

Communicating Heritage Through Intertwining Theory and Studio Based Course in Architectural Education

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Abstract. This paper has emerged from a belief in the importance of architectural history for modern architectural practice and the education of young architects today. It proposes an alternative teaching approach in which theory-based and studio-based methodology are interconnected and mutually challenged to communicate heritage in the most beneficial way. The approach attempts to avoid communicating basic descriptive facts, but is rather based on the interpretation of theoretical knowledge through individual designs, and provokes discussions questioning universal messages of architecture through individual spatial solutions. It was introduced at the Faculty of Architecture in Belgrade, through the elective course *New Reading of Architecture* for the third-year students, in the school year of 2014/15 and 2015/16. Results show that critical thinking through designing, as opposed to the usual factual approach, met a favourable response from student. Both in architectural history and in designing for protected historical sites, having been made more historically aware and place-sensitive, they were actively encouraged to conduct research, and to define and shape their own design approach accordingly. It can be noted that experiencing the theory of architecture through critical reading of well-known treatises and exploring it through a design lens made the history of architecture an equal partner in the construction of the present.

Keywords: Architectural education · History and theory of architecture · Architectural design · Belgrade Fortress · Heritage

1 Introduction

A majority of schools of architecture teach architectural history. However, it seems that architectural historians generally have not been conscious of the devices and stories they use to make sense of historical events, in order to show their importance for architectural practice today. What kind of facts are used as evidence in architectural history, and how that can be of use in the education of young future architects? Have those strategies for narrative evolved over time and will our students design better

buildings for having spent time during their academic training in studying the history of architecture? [1].

The paper is based on the strong belief that the history and theory of architecture should be dealt with in such a way that from the analysis of completed architectural works of the past we experience how architects designed, what design problems they were faced with and how they solved them. Reading, critical investigation and personal interpretation of theoretical treatises and texts on architecture have been conceived as a new way of learning ABOUT and, at the same time, FROM the development of architecture through time, in order to evolve a holistic approach to our heritage on the basis of cultural pluralism, diversity and the ability to observe, analyse and synthesize. Within the elective course *New Reading of Architecture*, designed for the third-year students at the Faculty of Architecture, University of Belgrade, a group of 30 architecture students uses architectural treatises as inspiration for their work and stimulus in mastering architectural skills. Historical texts have been read, theoretical assertions and assumptions have been compared with architectural practice of that time, and thereafter the analyzed design principles have been correlated with architectural ideas from contemporary architectural theory and practice.

The idea behind the work with the students has been that by analyzing the architectural qualities of historical buildings and the explanations their creators recorded in treatises on their building experiences, it is possible to imagine how they designed, what problems they coped with and were trying to solve as designers. Looking for and finding answers to questions such as: What practical problems confronted architects and builders throughout history? What were their worries? What was the task of an architect? How did he respond with shape and “style”? How did he achieve that particular solution? What is the relationship between the natural and built environment? How does architectural archetype appear and develop? What happens with a building when a need for a change of its shape or size emerges? How are conflicting details and dimensions on its façade met? How are problems with difficult corners or joints solved? [2], should inspire students and provide them with skills and knowledge that can be applied in their own design work.

2 Objectives, Method and Research Process

The main objective of the course *New Reading of Architecture* has been to prepare students to behave in accordance with research-based knowledge, with full respect for active interaction between monuments and sites and contemporary society, and to develop a sense of the potential of an interdisciplinary approach. Likewise, it has been important that they base their design decisions on critical thinking and develop sound judgement and an understanding of the community’s needs, to recognise history as a qualified method of studying architecture *and* to form a strategy for realising cultural heritage potential, so as to be able to recognise and hopefully later apply contemporary heritage preservation and presentation methods.

The course was conducted in two phases. The first one dealt with the understanding of the history and theory of architecture through critical reading of treatises. The second one dealt with finding an individual approach in affirming historical perspective

through the design process. The second phase had already been tested separately, in different courses organized at the Faculty of Architecture in Belgrade. One group of approaches accented investigation of possibilities and models of protection, presentation, renewal, and activation of historic sites, and natural and cultural heritage [3, 4]. The second group accented possible ways of re-affirming devastated urban areas and neglected sites through small design interventions [5, 6]. However, this time within the course *New Reading of Architecture*, the main idea was to explore whether teaching history as design and design as history could challenge traditional academic procedures in an established school of architecture and actually instigate new paths to students’ creativity.

