

Directions for the Improvement of Education in the Field of Study and Preservation of Cultural and Natural Heritage at the University of Belgrade – Faculty of Architecture

ABSTRACT

The subject of this paper is focused on the analysis and valorization of modern approaches to the improvement of the teaching process at the University of Belgrade – Faculty of Architecture, in the field of study and preservation of cultural and natural heritage, according to international charters and recommendations, as well as successful examples from European schools of architecture. The goal of the work is to point out the advantages and disadvantages of the current teaching process in this site at the Faculty of Architecture in Belgrade, with the intention of emphasizing new directions in the educational process through different levels of study.

The education of architects and conservators in the past was focused primarily on the history of conservation and technical aspects of the protection of historical objects and sites, and not on the cultural identity, specifics and values of tangible and intangible heritage. The greatest challenge of modern educational programs for students of architecture and related faculties is how to educate them to identify national, international and multicultural connections and how to connect tangible and intangible cultural heritage. Such integrative protection of cultural and natural heritage should recognize the identity and traditional values of historical sites, but also preserve them as part of modern protection and revitalization projects.

The integration of different disciplines and skills into curricula is another challenge in improving the education of future experts for the preservation of cultural and natural heritage.

KEYWORDS

Faculty of Architecture in Belgrade, cultural heritage, study and restoration, education

INTRODUCTION

Concepts and programs of training experts for work in numerous areas of cultural and architectural heritage protection began to develop during the 1950s and 1960s, when, after extremely large destructions in the Second World War, it was necessary to approach the restoration, protection and revitalization of numerous significant historical buildings and units, on a scale that had not been recorded in history until then. This required the engagement of numerous experts of various profiles, especially architects-conservators, yet there were not enough of them. Pursuant to the basic documents, the Venice Charter (UNESCO, 1964)¹ and the Recommendation on the Protection of Cultural and Natural Heritage on the National Level (UNESCO, Paris 1972), different systems of education, especially of architects-conservators, began. It was recommended that universities and schools of all levels organize regular classes, lectures and seminars on the history of art, architecture, urban planning and the environment. The aim was to encourage the spirit of the population and develop their respect for heritage. Teaching, in the field of education of architects and conservation technicians, has been significantly improved and based on common foundations, terminology and structure, depending on the level of education and specialty (architects, urban planners, archaeologists, builders, technicians, craftsmen, etc.).² Education for future architects-conservators, as well as for art historians and archaeologists, was based on the theory and history of conservation, the history of architecture and urbanism, historical constructions and materials, methods of analysis, methods of protection, etc.³ On an international scale, the formation of ICCROM, the International Center for the Study of the Preservation and Restoration of Cultural Property in Rome, was particularly significant. It began its work in 1959 and to this day represents the most significant educational institution in the field of protection, on a theoretical and practical level.⁴

If we look at the programs and education systems of conservators today, we come to the conclusion that the main attention is still focused on technical measures of protection, conservation and restoration of buildings and spatial entities, focused on their architectural, urban and natural qualities, and not enough on cultural identity, specific character and intangible heritage values.⁵ In this sense, the greatest challenge of today's conservator education programs is connecting the concepts of cultural relations between tangible and intangible heritage, as well as identifying sites of own multinational, multidisciplinary and multilayered connections. Although conservation

1 The Athens Conference in 1931 already pointed out the importance of education in the protection of cultural heritage. Training and education are closely related to the definition of heritage, i.e. to what is protected and conserved. This aspect was further developed in the Venice Charter, which expanded the standards and scope of protection. J. Jokileto, *Tekući zahtevi konzervatorskog obučavanja*, Glasnik Društva konzervatora Srbije 25 (2001) 14–15.

2 *Ibid.* 27–35.

3 *Ibid.* 34–35.

4 *Ibid.* 37–39.

5 *Ibid.* 15–16.

Fig. 1

Late Antique tomb in Brestovik, Grocka. Student proposal for the protection, revitalization, and presentation of the archaeological complex with tomb remains. Conceptual design of the complex plan

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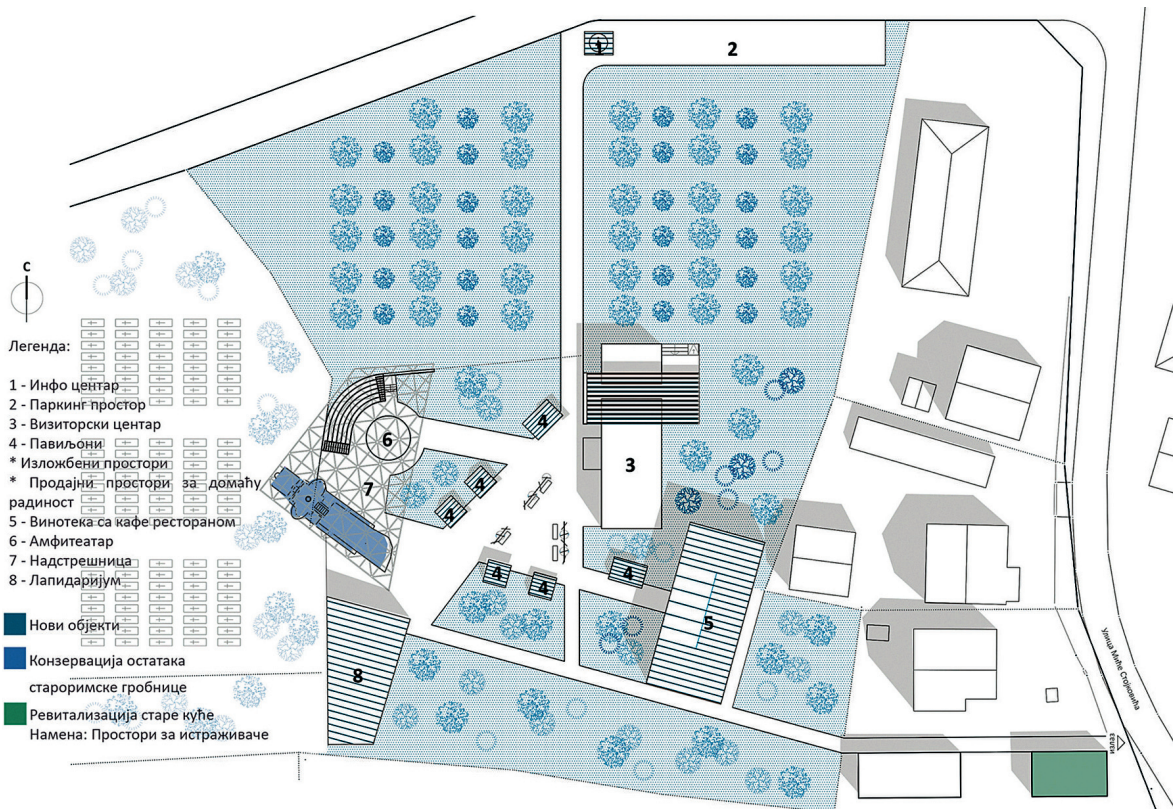
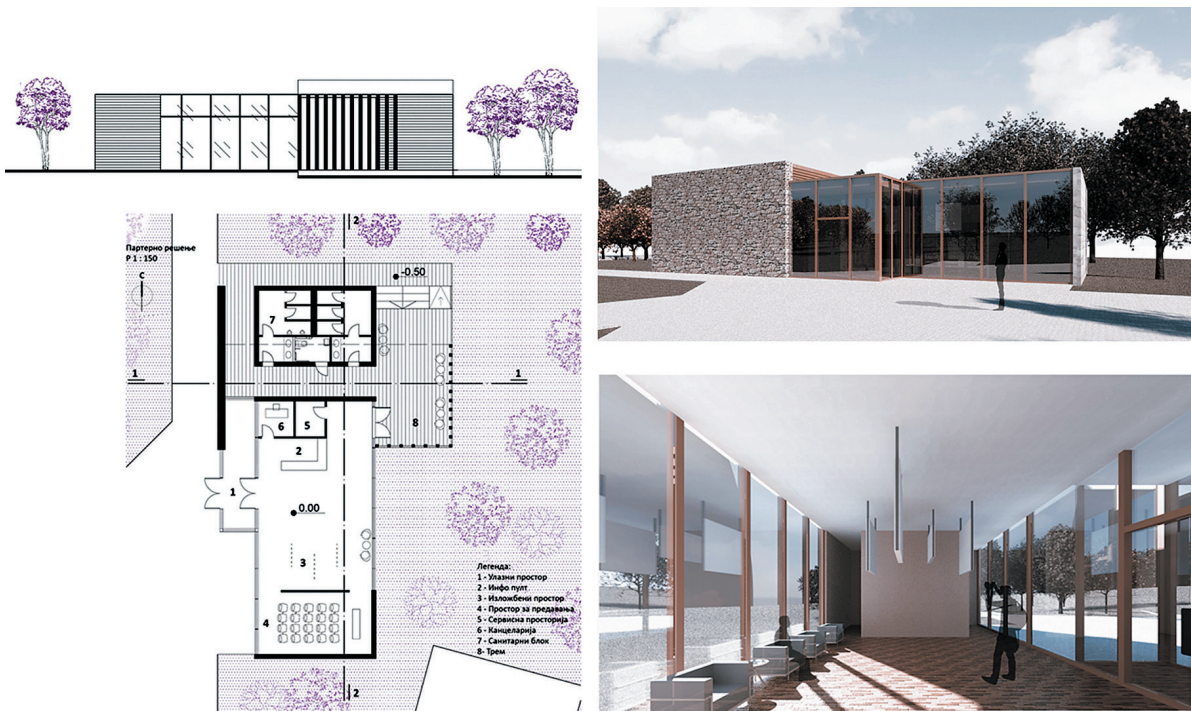


