



BEST

PRACTICES HANDBOOK

„Contemporary realities and needs
of sustainable urban rehabilitation”

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Contemporary Realities and Needs of Sustainable Urban Rehabilitation



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TEACHING HERITAGE PRESERVATION AND REVITALIZATION OF HISTORICAL CITIES ON THE FACULTIES AND SCHOOLS OF ARCHITECTURE IN 19 EUROPEAN AND EXTRA EUROPEAN COUNTRIES

CORINNA DEL BIANCO

INTRODUCTION:

/INFORMATION ON THE AIM, SCOPE AND STRUCTURE OF THE REPORT; CHARACTERISTICS OF THE PARTICIPANTS COMPLETING THE QUESTIONNAIRES; OTHER RELEVANT INFORMATION/

The Fondazione Romualdo Del Bianco® – Life Beyond Tourism® with its nature of a multicultural institution, with an international network of partnerships spread in over 83 countries in the world, presents in the following report its intercultural approach.

In a globalized world that is moving towards 10 billion inhabitants dialogue among cultures, respect of diversities, market trends and development in peaceful coexistence are some of the crucial elements that affect the development of urban and rural population and that need to be taken responsibly by any professional in any field.

The activities of professional figures of architects, urban planners and conservators are strictly linked

to the themes of rural and urban demographic characteristics, distribution and development. To know and to get acquainted with each own local reality is of great importance to face the globalization process. The awareness enables to communicate the culture of a place, therefore it favors dialogue among cultures and respect of the diversity of cultural expressions for the growth of the international community in peaceful coexistence.

A local community that doesn't renounce to its own identity, with its material and immaterial heritage, "increases public respect and understanding", as mentioned by the ICOMOS charter for the interpretation and presentation of cultural heritage sites.

The international community should operate seeing the Other as an ally: an opportunity to protect and drive our common future on this planet we all share.

Today territories are often driven by the 'market trends' and this is a major risk because market is headless as it is not a conscious planner. Nevertheless, nowadays it is the creator, designer and implementer of the future of our cities.

Increasingly, the community needs to look at the long and medium term trends, to be capable to plan mobile urban programs to anticipate the market trends instead of being led by them. The communities should be conscious of their territorial choices not to suffer from nor the charm nor the strength of the market trends.

The architects, urbanists and conservators (AUC) should be educated to know, preserve and valorize local cultural identities through heritage. The city becomes a centre of identity preservation and dialogue among the actors of the local community (such as residents, travellers, immigrants, commuters, local businesses, cultural institutions, market trend research centres, etc.) that with their activities make the soul of the city alive, visible and easy to communicate.

Part of the consequences of a globalized world is the movement of people that is constantly growing: every year Europe welcomes 51% of global travellers, around 608 millions according to the UNWTO 2016 data, and it is becoming more challenging and important to manage properly these growing numbers.

However, these numbers can be considered both a danger and a richness. The travel can be considered as a school, part of the architectural and more general training to practice dialogue.

In this context Heritage represents a major issue because it attracts visitors belonging not only to the cultural and natural world, but also to a wider public called 'mass tourism'. Mass tourism can be considered a risk for heritage, but it also represents a multicultural mass of individuals that choose to visit heritage sites. This represents a great opportunity of encounters.

The creation of occasions of intercultural dialogue within the heritage sites becomes a responsibility for those sites or a missed opportunity. Therefore, the importance of a new relationship among elements such as heritage, travel, encounters, dialogue, knowledge, respect for diversity and the safeguard of our planet Earth health is to be highlighted.

Therefore, the skills that a professional needs to acquire at the academic level should reflect the contemporary evolution and operate accordingly in order not to follow the rules imposed by the globalized world.

Architects could improve their skills becoming aware about their responsibility to design according to the effective needs of the territory and its people. Their professional vision should go beyond political and market trends being capable of creating by themselves territorial tendencies of development that satisfy the territory still being an inseparable part of the wider context.

The research carried out by the Fondazione Romualdo Del Bianco® – Life Beyond Tourism® for the WP1 collected 36 questionnaires from 19 countries – both European and extra-European – in 3 different languages that were transversally analyzed.

The participants to the questionnaire were represented by University professors, professional architects and conservators, representatives of local administrations and international heritage related organizations. The details of geographical and university provenance are given below.

Number of received questionnaires: 36

19 countries

Geographical provenance and University

1. Azerbaijan (Azerbaijan University of Architecture and Construction)
2. Azerbaijan (Azerbaijan University of Architecture and Construction) – second respondent
3. Azerbaijan Union of Architects
4. Bahrain (Arab Regional Centre of World Heritage)
5. Bulgaria (University of Architecture, Civil Engineering and Geodesy Sophia, Faculty of Architecture, Dept. of History and Theory of Architecture)
6. China – ICOMOS China
7. Czech Republic (Ostrava Technical University)
8. Georgia (Tbilisi State Academy of Arts)
9. Australia – Melbourne, ICOMOS – ICSC Interpretation
10. India (School of Planning and Architecture, New Delhi)
11. Iran (Islamic Azad University Central Tehran Branch)
12. Italy in comparison to Northern Europe and Latin America
13. Italy (various universities, European Centre of Venice, CIF ICOMOS)
14. Italy – Florence (Architect –professional)
15. Italy – Florence (University of Florence)
16. Italy – Milan (Politecnico di Milano)
17. Kyrgyzstan (Architect –professional)
18. Latvia (Riga Technical University)
19. Latvia (Riga City Council – Board of Urban Development, City Development Department)
20. Lithuania – Kaunas (Kaunas University of Technology, Department of Architecture and Urbanism)
21. Norway – Norwegian University of Science and Technology
22. Poland – Nicolaus Copernicus University in Toruń
23. Poland – State University of Applied Sciences in Raciborz
24. Portugal – Municipality of Sintra
25. Russia – Ekaterinburg (Ural State Architecture and Arts University)
26. Russia – Magnitogorsk (Magnitogorsk State Technical University)
27. Russia – Moscow (ICOMOS Russia, Russian Academy of Architectural and Construction Sciences)

28. Russia – Saint Petersburg (Saint Petersburg University of Culture)
29. Russia – Saint Petersburg (St. Petersburg University of Architecture and Construction)
30. Russia – Samara (Samara State Polytechnical University of Architecture and Construction)
31. Russia – Saratov (Saratov State Technical University and Construction)
32. Russia – Saratov (Saratov State Technical University and Construction) – second respondent
33. Russia – Volgograd (Volgograd State Technical University)
34. Russia – Vologda (Vologda State University, Chair of Architecture and Civil Engineering)
35. Serbia – Belgrade (University of Belgrade)
36. Ukraine – Kiev National University of Architecture and Construction.

N. of questionnaires only Part 1–13**N. of questionnaires Part 1 and 2–23****Languages of compilation: English, Italian, Russian**

The report is structured in 3 parts:

Part I seen the composition of the project partners it was decided that the survey on the general characteristics of the architects educational system would have been carried out by the Italian university partner.

Part II determination of the qualification and skill required in working with heritage protection and urban rehabilitation / analysis made through the questionnaires.

Part III characteristics of the teaching of heritage protection and revitalization of cities in the system of educating the architects / based on the questionnaires.



PART I

General characteristics of the system of educating the architects (in particular country); issues of heritage protection and revitalisation of historical cities in the system of architectural education; formal qualifications and education required from the architects dealing with heritage protection and revitalization of cities.

During the partners meeting it was decided that Italy, the country in which the Foundation was born and where it is located, will be of research pertinence of the Italian University partner. Being the Foundation an international institution, its main effort concentrated on understanding and surveying general characteristics of the architects' educational system throughout the countries belonging to its network and not of a specific country.

PART II

Determination of the qualification and skills required in working with heritage protection and urban rehabilitation /in light of the practical experience/ based on the information gathered in the questionnaires – Part I/

2.1. WHAT ISSUES / PROBLEMS RELATED TO HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL TOWNS SHOULD BE TAUGHT ON ARCHITECTURAL STUDIES?

[please list separately the particular issues and determine their scope, e.g. the theory of conservation, the legal basis for the heritage protection, monuments adaptation to modern functions, the design of new buildings in historical areas]

The analysis of the filled-in questionnaires demonstrated that a number of issues underlined in various regions are the same, while others have a more specific importance only to some areas or institutions. So, all the respondents highlighted the importance of providing the legal basis of heritage protection, on international, national and respective regional levels. It was also very often underlined the importance of acquiring knowledge about the history of conservation in general and specifically about the historical urban development of the town/historic centre so as to follow their evolutionary transformation through time, as well as the history of operational methods and techniques used throughout the time for restoration and conservation. Furthermore, many respondents named the monuments adaptation to modern functions, the proper use of historical buildings appropriate for the contemporary social context and the fundamental dialogue between the old and the new, with the preservation of genius loci and cultural revival of historic areas.

