



10th International Conference

December 2022, Belgrade, Serbia

*ON ARCHITECTURE
— PHILOSOPHY OF
ARCHITECTURE*



PROCEEDINGS

strand

Sustainable Urban Society Association

ON ARCHITECTURE
PHILOSOPHY OF ARCHITECTURE
PROCEEDINGS

Belgrade, Serbia
2022

ON ARCHITECTURE
PHILOSOPHY OF ARCHITECTURE
PROCEEDINGS

INTRODUCTION

CHAPTER I	PHENOMENOLOGY OF ARCHITECTURE
CHAPTER II	ARCHITECTURE AND/OR VS. ART
CHAPTER III	TECHNOLOGY AND ARCHITECTURE
CHAPTER IV	POSTER SESSION
CHAPTER V	PANEL SESSION

IMPRESSUM

Title

ON ARCHITECTURE
PHILOSOPHY OF ARCHITECTURE
Proceedings

Publisher

STRAND – Sustainable Urban Society Association
Belgrade

On behalf of the Publisher

Ružica Bogdanović
STRAND – Sustainable Urban Society Association

Editor

Ružica Bogdanović

Reviewers

Pavlos Lefas
Nora Lefa
Aleksandra Stupar
Nataša Danilović Hristić
Ranka Gajić
Svetlana Batarilo
Mirjana Devetaković
Ružica Bogdanović

Printed by

Grid studio, Belgrade

Print run

100

Belgrade, 2022

ISBN 978-86-89111-28-6

CONTENTS

PREFACE

INTRODUCTION

Miodrag Šuvaković

DIAGRAMS: PHILOSOPHY BEYOND THEORY

THEORY THROUGH PHILOSOPHY: ARCHITECTURE, ART, POLITICS AND TECHNOLOGY

Theofanis Tasis

RADICAL DESIGN: HUMAN ENHANCEMENT AND THE ICONISTIC POLIS

Thomas Mical

PLASTICITY AFTER INDEXICALITY FOR ARCHITECTURAL THEORY TODAY

Petar Bojanić

WHAT IS A CONJECT(URE)?

THE CITY AS A CONJECT(URE)

Christiane Wagner

SMART CITIES AND ARCHITECTURAL STRUCTURES: COMMUNICATIONAL AND INFORMATIONAL SPACE

Polyxeni Mantzou

META-TYPOLOGIES

Renate Weissenböck

AUGMENTED DESIGN EXPERIMENTS

Milena Ivković

GAME-AS-A-SERVICE FOR URBAN DESIGN AND URBAN RESEARCH COMMUNICATION

Tanja Vujinović

AVANTGARDEN

I PHENOMENOLOGY OF ARCHITECTURE

Essence of Architecture – Form, Function, Meaning

Phenomenology of Architectural Work

Architectural and Existential Space – Existence, Space, and Architecture

Ambivalence Duality, Antipodal and Antinomian Term

Semiology of Architecture – Architectural Language

DIAGRAMS: PHILOSOPHY BEYOND THEORY

THEORY THROUGH PHILOSOPHY: ARCHITECTURE, ART, POLITICS AND TECHNOLOGY

Miško Šuvaković

RADICAL DESIGN: HUMAN ENHANCEMENT AND THE ICONISTIC POLIS

Theofanis Tasis

WHAT IS A CONJECT(URE)?

THE CITY AS A CONJECT(URE)

Petar Bojanić

PLATO'S ACCOUNT OF ARCHITECT'S EXPERTISE

Aleksandar Kostić

THE PARADOX OF HOME IN HEIDEGGER'S PHILOSOPHY

Mateja Kurir

VITRUVIUS' CONCEPT OF EURYTHMY

Pavlos Lefas

BETWEEN REALITY AND NON-REALITY

Nora Lefa

INFORMATION IN ARCHITECTURE IN THE DIGITAL AGE

Igor Svetel

ELEMENTAL SPACE: EXISTING | DWELLING

Virna Koutla

INTERPOLATION OF THE EPHEMERAL SEGMENTS SCENERY

IN THE DESIGN OF CONTEMPORARY ARCHITECTURE

Katarina Lončarević

THE INDEX AS THE PRESENCE OF THE ABSENT IN THE ARCHITECTURAL OBJECT.

