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CONTEMPORARY AVANT-GARDE IN SHAPING THE CITY – FUNCTION, FORM, STRUCTURE OR THE EXISTENCE ITSELF?

WSPÓŁCZESNA AWANGARDA W KSZTAŁTOWANIU MIASTA – FUNKCJA, FORMA, STRUKTURA, CZY SAMO ISTNIENIE?

Abstract

What is the avant-garde in designing contemporary urban spaces? The paper aims to attempt to analyze components of what we now call the components of modernity and the future of urban design and city transformation. Very often these are non-physical elements that transform the very idea of the city as a compact structure, new urban functionalities that adapt space to the changing world, both real and virtual. In extreme cases, it seems that the most avant-garde element is an attempt to treat the city as a compact structure, not a dynamic and discontinuous one. Therefore the paper aims to define those items that constitute this modernity.

Keywords: city, petropolis, zoopolis, biopolis, ecopolis

Streszczenie

Co stanowi awangardę w kształtowaniu współczesnych przestrzeni miejskich? Niniejszy artykuł ma na celu próbę analizy składowych elementów tego, co obecnie określamy jako składowe nowoczesności i przyszłości projektowania i przekształcania miast. Bardzo często są to elementy nie fizyczne, a przekształcające samą ideę miasta jako struktury zwartej, nowe funkcjonalności miejskie dostosowujące przestrzeń do zmieniającego się świata, zarówno rzeczywistego jak i wirtualnego. W skrajnych przypadkach wydaje się, że element najbardziej awangardowy stanowi próba dalszego traktowania miasta jako zwartej tworu, nie zaś dynamicznej i nieciągłej struktury. Niniejszy tekst stawia sobie za cel zdefiniowanie elementów, które obecnie o owej nowoczesności stanowią.

Słowa kluczowe: miasto, petropolis, zoopolis, biopolis, ekopolis

1. INTRODUCTION

How to distinguish contemporary from avant-garde urban design? A modern city keeps up with changing needs of the man who lives in it. It defines the pace of his life, realizes his spatial needs, latest technical solutions for a given moment can be found in it. It becomes the best possible solution to the space of everyday life for the vast majority of its inhabitants. The contemporary city follows current trends also in the aesthetic layer, realizing and creating tastes and needs of its residents.

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Avant-garde cities, as the name suggests, are ahead of their time, meeting needs that are not as much current as predicting the future of all its inhabitants. Therefore, the attitude of creating urban avant-garde space will be a forward-looking, actively, in contrast to the passive “contemporary” attitude. It is not only solving current problems, but also defining future ones and preventing them. In this way, the future approach will find its foundations in other than architectural and urban planning, fields of knowledge, based largely on theories and concepts more than on the current state of real, tangible space.

The historical layout of cities has changed over the centuries along with the development and fall of subsequent trends and theories. In the largest generalization, the contemporary city has undergone a number of transformations that until recently seemed to be ahead of its time. This was the case with modernist visions, the seeds of functionalism and futurism even before the era of sudden development of motorization and the emergence of a number of other transport modes (from aviation development to railroads, or even a sharp increase in the importance of cycling as a means of transport in New Urbanism visions). The departure from compact layout of the city to the city of high-rises resulted in the breakdown of the structure, with which the current urban planning measures itself at the very beginning.

2. DEFINING THE CITY

Matyja², referring to Majer³, in relation to the sociological sciences, defines the city in its four dimensions:

- ecological (city as a socio-spatial structure);
- historical (city as a collective work of a given community);
- socio-structural (city as a place of overlapping relations between residents);
- culturalist (city as a separate place with a prestigious and functionally diverse architecture).

Nowadays practically every element of this definition is in some way undermined, either in considerations so far only theoretical, or in real-life spaces. At the same time, the analysis of historically fixed definition of the city as:

“(...) a historically formed type of housing estate, designated by the existence of a specific partial community, focused on a certain area, with a separate organization, recognized and defined legally and producing as part of its activity a unit of permanent material appliances with a specific physiognomy that reflects a distinct type of landscape.(...)”⁴

demonstrates its disintegration as a complex structure. Each of the four previously distinguished elements can be found in the definition. On each of these levels, however, an element (or elements) that challenge the treatment of the city in a holistic way can be found. Assuming that the avant-garde elements can be also found in each of the determinants which, consciously or not, strive to redefine the city and create a new quality, we assume that it will become an

² Matyja A., *Miasto jako przestrzeń, węzeł i system. Analiza z perspektywy badań politologicznych*, Acta Politica Polonica, 2017, no. 3 (41), pp. 5–15.

