*, p. 189.

³³ J. Joye, *Architectural Lessons From Environmental Psychology: The Case of Biophilic Architecture*, Review of General Psychology 2007, Vol. 11, No. 4.

environment³⁴. They provide objects (and spaces or areas) with limited access, fenced (sometimes repeatedly), thus largely excluded from the living urban network (accessible urban structure). In the experiencing of urban space they are therefore a set of isolated endpoints. From the external user's point of view, residential products are not centres, organizing the space around them, but peripheral inaccessible "islands". The open space around buildings, a potential shaping field of urban interface does not result in strengthening of *urban structure*, but it is usually a *technical-communication infrastructure* channel that supports single private space connections. The architectural set back from the street (through fencing and withdrawal of the building line) excludes the possibility of direct use of the intermediate elements connecting the facade of the street. Therefore, architecture gains the characteristics of the exposed monolithic sculpture placed in open space.

Direct contact with nature, without doubt poses an important element of sale marketing. The window view, directed outside (perspective) compensates minimal residential room and a sense of closure. It does takes into account the potential of regenerative nature³⁵. However, the image of nature does not necessarily imply the direct experience of its biodiversity. The open (often panoramic) character of modernist windows-aquariums does not necessarily constitute a mutually attractive (for external viewer) connection with the natural environment. The so-called urban environment, in the scale of individual investments, means "green" use of leftover space created after locating the building (Space Left Over After Planning: SLOAP). It does not fulfil the role of biodiverse environment, although some (positive) compromise is a presence of more or less natural green open spaces. An increasingly common solution is also eco-friendly staffage: green walls, "organic" balconies, and names awakening positive associations with nature.

Direct contact with nature through formal biomorphism (often identified with oblique or organic shapes) is not a mainstream organization of architectural form, or virtually non-existent ornament. A characteristic feature is the tendency towards resignation of colour to desaturated white, grey and black, though undoubtedly positive aspects is a recurring convention in the partially or overall use of natural materials – brick and wood, in a positive sense humanizing architecture. The nature and articulation of architecture rarely (if ever) refers to the geometric complexity, and the vast majority of cases represent the style of the neo-modernists, excluding internal division for more than two iterations of forms (strong geometrisation), not containing sought, significant information, characterized by a rich natural environment.

The public space of the city as such is not limited to the arrangement of representative city squares. General daily contact with it, through necessary, optional and social actions, takes place mainly through the streets³⁶. Can the urban space gradually being organized around emerging buildings, quarters and settlements therefore acquire the characteristics of the traditional urban interface, and consequently become a city-house? It seems that this aspect is relatively recognized and defined as the purpose of planning and design of architectural and urban planning practice. In studies on organized complexity, which half a century ago Juliusz Żurawski identified with emerging cybernetics, the starting point for the formulation of the postulate for *ecologism of architecture* (understood almost as a living organism!) is the

³⁴ Vide J. L. Nasar, *op.cit.*

³⁵ Vide W. Browning, et al., *op.cit.*

³⁶ Vide J. Gehl, *Życie...*, see also: J. Jacobs, *Śmierć i życie...*, passim.

importance of biopsychic conditions of built environment. How current, especially today, is the contemporary idea of the author: *In the sketched image of modern world architectural production, there is very little on urban design in its former meaning, characterized in the book by Tadeusz Tołwiński, and a lot of space for what today we call spatial planning*³⁷.

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