

Conference proceedings
GLOBAL VILLAGE - SHELTER FOR RESILIENT LIVING 2
On-line version

Conference proceedings

GLOBAL VILLAGE - SHELTER FOR RESILIENT LIVING 2

On-line version

#### 3

### GLOBAL VILLAGE - SHELTER FOR RESILIENT LIVING 2

Conference proceedings 21-23th of November 2023.

#### **Organizers**

University of Belgrade - Faculty of Architecture , SERBIA with a support of Ministry of Science, Technological Development and Innovations REPUBLIC OF SERBIA

Balkan Architectural Biennale — BAB

International Society of City and Regional Planners — ISOCARP

Conceptor and Editor in chief: Tatjana Mrđenović, University of Belgrade Faculty of Architecture — SERBIA

Co-editors: Pietro Elisei, ISOCARP, ROMANIA

Mihalo Zinoski, Faculty of Architecture University SS Cyril and Methods -NORTH MACEDONIA

Bojana Zeković, University of Belgrade Faculty of Architecture — SERBIA Jelena Marić, University of Belgrade Faculty of Architecture — SERBIA

#### SCIENTIFIC COMMITTEE

Prof. dr John Kiousopoulos — UNIWA — GREECE

Prof. dr Aleksandra Stupar — University of Belgrade Faculty of Architecture — SERBIA

Prof. dr Mihajlo Zinoski — Faculty of Architecture University SS Cyril and Methods -NORTH MACEDONIA

Prof. dr Evinc Dogan, Bogazici University- TURKEY

Res. asoc. dr Tatjana Mrđenović — University of Belgrade Faculty of Architecture — SERBIA

Prof. dr Florian Nepravishta — Faculty of Architecture and Urbanism Polytechnic University of Tirana (FAU UPT) — ALBANIA

Res. Asis. dr Ana Perić — University of Belgrade Faculty of Architecture — SERBIA

Prof. dr Guido Cimadomo — Escuela Técnica Superior de Arquitectura Universidad de Malaga — SPAIN

Prof. dr Laura Verdelli — Universite de Tours — FRANCE

Prof. dr Danilo Furundzic — University of Belgrade Faculty of Architecture — SERBIA

prof. dr Marina Tornatora — Università Mediterranea di Reggio Calabria — ITALY

asis. dr Jelena Marić - University of Belgrade Faculty of Architecture - SERBIA

#### ORGANIZATIONAL COMMITTEE

prof. dr Ana Nikezić — CID, University of Belgrade Faculty of Architecture — SERBIA res.ass. dr Tatjana Mrđenović,, BAB — SERBIA prof. dr Aleksandra Stupar, University of Belgrade Faculty of Architecture — SERBIA dr Jelena Marić, University of Belgrade Faculty of Architecture — SERBIA res.ass. dr Anđelka Bnin Bninski — CID, University of Belgrade Faculty of Architecture — SERBIA art hist. Marko Stojanović — BAB — SERBIA

Publisher: Faculty of Architecture in Belgrade For publisher: prof. Vladimir Lojanica, dean Circulation: 50

ISBN-978-86-7924-340-9 Print DONAT GRAF, Serbia

Cover design — Tatjana Mrdjenovic

Publisher is not responsible for attitudes presented in the published papers nor for copyrights of illustrations, images, diagrams, graphs and all the other material used in published papers.