Some respondents highlighted also such aspects as management of historical sites (**Azerbaijan**); sustainability in civil engineering and architecture (**Czech Republic**); urban planning, traffic management and other aspects of functionality of historic cities, as well as knowledge of safety requirements on sites (**Bahrain**); visual perception capabilities regarding the architectural structure and decorative elements of historic monuments, regional and local architectural and applied arts traditions and variety of ways of expression of the architectural concept (**Russia – Moscow**); and history of architourism on the global level and the development of tourism infrastructure in architecture-rich historic cities (**Russia – Magnitogorsk**). The necessity of harmonious synthesis of the old and the new is fundamental for the urban structure (**Russia – Samara**). Principles of Historic Urban Landscape approach, community outreach, tourism, visitor management, interpretation of values, research and monitoring of development process should be also provided (**Latvia**). Comparative analysis of national features of restoration theories and practices is also fundamental (**Russia – Saint Petersburg, Italy – Latin America**), as well as value authenticity and integrity in historic architecture (**Poland**).



Furthermore, the Indian context presents a number of particularities related to its colonial Hangover limits: such as lack of precise terms in local languages to translate the English terminology in Conservation, and Heritage Management; the rich cultural differences of various regions and areas of India should be part of the approach of conservation education; interdisciplinary approach in education should be applied to Indian Living Cities; philosophical basis should be taught so as to understand properly local cultures and contexts; and equal weightage should be given to historical architecture and modern architecture.

Other issues indicated as important for architectural education: theory of heritage conservation; legislative basis in heritage-related issues; adaptation of monuments to contemporary functionalities; design of new buildings in historic areas; research on distinctive features for urban development taking into account historic urban landscape (**Russia – Saint-Petersburg**).

In **Italy**, the below issues have been underlined: architectural conservation, integrated preservation of historical cities in the cultural landscape and the issues of management of the territory related to the protection of material and immaterial cultural values. Furthermore, several indispensable programmatic elements were also highlighted: identity and transformation, as well as the definition of compatible uses of the building, territory and landscape, that do not alter the identity of places; important also the compatible development of tourism and adequate integration and all the permitted economic activities.

Other aspects underlined: principles of semiotics necessary for the creation of a correct historically-inspired area; study of historic and legislative aspects of the state political basis and the economical bases of the mechanism of construction (**Russia – Saratov**).

Valuable practical inputs have also been provided regarding **Portugal**. Various issues arise related to heritage protection and revitalization of historical towns, among which:

- lack of management model successfully producing sufficient financial resources for the required protection and revitalization actions
- The difficulty in alignment of a multitude of stakeholders, namely the conflict of interests which generally arises between commercial stakeholders and other stakeholders within management models which generate and release cash for the protection and revitalization of historical towns
- The conflicting legislation designed to protect the same buildings, namely the effect of “double” and sometimes “triple” and “quadruple” legal protection. In effect, different legislation diplomas state different goals – archaeological legislation normally stands more for preservation as-is, architectural legislation normally stands more for conservation,

safety and hazard legislation normally demands deep changes in infrastructure and signalling systems, and natural heritage conservation sometimes can demand that no actions are taken to preserve certain natural values.

- The sometimes lack of existence of entities with enough preparation, disciplinary expertise and mainly drive to deal with all the conflicting points of view, and to manage to, while successfully complying with all legislation, deal with historical towns within management models which allow them to generate cash for the actions required
- In some cases, public procurement legislation can also significantly hamper the swiftness with which all of the above can be executed, as it typically requires the purchasing entities (of conservation or revitalization works) to open up to competition quite significantly, demanding an increase in bureaucracy in order to legally lock the relevant aspects of these works' contracts

Interesting contribution was also provided by the **ICOMOS ISC in Interpretation**. According to it, the following issues are to be taught in architectural studies: concept of historical significance and its role in creating value for historic towns; Heritage interpretation and its role in revitalising historical towns; design of new buildings in historic areas.

In **Bulgaria** (Faculty of Architecture of University of Architecture, Civil Engineering and Geodesy, Sofia) there is a department of History and Theory of Architecture which offers a specialization on Preservation of Cultural Heritage. It takes the last three semesters of the education of the Architect and it includes the following disciplines: Architectural Restoration, Preservation of Historic towns and settlements, Preservation of regions, Design of buildings within historic context and they consist of lectures and architectural design projects.

The **Norwegian** response was very useful in terms of underlining the necessity to work both within a conservation and development context, since culture, as well as the perception of heritage, is not static and has to be addressed within a context of change. The conservation context calls for understanding of the place and its significance in terms of its *territorial relations* e.g. the glue in neighborhoods and society in terms of social organizations; its resources and skills, its land and property relations, its territorial urban – rural links; the quality of its spaces, its natural and physical environments. The territorial approach is based on a search for continuation of traditional strengths which form the backbone in the society and are culturally rooted.

When the developmental aspects are addressed it is also about understanding the *functional links*, e.g. local developmental issues, production, innovation, trade, migration etc.

However, sometimes there are conflicts between urban conservation and development interests. These conflicts are often real in terms of irreparable changes of the physical environment, and they call for negotiation skills. But also advocacy and sometimes activism in terms of mind change for understanding of long term conservation interests and requirements.

The teaching approach should be based on field studies and on local and positive interaction asking citizens: *what have you achieved in your struggle for conservation in a developmental context?* You should never start community interaction with: *what are your problems and failures?* Both the students and the faculty of teachers should be multidisciplinary representing areas architecture, planning, sociology, geography, law, natural sciences. *Area based and localised studies* will bring forward issues of multidisciplinary nature – and they can best be solved by multidisciplinary teams. A sectorised approach, where you teach all subjects based on text books, is not considered a very useful one. E.g. normative issues can best be addressed by lawyers. Architects should have introduction and necessary knowledge about normative frameworks, but the best learning would be to study law cases emerging in the field where lawyers addressed right or legal issues assisted by architects.

A rather different context emerged also from the **Ukraine** questionnaire. First of all, the definitions were clarified, as the term 'revitalization' is not that widely used in the Post-Soviet space, while preference is given to 'conservation and reconstruction'. In Ukraine, due to the massive World War II destructions, there have remained only some historic sites. Therefore, while preparing architects they need training based on protection and restoration, as well as reconstruction of precious sites. Urban construction principles are based on currently active legislative norms regarding the organization of living spaces. In last years, numerous unjustified demolitions have also taken place all over the country. Furthermore, in large cities, the reduction of authentic historic sites is taking place (for the acquisition of new prestigious commercial spaces), to give space to more or less precise contemporary copies of ancient architectures. Therefore, it becomes fundamental to introduce the aspects of reconstruction into the teaching process, with various aspects such as: processes of urban development, historic vs. contemporary urban construction methods, methods of reconstruction of historic areas, theory of heritage conservation, history of architecture and urban studies, heritage protection legislation, preliminary urban reconstruction research, methods of urban analysis of heritage protection, revitalization of historic areas, methods and principles of conservation of historic landscapes, renovation of landscape sites, restoration of park and garden ensembles, etc.

In their turn, the **Lithuanian** respondents have highlighted the importance of the following disciplines:

Cultural heritage valuation (assessment) techniques; Cultural heritage interpretation; Architectural history; Urban history; History and theory of heritage preservation; Heritage preservation technologies (material science, restoration techniques, building structures etc.); Cultural heritage and sustainability; Territorial preservation of heritage (protected areas); International and national legal documents regarding heritage conservation; Harmonization of historical and new architecture; Historic building re-use.

2.2 WHAT QUALIFICATIONS SHOULD THE ARCHITECTS HAVE IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION HISTORICAL TOWNS?

[please list separately the qualifications and describe them, e.g. knowledge of specific design programs, the ability to evaluate the technical condition of the historical building, the ability to analyse the historical values]

All the respondents have named a vast number of high-level qualifications that architects need to possess in order to operate in the field of heritage protection and revitalization of historic towns: abilities of systemization and analysis of data; estimation of touristic potential of territories; evaluation of the heritage and historic value criteria; analysis of key resources of territories; analysis of intrinsic characteristics of territories such as landscape and climate conditions; community life of people and capacity of an overall 360-degree analysis of an urban space; bases of programming creation of application for android; packages nanoCAD, Autocad, Archicad, 3d modelling, Autodesk Revit; ability of using various methods of model-creation for space and architectural buildings, capability to evaluate the restoration process at different working stages (project, conservation, restoration and reconstruction); knowledge of construction with traditional materials and craft workshop, of traditional architectural geometry and measurements; knowledge of mechanisms of buildings' destruction and deformation, their methods of strengthening.

Communication skills have also been underlined, as well the abilities of discussing complex and multi-layered issues with other professionals, institutions and workers (**Bahrain**). Other more specific qualifications named: ability of risk-evaluation and risk-preparedness and ability to analyse and understand the role of historic architecture (**Latvia**); ability to evaluate the project of reuse of architectural buildings in urban environments (**Azerbaijan**). Bi-disciplinary approach is needed with Planners and heritage Experts working together, with cultural resources being at the core



centre, and Sustainability and Ecological Planning being part of students orientation (**India**).

The overall picture demonstrates that architects specializing especially in conservation and management of architectural, cultural and urban heritage need to possess a variety of transversal competences and qualifications allowing them to analyse and diagnose the urban structure, the history of its transformations and constructive techniques used so as to define the methodologies of interventions appropriate for its conservation and valorisation, and be able to contribute to its management, marketing and business plan.

The architects have to understand the language of heritage, the methodology of the approach and the needs of the different human disciplines with the respect to the landscape; they have to study history of techniques of construction and planning, project design and when they get their specialisation they have to take care of maintenance, monitoring and optimisation of heritage during the time (**Italy**). It would be useful to have specialized courses of Master level in restauration and cultural heritage, as well as of doctorate level or schools of specialization, under the patronship of UNESCO, ICOMOS of other organizations that provide a practically applied path of training and an internationally recognized diploma valid for the field architectural and landscape work, or world heritage (**Italy**).

