CONSERVATION / TRANSFORMATION

EAAE Transactions on Architectural Education

Loughlin Kealy
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Editors

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This book presents the papers written by 65 participants after the 2nd Workshop in Conservation, organized by the Conservation Network of the European Association for Architectural Education in 2009 in Ireland.

The workshop was attended by almost 65 participants representing: Belgium, Denmark, France, Ireland, Italy, Poland, Portugal, Spain, United States of America, United Kingdom.

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CONTENTS

011 Acknowledgements

013 Conservation/Transformation
Loughlin Kealy
School of Architecture, Landscape and Civil Engineering, University College Dublin, Ireland

027 Expectations. Between conservation and transformation of inhabited milieu: inheriting and transmitting
Chris Younès
“École d’Architecture de Paris-La-Villette”, France

031 “Cum-servāre”/”Trāns-formāre”.
Ideas, concepts, actions and contradictions
Stefano Francesco Musso
Dipartimento di Scienze per l’Architettura, Facoltà di Architettura, Università di Genova, Italy

039 Report of the discussion regarding the visit to Kells Priory, County Kilkenny
Jacqui Donnelly
Architectural Conservation Advisor, Department of Environment, Heritage and Local Government, Republic of Ireland

045 Report of the discussion regarding the visit to Borris House and demesne, County Carlow
Finola O’Kane
School of Architecture, Landscape and Civil Engineering, University College Dublin, Ireland

049 Report on the group reflection and discussion regarding the visit to Kilkenny City
Colm Murray
Architecture Officer, Heritage Council of Ireland

Essays

055 Conservation, Accessibility, Design. Discussion and Practice in Italy
Alberto Arenghi¹, Stefano Della Torre², Valeria Pracchi²
Facoltà di Ingegneria, Università degli Studi di Brescia, Italy¹
Dipartimento BEST, Facoltà di Architettura e Società, Politecnico di Milano, Italy²

067 Kells: Conserving an enigma
Paul Arnold
School of Architecture, Landscape and Civil Engineering, University College Dublin – Ireland

073 Between Material and Spiritual Heritage: The Case of the Polish Manor House
Andrzej Baranowski
Faculty of Architecture, University of Technology, Gdansk, Poland

081 Accessible Use and Sustainable Heritage
Marta Bordas Eddy
Escuela Tecnica Superior de Architettura - ETSAV-UPV, Barcelona, Spain
Working the edge of Appalachia Post-industrial abandoned mine landscapes, environmental mitigation and cultural resource reclamation through design.
Peter Butler¹, Ashley Kyber¹, Kati Singel²

Davis College of Agriculture and Forestry, West Virginia University, USA¹
Masters Degree Candidate, Department of History, West Virginia University, USA²

Ribadavia Castle Remains Intervention: Conserve And Transform Observation, Research, Traces, Intuition.
Miguel Ángel Calvo Salve, Mª Jesús Blanco Piñeiro
CESUGA-UCD School of Architecture – La Coruna - Spain

Ruins preservation, transformation in use: projects for the old town centre of Palermo
Antonella Cangelosi, Zaira Barone
Dipartimento di Storia e Progetto nell’Architettura, Facoltà di Architettura, Università di Palermo, Italy

Modern architectural heritage as a catalyst for education in conservation
Andrea Canziani
Facoltà di Architettura e Società, Politecnico di Milano, Italy

Ancient Buildings and Contemporary Arts: conservation, re-use and transformation of the Insula of Santa Maria Donnaregina in the historic centre of Naples
Stella Casiello, Andrea Pane, Valentina Russo
Dipartimento di Storia dell’Architettura e Restauro, Facoltà di Architettura, Università di Napoli Federico II, Italy

‘Sustainable conservation’: the inclusion of the future in the horizons of restored architectural heritage
Luìsa De Marco
Direzione Regionale per i Beni Culturali e Paesaggistici della Liguria, Italy