All papers and abstracts passed review procedure

### PREFACE: GLOBAL VILLAGE — UTOPIA OR REALITY?

res. ass .dr Tatjana Mrdjenovic, Faculty of Architecture in Belgrade

Conference conceptor and Editor in chief

The discussion will start debates about the diverse paradigms of suburban, rural, and urban places in today's global society, and it will do so by comparing these three types of locations. The primary point of contention is whether a Global Village should be categorized as an idealistic utopia or a feasible possibility for the foreseeable future. This debate will explore the advantages and disadvantages of each type of location, considering factors such as population density, infrastructure, and access to resources. Additionally, it will delve into the social, economic, and environmental implications of striving towards a Global Village concept. In the conversation that will bridge hierarchical and network viewpoints, we will investigate the idea of needs. Let's investigate some alternative ways of living to the one we are now accustomed to, on the presumption that we ought to consider the requirements that have been produced. These alternative ways of living may include sustainable communities, eco-villages, and self-sufficient neighborhoods. By considering the requirements that have been produced, we can explore how these alternative living arrangements can address issues such as energy consumption, mobility, built environment, waste management, and food production more efficiently and environmentally friendly. Furthermore, examining the social and economic implications of these alternative ways of living can shed light on the potential benefits and challenges they may bring to individuals and society as a whole. The core beliefs and identities held by people all over the world help to foster the growth of a diversified socio-economic and cultural network that spans a variety of geographic regions. This network serves as the basis for a worldwide community that is referred to as the Global Village. Within the context of our increasingly interdependent global community, this idea stands as a singular example of new communalism. As a result, Global Village would like to draw your attention to the following topics, most of which are also being explored in the thematic sessions of the conference:

- I. ARCHITECTURE OF GLOBAL VILLAGE: PATTERNS, FORMS, SYSTEMS
- 2. PLANNING AND ARRANGING THE GLOBAL VILLAGE: INSTRUMENTS AND MODELS
- 3. MODERN TECHNOLOGIES IN RISK MANAGEMENT OF TERRITORIES
- 4. FORMS OF MOVEMENT AND MOBILITY MANAGEMENT IN THE GLOBAL VILLAGE
- 5. THE ROLE OF URBAN PLANNERS IN MANAGING THE CLIMATE TRANSITION
- 6. NEW MODELS OF ARCHITECTURE IN TRANSITION
- 7. RESILIENT CITIES IN THE ERA OF GLOBALIZATION: URBAN INTERVENTIONS TOWARDS
  A SUSTAINABLE FUTURE
- 8. HEALTHY city HEALTHY people: designing future cities for "mind body and soul"
- 9. RESEARCH IN THE FIELD OF ARCHITECTURAL TECHNOLOGIES IDEAS AND POSSIBILITIES

#### **KEYNOTE LECTURES**

### PLANNING CONTEMPORARY CITIES: BETWEEN URBANISATION AND CLIMATE CHANGE DIT

Pietro Elisei — ISOCARP President, ROMANIA

### CITIES - INCLUSIVENESS AND COMMUNITY PLANNING p12

Rajendra Kumar - ISOCARP, INDIA

### UNIVERSAL AND SPECIALIZED EXPOS THROUGH THE LENS OF ISIE - Towards Belgrade 2027 p13

prof. dr Guido Cimadomo, Universidad de Malaga, SPAIN;

#### THEMATIC SESSION I:

ARCHITECTURE OF GLOBAL VILLAGE: PATTERNS, FORMS, SYSTEMS

### GLOBAL VILLAGE IN ARCHITECTURAL THEORY AND PRACTICE: SOFTENING LIMINAL CONDITIONS p17

Vanja Spasenović, Teaching Assistant, Department of Architecture, Faculty of Architecture, University of Belgrade, SERBIA; v.spasenovic@arh.bg.ac.rs

Bojana Sićović, Associate, Department of Fine and Applied Arts, Academy of Arts, University of Novi Sad. SERBIA"

### ARCHITECTURAL MANIFESTATIONS OF PRIMARY PRODUCTION INDUSTRY IN URBANIZED TERRITORIES p23

Stela Skrizhovska-Koleva, University of architecture, civil engineering and geodesy, BULGARIA;

### SUSTAINABLE URBAN FORM AS AN IDENTIFIER OF ARCHITECTURAL SPACE p30

**Dr Tatjana Mrdjenovic,** University of Belgrade — Faculty of Architecture **Pavle Vasev,** MArch, ULUPUDS

### PROLEGOMENA FOR THE NEW THEORETICAL DESTINY OF 'STRUCTURE' p31

Aleksa Ciganović, dipl. ing. Arch advisor, Republic Institute for the Protection of Cultural Monuments, Belgrade