Fig. 2

Late Antique tomb in Brestovik, Grocka. Conceptual design of the Visitor Center – foundation, appearance, and 3D models

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is a global field, it has an anti-global essence. The protection of cultural heritage should observe the diversity of the cultural identity of different countries, and this should also be reflected in education programs. Another challenge is the integration of different disciplines and professions into conservator education programs. Conservation in practice requires the cooperation of different professions, at different levels, through architects, archaeologists, engineers, art historians, historians and artisans. It can be said that today they do not cooperate enough through practice. The problem arises, how to integrate different professions in conservation procedures, each of which is highly specialized, and above all to include them in conservation education programs.⁶ It is believed that any approach to reconstruction should include the ability to observe, analyze and synthesize.⁷

INTERNATIONAL CHARTERS AND RECOMMENDATIONS IN THE FIELD OF EDUCATION FOR THE PRESERVATION OF CULTURAL AND NATURAL HERITAGE

In order to overcome the aforementioned problems in practice, the Guidelines on Education and Training in the Conservation of Monuments, Ensembles and Sites were established, which ICOMOS adopted at a session in Colombo, Sri Lanka, in 1993, and which determines a number of issues that should be included in conservation education processes, as well as concepts for defining appropriate education programs.⁸ The document emphasizes that it is necessary to approach the issue of cultural heritage holistically, thus systematically, on the basis of cultural pluralism and diversity, which should be ensured by professionals, experts and administrators. Conservators should have a more flexible, but also pragmatic approach, based on cultural awareness that should permeate all practical activities, education and training systems, decision-making processes, with an understanding of society's needs. Article 5 of the Guidelines defines all the requirements for conservators and other experts who should deal with the restoration of cultural heritage, i.e. the knowledge they need: to know the monument, ensemble or site and to identify their cultural and useful significance, to understand the history and the technology of monuments, ensembles or sites in terms of defining their identity, plans for their protection and the results of previous research, to understand the setting of monuments, ensembles or sites, their context and environment in relation to other buildings and the environment, to find and accept available sources of relevant information for monuments, ensembles or sites under analysis, to understand and analyze the behavior of monuments, ensembles or sites as part of a complex system, to identify internal and external causes

6 J. Jokilehto, Keynote speech, in: *Proceedings of the workshop on Education in Conservation in Europe*, (ed.) Herman Neuckermans, Leuven 2004, 1–2.

7 *Ibid.* 2.

8 Guidelines on Education and Training in the Conservation of Monuments, Ensembles and Sites, 1993. <https://www.icomos.org/en/charters-and-texts/179-articles-en-francais/ressources/charters-and-standards/187-guidelines-for-education-and-training-in-the-conservation-of-monuments-ensembles-and-sites> (accessed July 2023).



Fig. 3

Late Antique tomb in Brestovik, Grocka. Conceptual design of the Wine Center building – 3D models

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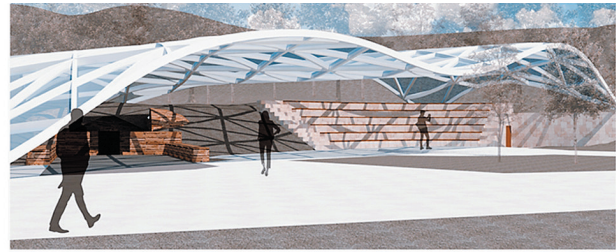
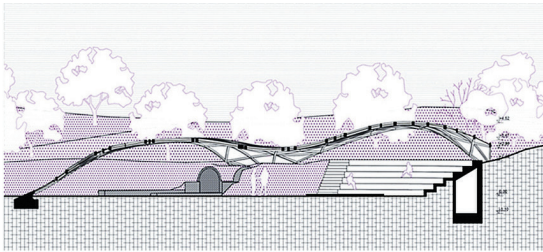
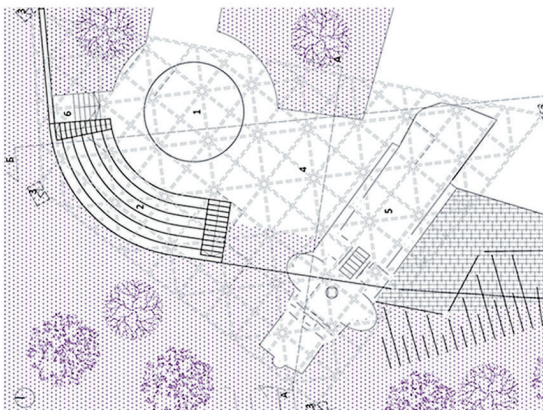