The sustainability of ‘ancient’: historical architecture as between needs of conservation and energy innovation
Gianluigi De Martino, Angela Maria Savia, Maria Rosaria Vitale
Dipartimento di Storia dell’Architettura e Restauro, Facoltà di Architettura, Università di Napoli Federico II, Italy

From ‘monument’ to ‘place of memory’: a plea for measurable standards and clear terminology in a ‘Eurocode for architectural conservation’.
Andre De Naeyer
Artesis University College, Antwerp, Belgium

Historic cities and sustainability: conservation, transformation and planning in the city of Kilkenny. A preamble to a special problem
Maurizio De Vita
Dipartimento di Costruzioni e Restauro, Facoltà di Architettura, Università di Firenze, Italy
213 An Archaeological Itinerary within the Irish countryside. Around Kells Priory
Carolina Di Biase
Dipartimento di Architettura e Pianificazione, Facoltà di Architettura e Società, Politecnico di Milano, Italy

229 Can continuity survive the transformative process in interventions on historic structures? The importance of craft as an aspect of continuity.
Fintan Duffy
Waterford Institute of Technology, Ireland

241 Image et patrimoine
Christine Estève
Ecole Nationale Superieure d'Architecture M-A Ensam De Montpellier, France

247 'Less is more' and 'continue-creating': reflections on communication, sustainability and design in historical sites
Teresa Ferreira
University of Porto, Portugal

255 A Debate on Restoration: Reflections around Borris House
Donatella Fiorani
Dipartimento di Storia, Disegno e Restauro dell'Architettura, Facoltà di Architettura, Università di Roma “La Sapienza”, Italy

263 Designing the future of non-monumental heritage
Giovanna Franco
Dipartimento di Scienze per l’Architettura, Facoltà di Architettura, Università di Genova, Italy

275 Intervention with Design
Pedro Ressano Garcia
Tercud, Universidade “Lusofona”, Lisboa, Portugal

289 New additions and their physical relation with the existing building
Luca Giorgi, Pietro Matracchi
Dipartimento di Costruzioni e Restauro, Facoltà di Architettura, Università di Firenze, Italy

309 Conservation and the visitor experience
James Harrison
Cork Centre for Architectural Education, Ireland

321 Relict lines, a strategic model for the opening up of cultural heritage.
Maria Leus
Department of Design Sciences, Artesis Hogeschool, Antwerp, Belgium

335 Towards a Terminology of Temporal Structure - an authentic language for architecture?
Caitlin Madden
Royal College of Architecture, Copenhagen, Denmark

345 Teaching Architectural Restoration through Reflection on Intervention Criteria
Camilla Mileto and Fernando Vegas
Universidad Politecnica de Valencia, Spain
Conversions at Borris House and Demesne, Co. Carlow, Ireland
Finola O’Kane
School of Architecture, Landscape and Civil Engineering, University College Dublin, Ireland

Ruins and Design: Dialogues over Time
Annunziata Maria Oteri
Dipartimento Patrimonio Architettonico e Urbanistico, Facoltà di Architettura, Università Mediterranea di Reggio Calabria, Italy

Wide Accessibility and Conservation of Architectural Heritage in Italy: problems and methodological guidelines
Renata Picone, Arianna Spinosa, Gianluca Vitagliano
Dipartimento di Storia dell’Architettura e Restauro, Facoltà di Architettura, Università di Napoli Federico II, Italy

‘Cross the border - Close the gap’. Suggestions for ‘pop conservation’.
Nino Sulfaro
Faculty of Engineering - University of Messina, Italia

Natural and cultural resources
Rita Vecchiattini
Dipartimento di Scienze per l’Architettura, Facoltà di Architettura, Università di Genova, Italy

Computer Simulation of the Impact of Restoration on the Building as a Method of Communication
Fernando Vegas, Camilla Mileto
Polytechnic University of Valencia, Spain

Built Heritage at risk through climate change
Linda Watson
University of Plymouth, United Kingdom

