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Скендер-бегова 51

тел: 30 37 962; факс: 32 81 479

е-пошта: Phlogiston@MuzejNT.rs

Museum of Science and Technology – Belgrade

51 Skender-begova Street

Tel: +381 11 30 37 962; Fax: +381 11 32 81 479

Email: Phlogiston@MuzejNT.rs

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**Bojana M. Jerković-Babović<sup>1</sup>**

University of Belgrade, Faculty of Architecture, Belgrade

**Nebojša S. Fotirić<sup>2</sup>**

University of Belgrade, Faculty of Architecture, Belgrade

## **PATTERNS OF FLUIDITY: MOSTAR INTERCHANGE IN BELGRADE**

### **Abstract**

The main idea of this paper is to research the patterns of fluidity in the relationship between contemporary urban perceptual experiences and architectural elements of Mostar Interchange in Belgrade. Fluidity is positioned as the main conceptual phenomenon, simultaneously causing and manifesting in contemporary transformations of perceptual and spatial conditions into a constant process of dynamic interactions and flows. This research is contextualized by reading the new sense of perceptive, sensory and experiential values of this city area through the analysis of the architectural patterns of fluid experience. Accordingly, this research is focused on the relations between the elements of form, tectonics and ambient in the Mostar Interchange architecture and dynamic perceptual experiences in the process of constant movement. The dynamic concept of flows is placed into the spatial perspective as a design method and architectural criterium for creation of the patterns of fluidity. Therefore, the aim of this paper is to put fluidity and notion of flow into the spatial perspective through the patterns of relations, continuity, dynamism, sequence and repetition of formal, tectonic and ambient elements.

**Key words:** fluidity, flows, architecture, Mostar Interchange

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<sup>1</sup> bojana.jerkovic@arh.bg.ac.rs

<sup>2</sup> fotiric@arh.bg.ac.rs

## 1. Introduction

Contemporary context of global informational, communicational and spatial networks requires processes of constant flow and dynamics. Therefore, urban and architectural experiences are being increasingly transformed into the fluidity qualities of the dynamic everyday life. This paper is based on the study of Mostar Interchange space in Belgrade, former symbol of the city modernization and networking, today understood as a specific urban landscape of dynamics and fluidity. Fluidity is positioned as the main contemporary conceptual phenomenon, simultaneously causing and manifesting in constant transformations of perceptual and spatial conditions into the process of flows in relations between sequences of ambient, tectonic and formal elements of architectural or urban space. Patterns of fluidity refer to contemporary understanding of conceptual, dynamic, immaterial and functional patterns of diversified effects in the vivid context of Mostar Interchange in Belgrade.

## 2. Networked context and processes of flows

The contemporary networked context of global flows transforms contemporary socio-spatial context into the continuous network of constant dynamic processes based on movement, transfers, transit, communicational and informational systems. The interactions between the new information technologies and processes of exchanges simultaneously result in the increase of mobility of people and speed of information exchanges. As a result, contemporary socio-spatial context tends toward dematerialization of the values and elements of its own structure into new qualities of fluid, liquid and flowing characteristics.<sup>3</sup>

In Manuel Castells' Theory of Urban Planning in the Informational Age, dynamics of the contemporary networked context are put into the new socio-spatial perspective and the concept of "space of flows".<sup>4</sup> Mobility increase occurs under the influence of everyday activities escalation and "compression of time" as a consequence of new spatial networks that influence the flow intensification and physical transfers of people.<sup>5</sup>

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<sup>3</sup> Zigmunt Bauman, *Fluidni život*, translated by Siniša Božović and Nataša Mrdak (Novi Sad: Mediteran publishing, 2009), 42.

<sup>4</sup> Manuel Castells, *The Rise of the Networked Society* (Oxford: Blackwell Publishers, 1996), 429.

<sup>5</sup> Manuel Castells, *The Rise of the Networked Society, With a New Preface Volume I: The Information Age: Economy, Society and Culture* (London: John Wiley and Sons, 2009), 441.

Scholars Stephen Graham and Simon Marvin argue that transfer and transport networks have become the communicative devices of modern life.<sup>6</sup> Furthermore, cities consisted of place and flow relations that shape the contemporary everyday experience.

### 3. Mostar Interchange in Belgrade

Mostar Interchange is located in Belgrade city centre, on the right bank of Sava River, connecting New Belgrade and the historical city centre. Mostar Interchange was built as part of the highway *Bratstvo i jedinstvo* from 1960 to 1975, according to design by architect Branislav Jovin and traffic engineer Jovan Katanić.<sup>7</sup> Today, Mostar Interchange is specific, dynamic and hybrid urban landscape in which three types of city traffic, utilitarian transit programs, commercial and service activities, pumps, station, cafes, shops, carting and night clubs overlap.

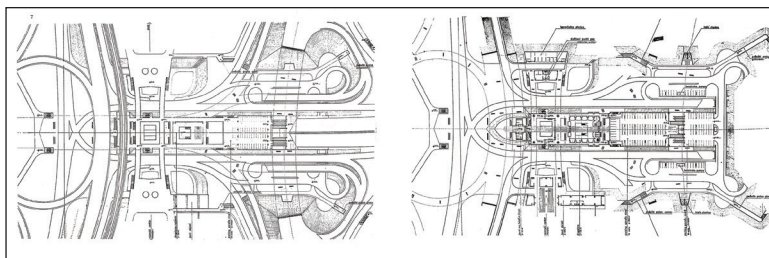


Figure 1. Mostar Interchange drawings

Contemporary context of global networking and accelerated dynamics of urban everyday life transforms the experience of Mostar Interchange into space of flows of diversified speeds, creating the continuous fluid perceptual experience of dynamic effects. Therefore, the notion of flow manifests in sensory complexity and constant movement. In addition, fluidity is considered to be a new aesthetic quality based on constant perceptual sequence change and dynamic formal and tectonic qualities in architectural and urban space. The dynamic concept of flows is put into the spatial perspective as a design method and an architectural criterium

<sup>6</sup> Stephen Graham and Simon Marvin, *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition* (London: Routledge, 2009), 8.