The first phase (Fig. 1) of the project started with “new reading” of architectural treatises from Vitruvius’s classical *Ten Books on Architecture* to the famous theoretical writings of the twentieth century. Students were assigned to read, analyze, and prepare presentations for each other, of particular parts of Vitruvius’s [7], Alberti’s [8], Serlio’s [9, 10], Palladio’s [11] and Le Corbusier’s treatises [12], searching for answers particularly about how to approach design when dealing with the existing context. The aim was for them to be introduced to the most important histories and theories of architecture, and to obtain objective data for the evaluation of and approach to inherited space – both open and built.



Fig. 1. Typical student assignment – first phase: student Jovana Lukic

The next step sought to create a bridge between “reading” history and designing in historical sites of exceptional importance. Students explored contemporary architecture examples and performed “new reading” - this time of old architecture (or rather of the problem of adapting historic structures to contemporary uses), and critically reflected on them in accordance with the conclusions and principles drawn from the first assignment. Students took into consideration modern examples of design within built (and natural) heritage that varied from the method of facsimile to the method of contrast. At the same time, all of them connected early ideas about architecture with modern research on light, color, transparency, illusion, lightness, envelope, patterns, fluidity, active architecture, re-use of architecture, use and re-use of materials in architecture, and the relation between artificial and natural.

The second phase (Fig. 2) was guided by an idea to use gained knowledge and affirm it through designing a small intervention at a particular, protected cultural monument in Belgrade. Students were stimulated to apply historical experience to contemporary architecture and to explore the possible influence of their historical architectural knowledge on their shaping of a particular space. The location chosen for the final proposal was the Belgrade Fortress, a highly protected historical site which consists of the old citadel and spacious Kalemegdan Park, occupying the central part of Belgrade at the very confluence of the River Sava and Danube.

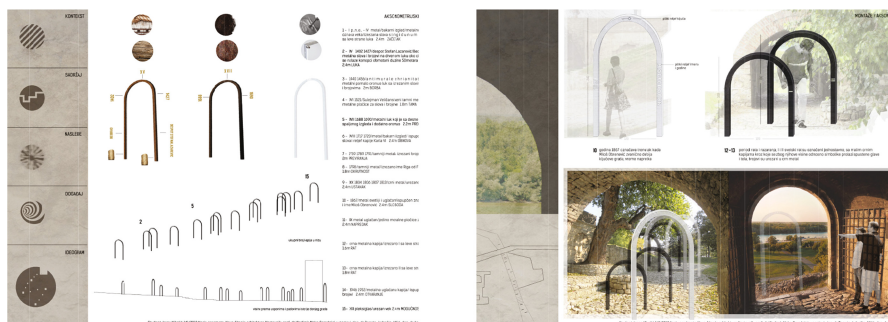


Fig. 2. Typical student assignment – second phase: student Irena Nikolic; TimeGate – The design seeks to visualize a historical timeline for Belgrade Fortress. Creating a playground of arches which in their shape, height, structure, material, as well as through hidden messages carved in it communicate a multilayered story of the Fortress and park in an unobtrusive and playful way

Carefully examining the heritage, authentic context, and contemporary needs for this location, students were asked to look for a new character for the place, possibilities for small-scale architectural and urban interventions, and to offer a variety of ideas for preservation, revitalization, and presentation of cultural heritage. The main goal for students was to approach the place and architecture as a multisensory experience. Therefore, they were asked to explore the Fortress through the eyes of the traveller using the audio guide for Belgrade Fortress complex, as a new and different way to learn about the history and monumental heritage of the Fortress and the city. This provided a means for discovering the spatial entities and historical phases of the Fortress, and for exploring places and paths important for understanding the overall complexity of its development, meanwhile looking for all possibilities to communicate history through a small contemporary intervention sensitive to the place and its history.

3 Results and Discussion

Belgrade Fortress is a unique spatial complex with visible remains divided into Upper and Lower Town (Fig. 3.). The history of this part of Belgrade goes back for over two millennia, but existing structures mostly combine elements of medieval architecture with the baroque architectural style typical of the 18th century. The Belgrade Fortress

and the Kalemegdan Park together represent a cultural monument of exceptional importance, being at the same time an area where various sport and cultural events take place - the favorite place of its inhabitants and numerous visitors of the city alike. The Fortress itself is full of visible remains from diverse periods of its rich and layered history, out of which immense defense walls, arched gates, and towers are recognizable, while open plateaus and hidden passages with their impressive vistas are of great interest to visitors and primarily occupy their attention [13].