#### THEMATIC SESSION II:

HEALTHY City HEALTHY People: Designing Future Cities For "Mind Body And Soul"

### IMPACT OF NATURAL ELEMENTS IN URBAN PUBLIC SPACACES ON MENTAL HEALTH. p39

Marija Stojkovic, University of Belgrade, Faculty of Architecture, Serbia,

Eva Vanista Lazarevic, University of Belgrade, Faculty of Architecture, Serbia,

Jelena Maric, University of Belgrade, Faculty of Architecture, Serbia,

### LEARNING THROUGH EXPERIENCE: RETHINKING SPACE AFTER THE PANDEMIC p43

Ivana Rakonjac, PhD, Assistant Professor, Department of Architecture, University of Belgrade — Faculty of Architecture, SERBIA;

## THE DISAPPEARANCE OF OPEN PUBLIC SPACE IN THE CONTEMPORARY ERA: INTERIOR SPACE AS SPACE OF PUBLIC INTERACTION p49

Relja Petrović, M. Arch, University of Belgrade — Faculty of Architecture, SERBIA; Iva Lokas, Ph.D. Student, Institute of Architecture and Urban & Spatial Planning of Serbia, SERBIA; Ivana Rakonjac, Ph.D., Assistant Professor, Department of Architecture, University of Belgrade — Faculty of Architecture, SERBIA;

### THE ELUSIVE CITY: MELANCHOLY, REVERIE AND THE CONTEMPORARY URBAN EXPERIENCE p54

Ivana Maraš, Department of Architecture and Urban Planning, Faculty of Technical Sciences, Novi Sad, SERBIA

### LONG-TERM CARE LIVING ENVIRONMENTS FOR OLDER ADULTS: A COMPARISSON OF TWO CONTEMPORARY CONCEPTS D59

Vanja Skalicky Klemenčič, assist.prof.dr., Faculty of Civil Engineering, Transportation Engineering and Architecture, University of Maribor, Slovenia;

Vesna Zegarac Leskovar, prof.dr., Faculty of Civil Engineering, Transportation Engineering and Architecture, University of Maribor, Slovenia;

# THEMATIC SESSION III NEW MODELS OF ARCHITECTURE IN TRANSITION

## THE INFLUENCE OF BUILDING PHYSICS BETWEEN FORMAL AND MATERIAL ELEMENTS OF THE PUBLIC LIBRARY BUILDINGS. p67

Kire Stavrov, University Sc Cyril and Methodius, Faculty of Architecture, Skopje, MACEDONIA; Strahinja Trpevski, University Sc Cyril and Methodius, Faculty of Architecture, Skopje, MACEDONIA; Andrijana Tasheva, Herzen State Pedagogical University, St. Petersburg 19118, RUSSIA

# URBAN PLANNING REGULATION AS A GENERATOR OF NEW HOUSING TYPOLOGIES NOT TYPICAL FOR THE CITY OF SKOPJE p73

Mihajlo Zinoski, Professor," Ss Cyril and Methodius" University, Faculty of Architecture, Skopje, RN MACEDONIA;

**Vebi Fazliu, Assistant Professor,** "Mother Teresa" University, Faculty of Civil Engineering and Architecture, Skopje, RN MACEDONIA;

Valmir Dalipi, Assistant, "Mother Teresa" University, Faculty of Civil Engineering and Architecture, Skopje, RN MACEDONIA;

### TRANSFORMATIONS OF THE SOCIAL MODERNIST BUILDINGS DURING THE TRANSITION IN TERMS OF THEIR RENOVATIONS FOR BETTER ENERGY EFFICIENCY p78

Liljana D. Sofronievska, Faculty of Architecture, Ss. Cyril and Methodius University N. Macedonia, Ana T. Gavriloska, Faculty of Architecture, Ss. Cyril and Methodius University N. Macedonia Bojan Karanakov, Faculty of Architecture, Ss. Cyril and Methodius University N. Macedonia Teodora Mihajlovska, Faculty of Architecture, Ss. Cyril and Methodius University N.Macedonia

### REMOTE WORK FOR COORDINATION OF ARCHITECTURAL AND INVESTMENT PROJECTS p83

Nikolay Istatkov, University of architecture, civil engineering and geodesy, BULGARIA

### HEALTHCARE FACILITIES AS A GENERATOR OF ARCHITECTURAL MODELS p93

Jana Brsakoska, Faculty of Architecture at Ss Cyril and Methodius University in Skopje, NORTH MACEDONIA.

