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## THE GAME IN DECRYPTING GEOMETRY WHICH HIDES THE HISTORY OF PLACE

### ZABAWA W ROZSZYFROWYWANIE GEOMETRII SKRYWAJĄCEJ HISTORIĘ MIEJSCA

#### Abstract

The city is a multilayered structure composed from multiple pieces, each of which has been subjected to the individual influence of history and changes of time. The city is a game board where architects play at refilling empty fragments. The rules of the game allow geometric deformations of space, in order to establish the context of the concealed history of the place. The goal of the game is to bring what is most valuable and precious from the existing urban structure, or build a new value that will last the test of time.

*Keywords: fragments of the city, multilayered structure, geometry, deformation*

#### Streszczenie

Miasto to wielowarstwowa struktura, złożona z wielu fragmentów, z których każdy ulegał indywidualnym wpływom historii i przemianom w czasie. Miasto to plansza do gry, na której architekci bawią się w uzupełnianie pustych fragmentów. Reguły gry pozwalają na geometryczne deformacje przestrzeni, w celu nawiązania kontekstu do skrywanej historii miejsca. A celem gry jest wydobycie z istniejącej tkanki urbanistycznej tego, co wartościowe i cenne, lub zbudowanie nowej wartości, która przetrwa próbę czasu.

*Słowa kluczowe: fragmenty miasta, wielowarstwowe układy przestrzenne, geometria, deformacja*

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## 1. Playing the game called THE CITY

*Cities are the infinite sum of fragments which retain their identity and specific kind of autonomy, and those pieces are interlinked and act on each other.*

Bernard Tschumi [8, p. 227 ]

The image of cities changes over the years – old buildings or historical street layouts tend to be lost or overwhelmed by new layers of the developing city. Once we look at more we can observe those scraps of the past, empty postindustrial buildings awaiting new functions, forgotten empty spaces waiting for a better future, or small objects overwhelmed by newer and larger buildings. This contrast between fullness and emptiness, between the old and the new, is what characterizes the fragmented urban landscape. That hidden history shines through newly built roads and buildings arising in the place of their predecessors. This complexity and diversity protects the place from unification and monotony. It is a multi-layered game board on which architects play at refilling empty fragments. The rules of the game allow geometric deformations of space in order to establish the context for the concealed history of place. The goal of the game is to bring what is most valuable and precious from the existing urban structure, or build a new value that will stand the test of time. Playing the game called The City, it is fun to build the city, but also to decode history, to seek order in chaos or logic in some order. This is a game of establishing the relationship between buildings and relations with the users of the space. Because the whole point is to pull everyone into the game.

## 2. Multi-level game board

*The plan of the city survives on different levels: sometimes it is diverse in its features, often deformed, but in their substance remains in place.*

Aldo Rossi [7, p. 29]

The best fun is in the places where spatial layouts accumulate over years of history, old buildings are demolished and in its place new facilities are created. Despite the fact that the average consumer might not know the history of a place, he can take part in the game and subconsciously feel the echo of the past by observing the deformation of space, and the balance and geometric order of the streets. You only need to play a detective, search for the rhythms and look at the geometry of space to learn about the history. You can then also recognize these hidden layers, unnoticed at first glance, lost by time, elements that are unique individual fragments of the space.

## 3. Searching for hidden spatial codes of the particular location

In every city you can find places where the historical grid elements are lost in the contemporary order of streets and buildings. In the geometrical spatial relations these are what distinguishes them from the norm. Buildings set at odd angles to a newer building, betray the course of streets that no longer exist. They create a spatial code of what has already passed and yet is still present in the scraps of history that have survived to our times.

The theory of hidden *spatial codes* which reflect the history of a place in its complex geometry was formulated by Jacek Dominiczak [1]. The main assumption of this idea is to reach the hidden layers that contain deeper information discreetly hidden from our consciousness. We receive them at higher levels of perception. Finding this information, which stem from changes in the geometry of given area and its deformation over time, allows us to refer to the context of site and participate in a game that relies on continuing the story told by this place. The main goal of the game in searching for hidden *spatial codes* is to reach the specific local features of the selected fragment of the urban space. According to J. Dominiczak, these local characteristics generally are not immediately noticed by us. Noticing and appreciating these features requires a lot of attention. “Reaching out to this hidden information brings us closer to reading the architectural mechanisms that participate in the construction of mood, atmosphere and local spirit of the site” [1]. So the whole game lies in finding and decoding the history reflected in the geometry of space, or rather in its changes and deformations. So to identify fragments of the city at the level of the mathematical model, through the analysis of the city plan in terms of architectural and urban connections of space elements and their geometrical relationships. The intention of this game is that, “... architectural data represent knowledge about the place parallel to the historical source” [1]. They help the recipient to feel the architecture – it is not necessary to understand it. At this level, it is easier to pull the ordinary passer-by into the game and turn their attention to the fragment of space which differs from the standard and hides a mystery that flows from history or creates a new story by itself.

