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LINES

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## IZVLEČEK

Dojemanje elementov nekega sistema pogosto vodi v njihovo soodvisnost, vzajemno pogojenost in zaviranje. Linije osnovnega geometričnega elementa so postale model redukcijskega sveta, ki temelji na osamitvi v skladu z določenimi merili, kot so funkcija, struktura in družbena organizacija. Njihove sledi v sodobnem svetu občutimo kot fragmente ali ruševine sistema prevladujočega položaja neke predpostavljene hierarhične enotnosti. Kako se rešiti take odvisnosti ali determinizma? Kako naj linije postanejo manj »sistematične« in bolj avtonomne ter oblike manj redukcijske in bolj odprte? Kaj na temelju nove, kontroverzne podlage narediti z obliko, ki izhaja iz modernističnega determinizma? Kako naj ti elementi ali oblike predstavitev v današnjem kompleksnem svetu postanejo oblika dejanj? V članku predstavljamo pomen linije prek zamisli Le Corbusierja, Leonidova, Picassa in Hitchcocka. Prostorske raziskave so bile izvedene na podlagi več primerov – projektov arhitekturnega studia »Residential Transformations«, ki so predstavljali ogrodje za določitev možnosti, od igrivih do natančnih, kot taktika preoblikovanja v različnih kontekstih sodobnega sveta.

## KLJUČNE BESEDE

linija, taktika, preoblikovanje, sistem, fragment

## ABSTRACT

The perception of elements in a system often creates their interdependence, interconditionality, and suppression. The lines from a basic geometrical element have become the model of a reductive world based on isolation according to certain criteria such as function, structure, and social organization. Their traces are experienced in the contemporary world as fragments or ruins of a system of domination of an assumed hierarchical unity. How can one release oneself from such dependence or determinism? How can the lines become less "systematic" and forms more autonomous, and less reductive? How is a form released from modernistic determinism on the new controversial ground? How can these elements or forms of representation become forms of action in the present complex world? In this paper, the meaning of lines through the ideas of Le Corbusier, Leonidov, Picasso, and Hitchcock is presented. Spatial research was made through a series of examples arising from the projects of the architectural studio "Residential Transformations", which was a backbone for mapping the possibilities ranging from playfulness to exactness, as tactics of transformation in the different contexts of the contemporary world.

## KEY-WORDS

line, tactic, transformation, system, fragment

## 1. INTRODUCTION

We live in an interconnected world, related in different ways, at different levels, in a continuous space of flows. The everyday flow of information confirms this, our networking in different domains of affiliation witnesses this, our understanding of the complexity and nonlinearity of the world supports this. Still, under the conditions of an increasing number of migrants moving from east to west, from Asia to Europe, from the crisis-stricken to stable parts of the world, there is movement along certain corridors through which they penetrate into Europe. They use certain geographic lines of connection that provide the greatest economy of motion. In a similar way, when certain countries want to put an obstacle to such a motion, they use lines of separation, barriers, walls, boundaries. So, in a dramatic way, we are back to the main geometrical characteristics and schemes of organization of space. Hence, in the metastable contemporary world, things with their historic occurrences are neither surpassed nor do their boundaries disappear, but they occur in different ways in the new reality. How can lines be recognized as the main organizational form and used in the architectural projects of today? Drawing from several examples, various interpretations of the line in different contexts, i.e. urban, suburban, and natural, will be shown.

It is exactly this unequal development, the unequal distribution of goods and resources, which is the source of geopolitical polarization, militarization, and uncontrolled motion of people. What should have been overcome a long time ago, becomes the basis of our world. The promised way out of poverty and poverty reduction from freer trade, open markets, and neo-liberal strategies of globalization did not come true in the way in which they were promoted. Environmental degradation and social dislocations are unevenly distributed. The simultaneously uneven geographical development caused opposing motions of neo-liberalism with a number of possibilities and barriers in looking for alternatives (Harvey, 2006).