History and historical theory; Heritage conservation; Heritage interpretation are the fundamental qualifications (**ICOMOS Interpretation**).

It is also fundamental to develop a well-defined artistic taste, space imagination, patronship of methods of model making and harmonisation of the artificial spaces; to possess skills of archive research, graphical and photographic fixation; computer visualisation (**Russia – Saratov**). Further qualifications for architects to possess: ability of analysis of the technical state of historic buildings; ability of analysis of the historic value of buildings; ability to analyse the adaptability of buildings to a new functional use; ability to investigate constructive peculiarities of historic buildings; ability to analyse the historic style of architectural decisions (**Russia – Saint-Petersburg**); necessity to possess a complex system of esthetic norms of evaluation of the urban space, as well as ability to evaluate its complexity, uniqueness and unrepeatability in each concrete case (**Russia – Samara**).

Internationally useful qualifications for the field of heritage protection and revitalization have been highlighted by **Portugal**:

- Knowledge of general management – of great importance, since conservation and revitalization cannot be done without financial resources or volunteer sourcing
- Knowledge of legislation – and how to successfully interpret conflicting legislation in order to achieve positive results (see answer to question above)

- Knowledge of contract management – even if the designs are well performed and executed, if the actual conservation or revitalization works are performed poorly, the intentions will come to failure. Solid contract management skills are required to bring to reality what was thought of in paper.
- Knowledge of multiple stakeholder management – no architect or any other professional will know everything. Yes, specific design programs can be great (BIM and BIM CAFM-CMMS models are around the corner, and the ones focused on simulations for population participation are great), the ability to evaluate the technical condition of buildings is very important (there are many techniques) but mainly the architects and any other professionals involved in conservation and revitalization need to acknowledge what they don't know and need to recognize when is best to stop and ask for help. This is when experts come to play, and the architects must know how to process the inputs and how to turn them into a positive impact on the projects. This is by far the most important aspect of conservation and revitalization of historical towns and any other buildings or heritage. And the experts should not only be called in for building related subjects – they should be brought in to help reading law, to help thinking and designing business and management processes, to help thinking human resource strategies, that is, to help with everything that help historical towns and buildings breathe life, while successfully preserved.

In **Bulgaria**, architects learn how to analyse the variety of resources in the regions for example: natural, cultural, etc. and how to use these resources within their architectural design projects. During the work on Preservation of Historic towns and settlements they learn how to analyse urban structure, street patterns and public spaces and how to evaluate a historic town texture. During the work on restoration architects learn how to identify all kind of problems in the building and how to evaluate its cultural heritage potential.

In **Norway's** opinion, it is necessary to have architects with special, and specific competence, on e.g. wood conservation of pre-reformation wooden churches in Norway; or on stone conservation of gothic cathedrals. Like for medical doctors, theoretical knowledge can not replace the need and insights achieved through clinical practice in direct contact with the patient. This goes for conservation professionals also in all professional fields incl. architecture and urban conservation and planning. It is again also a question of recognizing the role and competence of your colleagues. It is important to know enough about the edge of competence of other professions to know who to call.

In **Ukraine's** vision, architects should possess the following skills: knowledge of terminology of historic

urban landscape conservation, principle methods of reconstruction, renovation, revitalization of historic urban heritage, methods and principles of restoration, adaptation and conservation of architectural monuments, estimation of technical state of historic buildings, capacity of analysis of historic value, definition of a complexity of problems of protection of public buildings and solution-finding to them, formulation of main design tasks aimed at the improvement of maintenance conditions of protected heritage in relation to historically-formed urban areas.

The main requirements towards architectural education are oriented at the recognition of historic and architectural significance of heritage in forming human and social space, and readiness to take up moral and professional responsibility for its conservation. As a result, a student should be able to: carry out a practical analysis of a current urban situation in view of a development perspective of the concrete city area; practically apply the methods of reconstruction; provide evidence of a reconstruction decision; be aware of the development of the urban structure of the city and of the typology of urban construction.

For **Lithuania**, a number of qualifications were underlined as the ones fundamentally important for heritage protection and revitalization of historical towns: ability to assess cultural value of the object, ability to distinguish valuable features of the building, building complex or urban area; ability to recognize the style, historical period etc. of the object; knowledge of the cultural context of the object; ability to assess the physical state of the object; ability to select appropriate restoration and design approaches; understanding of the relevance of the harmony of new and historical architecture in different scales.

2.3. CHARACTERIZE THE GENERAL APPROACH TO HERITAGE PROTECTION AND REVITALIZATION OF HISTORIC TOWNS, WHICH SHOULD BE TAUGHT AT THE FACULTIES OF ARCHITECTURE

[e.g. the traditional approach, which recognizes the primacy of heritage protection over contemporary needs; inadmissibility of procedures such as reconstruction, restoration; the admissibility of extensive interventions in the historical areas treated as a continuation of their development]

All the respondents have stressed the importance of a balanced approach to heritage protection and revitalization of historic towns permitting the conservation of the historic substance while allowing the development of the historic city. Such balanced approach

should take into account every single reality of reference, needs and requirements of the territory itself, its historical context, its multicultural society and the necessity of intercultural dialogue – in order to realize a harmonious integration of new buildings into historical environment, that would be adequate to the planning structure of a city. Multidisciplinary approach should be used. And generally, the importance of restoration and conservation of monuments of cultural and historical value has been underlined, with the active inclusion of the heritage into the life of the city. It is fundamental also to remember that the concept itself of the historic centre is highly Eurocentric one, and may even not be present in other cultures on other continents.

Moreover, in **Kyrgyzstan** the choice between the 2 approaches depends upon the state-level programs, and the approaches are the following: adaptation (creation of conditions of the reuse of monuments with no damage to their historical value and conservation) and restoration (the process of restoration of the monument itself due to its particular cultural significance). In **Russia**, the approach to heritage protection and revitalisation of historic towns depends on the status of the territory defined by the state. There are on the whole 41 cities with the status “historic”, and according to it different levels of intervention are foreseen: territory of the monument (only revitalisation), buffer zone (strict regulation of intervention), zone of regulated construction). The principle of continuity is to be preserved as the most important one in the process of development and renovation of the city within the criteria possible and inadmissible in restoration and reconstruction of historic settlements. In general, while for archaic monuments reconstruction and restoration inadmissibility is to be followed, for historic centres the traditional approach is to be applied with the recognition of heritage preservation priority over contemporary needs (**Russia – Saint Petersburg – University of Culture**). In other cases, the preference was given to the approach recognizing the priority of heritage protection over the contemporary needs (**Russia – Saint-Petersburg – University of Architecture and Construction**). It is important to insert new contemporary architecture forms into the historic landscape, without destroying its consolidated structure, but filling it with historic diversity, basing on its ability to transform and giving it an opportunity of further development (**Russia – Samara**).

Furthermore, different approaches should be foreseen for various categories of buildings and UNESCO World Heritage Properties should be treated with a more complex approach that would be based on Operational Guidelines for the Implementation of the WHC 1972 (**Bahrain**). Along with this, traditional knowledge and traditional management systems of territory are to be integrated into the contemporary



approach to conservation, making more actors participatory in the process of mainstream development and conservation (**India**).

Students should be able to make a distinction depending upon external and internal conditions of a territory, in terms of its individual political history, which might have determined the transformations or stability of the borders; the protection and conservation of heritage needs to take into account the deriving circumstances (**Poland**).

The traditional approach of heritage protection should be revised on the basis of new concepts of value-based management, cultural economy and tourism, while any comprehensive approach to conservation should foresee the protection of the relation between the place, the spirit of the place (**Iran**).

Still, reconstruction or creating replicas is not perceived as a good practice and is accepted only in exceptional cases; while in the context of Historic Urban Landscape approach the admissibility of extensive interventions in historical areas is treated as a continuation of their development (**Latvia**).

The general approach to heritage protection must be a holistic approach to heritage based on cultural diversity and pluralism and it has to be respected by all the disciplines. The educational programmes change depending on the type professional figure that has to be formed (**Italy**). The project approach should be oriented towards integrated multidisciplinary knowledge of the heritage site in question; knowledge of the expectations and requests of the respective society, as well as opening towards a fruition socially useful to the diversity and encounter. The system of criteria for spatial and functional transformation should also be developed for the measurement of the functional, structural and formal compatibility of the architecture and the ecological impact on the landscape both anthropized and natural, which the new destination of the architectural site will bring about (**Italy**).

According to **Portugal**, the present question is extremely relevant but can only be answered once the underlying heritage is defined as something to protect as-is or as something which can be revitalized. Surely not all parts of historical towns are of equal value, and one must take careful care and consideration to make sure that a strategy is implemented in order to avoid a “still life” effect by assigning some areas of towns to functions which are relevant for their life. A town cannot go about without infrastructures, health care, commerce, schools, services for the population and as such they cannot be preserved in such a manner that turns all areas of the city into a museum. Unless for outstanding examples of towns which need to be preserved in their entirety, in most towns only some buildings or blocks will, by their artistic, historical or cultural value be defined to be preserved as-is, and

some will, due to their frail condition be deemed not passive to receive visitors at all.