Fig. 4

Late Antique tomb in Brestovik, Grocka. Conceptual design of the protective structure over the tomb remains – foundation, cross-section, and 3D models



(© Ana Srebro)

of deterioration, as well as opportunities for necessary actions, to review and submit a report acceptable to the observers of the monument, ensembles or sites that are not specialized for their work, using sketches and photographs, to know, understand and apply the conventions and recommendations of UNESCO and ICOMOS and other generally accepted charters, regulations and instructions, to make balanced assessments based on ethical principles and to take responsibility for the long-term sustainability of cultural heritage, to recognize when it is necessary to seek advice and consultation with other experts, to give advice regarding maintenance strategies, management policies and policy frameworks for the protection of monuments, the preservation of their context and site, to document performed works and enable their availability, to work in multidisciplinary teams, as well as to be able to cooperate with residents, administrators and planners, so as to resolve possible conflicts and define maintenance strategies in accordance with local needs, possibilities and resources.⁹ This document also lists 16 professions that, in one way or another, should participate in the protection process: owners, archaeologists, architects, historians of architecture or art, builders or contractors, administrators of historic buildings, architect-conservators, engineers, ecologists, architects-urban planners, craftsmen-masters, material scientists, construction economists, investment auditors, city planners, curators. Of all the 16 listed professions, conditionally speaking, 6 of them are the most important, i.e. they should satisfy all the mentioned knowledge given in the recommendation.¹⁰

In the system of education and training for the restoration of cultural heritage in Great Britain, the most important requirements and knowledge that are placed before these six most important professions are underlined. An architect should understand the social significance of historical buildings, the development of their styles and construction technology, and should be educated to improve their sites, constructions and design. They should understand the nature of the applied materials and their use, as well as the causes of their deterioration, maintenance and climatic conditions. They should coordinate the work of experts and consultants, as well as select the best contractors on the basis of a tender and ensure the maintenance of the monument during the design and further works. Conservation also requires additional knowledge, finding the best solutions for complex problems so that the building and historical monument are reused with minimal changes and preserving historical values. They should understand the limitations of introducing new functions and know well what measures should be taken in terms of fire protection, in terms of safety and the provision of safety exits. A historic building conservation administrator works in a local or state administration and is fully dedicated to these tasks. Their job combines the knowledge and skills that are generally required for conservation work (laws and conservation theory) and specific knowledge (architectural design, building traditions, local protection conditions,

9 *Ibid.*

10 Multi-Disciplinary Collaboration in Conservation Projects in the UK: Based on ICOMOS Guidelines for Education and Training in the Conservation of Monuments, Ensembles and Sites, in: *Proceedings of the workshop on Education in Conservation in Europe*, (ed.) Herman Neuckermans, Leuven 2004, 1–4.

Fig. 5

Late Antique tomb in Brestovik, Grocka. Conceptual design of the assembly of exhibition pavilions -0 cross-sections, views, and 3D model

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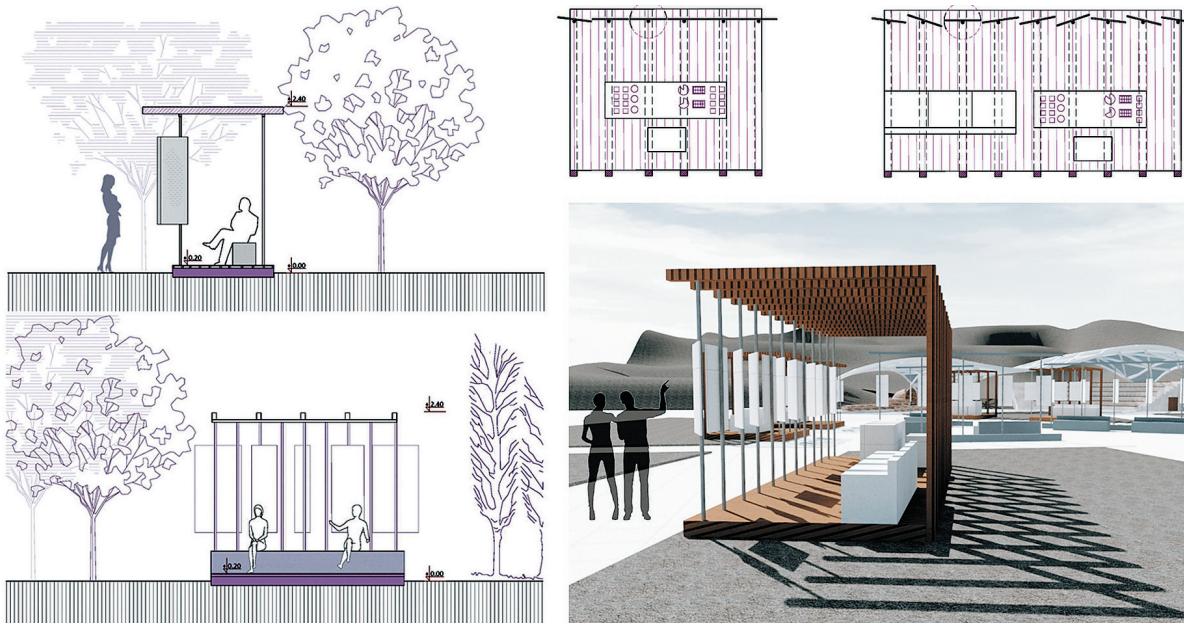
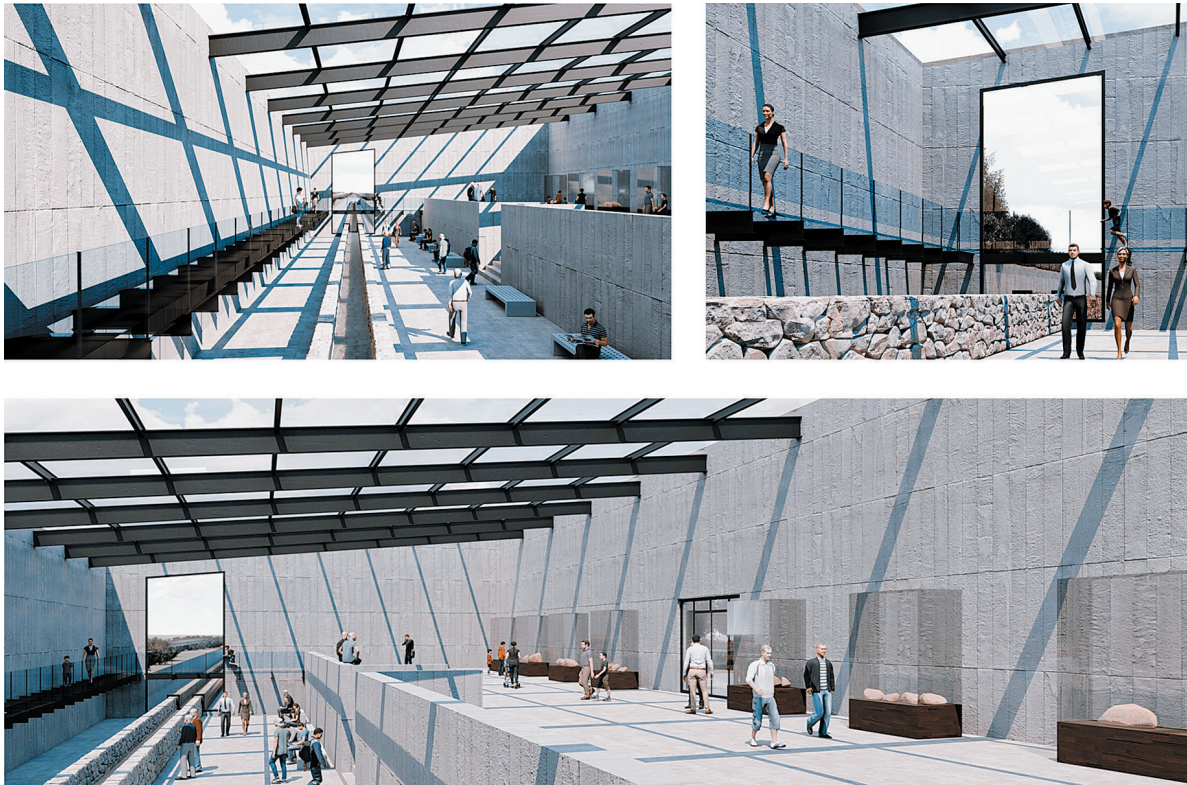