However, the ambiguity of the contemporary world, its indeterminacy in respect to an intensive complex system and a conflicting system, remained a dominant feeling of the contemporary world. Already from the debate of Modernity and Post-modernity in the 1980s, certain assumptions are derived about our present situation. The Post-modernity viewpoint tried to articulate the world at the beginning of an epoch, whose contours were still unclear, blurred, ambiguous, resulting in the end of a historic project – the modernization project (Wellmer, 1987). Still, the post-modern situation with the controversial ways of thinking, provided equivocal views, as in a hide-and-seek (rebus), from which the contours of a radicalized modernity as a post-radicalized mind can also be disclosed. Like in a rebus, in the post-modern thinking, one can distinguish the end of both Modernity and a radicalized Modernity. How can architecture be understood in terms of such an ambiguity – as fragments of a system or as a new radicalized superior system?

Hence, what follows below is not based on systematic research of a defined subject, but rather the paper touches upon different perspectives of a single phenomenon that occurs in certain relations and controversies.

## 2. LINES<sup>1</sup> OF DOMINATION

Architecture as part of the modern movement accepted the consequence stage of production. The practices of Taylorism and Fordism were proposed as models for the regeneration of architecture and society (Hill, 2003; McLeod, 1983). Architecture should be seen as a step to dissolving the existing needs of people at different levels and their massive application. To that effect, the line of connection, or the line of production in both conceptual and concrete senses, i.e. as a line of machines and factory workers, with a product that moves along while it is being built or produced, became the main organizational model of space. The use of an assembly line reduced the assembly time of cars from 12 hours to 93 minutes. The increase in assembly speed meant faster availability, giving impetus to the American car culture as well as the increase of the society's mobility (example: the assembly line at the Ford Motor Co.'s Highland Park, Mich., plant in 1913; Perkins, 2012).

The line as a continuous action is an expression of the modern paradigm, both of production and the social and spatial organization. The spatial approximation of the production models is presented here with several architectural examples, namely architecture as an infrastructure in Le Corbusier's proposals for a city-viaduct (1930), and the architecture as a line of displacements through the linear city of Magnitogorsk of Ivan Leonidov. They showed the idea of the line in the most suggestive way, as a pluralistic infrastructure, as a dialogue between architecture and theory, as a programmatic layering of parallel bands.

In the 1930s, the ideas about the linear form of the city as extreme scenarios in respect to its structure and position were developed. Le Corbusier proposed a model of the city arising from the logics of traffic infrastructure, a city-viaduct, in two challenging locations, namely Rio de Janeiro (1929) and Algiers (1930–33) (Frampton, 1985/1980, Frampton, 2001). In the drawings of the city-viaduct, we see a wavy line that penetrates into the landscape, or is layered and juxtaposed in relation to it. The theme of the linear form is derived through the direct relationship between architecture and the territory. The territory, i.e. the environment, is not only a background, nor a system in which architecture dissolves, but the material of architecture that it modifies or governs. Their sensual play, the play of the line and the ground, evokes the eroticized lines of Le Corbusier's drawings of female figures from this period (Le Corbusier, female nude, Algiers, 1931; McLeod, 1988, p. 500).

For Leonidov, the linear form in the project for the socialistic settlement at the Magnitogorsk chemical and metallurgical combine (perspective of lines of displacement, the middle band of a linear city) is a tool for spatial and social reorganization: "*first, a new social concept, and second, its translation into architecture*" (Leonidov, 1930, in: Frampton, Kolbowska, 1981, p. 68).

Through the theme of the linear form, Leonidov decomposed the city into a number of sectors, parallel bands, for housing, sport/recreation,

<sup>1</sup> A line is length without breadth (Pickering, 2010/1847). Their character depends on the interpretation of this geometrical characteristic. Lines are symbolic and concrete organizational forms of the new modern times. In several key positions, we shall consider the genesis and the modes of their interpretation.

transport of passengers and goods, as a concept that allowed a practically unrestricted linear growth (Figure 4). The linear programmatic layering of a territory had to enable a dynamic coexistence of different activities and their interference in a complex entirety. In that way, the linear distribution was seen as a form of unfolding of the old weathered city and repositioning in a new complete habitat in which, work, leisure and culture are interconnected organically (Leonidov, 1930).