This is also true when one thinks of historical buildings or properties – unless they are in their whole so important (artistically, historically or culturally speaking) as to be kept as-is, some parts of these can be used for purposes related to their management models.

Hence, the first thing to define is: how important is the heritage site in its current condition? Then and only then can we think to either preserve as is, or one which can respond to a demand for the day to day of that place. And in that respect, both approaches suggested above (within the question) should be taught in architecture schools.

In **Bulgaria**, the university tends to favour a more contemporary approach where new functions are allowed within the historic structure and new architectural design is sought to be in harmony with the authentic buildings.

The general approach to heritage protection and revitalization of historic towns should include: the contemporary approach, which understands the traditional role of authorised heritage discourse in creating value and offers a postmodern critique of it; Theories of reconstruction; Urban heritage theory; The role of heritage in contemporary cities – not just preserving monuments, but activating heritage ‘assets’ and making them relevant (**ICOMOS ISC Interpretation**).

According to **Norway**, however, there is implicit opposites of objectives in the use of the terminology: protection vis a vis revitalisation. Protection calls for restriction in terms of change and use – while revitalisation calls for new opportunities where economic profit interests could go beyond what is needed for up-keeping of the heritage properties. This reality calls e.g. for well thought out policies when incomes for adaptive reuse of heritage properties. To keep city centres alive with contemporary facilitate is an example of necessary policy steps. Another example which is to keep traditional craft workshops and land use in urban contexts. This could come in conflict both with economic and environmental issues.

According to the **Ukrainian** response, in defining an approach to heritage protection and revitalization of historic cities, each concrete case should be considered independently. In historic, architectural and cultural, protected architectural and urban monuments, a traditional approach is to be used, which recognizes the priority of heritage protection over the contemporary necessities. For the protection of archaeological monuments, the approach of heritage conservation should be used. The conservation of historic urban areas outside of protected areas should be done taking into account the current urban situation accepting only a delicate interference in historic areas perceived as a continuation of development.

Today cultural heritage is the key element that carries historic, ethnologic, architectural and artistic value. Protection regimes should be therefore taken into account in creating the guidelines and rules of urban construction and land use of historic cities.

Theoretic work of students should be accompanied by the independent work and practical onsite verification. The choice of a method of conservation and effective fruition of heritage sites should be used on the basis of a complex system of knowledge and analysis provided to future architects: international and Russian Federation legislation in the field of heritage protection; historic, cultural and artistic value of a site; characteristics of a site that were the basis of its inclusion into the list of state-protected sites; the existing urban conditions of the area; financial and economic bases of heritage conservation and fruition; contemporary urban problems of historic areas; knowledge of existing urban limitations and preferences guaranteeing the preservation of key elements of the historic environment. The integration of new contemporary architecture into the historic areas is one of the most fundamental strategies of conservation. Therefore, architects should be able to address this kind of necessity.

In **Lithuania's** point of view, the approach to heritage protection and revitalization should be as follows: general approach – integrated heritage preservation and revitalization (heritage object + urban and architectural context + natural conditions + cultural and historic context + social context and institutional environment + interpretation and innovations) based on the principles of sustainability: to transfer the valuable features to future generations and to add values.

2.4. OTHER POSITIVE AND NEGATIVE REMARKS ON CURRENT EDUCATION OF ARCHITECTS AND THEIR ATTITUDE TO HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL TOWNS

[e.g. lack of knowledge of the principles of revitalisation of the historical towns, lack of knowledge of the history of architecture, lack of respect for the historical architecture, a positive attitude towards the heritage protection]

The theme overall is a very delicate one, as it highly depends upon the geographic area of reference and is to be analysed on a case-by-case basis in single cultural and geographical contexts, so as to define disciplinary approaches to education of architects with the respectively defined objectives, which are not generalizable on the international level.

Furthermore, conservation architects need to work strictly with other professionals (historians, material specialists and restorers), so as in synergy be able to preserve the authenticity and integrity of the heritage building.

Some positive aspects highlighted: growing respect and positive attitude among students to heritage protection; large social resonance of big restoration projects supported by the state; evident interest arising among students as a result of informal contacts with heritage and its context (**Russia**).

Other negative aspect is the lack of knowledge about the principles of revitalisation of historic cities; while among the positive ones are: respectful vision of the heritage protection and knowledge of the characteristic features of historic towns according to different levels – city, building, architectural styles and details. It is useful to involve students into initiatives for the territory (cleaning, museum work, restoration), practical workshops, monitoring process in the area of preservation and conservation of monuments (**Kyrgyzstan**). Good practice and dissemination of best examples in heritage preservation and development could be used for educational purposes; outsourcing to universities of research and developments projects on heritage preservation (**Latvia**). A positive aspect of the education of architects is that preservation of heritage is part of the general field of landscape and cultural development and preservation must respect the cultural context (**Italy**). The today studies' curricula definitely lack stages and internships of professional value for its recognition in various European and extra-European countries (**Italy**).

Readiness of students to continue their professional development with master programmes is a positive aspect (**Russia – Saratov**).

Among negative aspects were mentioned: lack of information about the actual state of the historic heritage; lack of practice in the field of preservation; lack of economical and legal aspects in projects of protection and revitalisation of historic heritage; lack of knowledge about the fundamental taboo; the least developed character of projects related monuments readapted to new functions, also with an investment component; sometimes low general didactic level of providing professional knowledge; today education in architecture lacks projects in reconstruction of historical areas which results in its significant losses; therefore students should be incentivized to participate in international contests in revitalisation of historic towns (**Russia**); lack of specialized studies and ethnic and cultural context of the global world (**Czech Republic**). Insufficient knowledge of history and understanding of principles of vocabulary of distinct historical styles sometimes result in disputable new development proposals; not every city can afford separate heritage protection and conservation departments (**Latvia**).



Among other negative aspects also: protection of single monuments without taking into consideration their surrounding space, and promotion of the concept of conservation of cultural heritage based only on prohibitive measures (**Russia – Samara**).

Lack of knowledge about the diversity of tangible and intangible conservation problems in historical towns, about pathological measurements for traditional architecture, about structural methods of intervention, about the methods for conservation of energy, environment and cultural landscape in historical towns as a whole (**Iran**).

The modern education of architects is focused on selfish quest to expose his own creation, often aggressive and alien to surroundings; this is due to lack of proper reflection, recognition and understanding of historic architecture, which according to Vitruvius consists not only of the form, but of durability, utility and beauty. More open-air drawings and architectural research investigation should be introduced so as to lead correct identification of value and correct adaptation to contemporary needs (**Poland**).

Lack of adequate information databases about historic and traditional heritage resources so as to provide for a new educational more comprehensive paradigm in respect to the old colonial approach; lack of geographical perception of cities and their determination; need of transdisciplinary methods for each category of heritage resources; living city has to be understood as a cultural spatial resource entity to be studied with multidimensional PTP (People time and place strategy); importance of traditional water systems to be interfaced and integrated with planning and development to complete the management vision; importance of decentralised Gandhian concept in heritage management; responsible participation of people; educated and trained personnel operating responsibly and not only as business profit (**India**).

There is still confusion in the public opinion about the exact competences that the architects must have when it comes to heritage preservation, so professional figures and techniques are not yet clear compared to other field like medicine or law (**Italy**).

Very precious evaluation was provided by **Portugal**: the answer to this query might depend greatly from country to country, but it should be noted that one of the largest gaps currently noted between architecture schools and entities dedicated to the revitalisation of historical towns is the need for a larger participation of the architecture students in real life projects. This is most of the times due to the lack of consistent and stable business models associated with the protection and revitalisation of historical towns. In town halls, financing can come and go with central governments, and when it comes, it comes with tight schedules. This can lead to a disinterest in engaging architecture students. Also, schools can sometimes have admin-

istrative difficulties in finding interested entities and processing the required paperwork to enrol, prepare, financially support, and follow up on a student working with one of these entities.

Hopefully, the scenario can change – in the case of Lisbon, a lot of capital investment is happening in real estate due to a number of factors: rising tourism, low interest rates and high liquidity, tax and visa friendly laws for investors, decline in number of regulated rental contracts. Hopefully this will spark demand and hopefully more entities are interested in having architects join their ranks from an early stage.

As for positive aspects: some schools are already collaborating with management entities with responsibilities in historical towns or buildings, through invited or consultant experts who most times are also teaching academics. This makes it easier to arrange for their students visit ongoing works and contact these entities, and to rally and ramp up interest from the students in pursuing a career in this area.

In **Bulgaria**, students usually develop highly complex projects with a genuine care for the historic towns and cultural traditions, however sometimes their design skills are not enough to master the details of architectural constructions.

Other negative aspects were indicated by **ICOMOS ISC Interpretation**: with architects, often there is complete lack of understanding of heritage or history but an assumption it is easy to learn. This can result in a superficial understanding of how to interpret and conserve historic sites. It is extremely important to provide grounding in history, heritage theory and practice and heritage interpretation in architectural courses so that decisions are better informed.