Fig. 6

Archaeological site Viminacium, near Kostolac. Student proposal for the protection, revitalization, and presentation of the remains of the aqueduct – 3D models

(© Igor Pisarić)



data sources, etc.). Longer working experience in these jobs is the most effective. They should take care of both large and small local buildings and should understand the specific character of each individual building and the proposed works on its restoration, while complying with local traditions and available information, expertise, etc., as well as other laws (law on protection from fires, sanitary and medical conditions, regulations on access for disabled people, etc.). They should also be a good manager and enable the agreement of opposing opinions and interests, which occur in certain situations. A conservator is an expert who is fully dedicated to these tasks. This profession, that is, occupation, is defined by a special document of ICOM. The conservator works in a team with architectural historians, archaeologists, architects and curators, as well as with other experts. They must appreciate the importance of the object and the value of the building to the extent that they can understand it as a whole and establish relationships with an individual, client or social body. When presenting a building or complex, the conservation architect should also take into account the cultural sensibility that surrounds the space, of a religious, historical or traditional character, so that they base their proposal on sound ethical principles of conservation, taking into account, if necessary, the impact on the flora and fauna. They should understand the causes of deterioration of buildings, including climatic influences, and should be able to present their proposal for protection and restoration to the public. The conservator should lead a team of experts and craftsmen and must have basic knowledge of the work they are supposed to do. The architect conservator of historical parks is tasked with planning, coordinating, designing and managing outdoor space, be it small or large, in urban or rural areas. The traditional elements they work with are the form of space and soil, plants and natural vegetation, water, panoramas, vistas, paving and simpler constructions, such as fences and walls. They must be able to formulate and clearly present proposals or advice in the form of drawings and written or oral text and to control their implementation. For this, they need the knowledge about the history of that park and its surroundings, its historical and artistic significance, but also cooperation with architects and historians. They should know the theory and processes of park conservation and apply this knowledge to concrete cases, taking into account the conservation of buildings, monuments, ornaments, sculptures, archaeological sites and natural flora and fauna. The *Supervisory Body* is a special profession, which has several very important functions in the protection process. This is particularly pronounced in Great Britain where there are several types of Chartered Surveyors: General Practice, Quantity Surveying, Buildings, Planning and Development, Rural Affairs, Lands and Hydrography, Materials and Marine Resource Management. Most of these functions are directly or indirectly related to the conservation of buildings, especially Supervisory authorities of general practice, quantity and for planning and development. A general practice supervisor is an expert in the assessment and management of all types of land and property, which may be related to buying, selling, renting, investing, mortgages, insurance, taxation and other matters. In relation to conservation, the Supervisory Body of General Practice works on developing techniques for improving the condition of historic buildings and sites, as well as on organizing maintenance strategies in

Fig. 7

The Smederevo Fortress / Medieval fortified city of Smederevo. Student proposal for the protection, revitalization, and presentation of the remains of the Small Town within the fortress complex – 3D model

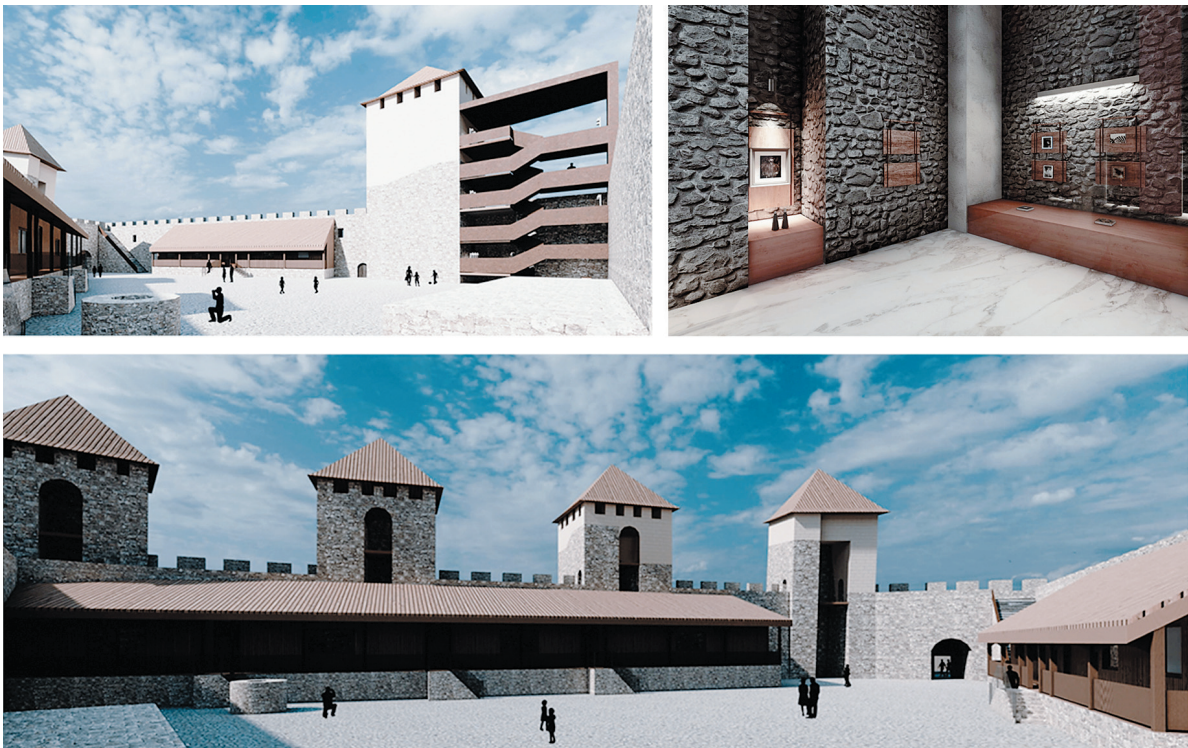
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Fig. 8