Fig. 3. Belgrade Fortress: detail <http://www.ai.ac.rs/projekti?K=8&ID=79>; and aerial view http://snimanjeizvazduha.blogspot.rs/p/blog-page_29.html

The course was actively attended by about 60 students in two school years, and it should be noted that there were more than 40 high-quality pieces of research and design solutions. The ten most representative designs will be presented in the paper.

Through the review of selected students' work the potential of the theme and method proposed are presented. Students' results show a great variety of ideas and, more importantly, enthusiasm translating and interpreting knowledge gained through "reading" history into the process of designing. The featured design projects represent a conscious shift towards a design process that relies on critical thinking and is sensitive to the history of architecture. Students work is design-sensitive with regard to architectural achievements of each epoch and understanding of the complicated and complex picture of the development of the city and society, speaking directly of the values of the place. The versatility of design approaches testifies that "reading" history directly influences understanding of built heritage. This, above all, comes from a deeper understanding of the contemporaneity of the past, and a comprehension of the way in which architects once thought, designed and incorporated their experience and beliefs in the structures and spaces they built. Previous close reading and gaining an understanding of architectural ancestors helped the students to think critically about the dilemmas they were faced with, and contributed to the vitality of ideas and versatility of chosen sites, as well as to the quality of interpreting stories from the past and translating them into contemporary everyday life.

Results vary from inspired associations to creative dialogues, from designs that complement to those that contrast the surroundings. Although the diverse concepts have produced a series of diametrically different solutions, they all are affirmative of the revitalisation of Belgrade Fortress and Kalemegdan Park. Solutions may vary in terms

of disposition, size, program and scope; however, they are united in terms of complementing the materiality and sensuality of the place by relating the designed to the inherited structure. It was a challenge for the students to create architecture without any proposed typology or precise brief. During the process, they realized that both program and space are primarily related to the character of the place and were dependent on it.

In this sense, a turn to the role models found in the history of architecture pointed to the same or similar issues and their creative solutions, which eventually changed the way in which students looked at heritage. The walls were not only borders but a story about warfare, conquest, construction methods, materials and colors used. Gates were no longer just passageways, but a time machine, storytellers of efforts to overcome limitations of arches and to enable lightness. The trail was no longer a way to get somewhere, but to uncover the legacy invisible to the naked eye. Here, the students' need to pass on the message of the past intensified so much that their researches and design projects became a passion. Inherited structures were no longer silent participants in the game of volumes and cubes, but active partners in promoting history to consumers. Critical knowledge of the history and theory of architecture became the main force driving the design projects. The fact that students had already identified topics of interest to them through the reading of history guided their choices, a critical reasoning was developed, and a deeper understanding of roots and means of development was built into the projects.

Regarding the complexity of the relationship between the need to shed a new light on communicating heritage and to point out the potential to communicate architectural theory and history through contemporary design, three approaches can be clearly distinguished:

The first approach implies interventions that encourage a slightly different path in "reading" the heritage. These design solutions are "inserts" that affirm hidden ambience, shifting attention from monuments to the stories that lie beneath them, always pointing out the cultural value of the space (Fig. 4). Disappearance into the wilderness of Kalemegdan Park aims to create places for leisure or intimate gardens – precious places of culture characterized by minimal use of architectural elements. These interventions emphasize sensual characteristics of places, and by doing that produce a new cultural landscape.

The second approach implies intervention that adds a new value to the inherited through active interaction with consumers. These design solutions are a kind of "prosthesis" or a mechanism that additionally affirm heritage (Fig. 5) using it as a playground. Such an approach leaves enough space for a man to shape the given environment through his active involvement, and the focus of these design interventions is on experimental incorporation of heritage components. While the first approach is guided by the inherited values of the place, the second is influenced by the activity patterns that draw inspiration from history.

The third approach implies redesigning the inherited to become a part of everyday life. These design solutions are a new "clothing" that forces the context to become an incubator for contemporary urban life (Fig. 6). The architecture here serves as a framework that should preserve vitality, reflecting the contemporary urban lifestyle. While the first two approaches cherish historical aspects of the place, the third complements history through a dialogue with a contemporary way of thinking about space and place.



