

# SUSTAINABLE FLUIDITY IN AESTHETICAL PERSPECTIVES OF CONTEMPORARY ARCHITECTURE: POST-INDUSTRIAL DEVELOPMENT OF DANUBE'S WATERFRONT IN BELGRADEA

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## ABSTRACT

This paper aims to position the aesthetic perspective of contemporary architecture in the context of urban sustainability. Fluidity is the main concept this research is based on. The phenomenon of fluidity is defined by the constant variability of contextual conditions, hyper-production of sensations and perceptual experiences in modern cities, which increasingly affect notions of aesthetic values in architecture and urban space in general. In the modern context in which dynamics of the exchange of information is the main carrier of cultural value systems, the experience of architectural space can be understood as a kind of communication tool that is realised through direct, sensory experience. The aesthetic dimension of architecture articulates this act, as a form of cultural exchange, and interaction defines the degree of the associativity of the content, controlling the way of interaction between the user and the environment and forming a certain experience. The importance of spatial experience in the cultural dimension of architecture is very important in aesthetical perspectives of sustainable development, which position the experience of space in the domain of the activation of feelings, emotions, and communication with all senses, as well as diversity, inclusion, and well-being. By the actuality and importance of dealing with the topics of re-use of built, industrial, heritage and the New European Bauhaus design curricula, this research intersects the main postulates of new approaches with the results of teaching experience from Diploma Master studio at the University of Belgrade – Faculty of Architecture, led by professor Nebojša Fotirić and Teaching Assistant Bojana Jerković-Babović. The graduate studio topic is Making of a city: post-industrial development of the area between Dunavska Street and the Danube's Belgrade waterfront, where the importance of possible instrumentalizations of theoretical perspectives in research design, expanding the existing scope of architectural design and operational knowledge and skills, is recognized.

**KEYWORDS** \_ *fluidity phenomenon, aesthetics, architectural design, teaching, industrial heritage*

## INTRODUCTION

This research starts from the recognition of the need to actualize the importance of aesthetical perspectives in urban sustainability. Sustainability in urban development and contemporary architecture is one of the most actual topics in the scientific discourse, which is often instrumentalized through technical-technological domains that do not leave enough space for creativity in design processes. This paper, therefore, aims to highlight the importance of the aesthetic perspective of sustainability in the contemporary urban context, especially through contemporary design methodologies and processes in architecture.

The aesthetic dimension of architecture articulates the act of cultural communication in the contemporary urban space. In the wider cultural contemporary context, in which the dynamics of information exchange is the main carrier of cultural values, the experience of architectural space can be understood as a kind of communication tool that operates through direct, sensory experience. The creation of urban and architectural space becomes a form of cultural exchange and interaction, which defines the degree of associativity with the content. Architectural creation controls the user's and the environment's interaction and forms a certain experience.

Based on the fluidity phenomenon, as a main conceptual definition of contemporary urban conditions of constant variability, this research has two main goals: (1) connecting the phenomenon of fluidity with the aesthetic perspectives of sustainability and (2) connecting teaching processes in architectural education with the New Bauhaus Curriculum, where the possibilities of connecting the theoretical perspectives and research design, expanding the operational knowledge and skills, are recognized.

The first chapter of this paper will present the understanding of sustainable fluidity in the context of urban development and contemporary architecture. The second chapter will show the importance and actuality of the location of the Danube coast in Belgrade in the contemporary context and the potential of applying the principles of aesthetical perspectives of sustainability, through new spatial needs and values. In the third chapter, the most significant results on the topic of the work will be presented, through representative results of teaching experience based on ten years of dealing with the topic of post-industrial development of the subject area from Diploma Master studio at the University of Belgrade - Faculty of Architecture, led by professor Nebojša Fotirić and Teaching Assistant Bojana Jerković-Babović.

## SUSTAINABLE FLUIDITY AND THE NEW EUROPEAN BAUHAUS CURRICULUM

The phenomenon of fluidity is defined by the constant variability of contextual conditions, hyper-production of sensations and perceptual experiences in modern cities, which increasingly affect notions of aesthetic values in architecture and urban space in general (Jerkovic-Babović, 2022). In this research, sustainable fluidity stands out as a potential and creative response to the current state – to the fluid, constantly changing conditions of the architectural context, through the analysis of the way of designing the spatial experience, especially in inherited urban units that have lost their previous properties, functions and urban life.