The Smederevo Fortress / Medieval fortified city of Smederevo. Student proposal for the protection, revitalization, and presentation of the remains of the Branič Tower and defensive towers within the Small Town of the fortress complex – 3D models

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cooperation with other relevant professions. The building inspectorate should have extensive knowledge of building constructions and applied materials, both historical and modern, as well as the relevant laws. It is especially important that they can recognize how traditional buildings function in modern times, how they should be maintained, restored and revitalized. The Supervisory Body for Planning and Development is an expert in all types of urban and rural planning, and in that context also in the protection of these sites. Curators, that is, experts for museums (museologists) should have broad areas of knowledge and must constantly improve. They should be especially educated and trained for preventive conservation, as well as for the management of entrusted collections of exhibits. They should occasionally, at certain time intervals, inspect the condition of the exhibits with the conservators, and in cooperation with the architects, the condition of the exhibition spaces, in order to ensure the best conditions for their preservation and presentation.¹¹

TEACHING IN THE FIELD OF STUDY AND PROTECTION OF CULTURAL HERITAGE AT THE UNIVERSITY OF BELGRADE – FACULTY OF ARCHITECTURE

HISTORICAL OVERVIEW

The University of Belgrade – Faculty of Architecture is the oldest and largest educational institution in the field of architecture and urban planning in Serbia and in the region. Teaching in the field of architecture in Serbia began in the first half of the 19th century. Under the name of Civil Architecture, there was one course among others at the Philosophical Department of the Lyceum that had a general educational character. By decree of Prince Aleksandar Karađorđević, in 1846, the School of Engineering was founded, within the framework of which five courses were studied (Practical Surveying, Mechanics, Architecture, History and German), among which was Architecture. The year 1846 is considered the traditional beginning of higher education in architecture in Serbia. In 1863, the Great School with the Faculties of Law, Philosophy and Technology became the highest educational institution. The Technical Faculty lasted four years, but architecture had yet to win its place among a series of courses such as: National Economy, Political Calculus and the like. Emilijan Josimović and Mihajlo Valtrović played a very important role in the affirmation of courses related to the architectural profession and construction. Mihajlo Valtrović was the first graduate architect who worked as a professor. His activities were numerous and directly related to the improvement of architecture teaching. First of all, he improved the course whose program represented a complex course within which the Fundamentals of Architectural Design, Building Structures and Styles in Architecture were studied. Since then, the teaching began to branch out and certain courses were deepened, and the most important was the establishment of the Cabinet for Architecture at the Technical Faculty, which would

11 *Ibid.* 6–7, 10–11, 12, 16–17, 21–22, 24.

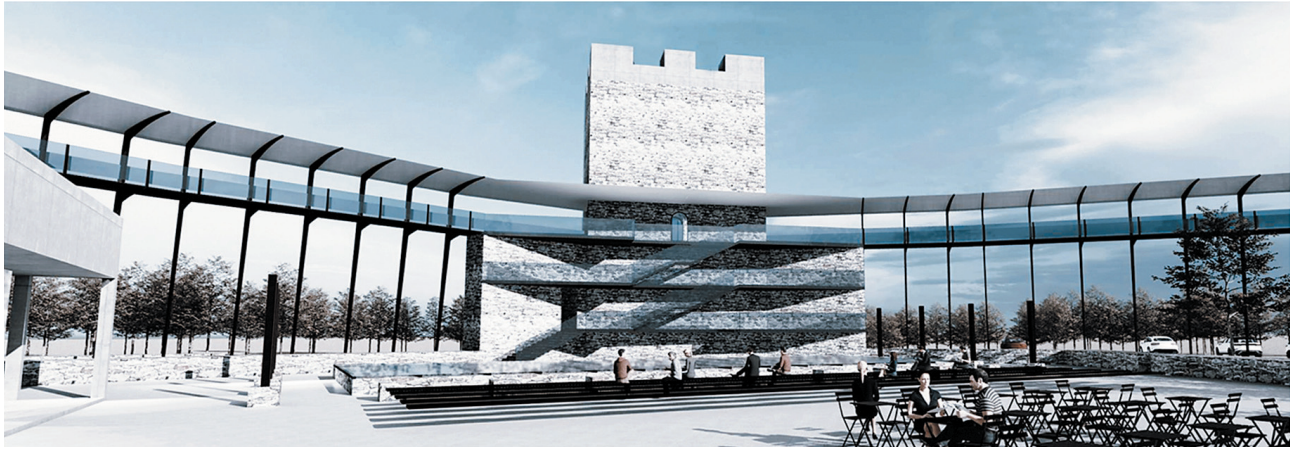


Fig. 9 Medieval fortified city of Stalać, near Kruševac. Student proposal for the protection, revitalization, and presentation of the remains of the Branič Tower within the Small Town of the fortress complex – 3D model

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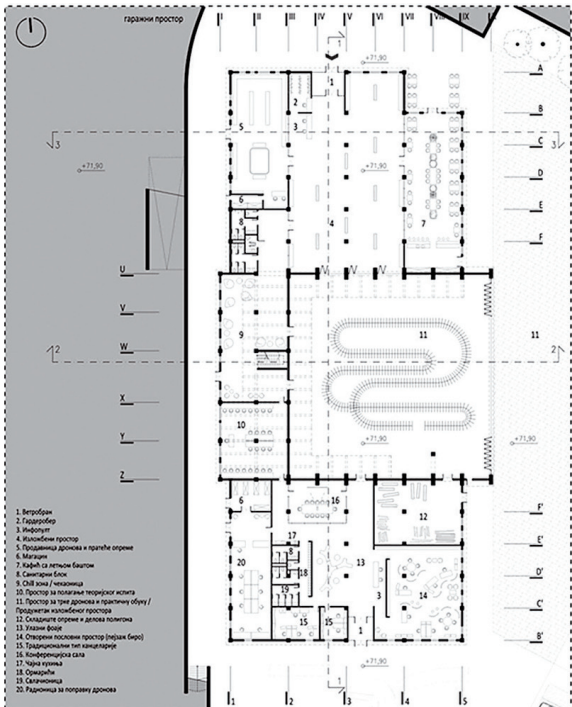


Fig. 10 Hangar complex of the old airport in New Belgrade. Student proposal for the protection, revitalization, and presentation of the old airport hangar – foundation and 3D models

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later grow into the Department of Architecture. The influences of Professor Mihajlo Valtrović and later Professor Dragutin Milutinović were exceptional and they represent the foundations of teaching and the scientific study of history, architectural theory and the study of architectural heritage.