<sup>7</sup> "Auto-put kroz Beograd", *Arhitektura i urbanizam*, 61–62 (1970): 23–29.

for creation of the patterns of fluidity. Accordingly, patterns of fluidity are created via multivalent series of flows, directions and experiences of perceptual dynamics.

#### 4. Patterns of fluidity

The main idea presented in this paper is to place the Mostar Interchange, modernistic urban landscape, as a former symbol of modernization and development of Belgrade, into contemporary pattern reading of its spatial qualities and potentials.

Modernism as a dogmatical non-pattern, especially in terms of decoration and ornament, developed patterns associated with Fordism, Taylorism, cybernetics, urban plans, city types, -road node systems, structure engineering etc.<sup>8</sup> Accordingly, patterns in modernism were predominantly connected with dynamic, functional, rational components in architectural and urban design recognizable in Mostar Interchange design itself. On the other hand, postmodern context brought opposed pattern notions such as fragmented, heterogeneous, delirious, formless, non-material, illusionary etc.<sup>9</sup> In addition, postmodernism developed pattern concepts such as historic, folding, sprawl, density, non-place, high-tech, difference, repetition etc. This transformation and reorientation towards more conceptual, dynamic patterns was a logical spatial reflection of new social conditions and new reading of urban



Figure 2. Photographs of the Mostar Interchange

<sup>8</sup> Helen Castle, "The Patterns of Architecture", *Architectural Design*, 79, 6 (2009): 4.

<sup>9</sup> *Ibid.*, 5.

and architectural space. Therefore, the spatial conditions of Mostar Interchange offer contemporary reading of patterns implying notions of fluidity such as dynamic, folding, continuity, repetition, sequences, rhythm and non-place simultaneously in formal, tectonic and ambient elements.

Functional hybridity of Mostar Interchange is dominantly defined by transit, transport, non-place character that gives priority to vivid, fluid, diversified perceptual effects and immaterial pattern overlapping in the space. In addition, fluidity patterns are created via visual, formal, structural, ephemeral elements of Mostar interchange based on spatial flows, movement, relations and networks.



Figure 3. Photographs of the Mostar Interchange

Fluidity of contemporary context is manifested in phenomena such as transmutation, overproduction of images and effects in space, fragmentation and dematerialization. In addition, spatial manifestations of these phenomena result in stratification, hybridity and assimilation within formal, functional and ambient aspects of Mostar Interchange – spatial layers, continuity of movement and perceptual effects, programmatic variability and displacement. Therefore, the aim of this paper is to put fluidity into the Mostar Interchange spatial perspective using the patterns of flows, repetition, relations, dynamisms, sequences and networks of formal, tectonic, ambient elements.

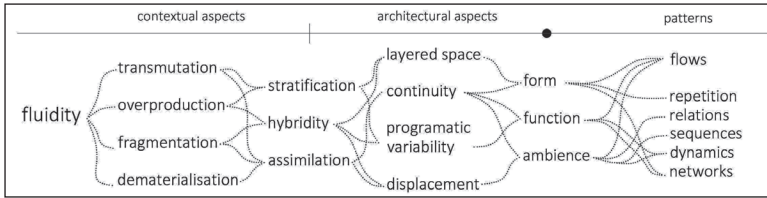


Figure 4. Patterns of fluidity — diagram

## 5. Conclusion

The aim of this paper was to present the contemporary meaning of the fluidity patterns in the relationships between contemporary urban experience and architectural elements of Mostar Interchange in Belgrade. This research is based on the new sense of perceptive, sensory and experiential values of the urban and architectural spaces through the analysis of the patterns of formal, functional and ambient aspects of the Mostar Interchange. The dynamic concept of flows is put into the spatial perspective in recognition of fluidity patterns according to the contextual pattern transformations from modernism to the present. Patterns of fluidity refer to contemporary understanding of conceptual, dynamic, immaterial and functional patterns of diversified effects in the dynamic context of Mostar Interchange as one of the main infrastructure nodes in Belgrade and specific urban landscape with unique architectural values.

## Sources of illustrations

Figure 1. “Auto-put kroz Beograd“, *Arhitektura i urbanizam*, 61-62 (1970).

Figure 2, 3, 4. By the author of the research.

## References

1. “Auto-put kroz Beograd“. *Arhitektura i urbanizam*, 61-62 (1970): 23-29.
2. Bauman, Zigmunt. *Fluidni život*. Translated by Siniša Božović and Nataša Mrdak. Novi Sad: Mediteran publishing, 2009.
3. Castells, Manuel. *The Rise of the Networked Society*. Oxford: Blackwell Publishers 1996.

4. Castells, Manuel. *The Rise of the Networked Society, With a New Preface Volume I: The Information Age: Economy, Society and Culture*. London: John Willey and Sons, 2009.
5. Castle, Helen. "The Patterns of Architecture". *Architectural Design*, 79, 6 (2009): 4-16.
6. Graham, Stephen and Simon Marvin. *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition*. London: Routledge, 2009.



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