³ Majer A., *Socjologia i przestrzeń miejska*, Wydawnictwo Naukowe PWN, Warszawa 2010, pp. 83–84.

⁴ Dziewoński, K., *Geografia osadnictwa i zaludnienia. Dorobek, podstawy teoretyczne i problemy*, Przegląd Geograficzny, 1956, no. 4 (28), pp. 721–764.

adequate space for living for its future residents. In the further analysis, the division described by Matyja was used to distinguish and group issues related to the future of urban design.

At the same time, the modern city sometimes refers to as petropolis, a symbol of the relationship between man and the Earth's resources. *Petropolis* – this is how the contemporary city is defined, systemically dependent, practically on every level of its existence, from the broadly understood availability of fossil fuels, while ensuring global communication links, causing its functioning on a global scale and complete detachment from the local one⁵.

Creating cities focused on high-capacity car traffic, air traffic connecting it with many points in the world, is no longer the core of urban design. Detachment from the context of the place and dependence on global conditions has already been a very short-sighted strategy, exposing the city and its inhabitants to supply crises on various scales. Therefore, the concept of petropolis becomes the starting point for the evaluation of transformation directions, that are to lead to a certain independence of urbanized areas in the contemporary world on various levels.

3. ECOLOGY

The division into traditional functional cities and rural areas resulted from the historical conditions related to the necessity of grouping areas related to agricultural production and securing the economic, commercial and, in the long-term, also political, administrative and cultural bases. The consolidation of the functional zone model of the merchant city, and from the 19th century – also industrial one, together with the growing pace of development, created a kind of industrialized anti-city – causing a strong polarization of its main zones: residential, commercial, administrative, cultural and industrial⁶. As remarked by Krier⁷, the city's formula based on functional segregation and zoning with the assurance of only production and industrial function has already been outdated, as evidenced by the progressive degradation and degeneration of structures of this nature. One of the reasons for this is the active existence of only one species in urban spaces.

As housing remains the basic urban function, transformations of the structure itself will become most visible through the prism of changes taking place in defining and designing housing developments on a different scale – from urban planning to a change in approach to the architecture of individual buildings. A number of emerging concepts trying to define these forms of the presence of nature that connect them directly with living are those areas of design that are subject to the greatest transformation not only of the form itself, but above all of the ideology of their creation.

The idea that has recently been taking its toll on attempts of urban space transformation is self-sufficiency. This is a matter understood very broadly, and only partly related to the material structure itself. In the situation of an increasing threat of ecological crisis and costs, and the problem of availability of basic resources in contemporary cities, self-sufficiency becomes the highest point of interest in the fields of: energy, waste management, food production and

⁵ Girardet H., *Creating Regenerative Cities*, Routledge, Abingdon – New York 2015, p.26.

⁶ Krier L., *Architektura wspólnoty, słowo/obraz, terytoria*, Gdańsk 2011, p. 178; Chmielewski J. M., *Teoria urbanistyki w projektowaniu i planowaniu miast*, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2005, p. 35.

⁷ Krier L., *op. cit.*

more. Another, more often raised issue is the insurance of the independence from food and water supplies, often related to the self-recovery of cities and the utilization of all living biodegradable waste within their own physical boundaries. Reducing the supply of resources from the outside becomes a “life” response to the problem of the sprawl of cities and the global, and not local, segregation of areas into “host” – rural and “fed” – urbanized.

This approach clearly shows signs of the current global problem, the vision of a city that manages waste (biomass), such as, among other, the Rieselfelder concept implemented in the past in Berlin⁸. The “hygienic city” will solve its problems with production of all waste in this situation within its structure. We can find manifestations of such phenomena in the increasingly frequent leaving of waste management facilities within cities⁹ or transforming and supplementing functions of already existing waste management areas¹⁰.

3.1. AGROPOLIS

The concept of agropolis has been popularized by Mougeot¹¹. It refers to the idea of an agrarian city combining urban and rural features in one structure. In a situation where the typical urban form is subdivided, and due to the phenomenon of urban sprout, its boundaries cease to be continuous and begin to contain discrete, punctual areas of a different type, most often agricultural or forest, you can no longer speak of a clear division into city and village. This creates the possibility of using these points, so far undeveloped, for the needs of functions that become necessary in a given place due to the extension of building structures.