TOWARDS A THEORY OF ARCHITECTURAL SEMIOLOGY

Katarina Ognjenović

AN EPOCH FROM A NEW PERSPECTIVE

Katarina Taranović

ART AND ARCHITECTURE AS ENGINE FOR URBAN REGENERATION

NEW MUSEUM QUARTER IN SARAJEVO

Senka Ibrišimbegović, Nedim Mutevelić

II ARCHITECTURE AND/OR VS. ART

Architecture and Design: Thinking through Drawing,

Architecture and Art: Spatial Installations,

Architecture Art and New Media

VR/AR Changing Physical Architecture

Here and There, Private, Public, VR/AR Influence

BIOMATERIAL FOR GROWING ARCHITECTURE

Jaroslava Frajova, Jan Koníček, Petr Siedlaczyk

ARCHITECTURAL APPLICATION OF NANOFIBRE TEXTILE STRUCTURES WITH AN ADDED WATER RETENTION VALUE

Jan Koníček, Miloš Florián, Jaroslava Frajová

BODIES WITHOUT ORGANS

TACTILITY, INTERNET OF BODIES, APIs AS WORLDMAKING AGENTS

Cenk Güzelis

BEHAVIOUR ISSUES AND SAFETY ASPECTS IN THE REAL AND VIRTUAL SPACES

Nataša Danilović Hristić, Marina Nenković-Riznić, Nebojša Stefanović

BIM WITHOUT BIM: INTRODUCING THE BIM LOGIC IN ARCHITECTURE TECHNOLOGY CLASSES. THE CASE OF TUC

Giannis Tsaras, Barbara Charalambidi

TOWARDS THE LIMINAL LINE DYNAMICS

Andelka Bnin-Bninski

THE ARTIFICE OF WATER: ART PROJECT H₃O₂ VOL. 2 – SPATIAL INSTALLATIONS

Miloš Stojković Minić, Nevena Petrović, Dušan Stipić Dudwarszky

METHODOLOGY OF REPRESENTATION AND TRANSCRIPTION OF ARCHITECTURAL SPACE: DISCOVERING THE HYBRID MODEL OF ARCHITECTURAL DRAWING

Hristina Meseldžija

SPATIAL IMMERSION: ARCHITECTURE OR ART

Sanja Nikolić

III TECHNOLOGY AND ARCHITECTURE

Technology and Architecture

The Future in the Present, Influence of the Climate, Smart Sustainable Development,

Learning Architecture through Examples that Educate

SMART CITIES AND ARCHITECTURAL STRUCTURES: COMMUNICATIONAL AND INFORMATIONAL SPACE

Christiane Wagner

META-TYPOLOGIES

Polyxeni Mantzou

GAME-AS-A-SERVICE FOR URBAN DESIGN AND URBAN RESEARCH COMMUNICATION
Milena Ivković

PHILOSOPHICAL CONTEXT AND QUESTIONS ABOUT THE FUTURE
OF TECHNOLOGICAL REVOLUTION IN ARCHITECTURE AND URBANISM:
ECOLOGICAL, ECONOMIC, SOCIOLOGICAL PROGRESS OR A STEP BACK
Mila Pucar, Marina Nenković Riznić

TACTICAL URBANISM AND URBAN ACUPUNCTURE AS PLACE MAKING SOLUTIONS
FOR THE TIME OF AUSTERITY
Tamara Klicek

BUILDING SMART CITIZENS
Anastasia M. Kyriakopoulou, Konstantinos A. Oungrinis, Sotirios Ntzoufras, Antonios Papamanolis

HOUSING COMPLEX – AN ALTERNATIVE PENAL APPROACH
Margiori Lais-Ioanna, Papadosifou Eleftheria, Terzaki Maria, Karagianni Anna

NEW TECHNOLOGIES IN THE FUNCTION OF PARTICIPATORY AND EDUCATIONAL PROCESSES
IN URBAN PLANNING – CHALLENGES OF COVID-19 AND THE FUTURE OF DIALOGUE
Marina Nenković Riznić, Nataša Danilović Hristić, Sanja Simonović Alfirević

BIOPHILIC PATTERN AND APPEARANCE OF LEPENSKI VIR HABITATS
Nenad B. Miloradović

FRAGILITY AS RESILIENCE: DESIGNING THE BALANCE OF THE NATURAL AND BUILT ON THE EXAMPLE
OF AN OPEN COMPETITION FOR THE WIDER AREA OF THE HIPPODROME IN BELGRADE
Milena Kordić, Ranka Gajić, Svetlana Batarilo

INTERIORITY AS A CONCEPTUAL APPARATUS – THE RELATIONSHIP BETWEEN INTERIOR,
ARCHITECTURE AND URBAN
Natalija Bogdanović

SCENIC FUNCTION OF PARTIZAN SQUARE – TOWN SQUARE IN UZICE
Bojana Pašajlić

URBAN REGENERATION OF IVO LOLE RIBARA STREET IN KRAGUJEVAC AS A STRUCTURE THAT SHAPES
URBANITY OF MODERN CITY – TEACHING-EDUCATIONAL RESEARCH
Natalija Bogdanović, Bojana Pašajlić

RIVER BLOCK AND WALK ZENICA
Denis Ambruš, Vlatko Dusparić

IN SEARCH OF THE IDENTITY OF STRUGA – PRESERVING OR RESETTING THE URBAN MEMORY
Damjan Balkoski

INFLUENCE OF CULTURAL TRENDS AND POPULATION MIGRATION ON CHANGE
OF THE TRADITIONAL ARCHITECTURAL EXPRESSION OF RESIDENTIAL ARCHITECTURE
Iva Lokas, Ivana Rakonjac

LESSONS FROM PASSIVE SYSTEMS OF VERNACULAR ARCHITECTURE FOR CONTEMPORARY
CONSTRUCTION
Tijana Žišić, Marija Milenković