In 1905, the Law on the Foundation of the University was passed, and the Technical Faculty within the University was divided into departments for civil engineers, architects and mechanical engineers. Teaching at the department lasted eight semesters, and the number of courses was significant (thirty-eight in total). The programs of these courses were very current and close to the programs of similar schools in Central Europe. The Technical Faculty of the University of Belgrade moved into a new building in 1932, which was purpose-built for the needs of all three departments at today's 73 Bulevar Kralja Aleksandra Street.

At the end of 1948, the Technical Faculty was separated from the University and transformed into a Great Technical School with six independent faculties, one of which was the Faculty of Architecture. The curriculum was based on the pre-war course structure, but one could still see various changes that took place at different speeds, depending on the composition of the Department and the type of course. The Technical Faculty was terminated in 1954, and the Faculty of Architecture, as an autonomous institution, became part of the University of Belgrade.¹²

In the period from 1928 to 1948, in teaching and scientific work in the field of History and Theory of Architecture, as well as in the study of architectural heritage, Professor Aleksandar Deroko played a significant role in the courses of Byzantine and Old Serbian Architecture, and professor Đurđe Bošković also had further great influence in this field. In addition to teaching and pedagogic work, the two great men also left a significant mark in the study of cultural heritage, as researchers and architect conservators.

In the further development of teaching, especially in the field of history and theory of architecture, as well as the study and protection of architectural heritage, the great influence and efforts of Professor Slobodan Nenadović, who was also an active conservation architect, and who introduced the course entitled Protection and Revitalization of the Architecture of the Past into the teaching process in 1971, and in 1974 it was promoted to the course Design in Protected Environments. In 1976, the course became very important in the general educational sense of future architects, then under the title Fundamentals of Protection and Revitalization of Architectural Heritage. The course was then taken over by Professor Jovan Nešković, also an active conservation architect, who, in addition to the mentioned course, also lectures on the course Architecture of the Past in Yugoslavia. Professor Nešković also had a significant influence on the formation of the post-graduate course for master's studies in the field of Research, Protection and Revitalization of Architectural Heritage, which was attended by many students from Serbia, as well as other republics of the former Yugoslavia.

12 M. Roter Blagojević, *Značaj Valtrovića i Dragutinovića za razvoj obrazovanja iz oblasti arhitekture i proučavanja graditeljskog nasleđa na Velikoj školi u Beogradu*, u: Valtrović i Milutinović – Tumačenja, Beograd 2008.

Fig. 11

Hangar complex of the old airport in New Belgrade. Student proposal for the protection, revitalization, and presentation of the old airport hangar – 3D model

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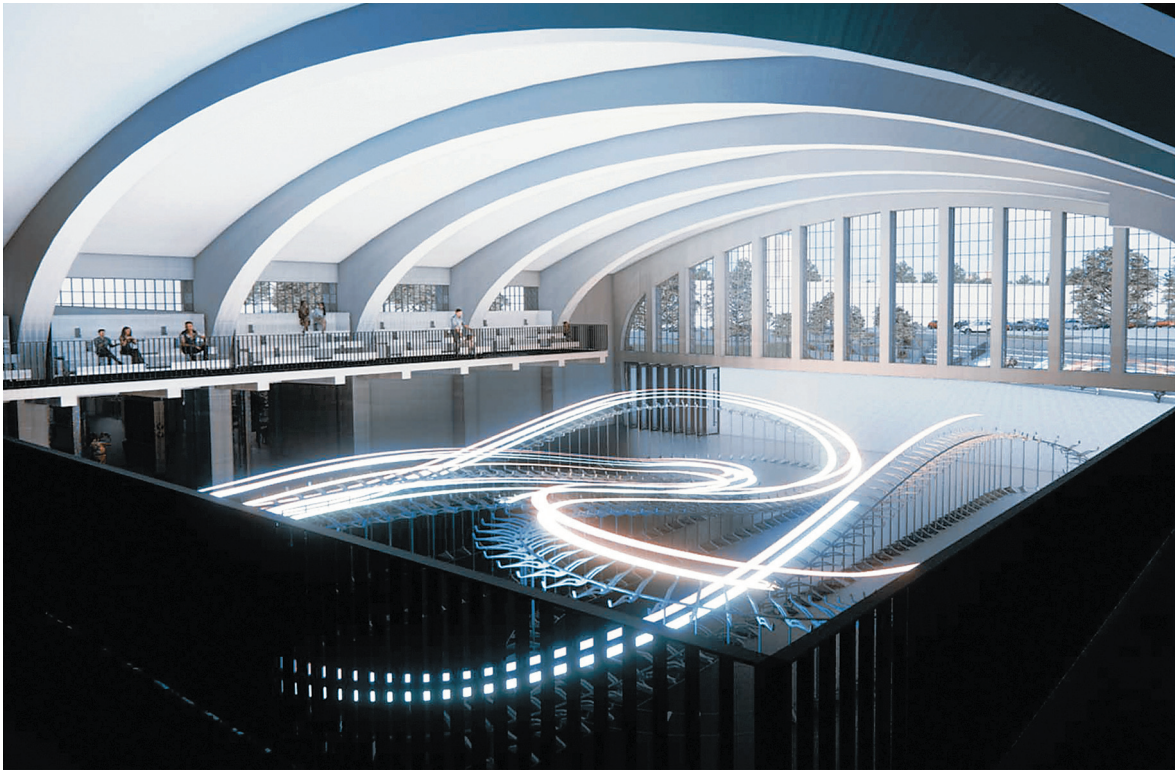
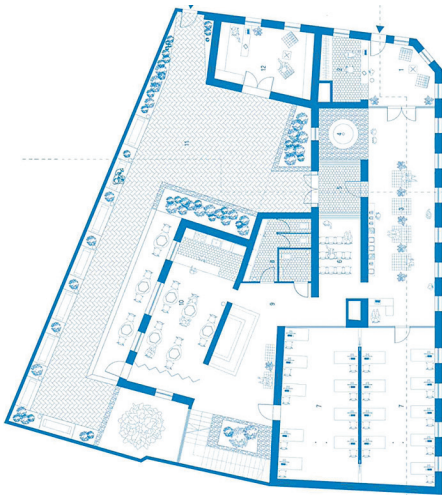


Fig. 12

Industrial complex of Pantelej Foundry in Zemun. Student proposal for the protection, revitalization, and presentation of the Pantelej Foundry complex – foundation and 3D model

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GREAT REFORM OF EDUCATION

For many years, the University of Belgrade – Faculty of Architecture has developed teaching in the field of studying and protecting cultural heritage very successfully, through compulsory and elective courses.¹³ As part of the teaching process, since 1990, work has continued on numerous topics related to revitalization projects of protected spatial cultural-historical entities, in order to educate students through such topics for work in the sensitive and very demanding field of contemporary architectural design in protected environments. Through conceptual projects for the revitalization of the Old Town of Zemun, Topčider and Tašmajdan parks in Belgrade, as well as through projects for the protection and presentation of the archaeological site of Mediana near Niš and the Christian Basilica and Martyrdom in Jagodin Mali in Niš, the students have dealt with issues related to the problems of reviving and arranging historical site with outstanding historical, cultural and natural values.¹⁴