Epilogue
Loughlin Kealy
School of Architecture, Landscape and Civil Engineering, University College Dublin, Ireland

List of participants
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Teaching Architectural Restoration through Reflection on Intervention Criteria

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The experiment presented here involves Architectural Restoration, which is taught as a compulsory subject in fifth year at the Superior Technical School of Architecture in Valencia. The discipline of architectural restoration is not common to all Spanish schools of architecture, but rather an exception. Where it does exist, it is usually an optional or free choice subject. However, at the Superior Technical School of Architecture in Valencia, this subject is obligatory, so students will have to take it before graduating. Certainly not all the future architects who study at our school will dedicate themselves to architectural restoration as their specialisation in the future. But it is true that it is more and more difficult to go through one's professional career without receiving a commission that is somehow connected with refurbishment, conversion, restoration or with intervention to an existing building, be it monumental or residential, noble or modest, urban or rural, etc. At the European level, today's statistics show that at the present time, over 50 per cent of an architect's professional work involves interventions to built edifices. In Spain, at least before the appearance of the current recession, all the statistics leaned towards new buildings, but it is likely that in the near or medium future, the number of projects for intervention to existing buildings will outnumber the projects for new buildings. For that reason, in the short span of forty-two academic hours in a quadrimester, it is necessary to teach basic restoration concepts that will permit future architects who are not going to specialise further to intervene on our built heritage. Taking into account that restoration materials, products and techniques change with great speed over the years, the authors believe that it is not so much a priority to teach these short-lived items as it is to impart basic criteria that will serve as a reference for any type of intervention (Earl 2003: 3-4).

The approach to teaching this subject involves a continuous reflection on the criteria that form the basis for architectural restoration works. The subject also includes the teaching of some rudiments of the history of the discipline of architectural restoration. It also involves a sometimes cyclical history of
the criteria and concepts applied to restoration over time, with examples of restoration according to each of the theories and trends. This serves to create open-minded reflection about the effects and concrete impacts they have on the constructed building.

Why insist on teaching basic criteria for the restoration of heritage buildings? The growing interest in heritage and the scarcity of work in other areas of the discipline are giving rise to a growing number of professionals dedicated entirely or sporadically to the world of restoration. Furthermore, the important technical development of the discipline of restoration has exponentially complicated the scenario for intervention on heritage, and has disconcerted those professionals who are unable to keep up with all the novelties in this field. Thus, the greater number of professionals working in restoration, even if they have been well-trained, nevertheless may be less well-prepared from a technical point of view, because it is very hard to cover all the knowledge involved. This makes it necessary to teach basic criteria that can make up for the deficiencies and lack of both the technical and conceptual knowledge and training.

There are some dangers involved in the discipline of restoration that can be mitigated, to a certain extent, by the teaching of some basic criteria. These dangers are the other side of the coin to those described above: the lack of information and often of experience on the part of technicians, the excess of trust or blind faith in technique and technology as main guidelines for restoration, as well as the insufficient theoretical reflection that accompanies many interventions today.

The solution proposed to solve all these problems is a more in-depth reflection on the basic restoration criteria, not as a useless, unfounded theoretical debate, but as a permanent dialogue with the building during the process of preparing the preliminary study, drawing up the project and executing the works, that will make it possible to find the most suitable solutions for its restoration (Mileo & Vegas 2005).

Concepts and criteria include: the authenticity of the historic document; the building’s character and aura; compatibility in all the aspects of the intervention (material, structural, building, functional, etc.); sustainability as the basic principle of the intervention in residential, rural, non-monumental heritage edifices and in historic cities; reversibility of the intervention as a goal to be fought for; the ‘distinguishability’ of the contemporary additions and measured expressive modernity as regards the compatibility of its impact; capacity to transmit antiquity as an added value in a restoration intervention (Carbonara 1997: 450-451) – these constitute the core of the students’ continual reflection, debate and practice.