IV POSTER SESSION

Phenomenology of Architectural Work

The Future in the Present, Influence of the Climate, Smart Sustainable Development,

Here and There, Private, Public, VR/AR Influence

FLEXIBILITY OF WORK AND WORKPLACE POST-2020

Aleksa Bijelović , Milica Maksimović

THE BUILDING BETTER INITIATIVE: ENABLING AGENCY IN SELF-CONSTRUCTION IN RURAL INDIA

Divya Chand, Shweta Sundar, Sai Kelkar

NEW URBAN LIVING ROOMS – FOLLOWED BY LIGHT

Aleksandra Milošević Pantović

V PANEL SESSION

Essence of Architecture – Form, Function, Meaning

PHILOSOPHY OF ARCHITECTURAL FIGURES Snežana Vesnić with
Igor Cvejić, Sanja Iguman, Željko Radinković, Marko Ristić, Sara Nikolić,
Miloš Čipranić, Edward Djordjevic, Milica Božić, Tamara Plećaš

AUTHOR INDEX

METHODOLOGY OF REPRESENTATION AND TRANSCRIPTION OF ARCHITECTURAL SPACE: DISCOVERING THE HYBRID MODEL OF ARCHITECTURAL DRAWING

Hristina Meseldžija

University of Belgrade - Faculty of Architecture, Serbia

hristina.xline@gmail.com

ABSTRACT

This paper problematizes the position of contemporary architectural drawing by examining its manifestations in new, hybrid forms and roles of drawing, as a consequence of the paradigmatic changes brought about by the digital revolution. Furthermore, it assumes that the drawing in the architectural design process becomes a versatile, multi-layered and hybrid tool, which has an increasingly important role in the field of architectural research. Digital technologies are influencing the way in which the architectural drawing participates in the design process and the process of representing architectural space by establishing different models of drawing. One of these models is based on the methodology of transcribing architectural space, which includes the simultaneous use of drawing as a means of research and representation. Selected model discussed in this paper, examines the use of traditional drawing techniques, everyday tools for documenting space and digital applications for simulating virtual reality experience. Combining these three, arises the possibility of creating a novel visual language in architecture, which is here to be discussed.

Keywords:

Architectural drawing, Visual language, Representation, Twenty-first century, Digital paradigm, Virtual reality

INTRODUCTION

This paper elaborates on the PhD research project developed at the University of Belgrade – Faculty of Architecture, assuming that the digital technologies are influencing the way in which the architectural drawing participates in the design process and the process of representing architectural space by establishing different models of research drawings. One of these models based on the methodology of transcribing the architectural space, which includes the simultaneous use of drawing as a means of research and representation, develops a hybrid “representationally-transcriptive” architectural drawing. Specified model combines the use of hand drawing techniques, everyday tools for documenting space and digital applications to simulate virtual reality experience used for perceiving the architectural space. In order to examine the relationship between traditional (“made by hand”) drawing techniques and contemporary digital platforms, established methodology examines the possibility of developing a new visual language in architecture. The selected model of the architectural drawing is a result of a research art project created in the Architecture and Visual Language postgraduate course at the University of Belgrade – Faculty of Architecture, during the 2016/2017 academic year. It has been further developed as part of the extracurricular course at the student workshop in Rijeka in 2018 and exhibited within the Modern in Belgrade (MuBGD) art and architecture project in 2019. Since this research is also part of the paper titled “Discovering the Hybrid Model of Architectural Drawing at the Beginning of the XXI Century”¹, which comprehensively explains the methodology of the drawing and its creative potential within the field of architectural education, this paper will only focus on drawing’s developmental potentials and applicability within the field of research and exhibiting practice.

Developed methodology will be introduced by displaying two projects. The first project explains the process of establishing the methodology of spatial transcription, which results in representationally-transcriptive model of drawing. Methodology consists of seven steps divided into three phases of work, which will be presented in detail below. These steps result in a set of four large format hand drawings and one spherical digital drawing. In the second project, the established methodology is repeated in order to review and discuss on its developmental possibilities and the creative potential of the final digital drawing.

HYBRID PERSPECTIVES AND THE INFLUENCE OF DIGITAL TECHNOLOGIES

Architectural drawing has always had several roles, three of which it may be argued, are dominant today. The first is the role of an informant – an architectural drawing that bears information from different phases of architectural design process linking them with the construction phase, developing a common language of all disciplines involved in the process of designing an architectural space. The second role is the collaborative, or the associative role, when the architectural drawing embodies the thoughts of the architect and becomes an integral part of the design process, helping the architect to materialize all the thought processes related to the design of an architectural space. Finally, the third role is a representative role - an architectural drawing is used as a commercial product that follows the market needs for building the designed architectural space. For centuries the role of drawing as the architect's creative work had one aim, and that is to communicate the characteristics of the designed space. In that sense, during the twentieth century, drawing was dominantly used as the ultimate design product, most often taking the role of informant, and somewhat frequently the representational role.