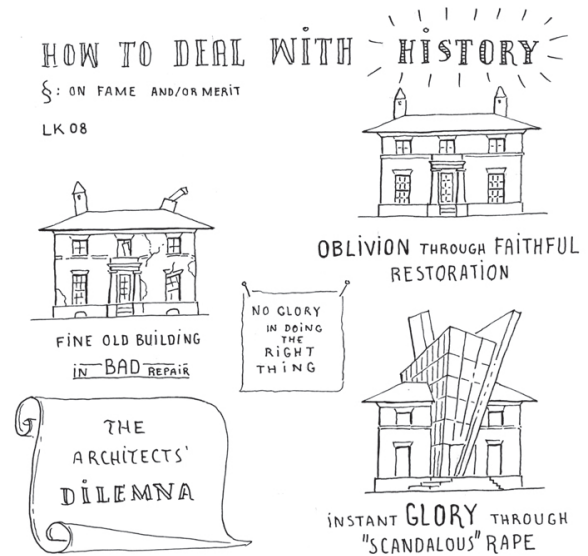
The role of architectural and urban conservation in architect education has decreased in **Norway**. This is in particular within architect education where from the beginning in the early part of the 20th century to the sixties measurement of traditional architecture of conservation value was an obligatory part and occupied two summer holidays. This, in particular, contributed to 'scientific' registration and measurements of vernacular, rural environments of heritage value in Norway. There were also after the second year of master study of architecture a comprehensive excursion to remote areas of Norway giving understanding of territorial links of traditional settlements in terms of resource base, skills and conservation issues.

When it comes to urban conservation there is an increasing interest and use of historic elements for urban design measures. But in neoliberal urban planning practice economic interests easily overrule longer term conservation interest e.g. in terms of intensity of land use (**Norway**).

Regarding **Ukraine**, a new highly conscious vision of heritage conservation is seen as a positive

characteristic of architectural education of today. The architects educated today appear to possess a very respective attitude towards the values contained in cultural heritage, as these represent an irreplaceable spiritual, cultural, economic and social wealth. A complex heritage preservation and protection is possible only in case of its insertion into a framework of economic and social development policy. Furthermore, a contemporary architect should take into account the social process. Previously, the traditional heritage protection took the direction of protecting “from everything”, which stimulated conflict situations and negative perception on behalf of local communities regarding the urban development. Today a new concept should be promoted of the protection “for ...”, which should also be beneficial for the local inhabitants, preserving the integrity of cultural and natural environment, and permitting at the same time the revitalization of historic areas. A contemporary student of architecture should be educated to the awareness of the above complexities so as to avoid conflict situations.

The **Lithuanian** respondent has underlined that in many instances, architects view heritage as an obstacle for their individual expression or the ground to create some contrasting intervention. The sketch by architect and urbanist L. Krier summarizes it all:



PART III

Characteristics of the teaching of heritage protection and revitalization of cities in the systems of educating the architects / along with the examples of syllabi / based on the information gathered in the questionnaires – Part II/

The respondents from all the countries have provided full and exhaustive answers to the questions of Part 2, specifying in detail the types of courses taught in their educational institutions, the contents of the courses, practical activity components, a profile of alumnus and curriculum as a whole, creating often their own proposal of a model curriculum.

3.1. LIST AND DESCRIBE THE COURSES RELATING TO HERITAGE PROTECTION AND REVITALIZATION OF MONUMENTS, TAUGHT AT THE FACULTIES OF ARCHITECTURE

[please specify the courses and include their detailed programmes; specify the structure of each course – division into lectures and design classes; describe the purpose and scope of these courses; make a critical evaluation – identify the courses considered to be the best (to be used in a model programme)]

A variety of courses have been listed by the respondents, both for the BA and MA levels. The courses make reference to the concrete academic institutions of provenance of respondents, which does not mean that the same situation can be found in all the architecture faculties of the country. The respondents however belong to leading and mainstream universities, and therefore the presented panorama can taken as an exemplifying one.

Azerbaijan:

Restoration and conservation (BA), MASTER DEGREE: specialization “RESTORATION AND RECONSTRUCTION OF THE ARCHITECTURAL MONUMENTS”, courses «Typology of the architectural monuments», «History and methodology of preservation science», «Regional peculiarities in the restoration of the architectural monuments», «Preservation projection of the architectural monuments», «Theory and practice of the modern preservation science», «Engineering problems in the preservation of the architectural monuments».

All the courses are provide both general knowledge on history, methodology, and other aspects and focus particularly on the history and traditions of restoration/conservation/architecture in Azerbaijan.

Latvia:

Restoration and Preservation of Cultural Monuments (Bachelors program), Methods of Renovation and Transformation of Buildings (Masters program), Historical Building Fabric and Conservation Methods (Masters program)

Apart from providing general knowledge on history, methodology, and other aspects, the courses focus on European and Latvian traditions of restoration/conservation/architecture.

Russia – Saint Petersburg – University of Culture

“Cultural heritage goods description and analysis”, «Authentication and expert study of the pieces of applied art and painting», «Legal foundation for monuments and sites reconstruction, re-creation and protection», «Scientific and methodological basis for the cultural heritage protection», «Stocks/funds/collections and restoration documentation», «International cultural heritage protection system».

Russia – Saint Petersburg – University of Architecture and Construction

Applied research in restoration and construction; research on architectural sites in historic areas; world cultural heritage; research on historic construction materials; information technologies in the historic areas and cultural heritage research; design of complex historic buildings; design of reconstruction of public-use buildings and of living spaces; and other courses. Practical activity: summer internships for students; job placement in design studios and companies; involvement in projects; study visits, summer schools; involvement of professionals to the university teaching process.

Russia – Magnitogorsk

Courses, obligatory and optional ones: Design of architectural space; Conservation of historic and architectural heritage of Southern Urals and of the city of Magnitogorsk; Sustainable development of small and medium-size towns on the basis of architectural space of the historic center (the best one by the respondent as it provides the widest basis of knowledge); Historic reconstruction of ancient architecture.

Russia – Vologda

BA specialists are prepared with specialization Architectural Design, with courses in Research methods in urban space, in which various aspects of protection and conservation architectural spaced are studied.

Russia – Ekaterinburg

BA in History of arts (architecture, urban construction, applied arts, landscape architecture, design, and others), with specialized courses in Problems of urban space reconstruction.

MA level courses: Contemporary problems of history and theory of urban construction; Urban bases of protection and fruition of sites of cultural and natural heritage; Cultural and Historical landscapes, their protection and development; Design, construction, and reconstruction of urban territories.

PHD level courses:

Research on urban construction traditions and urban heritage in cities and regions of Russia and other countries; Architectural and urban aspects of development of historic cities; problems of protection, con-

servation and modernization of historic urban spaces; Actualization of fruition of sites of cultural heritage in the development of cities.

Russia – Volgograd

Reconstruction and restoration of valuable historic and cultural areas; urban construction approaches to the reconstruction of historic centers; Structure of architectural and construction documentation in restoration and reconstruction of heritage sites; Principles of formation of protected areas of architectural heritage; History of Russian architecture.

Russia – Saratov

Restoration project design; Methods of restoration design; Engineering issues of restoration; Reconstruction of historical cities; Methods and methodologies of scientific research; Regional characteristics of architecture; Fundamentals of classic architectural composition; Study practice of professional knowledge and capabilities acquisition.

Russia – Samara

Legislative aspects of design in reconstruction; methods of scientific research in reconstruction and restoration; restoration design; urban reconstruction; management in heritage protection; history and theory of protection and restoration of architectural monuments; methods and technologies of restoration; contemporary computer technologies as an instrument of graphic reconstruction and systemic research in heritage protection.

Iran:

Conservation and rehabilitation of historic buildings and urban fabrics, Architecture, Urban planning

Poland:

In all faculties of architecture in Poland there are lectures on the history of architecture and urban planning; sometimes there are issues related to the revitalization of historic cities or the adaptation and modernization. In a few cases they are implemented practice of the measuring an inventory of monuments. In any case prepares students to conduct architectural research, and even less to formulate guidelines for the preservation of historic architecture. Some departments offer specialization “Architectural Heritage”, which takes into account research issues and the basics of management.

India

Courses are based on knowledge-building approach, articulate as community-based ones and are structured according to three main modules: Redefinition of heritage resources; Technical – Structure and Fabric; Conservation Management.

Italy:

Architectural Restoration, History of Architecture, History of urban studies, urban restoration.

All the courses are inserted into a wider national framework which is more or less homogeneous throughout the country, which is not often the same once you go beyond the European territory. A number of disciplines are taught in relation to restoration and restructuring, among which: sustainability and minimal intervention; sustainable materials; eco-compatibility, security, energy impact; life cycle; new vs. old technologies; legislative aspects; fruition vs. sustainability; history of urban studies; degradation and diagnosis of materials in historical constructions; methodologies of the archaeological investigation; technologies of structural systems; legislation of cultural heritage; economic and ecological impact and others.

Bulgaria:

At present at the Faculty of Architecture of University of Architecture, Civil Engineering and Geodesy, Sofia, Bulgaria, there is a department of History and Theory of Architecture which offers a specialization on Preservation of Cultural Heritage. It takes the last three semesters of the education of the Architect and it includes the following disciplines: Architectural Restoration, Preservation of Historic towns and settlements, Preservation of regions, Design of buildings within historic context and they consist of lectures and architectural design projects. The best results are shown during the work on their diploma projects where students identify a problem and choose and define the place and the scope of cultural preservation project. In this final project they are able to use all the knowledge they have gathered in their lectures and projects during the ninth and tenth semesters of their study.