Fig. 4. Student Marina Mihailovic; Strolling down the hill - The design stresses hidden paths and amazing viewpoints of Belgrade Fortress through building a handrail that follows the stroll as well as stories about places one can see from Kalemegdan



Fig. 5. Student Filip Bencina; Gazing through a historical lens – Looking for the places that adorn old postcards, the design superimposes the actual with the moment in history, capturing it within the framed view

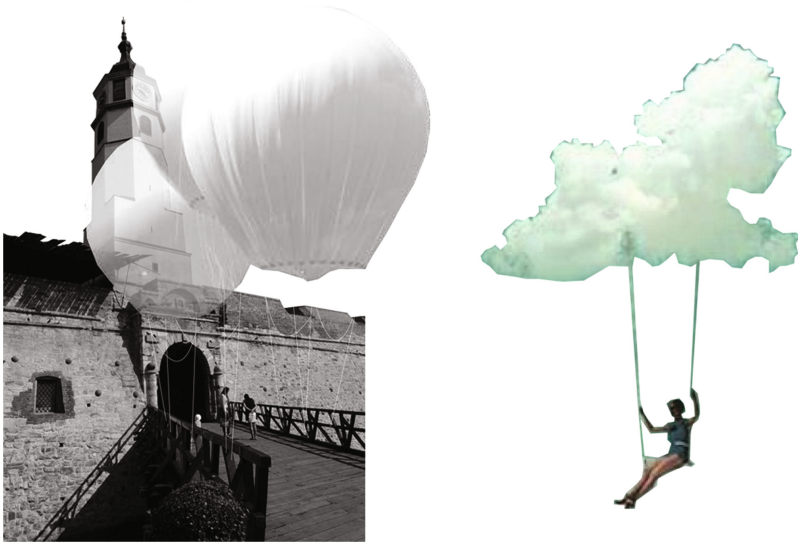


Fig. 6. Student Natalija Radosavljevic; Hanging bridges of the past - Bridges of Belgrade Fortress are wonderful, but people are highly unaware of their existence. The purpose of the design is to set a new light on them in an unconventional way

Looking at the complexity of the relationship between concept and content, a range of solutions can be easily distinguished, from those completely mimetic (Fig. 4), in which the program is minimal and the space is limited by the view, to those in which sensing the place is the main purpose of the design (Fig. 6). Although results vary from large to small scale, from envisaged as permanent (Figs. 2, 4, 5) to envisaged as ephemeral structures (Fig. 6), they all offer a unique answer in accordance with inherited characteristics and show awareness of the historical perspective the place can offer (Fig. 2). In that way, the designs emphasize the importance of establishing a dialogue between the need for protecting and promoting architecture and respect for its ancestors. Recovery of cultural landscape of Belgrade Fortress and Kalemegdan Park is seen through the design of leisure content but also as a new tool for better understanding of the history of the place and as a mediator of knowledge, as a book, possibly as a resource for “new reading” of history.

4 Conclusion

The work with third-year students on the elective course *New Reading of Architecture* was characterized by its dynamic, multilayered and unconventional approach. Concentration on critical thinking rather than the usual factual approach made architectural history and theoretical treatises met a favourable response from students, actively encouraged them to conduct research and to define and shape their own design approaches accordingly. Selected design projects showed students’ ability to think

about heritage in a holistic way and to address key issues in the process of redefining historic and cultural layers on the one hand, and the spatial and semantic framework of the landscape on the other. The students learned to recognize the potential of the built heritage, and to use it without a strict prescription or universal rules, but rather to transform it into abstract forms and patterns, these in turn translated into *new architecture with a human scale*. They saw architectural history being relevant to teaching architects how to design, with involvement of their own reasoning and common sense.

This paper perceives three-fold benefits of intertwining theory with a studio-driven approach in architectural education. Primarily, the power of the history and theory of architecture research through reading and interpreting it is visible and embedded in each and every phase of the design process, from concept to the use of material, as well as through the way in which the inherited structures are included into everyday life. Subsequently, this experimental course indicates that affirming particular heritage is not only a story-telling ground but can and should be seen as a universal field that seeks answers to universal questions about the development of the built environment and its culture. Lastly, it is possible to intertwine the experience recorded in treatises and knowledge gained through reading and analyzing, together with the passionate exploring of the place, so as to become a sound partner in the contemporary design process.

In this way, learning architecture can be seen in a new light. The two entities known in architectural education as theory-based and studio-based courses, though seemingly different, have been linked in a unique system showing how problem solving through research can serve architectural design. The approach can help in the adoption of a more comprehensive path to both theory and practice in design, intersecting the two methods of creative thought with the goal of communicating heritage in a more sensitive and contemporary way. Learning from history by not trying simply to emulate it, but rather to use it in a way relevant to students and their own design studio tasks can and should be seen as a legitimate approach to architectural history teaching in architecture schools today. We have proposed this as an alternative teaching approach and have tried to introduce it through our elective course.

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