In the “Bull” series of 1946, Picasso demonstrated how the entirety of presenting the bull is reduced to a continuous linear gesture. Through 12 lithographs of one and the same object of presentation, he shows the development of a piece of art from the academic to the abstract level. In the series of presentations, Picasso sets apart the image of the bull to disclose its essential presence through progressive analysis of its form. Each sheet is a successive level of research toward expressing the spirit of the presentation by reducing the drawing. In the final presentation, Picasso reduces the bull to a simple contour. However, while the line resulting from progressive reduction that shows the essence of the presentation fascinates and captivates us, the entirety of the body with all the brutalities and attractions of animal energy is lost and missing.

What is happening with the line in the postmodern or radically modern period? The line is no longer a paradigm of the production/technical model. This is a rhizomatic model of intensive complexity – a multiple. The line seems to have been surpassed, and becomes an expression of abandonment and emptiness, or a theme of patchworking different informal fragments – the “remains” of the modern society. But still, this architecture is a phenomenon of the boundaries, and it takes place at the boundaries. The linear elements are indeed fragmented, disrupted, but it is exactly their transgression that gives them an additional unexpected possibility. Their release from the programmatic determinism leads to their substantive possibility.

The architectonic history of Skopje shows a dramatic reversal of lines as a compositional strategy of organization of the city. The modernization of the

city started by introducing linear formations that initially only touched each other or were fragmentarily superimposed, but later, in the period of post-war reconstruction, the city itself obtained a linear projection. The formerly radiocentric city of the first half of the 20th century transformed into a linear city of the second half of the 20th century (Bakalchev, 2004). However, such an orientation not only predetermined its form but also limited it and disabled it in the total entirety of the city. The linear organization essentially resulted in fragmentation and reduction of a number of everyday and idiosyncratic positions of the city. Its many-facetedness became an expression of fragmentary autarchic presence of the lost or absent unity. The desolated appearance of the railway station platform (Figure 1) in one of the main megastructural segments of the post-earthquake reconstruction of Skopje points to the perception and material conditions of the former unitary project on transformation and integration of the city and the region (Transportation Center, the view of the tracks from Skopje’s Main Railway Station, concept by Kenzo Tange).

How are lines understood in architecture today? Undoubtedly, they have powerful organizational features, but also an unpredictable character in their development. They can be repeatable, predictable but, at the same time, they possess an uncertainty, a wandering curiosity in motion.

### 3. LINES OF INTEGRATION / ACTIVE LINES

In a number of projects of the Integrative Studio at the Ss. Cyril and Methodius University in Skopje, using the linear distribution, we wanted to surpass its association with the system of totalitarian organization and strategy of planning and use it as a direct tactic of urban transformation – to return it to the real needs for surprise and utilization. In the research carried out through the project, the referent approaches and methods of transformation were referred to as tactics, unlike strategies meaning complete systemic and hierarchical approaches to the city. Tactics are approaches that arise from the local situation (Tasic, 2015).

We refer to both the specific form of the existing urban fragments and the idea of the collective form from the 1960s (Maki, 1964) as a model of transformation. Conceiving the concept of the mega form from the 1960s, as a formal system that re-examines the hierarchical system of the city, a potential was seen in the transfer of its fundamental principles to the local level, i.e. to the level of urban fragments and residential pockets. The mega forms offer an alternative approach to the modern urban phenomena, as a mechanism that has a potential to yield unexpected results in the local contexts at different levels of intensity of transformations. Starting from the idea of the collective form, through a series of hypothetical scenarios, different tactics of transformation of the residential texture were developed in the selected locations in Skopje and Veles.