Norway:

In the second part of the study of architecture at the Norwegian University of Science and Technology (3–5 year) there are specialised courses in architectural conservation and students can select architectural conservation as the theme for their final project (diploma / 'hovedoppgave' in Norwegian).

Ukraine:

A large variety of courses related heritage protection and revitalization are included for preparation of professionals in architecture and urban studies. All of them foresee both in-class lecture parts and practical onsite activities. Some examples: "Problems of conservation of cultural and historic environments" (related to both Ukrainian national and international contexts); "Architectural design", "Theory of architectural and landscape design", "Regeneration of landscapes", "Methodological bases of urban construction", "Contemporary problems of architecture and urban con-

struction", "Landscape design of settlements" and others.

Lithuania:

Such courses usually are: History of Architecture (more theory than practice), History of Urbanism (more theory than practice), Heritage preservation (theory and practice), Landscape Management (including the fundamentals of cultural landscapes and territorial protection) (theory and practice), Sustainable architecture (theory and practice), Typology of architecture and spaces (theory and practice) etc. Heritage preservation can be integrated in the design tasks as well (more practice than theory).

There is a link to the study program of Architecture existing at Kaunas University of Technology: <http://admissions.ktu.edu/study-program/b-architecture/>

Best courses for model program could be: Architectural history; Urban history; History and theory of heritage preservation; Heritage preservation technologies; Landscape Management; Harmonization of historical and new architecture (in master studies).

3.2. CHARACTERIZE THE FORM AND THE SCOPE OF CONTACT WITH THE PRACTICE OF HERITAGE PROTECTION AND REVITALIZATION OF HISTORIC TOWNS PROVIDED IN THE CURRICULA AT THE FACULTIES OF ARCHITECTURE

[e.g. summer internship for students, placements for students in design offices and companies, involvement in the projects, study visits, summer schools]

Make the critical assessment of these actions – their form and usefulness in teaching process

Generally the approaches to practice as related to heritage conservation depend greatly on the geographical area and in larger terms on continental provenance. As even the concept of the historic center can differ, or even not be present at all in some areas, with even no terminology for this concept ("Historic Towns between East and West", 2015, Olimpia Niglio). Therefore, it becomes evident that it is impossible to generalize the approaches taken for granted in the European models. Didactic laboratories with international students are useful for comparing different approaches and rendering students more aware of these differences.

All the respondents recognized the fundamental importance of practical components for the professional development of students. Part of the curriculum should be – studio work/atelier design, communica-

tion with practitioners, creation and presentation of own philosophy, travel, practical activities, study visit, summer school.

Some other distinctive features have been underlined in some areas:

Russia overall

All forms of practical involvement are present in all the Russian educational establishments represented by the respondents. Among them the below ones.

Professional practice activity in studios, design bureaus, project institutes – provide practical skills and experience of real projects, while students are able to start creating their own portfolios; external practice: plain-airs, study trips and visits for enlarging horizons. MARHI (Moscow Architecture Institute) summer schools gives knowledge of all-Russia architectural practice; summer schools on heritage sites; undergraduate internships; professional practice and internships in administrative organs, with participation in heritage conservation and restoration projects; practical work at the university guided by chairs; inviting to give lectures and teach courses of experienced professional architects; master-class with experts and members of union of Architects of Russia; inviting into exam commissions of representatives of leading architecture universities of the country. Providing working places in leading design studios, restoration workshop, architecture studios, etc.

Russia – Saint Petersburg – University of Culture

SPBGIK Students of the «Restoration» direction have

- creative-performance practice in the State Ceramics museum in XVIII century Kuskovo Estate,
- on-job practice in the Russian Museum and Saint-Petersburg restoration workshops,
- probation in the State Hermitage Museum.

Practice work and probation under real conditions give students a chance to see for themselves if their profession choice is right and check their professional level. They can get no important or responsible assignment, but they are quite capable to work as ordinary performers and take part in making common restoration work decisions. Moreover on-the job training/ probation give a chance to enterprise directors and supervisors to meet new personnel, and to invite them to join the work team, if they find the graduates suitable, after the University.

Russia – Saint Petersburg – University of Architecture and Construction

The profile of graduates has a multiple-level applications for different types of activities:

- scientific and research activity; etc.
- design activity and creative solutions of conservation and transformation of historic living spaces; reconstruction design; etc.

- critical and expert activity: providing expertise on design solutions, results of reconstruction and restauration of sites of architectural heritage; etc.
- communication activity: visualization in architecture and heritage; presentation of design solutions in front of the client; etc.
- management activity: coordination work; management of project and design organizations; work in state administration bodies dedicated to heritage protection and fruition; participation in the work of civil society organizations
- educational activity: promotion of the importance of heritage conservation of historic architectural heritage; participation in educational process related to one's own professional activity

Azerbaijan

During studies at the Faculty of Architecture students must pass three different practices: measuremental, geodetic and the practical training at the enterprises. Practice estimation should be considered equal to the marks of theoretical training and are subject to be taken into account when summing up the overall academic performance of students.

1. MEASUREMENTAL PRACTICE
2. GEODETIC (SURVEYING) PRACTICE
3. PRACTICAL TRAINING AT THE ENTERPRISES

During practice students get acquainted with the organizational structure and the production of construction enterprises, production process of construction materials, equipment, organization of work for the production of products in the sectors of construction and control of its quality. They learn working skills, learn job descriptions and job of the engineering and technical personnel, collect information for their further course works and theses.

1. OBJECTIVES OF PRACTICE

The main aim of the practice is the acquisition of skills in the use of theoretical knowledge in the reality during their activity in the industrial enterprises and architectural – engineering firms. Common problems to be solved during practice:

- Education of the sustainable interest to the profession,
- Making the students to feel the need for self-education and self-improvement of professional knowledge and skills;
- Formation of experience in creative activity;
- Formation of professionally significant qualities for the future professional position
- Familiarization with the organization of construction process, objectives, functioning and technical equipment of construction companies and organizations;



- acquisition of practical skills to perform a variety of construction and installation works;
- study of the main types of structural elements of buildings and their use,
- Formation of professional competence of future graduates;
- strengthening the theoretical knowledge acquired during the training.

Practical training of students is to be realized on construction sites and firms, equipped with modern technology, construction and manufacturing equipment and testing instruments, within the time schedule set by educational process.

The general administration of the practice is carried out by Department of Practice of the University and dean of the faculty. Profiling chairs (departments) of the faculty together with the Department of Practice provides a teaching guide, which defines the practices' objectives and prepares a draft order of practice indicating the supervisors from the University.

The practice should be based on agreements between the University and the organizations (enterprises of the construction industry, Research and Design Institute). In the presence of vacancies in enterprises, students may be taken on the staff, if the job corresponds to the contents of the practice program.

Latvia:

Almost all students of the Faculty of Architecture and Urban Planning already starting with the second study year are involved in the practical work in design offices in parallel with their studies. During the last year of studies (9th and 10th semesters) design practice in architectural design offices is the subject of curricula. Additional experience in complexity of development of historical sites may be accumulated in the extra-curricular activities, e.g., International summer schools in architecture that are held by Faculty of Architecture and Urban Planning of RTU annually already since 2002.

Iran:

One of the most successful methods is to have a site office in parallel with the classroom. This is totally different from summer internship or periodic visits. In fact this is "Learning from the site and coming back to the classroom". Sometimes we were able to benefit from this method and the result was interesting. If the university would be able to work closely with some of the offices for preservation of historic districts and towns, then the students can work under the supervision of the heads of offices and in cooperation and with the help of the professors in their university, then the real problems from the sites will come to universities to be analysed under the microscopes and the scientific results will soon be adapted to be used inside the site!

For this reason we start our conservation course at the master level. All the students who participate in this course are coming with knowledge about architecture, civil engineering or urban design (sometimes with few exceptions from archaeology, crafts, etc.). They have the base ability to take part in the projects although they should spend two semesters before starting their projects with the site offices. During their last two semesters they spend half of their training time in the sites, then come back to classroom for correcting their finding with the help of professors. Sites also invite the professors for periodic visits from time to time.

India:

Various practical activities: laboratory classes, participatory workshops, field trips, studio projects outside the university, working side by side a conservation architect; summer internships, work with traditional materials; upon completion of studies job placements with senior conservation architects all over the country.

Bulgaria:

Students have a practical training before their diploma work and usually they choose between a variety of options: to work as interns at the National Institute of Cultural Heritage, to do a practical summer workshop training of restoration of buildings or archaeological excavations or they can work at a private architectural office specialized in preservation projects.

Norway:

There is a specialised Master degree (M.Sc.) in Urban Ecological Planning which addresses developmental and conservational challenges mainly at urban neighbourhood levels in developing countries. In brief the course has four semesters over two years. The access to the course is multidisciplinary.

The first semester starts with a two month field work in a developing country (with course fieldworks in Nepal, India and Uganda). The approach is mainly within social ecology discovering the social capital and 'glue' in a neighbourhood. The fieldwork has an objective of contributing to positive change locally. For this reason they work together with local community based organisations (CBOs) or NGOs, targeting also our work to poor communities and giving priority to a community based rights approach. Also they operate in situations of discrimination work with targeted approaches as with Female Headed Households in the case of squatter and slum upgrading in Nepal. The students present a written report and analysis of their fieldwork before New Year of the first semester.