The criterion of conservation of authenticity applies both to the material
document and to the character of the building to be restored. The historic building must be considered as a document that is to be conserved in all its authenticity, with its different parallel or layered histories as regards the project, its construction and transformations, its restoration architects, later restorations, prevalent customs, tastes, artistic and aesthetic intentions, etc. By conserving the material document as much as possible in the manifestation of its surfaces, its genuineness is conserved at the same time (Vegas & Mileto 2007: 7). On the contrary, trying to simplify the complex stratified history of the building to achieve a fictional unity often brings about not only a loss of authenticity, but an impoverishment of the built heritage reflected in the edifice. The reversibility of the intervention is a criterion that allows us to measure, to a large extent, the impact of our intervention on the building. It allows us to evaluate the real need for the intervention, as well as to consider different options for utilising materials and building methods, always providing for the possibility of reversing the intervention on the historic building. The reversibility of the intervention is desirable in order to ensure the conservation of the authentic document, since an incorrect intervention could thus be eliminated without damaging the pre-existing building (Pasetti 2003: 169-171). The best guarantee of complete reversibility is always to add rather than remove during the intervention. Indeed demolition is the least reversible action in an intervention. But an addition can also have a different effect and impact on the building, depending on what is added and how.

As with other concepts, the criterion of reversibility is illustrated to the students by means of actual examples. One of the most often referenced cases is the different restorations of Roman or Greek theatres carried out in the last few decades. The city of Valencia lies 24 km away from Sagunto, location of the Roman theatre that underwent a total, and in many ways irreversible, intervention by the architects Giorgio Grassi and Manuel Portaceli. Following legal proceedings instituted as the result of a private complaint, the court verdict concerning the works came out a year ago. It was unfavourable to the intervention carried out, precisely because its irreversible character went against the provisions of the Heritage Law of the Valencian Community. However, the verdict was paradoxical. It obliged the Administration to reverse the intervention, because its irreversibility constituted a breach of the law, although the institution responsible managed to avoid carrying out the onerous de-restoration contained in the verdict, precisely because of its patent irreversibility.

Other restorations of Roman theatres in Spain have been much more discreet and reversible, as is the case of Segóbriga and Mérida. The intervention in the Roman theatre in Cartagena by Rafael Moneo is far more invasive, although not to the same extent as in the case of the Roman theatre in Sagunto. Other
theatres from ancient times, situated in Italy, such as Siracusa, Taormina, Verona, etc., have been restored by means of completely reversible and provisional portable devices, so that they can be used in the summer, thus respecting the authenticity and genuineness of the ruins. The criterion of reversibility is also presented to the students from the point of view of structural interventions, considering above all, the negative and difficult-to-reverse effect of many structural consolidation works with reinforced concrete on historic buildings in the twentieth century, especially from the 1920s onwards. The students learn to distinguish between a reversible and an irreversible structural intervention, also in relation to other factors such as the compatibility, visibility and innocuousness of the works.

On the other hand, it is always good to implement the minimum intervention necessary in order to conserve and guarantee the survival of the building, and to avoid unnecessary innovation and embellishment works that do not respect the authenticity and antiquity of the building. This criterion of minimum intervention must guarantee the material and structural conservation of the building, and restore its functionality and necessary decorum, even as regards the design of the new elements that are strictly necessary to achieve this end. In the same way, this criterion is illustrated with examples of restorations that feature consolidation of structures with few elements, selective re-bonding of materials, or improvement rather than total compliance with the standards required by regulations regarding structures, fireproofing, insulation, function, etc.

The students are also taught the criterion of distinguishability and expressive contemporaneity, according to which the intervention (especially if it involves the addition of matter) should be distinguishable in order to conserve the authenticity of the historic document. The new should be distinguishable from the old. However, this criterion gives rise to a large range of possible technical, physical, material, linguistic, etc. ways of achieving this distinction. This range of possibilities goes from those interventions where the addition of matter ends up being far too obvious to those that adopt a subsidiary role barely noticeable to a specialist in the subject. For that reason, the Gestalt theory is used to analyse the concepts of figure and background applied to the addition of matter in a historic building during restoration, so that the students can learn how to gauge the intervention.