After 2005, this concept began to appear in theoretical works on the search of a way to solve the problem of cities self-sufficiency, especially in areas where it is already a necessity, and not only the possibility of increasing safety of residents. An example of Khataba (Al Jadida) Agropolis, located in the Nile delta shows the concept of a self-sufficient city developed as a competition design in 2009 by Marcosandmarjan. One of the first researchers who used the term *agropolis* in relation to the broader context of the role of urban agriculture in transforming urban structures was Bogusław Wowrzeczka in the two-part publication „Agropolis”¹².

Girardet presents slightly different definition of the concept¹³, defining agropolis as ‘isolated’ traditional town with minimal transport connections to the outside world, self-reliant in food and forest resources from its local hinterland. The idea was based on more than a hundred years old von Thünen’s theory of how to form a landscape associated with the way cities function in highly isolated areas and far away from other human centers.

⁸ Girardet H., *op. cit.*, p. 85.

⁹ For example the Thermal Waste Recycling Facility in Kraków was established in 2015 by the studio: MANUFABRYKA NR 1 (arch. Bogusław Wowrzeczka), Teller Architekci (arch. Michał Teller), Łapiński Architekci (arch. Filip Łapiński), Prochem (arch. Jakub Baczyński).

¹⁰ For example, Energieberg – the energy hill in Hamburg, by the Häfner/Jimenez, Konermann Sigmund Architekten BDA.

¹¹ Mougeot L. J., *Agropolis. The social, political and environmental dimensions of urban agriculture*, International Development Research Centre, Earthscan, London, Sterling 2005, p. XII.

¹² Wowrzeczka, B., *Agropolis. Część I. Nowa Atlantyda*, Architectus, 2014, no. 1 (37), pp. 67–80; Wowrzeczka, B., *Agropolis. Część II. Współczesna farma miejska*, Architectus, 2014, no. 1 (37), pp. 85–95.

¹³ Girardet H., *op. cit.*, p. 16.

Wherever looking for historical references to the idea of agropolis, it is one of the concepts of rebuilding modern cities, which are based on a return to strong, lasting relationship between city and its host land. However, while in the past such solutions were rather point-based, nowadays they become a proposal of linear or matrix systems for large urban areas, such as New York or Singapore. Therefore, these concepts assume the use of vacant spaces for the purpose of growing food, resulting from urban sprawl, or introducing agriculture into compact urban structures as a multiplication of functions in a given area.

3.2. AGROFOROPOLIS

Agroforopolis is a concept taken from Undine Giseke's study on urban food systems¹⁴, much more reminiscent from what Girardet called agropolis. The dominant feature of this type is being constructed separated structure, with areas of crops assigned to it, between which individual farms and small settlements are scattered. As a design proposal in its original form, it was used to develop urban agriculture and integrated development in parts of land with high forest cover, enabling to preserve possibly large areas of a natural type. This direction of development of contemporary cities enables liquidity and combining into one compact system spontaneously arising building complexes related to the process of urban sprawl.

3.3. ECOPOLIS

As a direct response to structural problems posed by petropolis, Girardet proposed the concept of ecopolis, which is to become a city re-connected with its rural surroundings, using renewable energy sources and introducing systems of agricultural production causing regeneration of degraded urban areas¹⁵.

Ecopolis sets a new direction in the way of defining city. On one hand, it is a way to determine the intensification of the use of certain new technical measures that do not need to be applied yet in non-urban areas. Introduction of technologically advanced ways of obtaining renewable energy, which do not require significant areas, or construction of cubature forms of often high-rise food production facilities (mainly crops and aquaponics) in an enclosed environment (so-called vertical farms) is slowly becoming a determinant of a modern city. Facilities such as Greenhouse Plantagon in Linköping, Pasona Urban Farm in Tokyo or Cricket Shelter: Modular Edible Insect Farm in New York are examples of the implementation of forms that will become, in the near future, a way of defining not only future architectural solutions, but also urban spaces as such. Similarly, the urban avant-garde can be found in the search for solutions ensuring energy self-sufficiency, as in the case of Vauban in Freiburg, Ijburg – Haveneiland-West in Amsterdam, EVA Lanxmeer in Culemborg and many more, currently being model solutions on a global scale.