Until the twentieth century paradigm shifts, the research role of drawing was minimised to the initial conceptions of space which were presented and communicated in the form of the first drawings of space - sketches. With the development of society, its emancipation, the rise of avant-garde architecture, then the implementation of humanities and digital technologies into the discipline of architecture, the framework in which drawing plays a significant role is being expanded. The interweaving of digital and analogue tools in contemporary architectural practice, which can be named as an act of hybridity, accordingly emphasises research attributes of drawing. From a historical perspective, in the greatest extent of its implementation,

¹This paper represents an excerpt from the research published in *SAJ - Serbian Architectural Journal: Drawing in Action*, which explains the theoretical framework of the paradigmatic shifts caused by the emergence of information technologies and its implications on the visual language of architecture; physical context of emerging digital platforms and applications with a high developmental potential for implementation in the field of architecture; as well as, the methodology of representationally-transcriptive model of architectural drawing and its creative and developmental potential. Considering that the established methodology is clearly defined and follows certain subsequent steps in the process of drawing, this paper borrows two sub-sections from the second chapter of this article, entitled *Identifying the Hybrid Architectural Drawing: Representationally-Transcriptive Model*.

drawing represented a communicative apparatus between the architect and the builder, which has the role of transmitter of all the objective characteristics of the designed space that are necessary for its understanding and construction. An architectural drawing can also convey objective or subjective characteristics of an existing space, as well as a space liberated from the possibility of being built. Such drawings have the ability to critically observe and represent concepts of certain architectural space. When these drawing gain the power to explore concepts of architectural space, that is, to direct critical thinking in the phase that immediately precedes the process of architectural design, they can be appointed research drawings. According to Robin Evans, relying on Alberti's statement that architects do not make buildings, but drawings of buildings², drawing as an architect's work has two genuine forms – first, the architectural, when it is created before what it represents, and second, when it is created on the basis of an existing object or space, thus when it gravitates towards fine or visual arts, and slightly loses its architectural attributes.(Evans, 2003:156) Speaking of research drawings, this kind of drawings often arise as autonomous and self-sufficient, and to add, are usually critically remote from the practice of architectural design. On the other hand, this distance opens up the possibility for complex interpretations, given that the information conveyed by the drawings do not refer to the future architectural space meant to be built. Such drawings usually take the form of speculative, hypothetical or visionary blueprints that undeniably unfold new subject for different discursive interpretations. This type of drawings could be explained by differentiating them from drawings used as instructions for building an architectural object. Since they are carriers of ideas about architectural space, they tend to be subjective and rather suggestive, unlike the latter, being characterized as objective and neutral. (Frasconi, ____:108) During the twentieth century, a variety of research drawings can be recognized in the design practice of distinguished architects, in particular, Ludwig Mies van der Rohe's representative collages, Yakov Chernykhov's axonometric drawings of imaginative constructions, Tadao Ando's atmospheric spatial fragments in his section drawings, Paul Rudolph's perspective drawings of city's mega-structures, then Superstudio's dystopian montages, Hans Hollein's collages conveying ideological messages, as well as the impossible spaces in axonometric drawings designed by Peter Eisenman, et cetera...

The development of information technologies in the last decade of the twentieth century changed the way the work of art is being reproduced. This led to the creation of variable products and the use of parameters in the architectural design process, thus placing architecture in the field of digital reality, unfolding a spectrum of new possibilities and the rise of a novel architectural language – shaped by the digital drawing. The overflow of information technologies in the architectural design process and their presence in everyday life have allowed the architectural discipline to once again reconsider, reshape and expand the field of architectural design. The influence of digital tools in the architectural discipline began in an atmosphere of global fascination and inspiration with new and yet undiscovered possibilities that digital tools were offering. Remaining in close relationship with electronic media, digital tools anticipated the future of architecture with the transition to virtual space as an alternative to the real and physical space. The first paradigmatic shift is characterised by the emergence of new software based on direct manipulation of curves constructed through vectors and points on a computer, and therefore of architects' pursuit of mastering them in order to expand the possibilities of drawing manipulation and then deriving certain, complex forms which were by the time unable to draw and build. (Carpo, 2011) This shift changed the way architectural objects are being built. The second digital paradigmatic shift resulted in developing new models of processing and distributing information using artificial intelligence. Building on the previous shift, this one changed the way of thinking about architectural objects. (Carpo, 2017) The consequences of the second paradigmatic shift in terms of digital technologies resulted in changes that affected the visual perception, enabling quick and easy access to virtual space as a new spatial or architectural field of experimentation. One could argue that the emergence of digital tools and applications allows present-day architect to balance between real and virtual environment and take constant leaps from one to another. This action, not only generates combined, hybrid perspectives of the physical reality, but it blurs the lines between architecture and its related disciplines, such as visual or graphic arts. From the perspective of perceiving, on one hand, and documenting, or rather representing physical space, on the other, it can be noted that a wide range of new media are emerging and extending the experimental field of architecture, particularly architectural drawing. One such medium, virtual reality, as one of the conveyors of the second digital turn has become widespread and easily accessible, thanks to social media. Virtual panoramic images, as a form virtual reality simulacrum, are more commonly being used in architecture in communicating with clients for presenting a newly designed or existing space, depending on whether it is a conceptual solution or an already constructed object.³

² Stating Alberti, Leon Battista. *On the Art of Building in Ten Books*. (Cambridge, Mass. [etc.]: MIT Press, 1988).