After the teaching reform in 2005, the Faculty reformed the study curriculum according to the Bologna Declaration and introduced three study degrees. Within the framework of basic studies, the material in the field of study and protection of cultural heritage in Serbia has been reduced to two semesters, the second and third years. In this study area, through lectures in the History of Architecture in Serbia and Protection and revitalization of architectural heritage, students become familiar with the architectural heritage in Serbia, through research into the development of prehistoric, ancient, medieval, post-medieval and folk architecture, as well as with contemporary international charters and recommendations, basic principles and methods of cultural heritage protection and the possibilities of its presentation and revitalization. By connecting these two subjects, the mutual connection of these two topics was pointed out, because without adequate prior knowledge of the general historical trends of the development of architecture and the main characteristics of settlements in Serbia in the past, it is impossible to design and implement an appropriate modern approach to the protection and presentation of cultural heritage. At graduate master's academic studies in architecture and integrated academic studies in architecture, students are

13 M. Nikolić, M. Roter Blagojević, E. Takač, *Trends for improvement of education and cooperation in the field of protection of architectural heritage at the University of Belgrade – Faculty of Architecture*, in: Proceedings of the Scientific Symposium, Building Peace through Heritage – World Forum to Change through Dialogue, Florence 2020, 177–183.

14 M. Roter Blagojević, G. Milošević, M. Nikolić, *Edukacija iz oblasti proučavanja i zaštite graditeljskog nasleđa na Arhitektonskom fakultetu u Beogradu*, Glasnik Društva konzervatora Srbije 32 (2008) 39–43; See also: N. Kurtović Folić, M. Roter Blagojević, R. Jadrešin Milić, *Razvoj i teorija arhitekture i umetnosti – prikaz posebnog programa 2 na Arhitektonskom fakultetu u Beogradu*, Glasnik Društva konzervatora Srbije 27 (2003) 191–193; M. Roter Blagojević, P. Jošić, *Staro jezgro Zemuna – istraživanje, valorizacija, zaštita i revitalizacija*, Glasnik Društva konzervatora Srbije 21 (1997) 161–164; N. Kurtović Folić, M. Roter Blagojević, R. Jadrešin Milić, *Prikaz projekta revitalizacije prostorne kulturno-istorijske celine Topčider*, Nasleđe VI (2005) 251–257; N. Kurtović Folić et al., *Projekat revitalizacije Tašmajdana*, Nasleđe VIII (2007) 241–251; N. Kurtović Folić et al., *Arheološki park Medijana – mogućnosti obnove i prezentacije*, Glasnik Društva konzervatora Srbije 30 (2006) 54–59; N. Kurtović Folić et al., *Martiririjum i bazilika u Jagodin Mali u Nišu – mogućnosti obnove i prezentacije*, Glasnik Društva konzervatora Srbije 31 (2007) 71–78.

given the opportunity to deepen their knowledge of theoretical issues related to the history of architecture and art, contemporary architecture and artistic creation, as well as theoretical issues in the field of contemporary conservation through elective courses. It is also possible for smaller groups of students (30–35), to further develop and practically enrich the material from the field of study and protection of cultural heritage at undergraduate studies through elective courses (Modern principles of architectural heritage preservation, Ancient heritage in the region, Medieval Fortified Cities in Serbia, Industrial Architecture, etc.) which deal with specific topics related to research, valorization, protection and revitalization of archaeological sites (fig. 1–6), medieval fortified cities (fig. 7–9), as well as 19th and 20th century architecture in Serbia.¹⁵ In recent times, special attention has been paid to other forms of heritage, such as industrial heritage (fig. 10–12), which today represents a very important area of research, protection and revitalization throughout the world.¹⁶ Through a long-term teaching process in the field of study and protection of cultural heritage at the University of Belgrade – Faculty of Architecture, and a large number of different elective courses, in the higher years of study, as well as through the analysis of characteristic examples – cultural monuments, spatial cultural-historical entities or of archaeological sites, which are located in the territory of the Republic of Serbia and the territory of the city of Belgrade, students are introduced to the principles of preserving cultural heritage in the modern context. The main research problem that prompted the need to study different types of cultural heritage in the territory of the Republic of Serbia is related to the insufficient study of one's own cultural heritage in undergraduate studies. For this reason, the main goal of elective courses, in addition to spreading awareness of the importance of one's own heritage among future architects and their education on the principles of cultural heritage protection, is also to solve numerous problems in the preservation and protection of important historical sites in the modern context, all through the appropriate form of their revitalization and presentation. The research methodology within elective courses includes a combination of theoretical and *in situ* research of a characteristic case study, which consists of the following phases: 1) analysis of available written sources and literature; 2) research of the site and its context; 3) valorization of the site; 4) defining the approach to protection, revitalization, presentation and promotion of the site; 5) setup and development of the conceptual urban-

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- 15 M. Roter Blagojević, G. Milošević, M. Nikolić, *Istraživanje mogućnosti obnove i prezentacije arheološkog lokaliteta TIMACUM MINUS u kontelstu specifičnog kulturnog pejzaža*, Glasnik Društva konzervatora Srbije 33 (2009) 101–108; G. Milošević et al., *Obnova i prezentacija utvrđenja Ram na Dunavu u njegove okoline u funkciji kulturnog turizma*, Glasnik Društva konzervatora Srbije 34 (2010) 89–94; M. Roter Blagojević et al., *A new life of the Ottoman fortress Ram*, <https://www.sciencedirect.com/journal/journal-of-cultural-heritage>, Vol. 14, Issue: 3 (2013) S20–S24. <https://doi.org/10.1016/j.culher.2012.11.021>; M. Roter Blagojević, M. Nikolić, *Od klasicizma do secesije – stilske transformacije arhitekture u Beogradu tokom 19. i početkom 20. veka*, Nasleđe XI (2010) 209–216.
- 16 M. Nikolić, D. Pašić, A. Milenković, *Ispitivanje mogućnosti zaštite i revitalizacije livnice Pantelić u Zemunu*, Nasleđe XIX (2018) 149–161; M. Roter Blagojević, M. Nikolić, *Predlog revitalizacije Umetničke livnice Skulptura*, Nasleđe XIII (2012) 221–234; M. Nikolić, B. Drobnjak, I. Kuletin Čulafić, *The Possibilities of Preservation, Regeneration and Presentation of Industrial Heritage: The Case of Old Mint "A.D." on Belgrade Riverfront*, Sustainability, 2020, Volume 12, Issue 13, 5264. <https://doi.org/10.3390/su12135264>.