Mihajlo Zinoski, Faculty of Architecture at Ss Cyril and Methodius University in Skopje, NORTH MACEDONIA

# HYBRID TIMBER CITY: LIFE-CYCLE ASSESSMENT OF MASS-TIMBER, STEEL, AND CONCRETE STRUCTURAL PROTOTYPES FOR CLIMATE-RESPONSIVE PERI-URBAN DENSIFICATION IN THE HUDSON VALLEY'S URBAN FRINGE p98

Eleni Stefania Kalapoda, Architect & Urban Designer, Columbia University GSAPP (NYC), Greece,

#### THEMATIC SESSION IV

#### PLANNING AND ARRANGING THE GLOBAL VILLAGE TOWARDS RESILIENT SETTLEMENTS

### BUILDING URBAN RESILIENCE IN THE BALKANS: THE CASE OF 'MULTITUDINOUS' BUCHAREST DIOI

Dr Eleni G. Gavra, Professor, Dr Architect [Ekistics and Cultural Heritage], Department of Balkan, Slavic and Oriental Studies, University of Macedonia, Thessaloniki, GREECE,

Kleoniki Gkioufi, Architect-Urbanist, Dr Department of Balkan, Slavic and Oriental Studies, University of Macedonia, Thessaloniki, GREECE,

**Eleni Kiourou**, Archaeologist - Art Historian, MSc [History, Anthropology and Culture in Eastern and South-Eastern Europe], University of Macedonia Thessaloniki, GREECE,

Anukrishnan A. S., Post-Graduate student, College of Engineering Trivandrum, INDIA

# THE NEXUS BETWEEN GREEN TRANSITION TO AFFORDABLE CLEAN ENERGY AND THE GLOBAL VILLAGE PARADIGM IN ARCHITECURE AND SUSTAINABLE CITIES p106

Angelica, Stan, PhD Arch Professor, Ion Mincu University of Architecture and Urban Planning, ROMANIA.

### BUILDING RESILIENT CITIES WHILE TRAINING FUTURE COMMUNITY ARCHITECTS: THE CASE OF THE SMALL CENTER IN NEW ORLEANS DITT

Mart Deceuninck, KU Leuven, Belgium;

Emilie Taylor Welty, Professor of Practice, Tulane University, USA;

Angeliki Paidakaki, Assistant Professor, Harokopio University of Athens, Greece;

Pieter Van den Broeck, Professor of Spatial Planning and Sustainable Development, KU Leuven, BELGIUM;

SUSTAINBLE PRESERVATION OF COMMUNAL LIVING:CASE STUDY SHARE YARAICHO, TOKYO: SATOKO SHINOHARA p119

Bojan Koncarevic, Architect, Ph.D. MArch, SERBIA

# IDENTIFICATION OF PARAMETERS AND TOOLS FOR URBAN FIRE HAZARD ZONATION MAPPING IN THE KERALA CONTEXT D130

Sneha John, Post-Graduate student, College of Engineering Trivandrum, INDIA

Anurup K., Assistant Professor, College of Engineering Trivandrum, INDIA

Vipin Sebastian, Post-Graduate student, College of Engineering Trivandrum, INDIA

# IDENTIFICATION OF INDICES AND METHODS FOR MAPPING LANDUSE LANDCOVER (LULC) ,LAND SURFACE TEMPERATURES(LST) IN URBAN AREAS IN KERALA CONTEXT p131