³ Such virtual panoramas provide a complete, spherical view of the documented space (360x180°), where the perspective can be easily controlled and changed in all directions. Additionally, multiple panoramas can be

HYBRID MODEL OF DRAWING: INTRODUCING THE FIRST PROTOTYPE

The starting point for the project conducted in the Architecture and Visual Language post-graduate course in 2017 was to examine new possibilities for using digital tools in architecture, with the aim to explore how the use of new media inspires and participates in experimenting with drawings today. The chosen medium for this purpose was virtual reality, precisely a smartphone application for making virtual panoramic images⁴. This virtual reality tool was supposed to be combined with traditional ("made by hand") architectural drawing, with an aim to research and represent the existing physical space, chosen by the author. The selected case study for the first drawing experiment was the interior of the Reading Room at the University of Belgrade - Faculty of Architecture. It was important to build on the thesis of questioning the usability of traditional drawings in architecture, hence the methodology of manipulating the captured panoramic image. This manipulation was based on using various hand drawing techniques to explore the specific characteristic of the analysed space. Furthermore, experimenting with hand drawings shaped the whole process of the project, resulting in manually transcribing the captured panoramic image into a series of hand drawings, which were afterwards digitally processed and manipulated using computer-aided tools and finally presented as a virtual panoramic drawing.



Photo 1. Reading Room at UB-FA, virtual panoramic drawing

The applied methodology consisted of seven steps divided into three phases, following *pre-production*, *production* and *post-production*, in order of application. Used methodology combines a myriad of analogue and digital tools such as photography, ink on paper, marker pens, technical pens, Photoshop CS editing. The *pre-production* phase involves capturing a 360x180° panoramic image of a chosen physical space, in this case the interior of the Reading Room. The unwrapped two-dimensional image of the captured panorama is then used as the initial basis for the work. The *production* phase includes four groups of drawings done in different techniques - drawing on tracing paper using ink, technical and marker pens. The analysis of the obtained photographs determined four categories of space transcription that correspond to different layers of the spatial image, and which together, superimposed, give an abstract image of the same space. Each technique involves making 12 drawings which together form an image corresponding to the aforementioned unwrapped panoramic image. Each group of drawings represents one level of spatial transcription - *Edges*, *Surfaces*, *Light* and *Shadows*. The *post-production* phase involves translating hand

combined into a unique virtual promenade, which adds to the illusion of walking from one space to another, making the virtual tour appear less static.

⁴ In 2015, Google launched a free application *Google Street View* that enabled its users to browse 360°x180° panoramic images of every corner of the world or to contribute to the entire public database of panoramic images by creating personal panoramic images. The application enables capturing the 360°x180° image using a smartphone and viewing it as a spherical image or downloading and storing it in the phone as an unwrapped two-dimensional image. By doing so, this kind of image becomes easy to access and reproduce, unfolding a spectrum of new manipulative possibilities in the fields of visual and fine arts and architecture.

drawings (48 drawings in total) into digital form and assembling them into four corresponding spherical images. The obtained images are then being superimposed using computational tools, such as Photoshop CC 2015. As the final result, the obtained spherical image, must be added up with certain metadata, becoming suitable for wrapping back into the application as a new, transcribed, panoramic image or panoramic drawing.