architectural solution concept for the revitalization and presentation of the site. The research methodology set up in this way allows the site to be viewed multidisciplinary, through different research positions - within its natural, cultural-historical, political and social context, which forms the starting point for recognizing, understanding and preserving all the site's values. Special attention within the set research methodology is focused on the formation of a set of criteria, the fulfillment of which ensures respect for the important principles of cultural heritage preservation – the preservation of the material and immaterial values of the site, the preservation of the authenticity of the site and the preservation of the spirit of the site.¹⁷

The established set of criteria includes: 1) Preservation of the authenticity of the spatial organization – refers to the preservation of the original spatial organization within the complex, the original spatial program zones and communication positions; 2) Preservation of the authenticity of the structural assembly – refers to the preservation of the original structural elements – columns, beams, ceilings, their conservation or restoration; 3) Preservation of stylistic features – refers to the preservation of original facade elements – positions and dimensions; 4) Materialization and sustainable development – refers to the relationship between authentic and new materials, to the preservation of the authenticity of the original materials and their visual recognition, as well as to the use of modern and environmentally sustainable materials and design solutions in the process of revitalization of the historical complex; 5) Preservation of the environment – refers to the necessity of showing the previous purpose of the complex in the process of its revitalization and presentation, and through the preservation of parts of the remains; 6) Introduction of new purposes – refers to one of the most important stages in the process of revitalization and presentation of a historical site – the introduction of purposes that are complementary to the previous one, that do not damage the existing values of the complex, but are also aligned with modern needs, thus ensuring the survival of the complex and its integration into the modern context.

Based on the established research methodology and a set of criteria as specific determinants of the success of the applied multidisciplinary approach to the revitalization and presentation of a characteristic example of a historical site, it is possible to examine which newly introduced uses enable the simultaneous preservation and improvement of a certain cultural monument, ensemble or site, as well as its seeing it as an integral part of the contemporary context.

The Faculty of Architecture in Belgrade has a long tradition in the field of master's studies in the field of study and protection of cultural heritage, attended by numerous students from Serbia, Croatia, Montenegro, Bosnia and Herzegovina and Macedonia, some of whom also defended their doctoral dissertations. With the new Law on the University, in 2005, opportunities were created to introduce doctoral studies of a scientific character in the field of architecture and urban planning at the Faculty, as

17 M. Nikolić, E. Takač, *Bajloni brewery in Belgrade – possibilities for protection, revitalization and re-use*, in: IFAU 19: 3rd International Forum on Architecture and Urbanism – Modernisation and Globalization, Challenges and Opportunities in Architecture, Urbanism, Cultural Heritage, Tirana 2020, 510–517.

well as to direct students to certain narrower fields, among which is the study and restoration of cultural heritage. In recent years, special attention has been paid to the formation of Research Units – laboratories, in which professors, associates and doctoral students participate through teaching and scientific work. In the field of cultural and architectural heritage research, two laboratories stand out – the Laboratory for the Study, Valorization, Protection and Presentation of Cultural Heritage, headed by Associate Professor Marko Nikolić, PhD, and the Laboratory for the Conservation of Medieval Heritage – Multidisciplinary Research, headed by Assistant Professor Nevena Debljović Ristić, PhD.

CONCLUDING CONSIDERATIONS

In accordance with recommendations on education in the field of protection and restoration of cultural heritage, as well as experiences from European countries, the latest teaching reform at the University of Belgrade – Faculty of Architecture goes in the direction of other European countries and their education system in this area. Although the lectures taken by all students on courses related to the history of architecture and art, general and national, in the basic academic studies of architecture have been somewhat reduced, the reform still made it possible to deepen it significantly within the elective courses in the basic, master's and integrated academic studies of architecture, and enrich it with certain topics that were not represented in lectures until then. Through work on specific topics related to research, valorization, protection and revitalization in protected areas, it has shown that the involvement of students in such projects significantly enriched their education and enabled their involvement in solving numerous problems of protection, revitalization and presentation of cultural heritage. The comprehensive approach of incorporating these spaces into modern life, through imaginatively shaped forms, but always observing the character of historical sites, has attracted significant attention from experts and the general public through numerous exhibitions, round tables, conferences, seminars, etc. In the work on these projects, cooperation was very successfully developed with the experts of the Institute for the Protection of Cultural Monuments of the City of Belgrade, the Institute for the Protection of Cultural Monuments of Serbia and the Institute of Archaeology of the Serbian Academy of Sciences and Arts, as well as with professors and associates of other faculties of the University of Belgrade.

Doctoral studies in the field of the study and protection of cultural heritage are of particular importance, which created the conditions for graduated architects, and especially experts from the Institute for the Protection of Cultural Monuments and other institutions from all over Serbia and the countries of the region, which deal with the protection of cultural heritage, to further develop and enrich their theoretical and scientific knowledge and thereby enrich their actions in practice. It is also important to plan the establishment of specialist studies in the field of design and protection of cultural heritage in the future, which would deepen the knowledge of architects related to specific design problems in protected environments.

However, in addition to these specialist studies, specialist courses lasting one year should certainly be established, that would be attended by various profiles (graduated architects, art historians, archaeologists, ethnologists, etc.), which would be directed to a greater extent towards connecting theory and practice. This teaching should be more directed towards establishing a critical attitude towards heritage, identifying the character, meaning and value of historical buildings and sites, and interdisciplinarity, that is, towards training different profiles of experts for teamwork. The focus should be not only on analyzes of historic sites, conservation techniques and management, but also on greater inclusion of conservation philosophy. In addition to professional experts, education should also be aimed at the population of all ages, who should learn about the values of their own heritage in order to respect, preserve and improve it.

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ПРАВЦИ УНАПРЕЂЕЊА ЕДУКАЦИЈЕ ИЗ ОБЛАСТИ ПРОУЧАВАЊА И ОЧУВАЊА КУЛТУРНЕ И ПРИРОДНЕ БАШТИНЕ НА УНИВЕРЗИТЕТУ У БЕОГРАДУ – АРХИТЕКТОНСКОМ ФАКУЛТЕТУ

Рад се бави истраживањем праваца унапређења едукације из области проучавања и очувања културног наслеђа у складу са међународним повељама и препорукама, као и практичним искуством европских земаља. Циљ рада је да укаже на проблеме и могућности у области едукације, са посебним акцентом на приступе едукацији на Универзитету у Београду – Архитектонском факултету. Такође, значајан циљ рада је и да се укаже на нове правце едукације у овој области кроз све нивое образовања.

Обзиром да је и даље основна пажња у едукацији усмерена ка техничким мерама заштите грађевина и просторних целина, а недовољно ка културном идентитету, специфичном карактеру и вредностима нематеријалног наслеђа, у том смислу, највећи изазов данашњих програма образовања конзерватора је повезивање концепата културне релације између материјалне и нематеријалне баштине, као и идентификације подручја сопствених мултинационалних, мултидисциплинарних и мулτισлојевитих веза. Заштита културне баштине треба да уважава различитости културног идентитета различитих земаља, а то треба да дође до изражаја и у програмима образовања. Други значајан изазов који треба уврстити у системе образовања у домаћој и међународној средини је интеграција различитих дисциплина и струка у програмима образовања конзерватора.