#### 3.1 Case one: Inversion Lines, location: Novo Maalo, Skopje

The dramatic waves of modernization caused fragmentation and disappearance of the formerly existing traditional ground of the city. However, fragments of the traditional city still exist. Although their physical structure

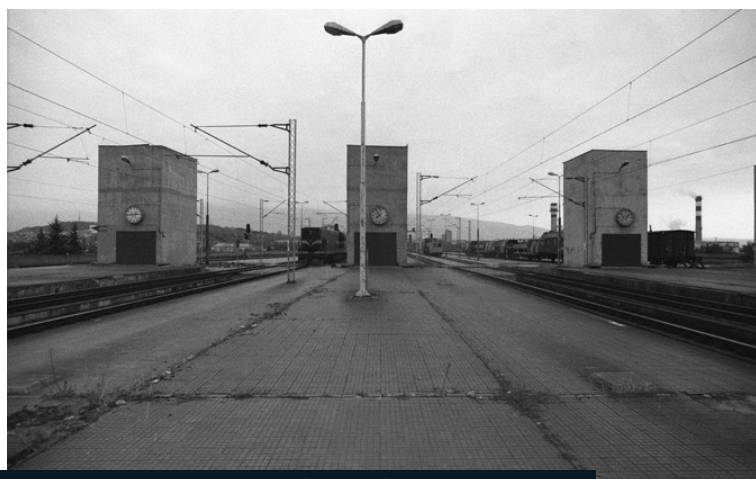


Figure 1: Transportation Center, the view of the tracks from Skopje’s Main Railway Station, concept Kenzo Tange. Photo: Lorenz Bürgi (archiv: Bakalchev, M.).



undergoes processes of transition/destruction, the templates of the street plans remain as records on the surface of the city.

From the typomorphological viewpoint, street plans are defined as primary elements because they participate in the evolution of the city over time in a permanent manner, and because they are recognized as the main constituent element. But what will happen if these primary elements experience a turnabout? And if the void street plans become solid, while the existing residential texture is gradually emptied? The research conducted by several projects was focused on the effects of that procedure, the transition of the void into solid, the creation of a new urban artefact out of the deep structure of the existing one. Through the inversion of the street plans from void ones into solid ones, a new configuration is obtained, as an upgrade of the street system into a new collective mega form. In that way, the linear structures are the base for settlement and also connection with the referent positions of the city. Thus, through decomposition, selection, and extension of selected street plans, a new local installation of the city can be obtained (Figure 2).

Upgrading refers to the placement of residential bridges over the existing residential texture. The position of the bridges arises from the main street plans of the Novo Maalo neighbourhood. These are placed beside three streets that intersect. The two street directions are of the same height and are the basis for housing, while the third is placed the highest and connects the neighbourhood with the Vardar River. In this way, through decomposition, selection, and extension of the existing street plans, a new city installation is obtained as an inverse reconstruction of the urban fragment (Figure 2).

### 3.2 Case two: Incision/Cutting the City, location: East–West Industrial Zone, Skopje

The post-war reconstruction of the Skopje city saw the city as a linear system. The previous radial models exploded into a linear set-up, with a new spatial syntax and new functional criteria of segregation. The linear segment on the Vardar's right banks developed as parallel zones for industry, housing/education, and parks. However, while different programmatic bands were juxtaposing in longitudinal direction, they were increasingly becoming a barrier for the transverse directions of connection. Through the incision/cutting procedure, a linear configuration was established in

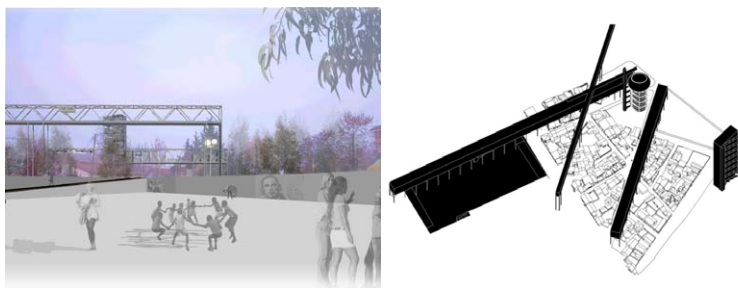


Figure 2: Prototype of partial upgrading of the streets and their connection with the surrounding referent positions of the city, Gordan Petrov, master project, 2013.



Figure 3: Incision, tactics of assembling the urban fragments, Aleksandar Petanovski, master project 2013.

the transverse direction of the former longitudinal city, in its east sector, thus connecting the different programmatic and morphologically isolated fragmentary zones that exist today. Today, the line cuts the fragmentary autarchic industrial band, the informal residential pockets and, through them, connects the education zone on the left bank and the residential settlement from the 1980s on the right bank of the Vardar river.