The sustainable fluidity in the aesthetic perspectives of contemporary architectural creativity, which is explored in this work, is based on the potential of instrumentalization of constant variability, so that in reactivations, regenerations and revitalizations, found qualities are activated, but also new cultural, aesthetic and spatial needs and values are simultaneously emphasized. The importance of spatial experience in the cultural dimension of architecture is very important in aesthetical perspectives of sustainable development, which position the experience of space in the domain of the activation of feelings, emotions and communication with all senses, as well as diversity, inclusion and well-being.

By the actuality and importance of dealing with the topics of re-use of built, industrial, heritage and the New European Bauhaus design curricula, this research intersects the main postulates of

new approaches with the results of teaching experience at the University of Belgrade – Faculty of Architecture. This approach primarily includes qualitative parameters that would be instrumentalized in the design process, and this paper aims to show how this was done in the process of architectural education in the previous 10 years, at the Diploma Master studio at the University of Belgrade - Faculty of Architecture.

Starting from the initial premise of the importance of aesthetic values in sustainability – “Aesthetic values are not simply inherent to an object, a building or a place, but are continuously shaped by cultural conditions and dynamic patterns” (NEB Concept Paper, 2021), in this research, we focus on opportunities that integrate contemporary fluid conditions of context into design methodology in architecture. Rethinking the existing architectural typologies – “To address the increasingly urgent challenges of today and tomorrow we must dare to imagine the as-yet-unknown instead of relying on well-known typologies” (NEB Concept Paper, 2021), the possibilities of new creative potentials that include completely new perceptual-aesthetic values of modernity, which this research recognizes. Accordingly, the integration of theoretical knowledge into operational applications, which are key to architectural education, is reflected in this work in the results of decades of work on the design process that implements new models and principles of contemporary culture and architecture in research design.

Some of the basic principles of the New European Bauhaus concepts were recognized in the decades-long work, of which “The New European Bauhaus notion of aesthetics is not dependent on individual judgment but emanates from a sense of community and place, of diversity and distinction.” (NEB Concept Paper, 2021). Further on:

*NEB-funded projects should encourage highly diverse communities to translate speculative narratives and thoughts into practice and shape complex ideas and relationships through collaborative prototyping to create an aesthetic that emerges from a common set of values. This can lead to increased acceptance and appreciation of aesthetic choices and expressions that may differ from one's own. These values must be described in their terms rather than exclusively through translation into quantitative or economic metrics. Such metrics may allow for comparison and evaluation but do not capture those cultural and aesthetic values' crucial inherent qualities and meanings. Value recognition of culture and aesthetics requires new approaches and enabling frameworks. (NEB Concept Paper, 2021)*

Positioning architectural design in architectural-urban education as a place of intersection of theoretical knowledge and creative domain, this paper emphasizes the importance of possible instrumentalizations of theoretical perspectives on aesthetics, culture and sustainability in architectural discourse and research design, to expand the existing scope of architectural design and operational knowledge and skills.

## **POST-INDUSTRIAL DEVELOPMENT OF DANUBE'S WATERFRONT IN BELGRADE – LOCATION, IMPORTANCE, ACTUALIZATION**

The subject location represents a unique phenomenon in the context of Belgrade - and as ten years of research on the Master Project Studio shown - it represents an authentic context for considering the architecture, continuously initiating innovative solutions implying new aesthetical perspectives and the new forms of sustainability from 2012 until 2022.

The complexity of the location relates to the layering of spatial, physical, design, functional, cultural, aesthetic, philosophical and technological potential in the design approaches to this area's architectural and urban solution. This opens up the scope of issues and the possibilities of continuation of the city's physical structure towards the Danube coast, continuity or discontinuity of urban atmospheres, issues of spatial identity, new socio-spatial values, aesthetics, needs, etc. The spatial framework of the topic includes the zone of the Belgrade coast which spreads between Dunavska Street and the Danube

coast. The specificity of the subject's spatial framework is reflected in that it includes the former First Industrial Zone of Belgrade, which is in the contemporary context, devastated and abandoned, researched in a post-industrial meaning, concerning the modern needs of life in Belgrade. Concerning the present moment and the recent affirmations of this area through the competition and the detailed regulation plan for the Belgrade Line Park, which treats part of the subject location, we can recognize the significance of the subject of the post-industrial phase of the zone in the development of Belgrade. The location has great potential because of its proximity to the nearest centre of Belgrade and, at the same time, direct contact with the coast of the Danube. Its size, which is imposing concerning the immediate context of the city centre, is abundant with the possibilities of different spatial and program settings following the current General Urban Plan of Belgrade.