Photo 2. Reading Room at UB-FA, unwrapped 360x180°panoramic image

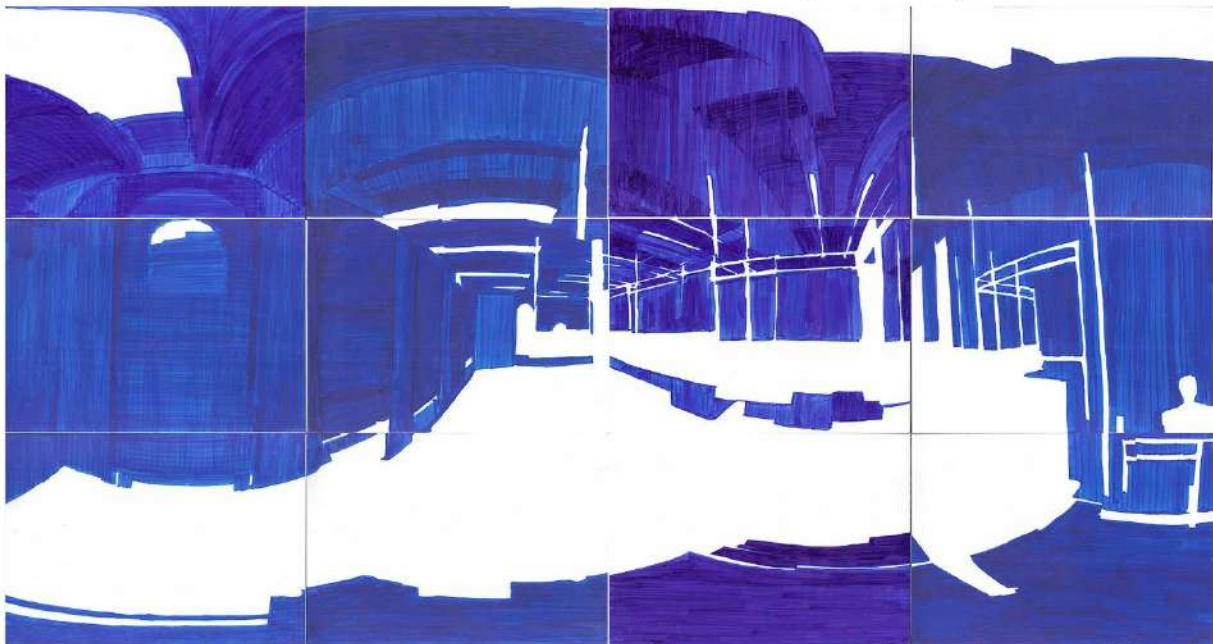


Photo 3. Second level of spatial transcription – *Surfaces* (marker pen on tracing paper).

The established drawing model resulted in four large-format hand drawings, i.e., 48 small-format drawings which were scanned, digitally post-produced, superimposed and merged into a single image. Finally, the two-dimensional image was made spherical using metadata and presented via the same application used for capturing the initial photo. The final result, a spatial drawing can be viewed by following the appropriate link⁵ which gives the observer the freedom to choose the vintage point and therefore, the most preferable fragment of the drawing as a separate image.

⁵ Project is available at the following link: <https://roundme.com/tour/167963/view/425790/>.

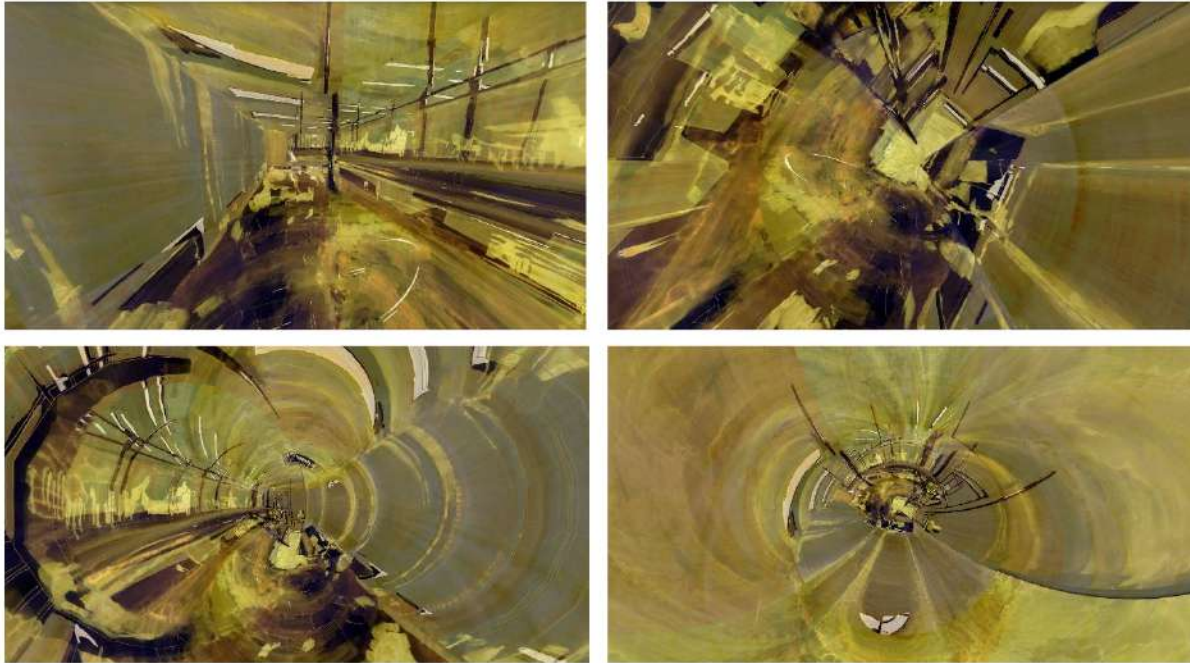


Photo 4. Reading Room at UB-FA, virtual panoramic drawing. Various fragments of a spherical image.