Currently, also in the era of reducing the importance of historical and administrative distinctiveness of the city, it begins to be recognized in particular as a specific type of landscape. A city defined by means of the concept of landscape (urban, cultural etc.) also allows dynamic response to changes that occur as a result of the emergence of new formal and functional ele-

¹⁴ Giseke U. (ed.), *Urban Agriculture for Growing City Regions. Connecting Urban-Rural Spheres in Casablanca*, Routledge, Taylor & Francis Group, New York 2015, pp. 325–326.

¹⁵ Girardet H., *op. cit.*, p. 96.

ments of urban structures described above. The emergence of types defined as a productive urban landscape¹⁶ and a continuous productive urban landscape¹⁷ have called into question the validity of the further division into urban and rural areas and urbanized and non-urbanized spaces in the context of the latest tendencies to penetrate and connect those two, previously separate zones.

3.4. BIOPOLIS

One of the most controversial ideas that have emerged in recent years in the context of searching for a direction of evolution of the city perception, has become the concept of biopolis. It is understood ambiguously: either as a determinant of the modern “postgenomic world”, a space that arises as a result of the new biopolitics of man and space, thus expanding the original concepts of polis for its biological zone¹⁸ or as a concept showing the connection between the idea of modern urbanization and biology and ecology¹⁹, dynamically developing under the influence of a number of discoveries.

In this context, biopolis is thus a response to the self-destructive nature of changes that take place in cities, and are related to the process of mixing of non-urban elements – related to nature, caused by the appearance of a discontinuity in a typical urban structure.

3.5. ZOOPOLIS

The direct connection between the concept of a city created by people (polis) and the animal world (zoo) took place as a long-lasting, multi-faceted process of expanding the meaning of animal subjectivity in world culture, art and politics. Similarly as in case of the concept of biopolis, *zoopolis*²⁰ was initially applied to one of the assumptions of biopolitics, in the context of spaces shared by man and domestic animals. The city is understood here as the political community of its inhabitants, whereas animals have also been recognized as residents with various forms and levels of “civil rights”. The proposed division assumed separation of domestic animals from wild ones permanently inhabiting a given area and those that occurred temporarily, as a result of migration between specific points in space. It referred strongly to the idea of *zoopolia* proposed a dozen years earlier, created in relation to the built environment by Jennifer Wolch²¹.

At the same time, there is a different version of this concept. *Zoopolia*²² is also a vision of urban space created as an alternative, but complementary to the meaning of metropolis,

¹⁶ Viljoen A., Bohn K., Howe J., *Continuous Productive Urban Landscapes: Designing Urban Agriculture For Sustainable Cities*, Architectural Press, Oxford 2005, p. xviii.

¹⁷ *Ibidem*.

¹⁸ Jelewska A., *Kultura 2.0: Biopolis*, Dwutygodnik.com strona kultury, 2012, Vol. 10, 2012, <https://www.dwutygodnik.com/arttykul/4039-kultura-20-biopolis.html> (access: 20.02.2019).

¹⁹ Welter V., *Biopolis. Patrick Geddes and the City of Life*, The MIT Press, Cambridge, London 2002.

²⁰ Donaldson S., Kymlicka W., *Zoopolis. A Political Theory of Animal Rights*, Oxford University Press, Oxford 2011, p. 156–157.

²¹ Wolch J., *Anima Urbis. Architectural Theories of the Environment: Posthuman Territory*, Routledge, New York 2013, p.233.

²² Wolch J., Owens M., *Animals in Contemporary Architecture and Design*, *Humanimalia: a journal of human/animal interface studies*, 2017, no. 2, pp. 1–26.

but intended for both people and animals, and more broadly – nature. It is based on the observation that parts of land occupied by wild nature are disappearing not only in urbanized areas, but also beyond their borders, which, however, are also subject to increasingly stronger erosion as a result of the ongoing suburbanization processes. Therefore, the attempt to maintain traditional form of the city will result in a significant impoverishment of the human environment and nature as a complete structure, and therefore is a significant mistake in itself.

4. HISTORY

In the historical perspective, the city was made up by people. It was actually related only to the spatial activity of a man who, in an enclosed space, created the most favorable living conditions for him at a given moment. It is not only about the quality of life, because of the large concentration of people, but rather an overall view of the comfort of trading, culture, morality legislation, etc. The city was for centuries a common work of the human community that formed its structure in such a way as to adapt it to the possibilities and spatial needs only of humans. Currently, it is considered avant-garde to try to expand the group of users of the city with urban animals – wild or domestic, which has already been described, among others in the concept of zoopolia.