At this point it is a good idea to review also the contemporaneity and wisdom of Camillo Boito’s proposals for distinguishing the new from the old, ranging from the difference in style and material to the simplification of outlines and decoration, and not forgetting the practice of engraving dates and placing inscription tablets in a nineteenth-century context, where above all, the obsession was focused on linguistic issues.
The compatibility of the intervention is another fundamental criterion for students to follow. It should be pursued in order to best conserve the building in every aspect: material (physical, chemical…), structural, visual, aesthetical, spatial, functional, characterwise (Pasetti 2003)… This criterion is absolutely necessary in the profession of architect-restorer, not only from a material point of view, where we have seen a large number of restorations in the past in which the solution is worse than the problem (Esponda 2010), but also at other levels: the functional level (if the programme exceeds the reasonable possibilities of the building); the structural level (when the structural operation of the building is completely changed, and the point of view of character, aesthetics and appearance (in particular when the new additions do away with the essence of the building), etc. (Doglioni 2008: 255-258).

The durability of the intervention is another concept that is studied and taken into account in the teaching of architectural restoration. Durability of the intervention helps conserve the building better. In this sense, the material and structural compatibility of the parts added to the existing building is deemed very important, as we explained in the point above, and also the durability of the new materials themselves. The idea is not only to make our intervention last longer, but to ensure it does not have a negative effect on the durability of the building being restored. This criterion is illustrated by means of unsuccessful examples, where inappropriate and apparently harmless interventions in buildings, hundreds and even thousands of years old, have involved a loss of durability and even endangered their survival.

In this subject, a specific theory or attitude is not presented in a dogmatic manner, but in the belief that comparing different ideas develops the students’ critical capacity, so that they can later proceed in any situation according to their own judgement and not by indiscriminately copying rigid models. In this way, the classes become an interactive dialogue between students and lecturer and a continuous debate is established with ideas, opinions, criteria and enlightened remarks.

In the practical exercises, the students, in groups of about six, draw up a restoration project for a small building, which starts with a complete preliminary survey with its phases of historic study, metric-descriptive mapping, preparation of photopans, material elevations and lists of building methods, a study of material pathologies, a study of structural pathologies, a stratigraphic study and files of the different materials, building methods and pathologies. Once they have completed the preliminary survey, the group must reflect on the restoration criteria to be applied in their restoration project, in view of the criteria debated in class, their knowledge of the building and their own personal view (Mileo, Vegas & Noguera 2008). After this long written reflection, they start the layout, function and computer simulation of
the restoration project, giving the results and major details. This project is evaluated, not so much according to their choice of one method or other, but with regard to the coherence between what they say in their report and what is demonstrated in their restoration project. The same didactic method is also used in the teaching imparted in the official Postgraduate Course in Architectural Heritage Conservation, where each of the two authors teaches a subject of 40 hours, that is, similar in length to the undergraduate subject described above. Indeed, the basic criteria for architectural restoration are expounded and illustrated in a series of lessons where the students mull over what they are taught. At the same time the students are asked to choose a recent restoration in their town, or published and divulged in the usual media, and to carry out research into the criteria applied by the authors of the restoration project on that particular building. After doing this work, all the students report their conclusions to the teacher and the rest of the class and a debate – often quite heated – arises about the cases studied.

The experiment carried out by the two authors (professors of undergraduate and postgraduate studies at the Superior Technical School of Architecture in Valencia) demonstrates that teaching restoration criteria really makes its mark on the students, clarifies their ideas and prepares them to tackle the restoration of historic buildings, regardless of the degree of complexity and technical content. In addition, teaching the history and theory of restoration complements these studies, but is merely a parallel aspect of the subject, taught by means of dialogue and debate and consisting of considering and illustrating some basic restoration criteria.

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