Vipin Sebastian, Student, College Of Engineering Trivandrum, INDIA

Anurup K, Assistant Professor, College Of Engineering Trivandrum, INDIA

Sneha John, Student, College Of Engineering Trivandrum, INDIA

Anukrishnan A S, Student, College Of Engineering Trivandrum, INDIA

### POSSIBILITIES AND CHALLENGES OF INCORPORATING SPECIES HABITAT NETWORKS INTO MASTER PLANS p132

Yasmin A, Post Graduate student, College of Engineering, Trivandrum, INDIA,

Priyanjali Prabhakaran, Professor, College of Engineering, Trivandrum, INDIA

INTEGRATING CLIMATE CHANGE ADAPTATION INTO URBAN PLANNING STRATEGIES ANALYZING THE SPATIAL AGENDA FOR KARLSRUHE CITY - GERMANY p133

Dr. Heba Mohamed Soliman, University of Kafr El-Sheikh, Department of Architecture

THEMATIC SESSION V

RESEARCH IN THE FIELD OF ARCHITECTURAL TECHNOLOGIES - IDEAS AND POSSIBILITIES

THE ASSIMILATION OF ARCHITECTURE, INFRASTRUCTURE AND LANDSCAPE IN THE POST-INDUSTRIAL DEVELOPMENT OF DANUBE WATERFRONT IN BELGRADE: RESEARCH BY DESIGN APPROACHES p137

dr Bojana Jerković-Babović, University of Belgrade — Faculty of Architecture, Department of Architecture.

THE IMPORTANCE OF SITE SPECIFIC SUSTAINABLE HOSPITAL DESIGN: GENERAL HOSPITAL IN PLJEVLJA, MONTENEGRO p143

Tijana Žišić, University of Belgrade — Faculty of Architecture, SERBIA, tijana.zisic@arh.bg.ac.rs Marija Milenković, University of Belgrade — Faculty of Architecture, SERBIA,

Nataša Ćuković Ignjatović, University of Belgrade — Faculty of Architecture, SERBIA,

A FRAMEWORK FOR THE AUGMENTED ARCHITECT-MACHINE INTERACTION IN THE REHABILITATION OF MODERN HERITAGE STRUCTURAL SYSTEMS p149

Milijana Živković, PhD Candidate, University of Belgrade, Faculty of Architecture, SERBIA;

RESIDENTIAL BUILDINGS ENERGY PERFORMANCE OPTIMISATION - FAÇADE OPENINGS AND SHADING DEVICES p153

Nikola Miletić, Teaching Assistant at University of Belgrade - Faculty of Architecture, SERBIA;

FRAMEWORK FOR THE COMPLEX AND INTEGRATED REFURBISHMENT OF MULTI-FAMILY HOUSING STOCK OF SERBIA USING VOLUMETRIC ADDITIONS p157

**Bojana Lević,** Department of Architectural Technologies, University of Belgrade — Faculty of Architecture, SERBIA;

THE APPLICATION OF STRUCTURES MADE OF LIGHT-WEIGHT CONSTRUCTION COMPONENTS BASED ON TIMBER FIBRES D165

Irina Živković, M. arch. Teaching Assistant, University of Belgrade Faculty of Architecture, SERBIA;

THEMATIC SESSION I

ARCHITECTURE OF/FOR ICONIC NOMADS: PATTERNS, FORMS, SYSTEMS

# GLOBAL VILLAGE IN ARCHITECTURAL THEORY AND PRACTICE: SOFTENING LIMINAL CONDITIONS

Author 1: Vanja Spasenović, Teaching Assistant, Department of Architecture, Faculty of Architecture, University of Belgrade, SERBIA; v.spasenovic@arh.bg.ac.rs
Author 2: Bojana Sićović, Associate, Department of Fine and Applied Arts, Academy of Arts, University of Novi Sad,
SERBIA; bojanasicovic@gmail.com