Contemporary architecture is characterized by an increasingly expressed loss of typological definitions and hybridity of spaces and programs, by which the clear boundaries between architecture, infrastructure, landscape, interior and exterior are lost, and the process of architectural design is transformed by the application of new methods and techniques that redefine the existing architectural principles. (Jerković- Babović, 2022) Accordingly, the subject zone of the city is treated on an architectural scale through a specific spatial focus and individual concept and implies a functional and spatial hybridity that corresponds to the needs of the modern urban context and equivalent directions of development of architectural operational knowledge.

## **THE AESTHETIC PERSPECTIVES OF SUSTAINABLE DEVELOPMENT IN ARCHITECTURAL EDUCATION**

A decade of work on this topic is presented in the monograph *10.10* by Nebojsa Fotirić and Dr Bojana Jerković-Babović (Fotirić, Jerković-Babović, 2023). For this paper, 3 sub-themes will be considered, which recognize the aesthetic perspectives of sustainable fluidity in urban development including the research by design approaches in architectural education.

### **The Architecture of the new urban culture: old objects with the new aesthetic values**

The individual of contemporary society, which is living in a constant movement, is in search of sensations beyond mere utilitarian interests, so cultural objects and places require the satisfaction of experiences that are fluid and changeable, equally autonomous and authentic (Michaud, 2004). Accordingly, the post-phase of industrial heritage opens up the questions of the new needs in the contemporary Belgrade culture, to which architectural solutions can offer adequate answers in the preservation, reconstruction, reactivation, regeneration or re-affirmation of abandoned industrial buildings (Jerković, Zorić, Fotirić, 2017).

The contemporary aesthetic experience of the city requires the modernization of architectural programs and typologies in inherited contexts. Accordingly, this sub-theme of the research during the past ten years of work on graduation projects shows different, authentic conceptualizations and design methods, which treat inherited objects as an integral element and/or context in the post-phase considerations of the given area. The importance of a multidisciplinary understanding of the characteristics of contemporary culture, and thus of new spatial needs that correspond to new value systems, is the basis for research and design of cultural programs in a given context.

The poetic experience of abandoned spaces in contemporary culture stimulates memory as a method for projecting new spatial experiences. Through numerous graduation projects, we investigated the reaffirmation of the existing values of the found area through methods of conversion into new cultural, and complementary, content. In this way, dimensional analysis, as one of the basic methods of comparison of heritage objects and the needs of new programs, resulted in unexpected design potentials. The recognized ambient qualities resulted in the fact that, for example, a former industrial

building can be repurposed into a religious one. Along with dimensional analyses, the analyses of the ambient qualities of the found spaces represent the basis of individual perceptions and experiences from which intuitive design decisions and their operationalization arise. Experiencing the space with the analysis of the architectural elements that build it contributes to the formation of the relationship to what is found, through the selection of qualities that can be preserved and developed in the new hybrid solutions.

### **Neo-fun and entertainment: In between simulation and architecture**

Previously mentioned transformations in a culture that characterize modern society, the intensified life dynamics in the city, the commercialization and dematerialization of the value of space and creative practices, and the question of the relationship between virtual entertainment and new forms of social interactions also arise. Shifting into virtual space is a particularly problematic issue for architecture and practices that incorporate cultural-aesthetic values into the physical space they create. New forms of socialization and social relations in mass digitization slow down or completely exclude physical interactions and activities, which opens the basic research question: what are the spatial needs of entertainment and leisure today?