MORE ON METHODOLOGY: EXPLORING THE CREATIVE POTENTIAL

Being a member of Modern in Belgrade group,⁶ which held several solo exhibitions during 2019, the last exhibition in the series served as a testing ground for further research on the topic of presentational possibilities of the established drawing model. The exhibited work for the exhibition titled *Black on White*,⁷ represented the second drawing experiment, the interior of the Reading Room at the National Library of Serbia.⁸ The applied drawing methodology was repeated, following the example of the previous project – using four levels of spatial transcription (edges, surfaces, light and shadow). These levels correspond to the four stages of identifying the essential elements of space. While observing the drawing, the most dominant layer is recognised as the one representing the structural elements and the disposition of volumes in space presented with different nuances of drawn planes. The second notion is the overlapping of two closely related layers – one representing light, and the other representing shades. Their superimposition gives life to the drawing as it seems to document one precise moment in time of the observed interior. Finally, the last layer, playing hide-and-seek with the observer’s eye, reveals itself very discreetly, like the author’s signature – present but gently hidden. It subtly emphasises sharp edges providing stability to the structural elements holding the interior space. Nevertheless, the theme of the exhibition conditioned the final drawing to be presented as a digital grayscale print, lacking colour. Therefore, in addition to the link⁹ that provided visitors with a virtual experience of entering the drawing, the project was exhibited in the gallery space on a 200x100cm digitally printed poster and a video projection presenting fragments of virtual walks broadcasted in colour and overlapping with the poster.

⁶ The Modern in Belgrade (MuBGD) project, established in Belgrade, Serbia in 2018, brings together a group of architects (Iva Bekić, Petar Cigić, Dalia Dukanac, Stefan Đorđević, Irena Gajić, Mirjana Ješić, Hristina Stojanović, Snežana Zlatković) who share a particular interest in architectural illustration, graphic design and fine arts. Together, they launched the MuBGD platform as a means of promotion, but also critical analysis of Belgrade’s architectural heritage within the field of visual representation.

⁷ Exhibition *Black on white* at gallery O3one Art Space, Belgrade, Serbia (29 November-05 December 2019).

⁸ National Library of Serbia (1966-1973) architect Ivo Kurtović, interior reconstruction by architect Zoran Radojičić.

⁹ Project is available at the following link: <https://roundme.com/tour/523469/view/1734841/>.



Photo 5. Reading Room at the National Library of Serbia. Exhibited poster at gallery O3one Art Space.

Repeating the established methodological steps once again, specified the basic features of the drawing, the usability of the hybrid model was confirmed and following observations were noted:

- The conducted drawing procedure focuses more on the development of the specific transcriptive technique than on the analysis of architectural space itself. Whilst the drawing process relies on the procedure, the analysis comes at the end. The drawing process in that sense can be claimed more artistic and less architectural.
- The three-dimensionality of the drawing and the use of virtual reality creates a switch in the context of image perception. It opens the possibility of viewing the represented space from infinite number of different angles and generates always new images of space, which makes image reading itself an architectural experience.
- It may be argued that a drawing refers to a specific moment in time in the life of an architectural object, showing it through the lens of the author's observation and virtuosity of drawing.
- Architectural drawing as the final result mostly relies on the traditional drawing techniques, and in that sense, is highly dependent on the author's sharp eye and skilful hand. On the other hand, the computer-aided manipulation generates a multitude of output images as final representations of the selected space. This gesture creates a scale of different levels of abstraction of selected viewpoints - from unrecognisable images composed, it seems, only with a few hand strokes, to detailed, precise documentations contained in several layers of spatial transcription.



Photo 7. Reading Room at the National Library of Serbia. Fragment of a spherical image.

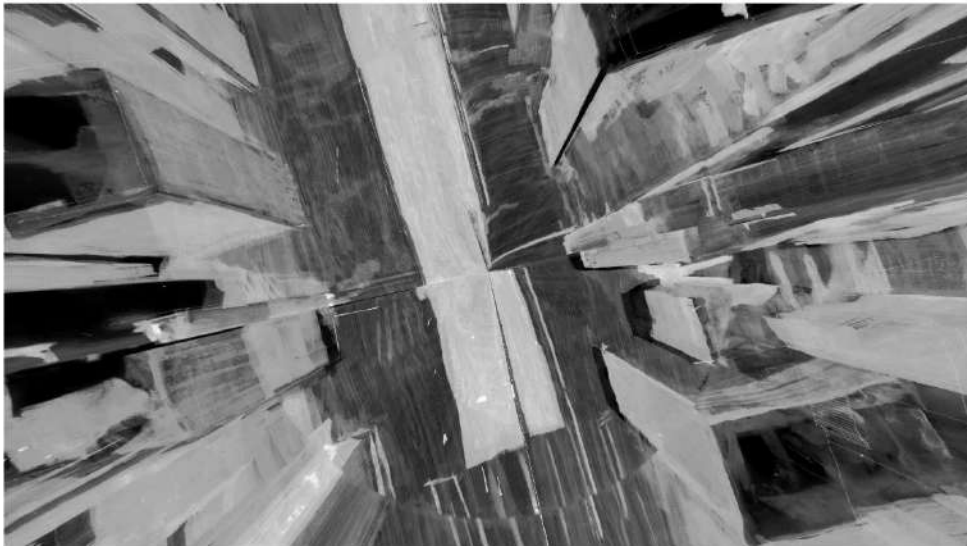


Photo 8. Reading Room at the National Library of Serbia. Fragment of a spherical image.



Photo 9. Reading Room at the National Library of Serbia. Fragment of a spherical image.