### **ABSTRACT**

The term global village first appeared in literature around 1960s and continues to develop in various scientific disciplines as a spatial phenomenon that is not defined by borders, but by global culture and the development of contemporary techniques and technologies. Considering the presented concept, the principle of "disappearing borders" is problematized within architectural research through offering an alternative claim about the softening and layering of existing barriers. Barriers in architectural theory have not disappeared, but their existence is continuously transformed from a static element into a permeable and unstable barrier, following the complex needs of modern-day society. Taking into account the previous statement, it can be concluded that the border phenomenon develops typologically and semantically, introducing new classifications of border areas into the theory of architecture. Global culture development can be interpreted as almost dehumanizing through the diminished merit of individual identities, thus creating a specific need to modify the environment and make it personal through the establishment of architectural (physical) boundaries. The proposed hypothesis will be examined by the method of case study and graphic analysis of the meander building facade in New Belgrade's block 23. The facade is the subject of analysis because it represents a permanent, tangible and recognizable physical barrier between inside and outside, private and public, personal and collective. The paper presents an alternative view of the concept of global village borders, their manifestation and transformation in architectural theory and practice.

Key words: border, barrier, globalization, New Belgrade, meander

### I. INTRODUCTION

In the modern-day we are witnessing the intense connection of people, cultures, and concepts that represents the global village. This framework becomes a tangible reality that constitutes the McLuhan claim and the evolution of our perception and experience of the world (Federman, 2003). Although the global village concept was primarily related to the effects of mass media on the quality of social communication and the erasure of borders between people, nations, and cultures, we cannot ignore the impact of these rapid changes in the 21st century on architecture and the boundaries of physical space. The way we live and understand the world around us actively affects the physical space through the interventions we introduce in order to adapt our personal space to the needs of modern life.

This paper explores the meaning and character of built borders in architecture, transformed through contemporary concepts and principles of everyday life, influenced by the global village development. Examining the impact of our everyday life on physical space will be done through a case study of a residential building, more precisely its facade as a fixed, clear and striking physical boundary. The chosen meander building in block 23 in New Belgrade is considered suitable for researching the presented topic, because it is a representative of the residential architecture of the 20th century, built on the modernist principle of designing "from the inside out", which also challenges the character of boundary conditions.

Drawing upon the case study of block 23 in New Belgrade, we examine the meander facade overall development as the result of "local" and "global" forces. This assumption is elaborated along three lines of inquiry. We first acknowledge borders as a transformable, ephemeral, and complex phenomenon; in the second part of the paper, we recognize the diagram as a tool for mapping border conditions, while in the final segment of the paper we discuss the results of the graphic study. The theoretical discussion in parallel with the case study results in the definition of 12 concrete visual determinants that represent the "breaking" positions of the solid facade boundary, making it permeable and layered. The contribution of the research is in the understanding how the modern pace of life affects the residential architecture of the 21st century, as well as the affirmation of drawings as an important research tool for architects in understanding contemporary urban landscapes.

### 2. CONTEMPORARY BORDERS: SOFTENING LIMINAL CONDITIONS

Following the development of modernism during the 20th century until today, a new conception of space is evolving relative to the relationship between different border conditions, which Siegfried Giedion defines as the idea of permeating space (Giedion, 2012). According to architecture theorists and sociologists of the second half of the 20th century, early modernism boundaries defined through principles of standardization, proportions, and modules begin to weaken becoming zones of negotiation woven from overlapping materials, programs, or functions. The observed zones of negotiation are further softened by the changing

pace of life in the 21st century. Architecture becomes a product of the interaction of spatial ideas and the movement of individuals or objects in space (Hays, 1998).

The subject of the case study are facades of the meander building in New Belgrade's block 23, facing to the street of Antifasisticke Borbe and inside the block. The wall is one of the elementary forms of border manifestation in built space, as well as the only element that determines the border in the horizontal plane (as a vertical element). The boundaries of the built space are known as floor, wall, and ceiling (Noberg-Schultz, 2009). Wolfgang Zucker wrote about the importance of a boundary element, primarily one that determines the division between being inside and outside, emphasizing that raising the boundary line that divides the interior from the exterior is a primordial act of architecture (Arnheim, 1977). In the context of the analyzed meander building in block 23, the boundaries are determined by standardized semi-prefabricated elements, dimensional analysis of the man-centered living space, the construction and building systems, as well as the needs for increasing the quality of life (etc. light penetration, formation of atriums and additional open spaces). Facade wall not only creates a boundary on the inside-outside relationship at the object level, but also forms a clear border at the block level as a wider spatial instance. This is both the boundary of the block and the boundary of the object.