The second semester is at the university with the main purpose to prepare for the fieldwork mainly back in their home country during the summer. The students are asked to write to a research proposal for their thesis. (They also pass a course on research proposal writing). The research proposal is presented, defend-

ed and reviewed before the field work. The main theoretical introduction is on research methodology during the spring semester. The case study method is introduced. They are also searching for relevant theoretical background for their fieldwork research context and issues. However, there are elective courses on Sustainable planning in developing countries, GIS in urban planning and courses e.g at Dept. of Geography on Development Theory.

The one and a half summer time is used for fieldwork in their home country and in a familiar context addressing relevant development and conservation issues. A few students have also addressed issues in Norway for their M.Sc. in Urban Ecological Planning thesis.

The autumn has 50% weight on writing out the field case study, which are also presented and discussed. There is also emphasis on peer reviews of fellow students. In addition there is an obligatory course on Planning Theory. And the students can take elective courses at other departments.

The last spring semester is totally devoted to the writing on the thesis. Every student has a personal responsible supervisor, and during the spring the students present their thesis and get feed back. Finally they present and defend their thesis and get external examiners reviews.

The course has developed to address also issues of disaster preparedness, post – disaster reconstruction and the building of community resilience.

Lithuania

The forms of contact with practice as usual are: practice in design offices (the benefits of practice depend very much on the character of the office), summer internships and schools, involvement in the scientific research projects, study visits in design offices and institutions (provide just a general picture how these entities work).

3.3. PRESENT THE ALUMNUS PROFILE DESCRIBED IN THE DOCUMENTS OF STUDY PROGRAM IN THE FIELD OF ARCHITECTURE IN THE SCOPE RELATING TO HERITAGE PROTECTION AND URBAN REGENERATION. MAKE A CRITICAL ASSESSMENT OF THIS PROFILE.

Graduates of programmes related to architecture normally need to possess, as in relation both generally and country/context specifically:

- Knowledge of a wide range of humanitarian, scientific and applied disciplines necessary for carrying out the practical activity of an architect-restorer

of sites of tangible cultural and historic heritage: history of architecture and urban construction, theory of development of urban studies, analysis of historical heritage, reconstruction of historic areas, restoration of buildings and adoption of historic areas to contemporary needs of the city. In Russia, the acquired competences correspond to the Federal standards applied to this professional category.

- Knowledge of peculiarities of fine arts and history of architecture, about the famous architects and their famous masterpieces, conformity of plan, spatial composition, the basics of projection of disciplines elucidated the direction; the main constructive systems in architecture, the methods of decision of different problems of architecture, city planning, landscape, restoration of architectural monuments and architectural-design projection at the different stages of projection process.

However, there are some particular notes regarding some educational establishments. Such as: the specialization architectural design does not often correspond to the true requirements of work with historic urban areas (**Russia – Vologda**). Some of the specializations are considered narrow ones (Architect-Restorer Conservation of historic and architectural heritage), while others of a much larger professional scope, such as Architect-Urbanist in the field of Sustainable development of small and medium-size towns on the basis of architectural space of the historic center and Architect-Reconstructor in the field of Historic reconstruction of ancient architecture (**Russia – Magnitogorsk**).

Professional and planners/designers graduating in heritage protection have a deep knowledge of the principles and the ethics of heritage protection and correct operational activity that allows them to become competent for any project they are asked to carry out (**Italy**).

- Skills of carrying out research and archive research, preparing report documentation, resolving independently of tasks related to the conservation of architectural heritage and choosing the most optimal methods of restoration; fundamental skills of architectural projection, architectural design, basics of landscape architecture, composition, architectural restoration, city planning, building technologies, organization and management, engineering systems of residential areas and buildings, building construction, labour safety
- Abilities to make a graphic sketch of architectural and environmental objects, prepare the graphically projected drawings of equipment of landscape and architectural objects; to implement the requirements for drawings, technical graphics, geometrical elements of different parts of the



building, drawings of landscape, architectural, city planning and architectural design objects, drawings of planning, volume – spatial and constructive parts; should know the architectural-building and architectural-design materials, their standards and using normative and be able to analyze them from art-aesthetic point of view;

- Capabilities to make a choice of methods applicable to the given site and development of new means of research

Commonly, for all geographical areas of respondents, alumna of these professions should be able to take place actively in all steps of documentation, evaluation and problem analysis, planning and application of conservation measures for the historical buildings and historical fabrics.

Bulgaria:

Usually architecture graduates find jobs at National Institute of Cultural Heritage or administrative positions at wards or private offices specialized in preservation. In order to be qualified to work in the preservation field they to have at least two years of working experience and to apply for a permission at the Ministry of Culture.

Lithuania

The description of the skills that the bachelor studies of Architecture are intended to provide at Kaunas University of Technology are available here: <http://admissions.ktu.edu/study-program/b-architecture/#kompetencijos>
Heritage preservation is not distinguished in this set of generalized skills at all. This can be seen as a shortcoming.

3.4. CHARACTERIZE THE CURRICULUM (AS A WHOLE) FROM THE POINT OF VIEW OF ITS SUBSTANTIVE CONTENT AND STRUCTURE (CONSISTENCY AND COMPLETENESS OF THE PRESENTED ISSUES, PROPER ORDER, COMPATIBILITY WITH OTHER COURSES).

Make a critical assessment of the program.

Commonly, the assessments by respondents demonstrated that the curricula foresee to define the professional character of the future architect/conservator/urbanist so as to resolve professional issues with maximum large vision of solutions and with the respect of the history of world and local culture and cultural and architectural heritage.

Educational programmes should be characterised by the integrity and continuity of studied disciplines, starting with history of architecture and urban construction,

and arriving up to projects documentation preparation and principles of reconstruction and restoration of heritage. The courses normally have also interdisciplinary connection. Curricula generally follow step-by-step development scheme and foresee both theoretical and practical parts, with the period dedicated to personal thesis development and their deepening and reflection on behalf of the students (often it can be a preparation of a restoration plan for a monument or a historic urban fabric or site).

Every professional architect should be skilled enough in the field of heritage protection and restoration. Narrow specialization only in the conservation, as a rule, results in dogmatic and short-sighted consequences that are dangerous for heritage preservation in general.

There are five categories in which we can find the teaching in the field of heritage protection: education and academic formation for preservation planners; practical professional training; specialist training; continuing training and updates; education and awareness-raising of the public (**Italy**).

Russia – Saint-Petersburg – University of Culture

The sphere of professional activities of the baccalaureate programme on restoration include:

- Material culture goods identification and authentication, determining their artistic and historic values and storage category;
- Research and archival work organization, selection of optimal restoration model (conservation, reconstruction) of the material culture object;
- Restoration work complex organization; scientific reports writing; cultural object monitoring, taking part in setting up legal foundation for the heritage protection.

The professional activity objects of the Restoration direction baccalaureate programme **SPBGIK** graduates are:

- Architectural monuments and sites and historical architectural media;
- Paintings, drawings, sculptures, pieces of applied art;

Legal regulations on cultural heritage protection and management.

Russia – Saint-Petersburg – University of Architecture and Construction

The program is presented on the following link: http://www.spbgasu.ru/upload-files/obrazovatdejatelnost/ucheb_rab/plan/270200.62.pdf

Azerbaijan:

The main differences between the educational process in the Architectural faculty of Azerbaijan University

of Architecture and Construction (as we can judge from the visits to other architectural schools abroad) are:

1. The system of entering to the architectural faculty is different. Except the necessary for all the entrants to the Universities state exam (different for the faculties and universities) student must pass qualification (exam) at the architectural faculty to improve his (her) ability to be an architect. Students must demonstrate abilities to draw the graphical compositions and technical draught.
2. Students entered to the architectural faculty of the University during first two years of education must do all their projects and exercises by hand not using computer programs. For instance, the big importance is given to the practical lessons on art (drawing, painting and sculpture) during which students must prepare themselves graphical drawings in pencil of the composition from geometrical objects, architectural detail or element, gypsum bust or sculpture; paintings of the nature-motif or any composition offered by professor; or make a sculptural composition.
3. During the first and second year of education students must prepare develop their course projects and exercises by hand as well. Only after the evaluation of the second educational year students are allowed to work on the computer using special architectural programs. Even when they are working on their main projects on computer, they must prepare their other exercises, sketches etc. by hand. An architect must be able to demonstrate his knowledge in any field of architecture by hand first, and then using modern computer skills.

Bulgaria:

The curriculum is well designed to encompass all the aspects and scales in preservation issues, however it is lacking a knowledge on the building materials used for preservation purposes.

Norway:

Students with backgrounds of BA in architecture, urban planners, civil engineering, geographers and sociologists. This profile of students reflect well the demand for a multidisciplinary team to address complex urban development and conservation context. The majority of students are architects, with impressive and necessary openness to address territorial issues and challenges of strengthening social capital and vulnerable groups. The architects with planners and geographers and sociologist are also eager to address issues of securing publicness of spaces and secure public land interests.

A challenge that Norway is facing is difficulties of obtaining stipends for students from the poorest countries and groups. Our annual contribution from the

Norwegian Government of stipends will be discontinued next year.

The implementation of the course will then be more dependent on students who can pay for their staying in Norway themselves. (All universities in Norway are open and there are no fees, but this is now being introduced in other Nordic countries).

Lithuania:

The bachelor studies of Architecture at Kaunas University of Technology is the integrated study program based on the principles of sustainability, and the courses are well integrated.