CONCLUSION

The examined hybrid model of drawing brings up two specific characteristics, one referring to the research, and the other to the representational attributes of the presented methodology. One part of the methodology relies on the absence of digital technologies in the process of drawing, which therefore emphasises the presence of the author of the drawing. Traces of manual work become embodied in lines and surfaces of the hand drawing suggesting to the unavoidable presence of the author, who emerges with every pen or brush stroke. Unforeseen mistakes made in the transcribing process are uncontrollable but unique expressions, and nevertheless, impossible to produce digitally. Finally, a question of preference arises – to choose between the conventional precision, computational glitches, or rather the uncontrollable aesthetics of the handwritten mistakes. On the other hand, digital space offers infinite possibilities in perceiving the work of drawing and finally emphasises the presence of the viewer offering him unlimited playground of different perspectives. In this way, the precision of drawing distributed with the use of software is avoided, which is bounded by the excessive limitation and control of the each of author's specific gestures, always present when using digital tools. However, in the context of its presentation, this drawing model offers a myriad of possibilities embodied in different mediums, as well as infinite observing options, as it is simultaneously present in real and virtual environment. In this sense, digital surrounding presenting the final image highlights the presence of the observer by offering him the freedom to find his own vintage point and experience the same image each time differently. In this way, the user is being placed in a partially authorial position as the creator of different, always new, worlds inside the given image. It may be argued that digital environment offers flexibility in the phase of post-producing the final drawing as it can easily be accommodated to different scale, format and media. Finally, the anxiety about the future of traditional drawing techniques in architecture is reduced as the presented project underlines the hypothesis that the emergence of digital technologies has emphasised and upgraded the traditional architectural tools, objecting them to constant development. It can also be noted that digital tools have, and still are, expanding the creative potential of architectural drawings as research tools. Therefore, the presented hybrid model of drawing offers a vast developmental potential that is yet to be discovered and explored. It is noticed that the established, representationally-transcriptive model of drawing is limited on its two iterations and needs further application and confirmation within different fields and environments of architectural design. Nevertheless, it is advised to expand the research carried out within different fields of architectural discipline. Complexity of the established methodology of drawing offers various exploratory possibilities of its different aspects – case study selection, drawing techniques, properties of spatial transcription, digital post-production techniques and last, but not the least, presentation of the final image. Once there is a variety of output results, they will be suitable for further development in multiple directions. Ultimately, the elaborated architectural drawing can be positioned as a peculiar and idiosyncratic representation of ideas about physical space which frees the architect as the author, allowing him to step back from the physical space on the one hand, while, on the other hand, it brings him closer to it while affirming his distinct and very personal interpretation of space.

REFERENCES

- Carpo, Mario.(2001). *Architecture in the Age of Printing: Orality, Writing, Typography, and Printed Images in the History of Architectural Theory*. Cambridge (Mass.): MIT Press.
- Carpo, Mario. (2011). *The Alphabet and the Algorithm*. MIT Press, 2011.
- Carpo, Mario. (2014). "The digital: From complexity to simplicity: And back", *Serbian Architectural Journal: ISSUES? Discussions with Peter Eisenman Conference*. Belgrade: University of Belgrade, Faculty of Architecture. Vol.6, 256-265.
- Carpo, Mario. (2017). *The Second Digital Turn: Design beyond Intelligence*. Cambridge, Massachusetts: The MIT Press.
- Evans, Robin. (2003). *Translations from Drawing to Building and Other Essays*. London: Janet Evans and Architectural Association Publications.
- Frasconi, Marco. "Splendour and Miseries of Architectural Construction Drawings", *Interstices: A Journal of Architecture and Related Arts*, Vol. 11, 107-113
<https://interstices.ac.nz/index.php/Interstices/issue/view/27>.
- Meseldžija, Hristina. (2020). "Discovering the Hybrid Model of Architectural Drawing at the Beginning of the XXI Century", *SAJ - Serbian Architectural Journal*, 12(2), pp. 102-119.

**CIP - Каталогизација у публикацији
Народна библиотека Србије, Београд**

72.01(082)(0.034.2)

711.4.01(082)(0.034.2)

INTERNATIONAL Conference On Architecture
(10 ; 2022 ; Beograd)

Philosophy of Architecture [Elektronski izvor] : proceedings
/ 10th International Conference On Architecture, December 2022,
Belgrade ; [editor Ružica Bogdanović]. - Belgrade : STRAND
- Sustainable Urban Society Association, 2022 (Belgrade : Grid studio).
- 1 elektronski optički disk (CD-ROM) : tekst ; 12 cm

Sistemske zahteve: Nisu navedeni. - Nasl. sa naslovnog ekrana dokumenta.
- Tiraž 100. - Napomene i bibliografske reference uz tekst. - Bibliografija
uz svaki rad. - Sadrži i biografske beleške o autorima.

ISBN 978-86-89111-28-6

а) Архитектура - Интердисциплинарни приступ -- Зборници б) Урбани
дизајн - Зборници

COBISS.SR-ID 80602633