### 3. DIAGRAMMATIC REASONING: DRAWING AS A RESEARCH TOOL

Diagrammatic reasoning is a research technique that uses drawings and visual tools to gain new knowledge. This principle of analog and/or digital representation allows the researcher to illustrate zones, elements, and states that are not visible in other research techniques and formats (Kulpa, 1994). The diagram is an important analytical tool for architects because it establishes an unambiguous connection between thought and space. Architect Peter Eisenman argues that we can observe the diagram as a tool through two basic modalities: (1) the diagram as an analytical tool and (2) the diagram as a generative tool (Eisenman, 1999). Generative diagrams allow the researcher to further abstract the analyzed problem by illustrating it in order to further interpret and verify the research question. In the process of research problem abstraction, we approached the use of a combination of two drawing techniques in order to adequately depict the factual state and interpret the facade that is the subject of the case study - a diagram and a map. The instrumentalization of mapping in the architectural discourse allows us to translate places, concepts, states, processes, or events into a spatial plan (Schoonderbeek, 2021).

The mapping process is carried out in the following order: (1) data collection, (2) cartographic abstraction, (3) map reading and analysis, and (4) map interpretation (Muehrcke et al., 2016). In the data collection phase, a realistic image of the analyzed facade was obtained through the use of a combination of research methods; the archival technical documentation obtained from the Historical Archives of Belgrade was supplemented by a tour of the location and the method of direct observation. Through the cartographic

abstraction (shown in Figure 2), the zones of interest and the positions of changes in the state of border conditions are illustrated, which become the subject of analysis in the discussion phase of the paper (Figure 1). By element abstraction, they become the legend of the map, which enables us to see the cause-and-effect relationship and interrelation between the recognized determinants. The result of the graphic analysis is the detection of 12 visual determinants that become places of change in the otherwise fixed border which build a defined rhythm and blur rigid boundary areas, changing the overall dynamics of the brutalist facade (also known as concrete baroque). The diagram (Figure 1) detects visual determinants that are key to softening facade boundaries. The observed determinants are: (1) changing the color of the existing joinery, (2) replacing the joinery, (3) presence/absence of sun protection (blinds), (4) changing the dimensions of the facade openings (transformation of the interior space), (5) painting the facade with keeping/changing the relief plastic of the primary facade, (6) replacing the fence on the balcony or loggia, (7) adding an air conditioning unit, (8) adding different antennas, (9) flowers, (10) partially/completely closing the loggia, (11) drying and hanging laundry, and (12) adding a canopy.