#### 4. Game strategy – mental matrix and deformation method

Jacek Dominiczak, in describing the method of constructing the city code, explains that “neuroscience research shows that this deformation is exactly the kind of information which is remembered and which enables the recognition of objects previously known. Thus, information on deformation in its own way encodes the entire object so that it becomes later recognizable” [1]. This method, based on Gestalt Psychology<sup>1</sup> in order to determine deformations, uses geometry to obtain some kind of mental map<sup>2</sup> in the form of a spatial grid that records what we consciously see and which results from a mathematical model of space. As a result of this game on the background of the existing city plans new geometries are created. Playing at comparing the actual terrain maps and the “mental map” at the level of geometric differences reveals the differences between what we see and what we perceive on not fully understood levels of consciousness. Based on the similarities and differences the code of deformation is formed, which then becomes a new frame – a reference point for future events. It is a prototype or archetype which defines a new geometry of the site that refers to its history.

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<sup>1</sup> According to Gestalt psychology, mental life should be treated as an entity composed of some emerging whole. Before World War II, it was a theory of perception alternative to other well-known theories accepted in the early twentieth century.

<sup>2</sup> Cognitive map (mental map) – a set of representations of the individual or group containing information about the spatial organization of phenomena. The study of these maps is based on an analysis of the documents made by the subjects investigated. They were either sketches or verbal descriptions. We analyse the method of making drawings, the drawing orientation, the mutual arrangement of objects, the presence or absence of certain elements, and zoom in or out of certain areas.



III. 1. Project and the constructed part of the South Friedrichstradt, Berlin – arch Peter Eisenman, source: Eisenman P., Robertson J., Koch-/Friedrichstrasse, Blok 5, Architectural Design, 7–8/1983, p. 91–93

## 5. Example of the game – geometrical excavations

One of the most interesting examples of such geometrical, architectural games is Peter Eisenman's project "The City of artificial excavation – southern Friedrichstadt"<sup>3</sup> in Berlin. The project site was almost completely destroyed during World War II. It was bounded on the north by the Berlin Wall and completed by three preserved buildings. The architect, in the existing difficult situation, escapes from direct contextualism and creates a new space by referring to the geometrical grids, he boldly creates them on the basis of long-lost traces of history. Eisenman refers to the geometry of walls from the 17th century, foundations from the 19th century and early 20th century preserved buildings. He starts having fun with an artificial reconstruction of these layers, not trying to get to know the true history of the place, but to find geometric order that hypothetically ruled this space in the past. The architect subjectively creates a geometrical and historical matrix that are the frame of the project and that rooted it in the past. He allows us to have fun in decoding the complex geometry and deformation of the space in which is hidden the memory and anti-memory of space. Because this multi-layered structure slightly blurs reality, but also refers to the truth of the past places through buildings that survived the test of time, that stand out from the surroundings with their otherness. They seem to be mismatched to the place where they stand, and yet they were here first and if we take part in the game of seeking geometrical order we can decode their history, or at least we can subconsciously feel the spirit of the place concealed in the deformation of the urban grid.

## 6. Conclusions

Having fun in creating prototypes or looking for deformation arising from the complex geometry of streets is extracting the mystery of what has already passed. Deformation reveals the secret, hidden relations in the meeting of buildings that preserve their individuality. Separateness adds value, it is an advantage, it is better than melting into one whole. In a magical way, we can touch the history of the place by looking for order in the geometrical deformation of a new architectural form. This is a game of emotions and feelings emerging between the existing space and new object. According to A. Jakimowicz, this kind of play with an architectural project, based on an analysis of the historical context fragment of space, gives us the ability "... for architecture to exist and develop that will last not only for now but also in the future" [5, p. 155]. In this game, this is the purpose leading to victory.

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<sup>3</sup> This project and its partial realization is the result of a closed architectural competition announced in 1980 by IBA 1984 (Internationale Bauausstellung Berlin 1984).

## References

- [1] Dominiczak J., *Ukryte warstwy tożsamości miasta i zagadnienia metodologii projektowania*, [w:] *Tożsamość miasta odbudowanego: autentyzm – integralność – kontynuacja*, red. R. Cielątkowska, Gdańsk 1998.
- [2] Dominiczak J., *Miasto dialogiczne – cz. IX – Architektura ukrytego*, *Architektura Murator* 6/2003.
- [3] Eisenman P., Robertson J., Koch-/Friedrichstrasse, Blok 5, *Architectural Design*, 7-8/1983, p. 91–93.
- [4] Hawrylak M., Hawrylak P., *Fragmnetaryzacja Miasta*, *Czasopismo Techniczne Politechniki Krakowskiej* z.2-A/2007.
- [5] Jakimowicz A., *Wybrane aspekty pojmowania czasu w architekturze współczesnej – czas i przestrzeń jako matryca*, *Czasopismo Techniczne Politechniki Krakowskiej* z.4-A/2011.
- [6] Magdziak-Grabowska M., *Zapomniane fragmenty miasta*, *Czasopismo Techniczne Politechniki Krakowskiej* z.4-A/2011.
- [7] Rossi A., *The architecture of the city*, MIT Press, 1984.
- [8] Tschumi B., *Architecture and Disjunction*, MIT Press 1996.