3.5. PRESENT A PROPOSAL FOR A MODEL CURRICULUM IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL TOWNS.

Separately specify a model programme in the field of architecture (when it is not a specialty in the field of revitalization of historical towns) and a model programme of specialty in field of revitalization.

[list of courses, structure and sequence of these courses, the content of the courses, the scope and form of contact with practice]

Various respondents have proposed model programmes, basing on the existing curricula and/or further developing them. In these cases, precise requirements, weekly course breakdowns, bibliographical materials, assessment schemes, etc. have been presented as separate attachments to the questionnaires (**Russia – Magnitogorsk**)

For example, some curricula described in other questions of the questionnaire have been proposed as model ones (**Latvia, Russia – Saratov**).

Some others do not have specific programmes for heritage protection or conservation, but only architectural planning (**Russia – Vologda**).

By **Saint-Petersburg** respondents, the model curriculum proposed is structured logically and based on practice. It has different types of practical activities, such as research work, work performance, professional experience, and highlights special spheres of expertise, like the restoration of wood, furniture, that they carry out also thanks to the support of foreign experts.

Iran: two different models of curricula are proposed. One in the field of architecture and urban design when it's not a specialization in the field of revitalization of historical towns; the other specific for the field of revitalization. Both are organized in 4 semesters with

the final semester entirely dedicated to the final thesis and they have a summer internship every year of study. The first model focuses on theory and methods of urban planning and design with also a course in third semester for planning in Islamic countries, while the second model studies research methods historical buildings and problematics related to conservation with emphasis on management of crisis for sustainable conservation and design of infrastructures and new technologies in historical towns.

Poland:

The model arises from the department of the conservation of cultural heritage and includes a course of 5 years that can be chosen among 7 different alternative directions: history and theory of protection and conservation of monuments, history of building organization; history of building techniques; architectural research; conservation of architectural monuments; protection of cultural landscape; protection of cultural values of urban spatial layouts. All courses are completed by lectures, seminars and practical classes and educational trips and summer schools. All the students present a final thesis in the field of art history and architectural history using the training acquired during their studies.

Russia – Ekaterinburg:

A specific model program was proposed by the respondents consisting of 8 disciplinary blocks: Restoration planning; methodology of restoration design and planning; engineering aspects of restoration; Reconstruction of historic cities; methods and Methodologies of scientific research; Regional characteristics of architecture; Fundamentals of classical architectural composition; Architecture and decoration of cult buildings. All of the courses foresee specific disciplines to be taught more in detail, practical activities and skills and knowledge to be acquired.

India:

The respondent proposed the syllabus 2002 of the proper university as a model curriculum. It is divided in different modules which include a philosophical basis, Redefinition of Heritage Resource, a technical Module based on structure and fabric, Conservation Management Module and finally presents Theories and Parameters. The course is divided in 3 semesters, and among the subjects there is visual communication, architectural knowledge systems, courses about landscape, inventory and documentation techniques and more specific courses on historic city, heritage and conservation.

Bulgaria:

For the full programme of Architectural Heritage Preservation, please have a look at the following site from

p.34 until p.38: http://uacg.bg/filebank/ECTS-2016/ARCH/Arch_New.pdf

Norway:

This would be interesting to do jointly with others and / or especially in response to proposals.

Lithuania:

Possible courses indicated for a model curriculum:

Architectural history; Urban history; History and theory of heritage preservation (architectural and urban preservation); Cultural heritage valuation and interpretation (cultural heritage valuation (assessment) techniques (social significance, historical values, cultural significance) and cultural heritage interpretation) (theory and workshops); Heritage preservation technologies (material science, restoration techniques, building structures etc.) (theory and workshops); Cultural heritage and sustainability; Heritage economics (heritage values, market and non-market valuation techniques); Heritage sociology (heritage and communities, heritage and society) (theory and workshops); Landscape management (including cultural landscapes, their typology, territorial preservation of heritage (protected areas)); Design and heritage preservation law (international and national legal documents regarding heritage preservation and new design); Harmonization of historical and new architecture (theory and workshops); Historic building re-use (theory and workshops).

However, due to the complexity of the question and the specific preparatory work required to respond to it, some of the respondents didn't provide answers to this specific query.

CONCLUSIONS

/regarding the elaboration of model programme of teaching/

The questionnaires analyzed by the Fondazione Romualdo Del Bianco for the Working Paper 1 were 36 from 19 countries – both European and extra-European – in 3 different languages. In the previous part their content was analyzed transversally summarizing common points at the beginning and then specifying each national case.

The analyzed questionnaires originate from highly different cultural, geographical and historic contexts and, therefore, finding general transversal points is not realistic because of the peculiarity of each local culture.

Therefore, basing on the provided answers the main common points are traced below, highlighting the

strengths and weaknesses of the existing curricula and emphasizing the auspices expressed for a future AUC figure which will be able to satisfy the needs of the globalized world.

Strengths

High level of competences for architects is indispensable in the world of today; the profession of an architect has to have all necessary qualifications for operating in heritage protection and revitalization of historic cities, in a sustainable, ethical and competent manner. Therefore, the whole range of architecture and urban studies disciplines has been highlighted by the respondents that have been presented in the report above.

The importance and value of heritage, as well as the need of multidisciplinary curricula and of specific skills were recognized by most of the interviewees.

Furthermore, there is an evidently high awareness among the respondents about the strong links that connect the local cultural heritage and its community, with the territorial relations that are created between the members of local communities and the historic heritage of the city. The specific role of each member acts as a glue in neighbourhoods and society as a whole, its resources, spaces, traditional strengths, all of which form a backbone of the society. Therefore, it is fundamental to prepare an architect towards the understanding of his role for the mobilisation of local communities.

Weaknesses

The local communities and the administrations are often in conflict between each other as the latter ones impose the management plans where citizens are not involved. As a consequence the necessities of population are not taken into account.

The legislative aspects that regulate heritage field often belong to multiple layers and levels of implementation which make the interventions very complex and the capacity of dialogue is not always taught to future AUC.

Furthermore, often in heritage management there is a difficulty in alignment of a multitude of stakeholders, which may lead to conflicts of interest between the commercial sector and the protection and revitalisation one.

Auspices

It is necessary to reconcile the needs of conservation with those of continuing the transformation of a historic building or site following the contemporary needs, adapting it to new functions but at the same time maintaining the fundamental dialogue between the old and the new and preserving the genius loci of the place.

In some cases the history brings further problematics. For example in post-conflict or post-destruction areas,

the designers need to find solutions to the question of choosing between rehabilitation, reconstruction, restoration or demolition.

It is important that heritage management models take into account the contemporary realities of temporary and permanent users of the city. These are inclusive of migrations and travels that create highly intercultural flows of people moving. These intercultural movements should be taken into consideration while educating a contemporary architect who should not only be well aware of these societal processes, but also give response to their needs in the design.

For this reason, contemporary architecture education should provide the knowledge of intercultural dialogue, diversity of cultural expressions, sustainability of cultural heritage preservation and travelling based on the exchange of values.

At the urban level, the estimation of touristic potential of an area is vital for a proper city management and planning. The quantity and quality of the arrivals' flows should be regulated according to the city sustainability. Management strategies are to be carefully studied and implemented so as not to allow the touristic phenomenon destroy the cultural and historic fabric of the territory itself.

As a consequence the future AUC professionals should be trained for the context in which they will operate, and the curricula should reflect the peculiarities of the territory.

In order to perform their tasks properly, architects and heritage conservators should operate in strict interaction with experts belonging to other fields of expertise, among which law experts, political administrations, historians, material specialists, restorers, etc.

The main requirements towards architectural education are oriented to the recognition of historic and architectural significance of heritage in forming human and social space, and readiness to take up moral and professional responsibility for its conservation.

In the same vision as above, traditional systems of construction and design are to be studied, maintained and absorbed into the contemporary architecture methods. This is to be applied in each and concrete territory. A new concept should be promoted of the protection and conservation which should be beneficial for local inhabitants, preserving the integrity of cultural and natural environment and permitting the revitalization of historic areas. A contemporary student of architecture should be educated to the awareness of the above complexities so as to avoid conflict situations.

Seen the above panoramic picture of the considerations emerged during the analysis of the questionnaires, one of the transversal themes is the necessity to understand cultural diversity and create opportunities of mutual understanding of cultures within

the contemporaneity, as well as between past and present. This is indispensable for the future in urban sustainable development.

Higher education should give students the tools and skills to understand the requirements of the labour market at all its levels. These skills should be focused on the themes of knowledge of heritage both tangible and intangible, local communities and their cultural identities, in the context of a multicultural society.

Working with communities will let the AUC understand the needs of people – this will be a key point to re’activate functions in places that are no long perceived as living urban spaces. Architects could improve their skills becoming aware about their responsibility to design according to the effective needs of the territory and its people. The AUC professional vision should go beyond the political and market trends being capable of creating and guiding territorial tendencies of development.

All these points should be taken into account for the creation of a new, more successful curriculum that will enable the AUC to operate giving an added value to their work enabling them to create products that will contribute to sustainable development.

The above qualifications will render the AUC more competitive as professionals on the market as they will be able to understand, comprehend and broadcast the needs of the territory and its community.

ATTACHMENTS

[/syllabi; alumnus profiles/](#)

- Questionnaires with attached sillabi (where available)

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