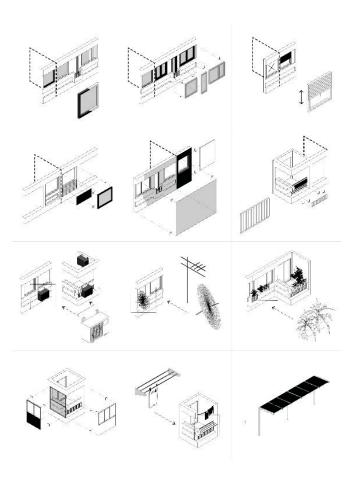


Figure 1: Visual determinants of border transformation

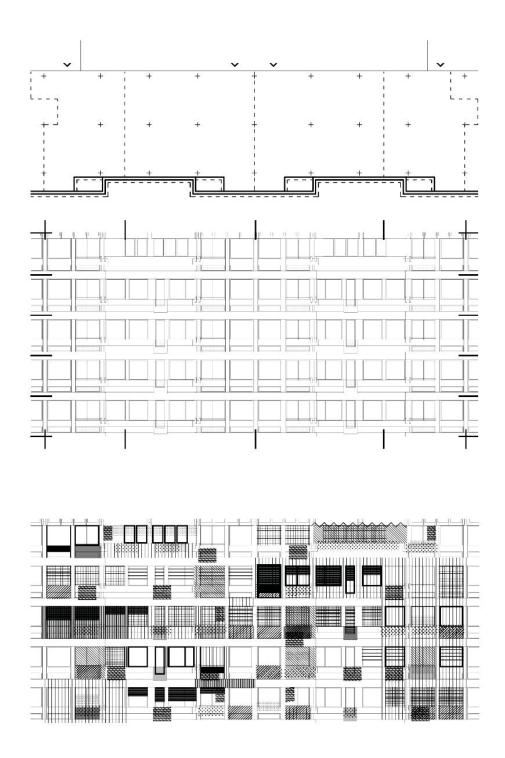


Figure 2: Mapping border conditions

### 4. DISCUSSION

As a result of the previously shown graphic analysis (Figures 1 and 2), 12 types of changes were observed on the facade of the meander building in block 23. The previously presented positions of border transformation can be divided into two groups according to the degree of modification they provide on the initial facade: (I) the first group of elements performs a partial or complete intervention on the existing facade elements, while (2) the second group introduces new elements to the facade membrane. Additional elements are most often arranged as single points, while the visual determinants of the first group appear in linear geometry, often following the area of one residential unit, leaving the possibility that this clear division of apartments can be read even with direct observation from the outside environment. The added elements are most often found in the loggia area. In addition to the previous conclusion, it is important to note that the observation of these changes offers an insight into a broader understanding of the sense of community and interpersonal relations; verticals that are uniformly painted can be observed, suggesting that it was an agreement at the level of one entrance community. Using the method of direct observation, we can distinguish that the most frequent alterations are the change of the joinery color, as well as the installation of windows with smaller openings (elimination of the second, floor window). The division between floors remain as the horizontal surfaces with the least change. This conclusion is very important, because it shows that the horizontal concrete elements, as one of the carriers of the concrete baroque, remain recognizable despite the major changes occurring in the facade area. Through a comparative analysis of archival drawings and direct observation, it can be concluded that smaller apartments are subject to larger changes and more radical transformations compared to two-and-a-half-room and larger residential units.

Graphic analysis confirmed the initial hypothesis that modern man in the global village tends to personalize his living space as much as possible, which leads to the softening and layering of otherwise rigid boundaries. The global currents of "space without borders" influence architecture through the aspiration for the same change to appear at the local level. The outcome of the research is the formation of 12 visual determinants and their characterization with the aim of better understanding the impact of modern life on the built space.

### 5. REFERENCES

Federman, M. (2003). The cultural paradox of the global village. In: *Panel on Digitization of Information and the Future of Culture at the EU-Japan Fest 10th Anniversary Symposium on The Role of Culture in an Age of Advancing Globalization*, held in Tokyo, Japan. Eisenman, P. (1999). *Diagram Diaries*. Thames & Hudson.

Kulpa, Z. (1994). Diagrammatic representation and reasoning. Machine Graphics and Vision, 3(1-2), 77-103.

Giedion, S. (2012). Prostor, vreme i arhitektura: Razvoj nove tradicije. Građevinska knjiga.

Hays, M. (1998). Architecture Theory since 1968. MIT Press.

Noberg-Schultz, C. (2009). Fenomen mesta. In: *Teorija arhitekture i urbanizma*, Arhitektonski fakultet Univerziteta u Beogradu, 260—273.

Arnheim, R. (1977). The dynamics of architectural form. University of California Press.

Schoonderbeek, M. (2021). *Mapping in Architectural Discourse: Place-time Discontinuities.* Routledge.

Kimerling, A. J., Muehrcke, P. C., Muehrcke, J. O., & Muehrcke, P. M. (2016). *Map use: reading, analysis, interpretation*. ESRI Press Academic.