5. SOCIOLOGY

At present, the social aspect of the way of defining the city is the most transforming due to the departure from typical, physical and only interpersonal way of perceiving this relationship. We are dealing here with the process of widening of the user group also with domestic animals, wild, domesticated or broadly understood – nature, but also with the lack of having physical contact between individuals and transferring some of the social relations that until recently took place in public space of cities – in virtual one, which in order to exist no longer requires connection with physical space. The city of augmented reality will have a number of elements enabling the reception of space also in the virtual zone, available only by using appropriate technical tools, and therefore limited. Some of the elements related to the city's space already lie on a surface that is inaccessible physically and broadens knowledge about how this world could look in other historical conditions, such as projections of historical facades of no longer existing buildings.

On the other hand, we are also dealing with the phenomenon of redefining the city based on social value it brings. An example of Cittaslow movement, associated in the Cities of Good Life, shows the way in which the transition from spatial to social concept took place. At this point, it ceases to be defined as a place, and begins – as a certain quality of life and access to certain values (and not goods).

This trend refers strongly to the phenomenon that in forming contemporary cities is associated with at least a departure from classical urban design, assuming the existence of an author (or a group of authors) creating a ready creation – a district, housing estate or a building.

Currently, the city is beginning to be formed from the bottom up, and urban activism of all types becomes a way to introduce significant transformations into existing structures.

In this context, creating cities whose form and structure is flexible enough to assume space for the implementation of this type of initiatives, most often created as temporary elements, also becomes a determinant of solutions for the future. The growing temporariness of the space development, which results from this, and what is the consequence – also the much greater variability of the forms of development determines the dynamics of changes in urban space. Seasonally emerging gardens, pavilions, small spatial forms for recreation appear next to large, multifunctional complexes with the functional program with changeable assumptions.

6. CULTURE

Until now, the city remained a separate place with a prestigious and functionally diverse architecture. Nowadays, blurring of the boundary between architectural form of structures emerging in and outside of the cities occurs in this area. Along with the breakdown of urban structures, also these forms mix, leaving elements of the village in the city and the city in the village. Something that in Poland until recently was a clear dissonance in landscape, as individual multi-family buildings growing on the outskirts of villages in an open landscape, are now disappearing in the general phenomenon of permeation of functions and forms resulting mainly from the accessibility of investment areas.

A solution that is now more noticeable is the search for a new architectural form of urban facilities, on one hand referring to the often rural provenance of its internal functions and on the other hand to the latest assumptions guiding their creation. A new architectural form emerges, referring to pro-ecological attitudes, self-sufficient forms related to nature. For example, let the elements of energy acquisition and water retention, which very often determine architectural form of buildings on which they were installed.

7. CONCLUSIONS

Contemporary avant-garde in urban design sets a number of features that adapt space to the current dynamics of social, cultural, political, technological changes, etc. The most important of these is the assumed independence / self-sufficiency in relation to the surrounding world, understood not only as a form of self-governance, but as the ability of keeping its inhabitants alive without having to use external resources. Self-sufficiency on various levels is to take place without the need to abandon the scale of contemporary metropolises or agglomerations, but with a certain fragmentation (consolidation) of discontinuities in their structure. At the same time, nowadays the point of interest is focused at creating a new urban scale, adapting the living environment to the human scale, returning to the idea of a village as the best scale of everyday life, and in principle urban structure as a group of villages in a city where a man realizes all basic needs. The latter, like new functions, a new type of residents occurred as an important set of social characteristics defining the city anew.

The emergence of new types of functions that have not been associated with urbanized space so far, such as broadly understood agricultural production, animal husbandry and maintenance, or the widening of functions of already known elements (facade, street, park,

etc.) has become the determinant of replacing the historically established form of the city with new – more open and variable.

Formal issues are also changing. Removing communication from the dominant feature in the composition, to its margin and basing the whole assumption on public, pedestrian and bicycle transport is a kind of revolution in the way of building urban tissue. The departure from the modernist paradigm of a city that is free-flowing, zoned, although described by Krier²³, remains a controversial solution.

Partly also because of that the city of the future becomes an island type of structure, strongly broken and fragmented in a large area. Hiding communication causes a problem with reading its structure, which makes it even more conducive to creating islands of function combined, however, not by communication, but by different forms of greenery. It is either an ecological corridor and a place where other inhabitants of cities live, or the zone of agricultural production, a half-open landscape constituting the host zone of neighboring estates.

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²³ Krier L., *op. cit.*, p. 178.

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