The procedure of incision (cutting) of the city and the superimposing linear formation enable spatial and programmatic upgrading, simultaneously connecting different positions of the city. The incision is a linear sequence, not as a system but as another fragment that reinterprets the existing fragments (Figure 3).

### 3.3 Case three: Southeast–Northeast, location: southeast–northeast axis, informal commercial and production zone, Skopje

One of the longest and, at the same time, the most unknown axes of the Skopje city is the southeast–northwest axis whose traces can be followed in the northwest part of the city, in different, but successive spatial segments. The southeast–northeast direction is one of the main directions of connecting the Skopje city with the former Adriatic roadway, and was never articulated in the architectonic plan of the city. The development of the city followed two axes: the north–south historic evolution of the city from the left to the right bank of the Vardar river, and the east–west direction, i.e. the linear extension of the city in the second half of the 20th century. In such a development scheme, the diagonal was not involved. But, it is exactly this direction that in the period of post-socialistic transition accumulated different fragments of production and commercial character, a kind of an informal production/commercial band merged with rural and natural landscapes. In what way could this zone be integrated into the city without losing its indefiniteness and without entering the urban planning system? Can one juxtapose the architecture directly upon the territory? A number of projects of the Integrative Studio 2013 dealt with the theme of architecture – the territory as possible architectonic constructions. Through a number of tactics of displacement, the research was directed at the spatial and programmatic possibilities of this city axis. The objective was to investigate the historic and spatial origin and to propose new modes, models, typologies, and places of settlement along the southeast–northwest axis as its spatial, programmatic and semantic recolonization and reintegration into the city. In the Linear Suspending City project, in a linear formation of 7 km, the

Figure 4: Linear suspending city, Viktorija Bogdanova, Dragica Spasevska, Integrative Studio 2014.



residential segments suspend in clusters upside down, from the 11<sup>th</sup> storey platform to the base, and free the terrain in the existing continuity, creating a city between the earth and the sky (Figure 4).

### 3.4 Case four: Symbiosis Line, location: Serava river channel, Skopje

The historic orientation of the development of the Skopje city along the two main axes, namely the north–south one normal to the Vardar river and the east–west one parallel to the Vardar river, created an artificial attitude toward the morphology of the city and its inner connection as well as toward the topography of the terrain itself. Despite the strategies for connection in the different scenarios of modernization of the city, the left and the right banks remained separated. It is exactly the finding out of everyday possibilities for their connection, artificial and natural, that should increase the complexity of the city. Therefore, the left tributary of the Vardar river, the Serava river channel that penetrates into the margins of the city,

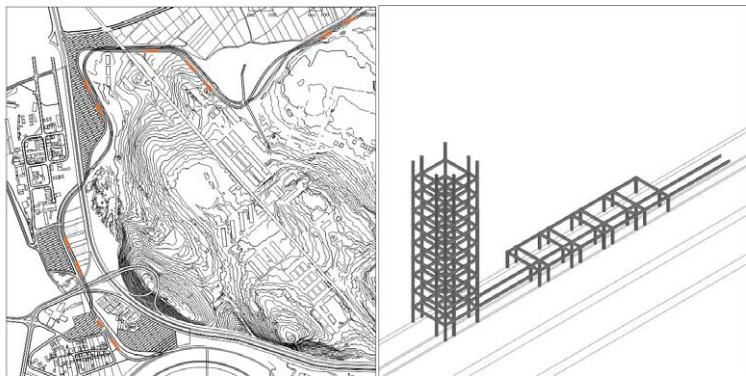


Figure 5: Symbiosis line, Bisera Irakovska, master project 2013.

can become a line of symbiosis of the surrounding residential, industrial, commercial, and archaeological fragments. What is common to the heterogeneous fragments on the left bank, as opposed to the city park, is their non-consolidation and non-connection. The rural, agricultural, production, and archaeological fragments have another more common potential – the Serava river channel with the prospect of becoming a promenade that connects and is settled with interpolated scaffolds/platforms for temporary settlement, and as a city public transport line, which will provide a new branch of connection on the left bank behind the Skopje fortress and a new place for meeting and connecting citizens. In that way, the channel line in a length of 4.35 km can become a tactic for transforming marginal zones of the left bank of the city (Figure 5).