Virtual entertainment, on the one hand, is an extreme that through digital, social networks deforms existing forms of socialization as a basic model of entertainment, leisure and rest, provokes and affirms reflections on architectural responses to meet new needs. As contemporary urban culture is characterized by a strong intensity of perceptual experiences and hyper production of sensations, content and information in space, perceptual absorption weakens and the individual of the modern city searches for sensations that are fun, easy, attractive, easy to understand and accessible (Csikszentmihalyi, 1990). Such aesthetic satisfaction in the space of architecture and the city is linked to dynamic sensory sensations that enable a certain type of escape from everyday life and work. The theoretical and practical research of graduate students during the previous decade concerned reconceptualization in the design of amusement parks, catering programs, clubs, discotheques, and adventure parks, but also the interpretation of leisure as a need for cultural content such as museums, galleries, etc. Each project of this theme resulted in completely authentic architectural-urban structures and even more significantly authentic architectural atmospheres that place entertainment programs in a post-industrial context.

### **Touristic and hedonistic experience of the Danube Coast**

New cultural phenomena, which are a consequence of global, technological, political and economic transformations, open up new questions of meaning and creation through the hyperproduction of pleasure effects, the architecture of tourist facilities in general, and especially in inherited and abandoned contexts, such as the area between Dunavska Street and the Danube (Fotirić, Jerković, Rajković, 2016). The tourist experience, in its essence aesthetic, sensory and receptive, requires the modernization of architectural programs by the new needs and value systems of society (Michaud, 2004). In the analysis of contemporary architecture in tourism, which is increasingly transformed into an infrastructure of the effects of sensory displacement from everyday life, design concepts are actualized, which primarily emphasize sensory sensations and stimulation in space (Urry, 2002; Mac Cannel, 1999). In this way, creative thematizations of hedonism arise, while negating its negative connotations. Tourism, as one of the main constructions of the contemporary cultural experience, is predominantly based on the needs of consumerism and the idea of consumption, which often in their banality manifest the problems of contemporary cultural values (Urry, 2002; Mac Cannel, 1999). In addition to sensory-aesthetic aspects, the architecture of contemporary tourism has all more complex functional and technical-technological requirements (Fotirić, Jerković, Rajković, 2016). Hedonistic experience refers to some form of consumption and relaxation that produces pleasure (Michaud, 2004).



Figure 1 – Visualisation of the most representative ambients in the selection of the projects within 3 research sub-themes

The specific position of the area in question, the proximity to the centre of Belgrade and direct contact with the river are significant potentials in considering tourist content in the design concepts of the activation of this zone of the Belgrade coast. Programs of hedonism are an important sub-theme by which tourist facilities and architecturally interpreted programs of leisure, relaxation and psychophysical regeneration are positioned in the needs of contemporary culture. Rethinking tourist facilities opens up numerous creative potentials as carriers of aesthetic experiences of pleasure, rest, regeneration and recreation. Tourism in such a context has a great influence on the development of

many aspects of modern life - transport, construction, hotel industry, catering, traffic and cultural-aesthetic communications, and especially art and architecture. The following visualization (figure 1) summarizes the main designed architectural ambients in selected student projects within 3 researched sub-themes.

## CONCLUSIONS

In the contemporary urban context, in which the exchange of information and communication are the main carriers of cultural value systems, the experience of architectural space can be understood as a kind of communication that is realized through direct, sensory experience by using or moving through space. Communication in architecture represents the exchange of environmental information with the user. The formation of the user's experience of the space is based on the perception of the space and the realization of the relationship with the elements in the space. In this way, visual communication that can be achieved by using space is an integral part of the design-research process, as an aspect that creates an authentic, desired spatial character. In the context of contemporary culture, both at the global and local level of the culture of Belgrade, graduate research-design approaches implement certain aesthetics, trends or tendencies of the current situation. Students base the author's aspect and creativity in designing a certain spatial experience on their own experience and personal value system, on the one hand, and/or on the values of contemporary architectural thought and practice, as reference parameters, on the other. Most often it is a combination of both.

This paper presented the importance of possible instrumentalizations of theoretical perspectives, especially The New Bauhaus concepts, on aesthetics and sustainability in the creation of spatial experience in architectural design, expanding the existing scope of architectural operational knowledge, based on the notions of contemporary urban dynamics of constant conditional changes – the phenomenon of fluidity.

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