### 3.5 Case five: Extreme Housing Lines, Inner Margins of the City, location: littoral zone, Veles

The Veles city is one of the prototypes of Macedonian cities, with clusters built on an exciting topography along a wavy line of a river. The extreme conditions created an intensive and spectacular form of a settlement, an amphitheatre composed of individual houses and courtyards. But, it is exactly this set-up that caused difficulties and controversies in the process of modernization. The layering of the infrastructure roughly separates the city from the Vardar river. The international Skopje–Thessaloniki railway line and the regional road sections were the first to cut and displace the urban texture. The Vardar river that was once a line of unity became a zone of fragmentary touches of the former city. However, can the city once again be connected with the river again? What if a new margin between the city and the river is constructed in a way in which the infrastructure in the modernization period was superimposed, separating them? Through the extreme housing project, the researchers explored the possibility of a continuous line ( $d = 900 \text{ m} \times L \sim \text{segment of the central area}$ ) as a form of settlement, programming and shaping in-between the city and the river, as a joint intersection of fragments of different systems (Figure 6).



Figure 6: Superimposing line, Minas Bakalchev, introduction to Integrative Studio 2015.

## 4. SPELLBOUND

There is something odd with Edwards, the figure in Alfred Hitchcock film (lines on the tablecloth with a fork, footage from the film), *Spellbound* (1945). He exhibits a hostile reaction when a young psychoanalyst Peterson draws lines with a fork on the tablecloth and is almost out of his mind when he notices something odd in the line patterns on her dress (Figure 12). Peterson begins to doubt that he is not the real doctor Edwards. She examines him and concludes that he is a delusional amnesiac and that the real Edwards is missing. The main figure has a phobia of lines on a white background. An incident caused his amnesia and a general guilt complex. The lines are connected with tragic events – the murder of his friend during skiing and his brother's accident in his childhood. These two incidents are associated with a linear structure and disturb him by evoking memories that make him feel guilty so he tries to suppress them.

People face a world of fragments from different modernization layers that disturb them, and thus they suppress their memories about them. However, they are still present. Their historic failure in reorganizing the society and the total environment blurs their contours. We associate our failure not with the mode of behaviour, but with the subject of action. If the line structure does not yield a result, it is because it is limited or reduced and should obligatorily be extended in a system, in a network, in the total natural and created world that we fill with the same obsession and totalitarianism. But, is this the right way? Is our mode of seeing things, our method, burdening our actions as well?

In the paper, a chronological and epistemological classification of the line was discussed. The lines of domination were connected with the lines or the linear form that is used as an expression, a representation of a system that has the ambition to establish, in an integral way, a model of transforming the different levels of the environment/the society. Unlike these, the lines of integration as active lines are those linear forms that do not arise out of pre-determined models of behaviour or planning, but are an expression of local interactions and procedures of action, juxtaposition, or superimposing. Thus, the former can be associated with a reductive form, i.e. representation of certain isolated criteria through which the entirety is transformed, while the latter could be associated with a certain operative form, or a certain autonomy of form whose activity can lead to new and open meanings of the element and the context.

## 5. CONCLUSION

In the study, an overview of the meaning of the “line” was made as a possible model to re-connect the fragments of different systems in a new spatial order, which has today gone from the “physical” perception of the line to the “psychological” meaning in spatial order/disorder – the rejection of the totalitarian, the abstention from the systematic and the acceptance of the everyday as a playful characteristic of the things that lead to new knowledge. The line as an inversion of the urban area, the line as an incision, the line as following natural and created traces, the line as a mutual relationship between layers of infrastructure and texture, the line as a diagonal view,

leads us through the new picturesqueness of the ambiguity of the post-modern/radically modern world. If, under the pressure of global geopolitical occurrences, we are increasingly not able to talk about deterministic models, in the disruptions and voids, we could certainly see the structures of the realistic world in a new way.

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